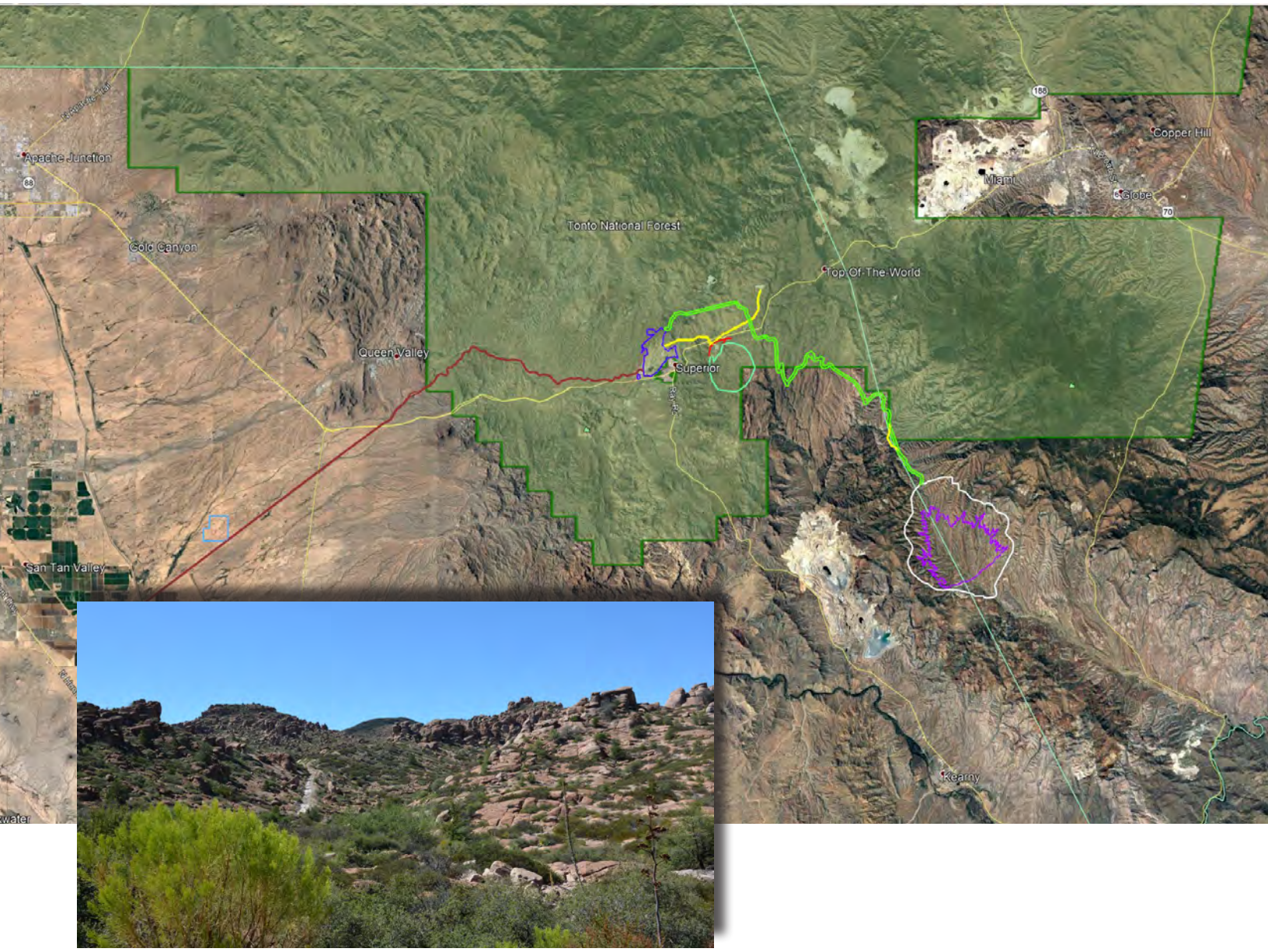
United States Department of Agriculture

FINAL Environmental Impact Statement

Resolution Copper Project and Land Exchange



Volume 6

Forest Service | Tonto National Forest | MB-R3-12-10 | January 2021

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Front Cover photo captions:

Top: Map of the Preferred Alternative Project location and the Tonto National Forest

Bottom Left: Oak Flat Federal Parcel

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Appendix R. Response to Comments Received on the DEIS

Disclaimer: The Section 508 amendment of the Rehabilitation Act of 1973 requires that the information in federal documents be accessible to individuals with disabilities. The U.S. Forest Service has made every effort to ensure that the information in the Final Environmental Impact Statement for Resolution Copper Project and Land Exchange is accessible. However, this appendix is not fully compliant with Section 508, and readers with disabilities are encouraged to contact John Scaggs by phone at 602-225-5292 or by email at john.scaggs@usda.gov if they would like access to the information.

Introduction

This document is a summary of public and agency comments received by the Tonto National Forest regarding the Resolution Copper Project and Land Exchange Draft Environmental Impact Statement (DEIS), and responses to those comments prepared by the Tonto National Forest. The comment period on the DEIS lasted from August 9, 2019, to November 7, 2019, with an extended comment period for tribes ending on December 22, 2019.

Tonto National Forest received, analyzed, and responded to over 29,000 submittals on the DEIS, as shown in table R-1. Comments include transcripts of oral comments from formal public meetings and telephone calls, letters, form letters, and petitions. These submissions were analyzed using a process called content analysis, described below.

Table R-1. Distribution of submittals by sender type

Sender Type*	Submittal Count
Individual	29,324
Non-governmental organization	80
Government	60
Total	**29,464**

* Comments from individual tribal members are included under the "individual" category, whereas comments from tribal governments are included under the "government" category.

Content Analysis Process

Submissions were reviewed and parsed into individual comments. These individual comments were reviewed and categorized based on topic. We compiled 5,209 individual comments, which were then categorized. The reduction from 29,464 submittals to 5,209 comments reflects that many identical or similar form letters were received. The comments and general categories are shown in table R-2.

Content analysis is a method of eliciting meanings, ideas, and other information from written text, pictures, or audio or video messages. The goals of the content analysis process are to

- ensure that every comment is considered,
- identify the concerns raised by all respondents,
- represent the breadth and depth of the public's viewpoints and concerns as fairly as possible, and
- present those concerns in a way that facilitates the U.S. Forest Service's (Forest Service's) consideration of comments.

Through the content analysis process, the content analysis team strived to identify all relevant issues, not just those represented by the majority of respondents. The breadth, depth, and rationale of each comment are especially important. In addition to capturing relevant factual input, analysts tried to capture the relative emotion and strength of public sentiment behind particular viewpoints.

The issues identified during content analysis range in nature from the strictly procedural to the technically specific. Public comment on these issues demonstrates the interest, feelings, and concerns the public has regarding the management of National Forest System (NFS) lands, the role of mining on the Tonto

National Forest, the National Environmental Policy Act (NEPA) process for this project, the land exchange, and how the public and other agencies feel the Forest Service should best analyze and address the environmental, social, and economic issues presented in the DEIS.

Table R-2. General categories of comments

General Comment Category	Number of Comments
General document comments (not specific to an individual resource section)	193
Geology, minerals, and subsidence (section 3.2)	39
Soils and vegetation (section 3.3)	12
Noise and vibration (section 3.4)	14
Transportation and access (section 3.5)	48
Air quality (section 3.6)	69
Water resources (section 3.7)	472
Wildlife (section 3.8)	77
Recreation (section 3.9)	96
Scenic resources (section 3.11)	31
Cultural resources (section 3.12)	57
Socioeconomics (section 3.13)	138
Tribal values (section 3.14)	135
Environmental justice (section 3.15)	24
Livestock grazing (section 3.16)	20
NEPA, regulatory, and procedural comments	514
Alternatives-related comments	275
Mitigation-related comments	358
Non-substantive comments of opposition or support	2,637
Total	**5,209**

Development of Comment Responses

Once parsed, analyzed, and coded, the 5,209 individual comments were further assessed in order to develop comment responses. The development of comment responses not only is intended to provide a clear reply to the issue raised by the commenter, but also serves to identify and guide any changes, modifications, or new analysis required to prepare the final EIS (FEIS). Similarly, development of comment responses could identify additional clarification or documentation that is required for the project record.

Once grouped and consolidated, we addressed the 5,209 individual comments with 460 comment responses, as shown in table R-3. These comment responses are contained in this appendix. Note that the codes are only intended as rough groupings, and since many comments cover multiple topics, the content of the response may involve other topics as well.

Table R-3. Grouping of comment responses

General Response Code and Description	Number of Responses
ALT (Alternatives)	27
AMT (Alternative mining techniques)	17
AQ (Air quality)	25
CR (Cultural resources and tribal issues)	23
DOC (Specific suggestions for document edits)	1
EJ (Environmental justice)	7
GS (Geology and subsidence)	17
LG (Livestock grazing)	6
MIT (Mitigation)	30
NEPA (NEPA, regulatory, land exchange, and other general topics)	66
NO (Noise)	5
NS (Non-substantive comments)	2
SO (Socioeconomics)	18
SR (Scenery and recreation)	32
TR (Transportation)	17
TS (Tailings and tailings safety)	31
WI (Wildlife)	24
WT (Water)	112
Total	**460**

Organization of this Appendix

This appendix is intended to allow the public to

- directly read comments submitted by public agencies or elected officials, in their entirety and original format;
- identify letters submitted by specific individuals or entities, identify the comments coded to each letter, and identify the responses to those comments by using an index; and
- find and read the Tonto National Forest responses to their comments.

To accomplish this the following sections are included:

Section 1. Copies of comment letters submitted by public agencies or elected officials

Section 2. Indices of commenter names, letter IDs, and response IDs. These are divided into three tables:

Table R-4. Index of responses for letters submitted by organizations, agencies, or elected officials

Table R-5. Index of responses for non-form letters

Table R-6. Full text of form letters submitted and index to responses

Section 3. Responses to comments

How to Use this Appendix

In order to find responses to comments associated with an organization, agency, or elected official:

Step 1. Use table R-4 in section 2 of appendix R to locate the name of the organization, agency, or elected official. These are organized alphabetically. Note the "Response-to-Comment IDs Associated with this Letter."

Step 2. Find the appropriate Response-to-Comment IDs in section 3 of appendix R to read the Tonto National Forest response. The Response-to-Comment IDs are listed alphabetically.

Optionally, for agencies and elected officials:

Step 1. Read the original comment letter in section 1 of appendix R and note the comments that have been marked and the "Response-to-Comment IDs" associated with those comments.

Step 2. Find the appropriate Response-to-Comment IDs in section 3 of appendix R to read the Tonto National Forest response. The Response-to-Comment IDs are listed alphabetically.

In order to find responses to comments associated with an individual:

Step 1. Use table R-5 in section 2 of appendix R to locate the individual's name. These are organized alphabetically by last name, using the spelling and format submitted to the Tonto National Forest. Note the "Response-to-Comment IDs Associated with this Letter."

Step 2. Find the appropriate Response-to-Comment IDs in section 3 of appendix R to read the Tonto National Forest response. The Response-to-Comment IDs are listed alphabetically.

In order to find responses to comments associated with a form letter:

Step 1. Use table R-6 in section 2 of appendix R to locate the full text of the form letter. Ten form letters were submitted during the public comment period. Note the "Response-to-Comment IDs Associated with this Letter."

Step 2. Find the appropriate Response-to-Comment IDs in section 3 of appendix R to read the Tonto National Forest response. The Response-to-Comment IDs are listed alphabetically.

SECTION 1. COMMENT LETTERS FROM PUBLIC AGENCIES AND ELECTED OFFICIALS

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Derald Thomas, Community Chairman
8035 S 83rd Avenue
Laveen, AZ 85339
(520) 430-4780

November 6, 2019

U.S. Department of Agriculture
Tonto National Forest

RE: Draft Environmental Impact Statement for the proposed Resolution Copper Project and Land Exchange

Dear U.S. Department of Agriculture:

The District 7 Community, also known as Maricopa Colony, located on the Gila River Indian Community writes this letter of support for the Apache Stronghold, a grassroots organization in opposition of Oak Flat to Resolution Copper.

The protection of plantation, historical and cultural sites need to be at the forefront of consideration in the State of Arizona. Development of mining sites in our state can cause damage to the air, water, land and animals; natural resources can never be reinstated to its original state, or repair could take many, many years. Such actions can cause permanent damage to our beautiful state of Arizona. Arizona is known for its rich culture of natural beauty and Native American history.

The District Seven Community agrees with, and supports the Apache Stronghold position.

Comment ID: 321-2

Response: NS1

Sincerely,

Derald Thomas, Community Chairman
District 7, Maricopa Colony
Gila River Indian Community

Letter ID: 1149
Format: Submitted by webform, 11/04/2019
Sender:
Karl Hoerig
Pascua Yaqui Tribe of Arizona
Contact info:
karl.hoerig@pascuayaqui-nsn.gov
Content:

The Resolution Copper Mine project, as planned, will cause irreparable harm to the Western Apache people and to other indigenous communities with ancestral heritage in the project area. In additional to the destruction of the National Register listed Chi'chil Bildagoteel Traditional Cultural Property, the current preferred alternative including the use of the Skunk Camp site for tailings deposition will destroy more than 300 archaeological sites. These sites are the footprints of Native communities' ancestors. They are infused with and make up the history and heritage of these communities. They are sacred places and are the resting places of many ancestors. They are also key parts of our state and nation's shared heritage. This massive decimation of our nation's heritage is unacceptable. If this copper deposit is to be mined, it should be mined in a manner that will protect our heritage resources.

Comment ID: 1149-1

Response: NS2

YAVAPAI-APACHE NATION

Executive Office
Chairman Jon Huey
Vice Chairwoman Tanya Lewis
2400 West Datsi Street, Camp Verde, AZ 86322
Phone (928)567-1021 Fax (928)567-3994

November 7, 2019

Nanebah Nez Lyndon
Tribal Relations Program Manager
Tonto National Forest, Supervisor's Office
2324 E McDowell Rd.
Phoenix, AZ 85006

RE: USFS Consultation Comments on Southeast Arizona Land Exchange and Resolution Copper Project

Dear Ms. Nez Lyndon:

On behalf of Yavapai-Apache Nation, I would like to thank the United States Forest Service for the consultation process on the Southeast Arizona Land Exchange and Resolution Copper Project, and ensuring inclusion of the tribal voice.

The Yavapai-Apache Nation submitted a pre-mitigation request letter in September 2019, to mitigate and off-set the impacts to the environment and cultural heritage of the Project.

Comment ID: 463-2

Response: CR12

It is important to note that each Tribe participating in consultation, represents itself, as we are each self-governing and sovereign governments. One Tribe does not speak to determine the position of all Tribes.

As the comment period concludes, it is important to note that the Nation is concerned about the location of the tailings. We know that mining tailings have lasting impacts on communities and environments. We do request that Tribes have the opportunity to continue to participate in the process of tailings location.

Comment ID: 463-3

Response: MIT3

Sincerely,

Jon Huey
Chairman

These 7 pages represent comment submittal numbers # 235, 251, 8030, 28326, 28329, 30078, and 30079

APACHE STRONGHOLD

POB 700 SAN CARLOS, AZ 85550
WWW.APACHE-STRONGHOLD.COM

Resolution EIS Comment
P.O. Box 34468
Phoenix, AZ 85067-4468

September 19, 2019

To Supervisor Bosworth:

We appreciate your attention to the public's input on the Draft Environmental Impact Statement for the Land Exchange with Resolution Copper on the Tonto National Forest (DEIS). The DEIS is flawed and incomplete. As we describe below, it fails to address impacts to Native American religion, sacred and holy sites, the extent of environmental devastation, and irreparable damage proposed by the land exchange.

In our review of the nearly 1,000-page Draft Environmental Impact Statement we have found scant mention or analysis of concern to the impacts on Native Americans. Where the Oak Flat DEIS does include the words "religious importance," the DEIS fails to address the impact to current religious practice. The references consistently raise significant issues in hollow terms and without any real analysis or demonstration of current available social science or data gathering:

Comment ID: 235-1

Response: CR4

- "Foremost among them are the expected significant environmental impacts and loss of the Oak Flat area, historically used by Native Americans who hold the land as sacred and use the area for spiritual and traditional uses. Additionally, in March 2016, the Oak Flat area was listed on the national Register of Historic Places as a traditional cultural property." (Oak Flat DEIS, pg. ES-3)

- "There is a potential for some portion of existing yet currently unidentified prehistoric and historic artifacts and resources to be disturbed or destroyed, especially within the Oak Flat subsidence area and the footprint of the tailings storage area. These losses could potentially include human burials within these areas." (Oak Flat DEIS, pg. ES-3)

The Tribal Values and Concerns (DEIS, 3.14) section is incomplete and demonstrates a failure of the U.S. Forest Service to do adequate consultation with affected Tribes. The proposed mine would directly, adversely, and permanently affect numerous cultural artifacts; sacred seeps and springs; traditional ceremonial areas; resource gathering localities; burial locations; and other places and experiences of high spiritual and value to tribal members is covered. The mine would cause permanent loss of a place with enormous religious and cultural reverence. The lack of reference in the DEIS to the archeological and cultural records held by the San Carlos Apache Tribe, Yavapai people, Aravaipa, and other Indigenous peoples of these ties in the DEIS is inadequate.

Comment ID: 235-2

Response: CR4

Resolution Copper funded the Tonto National Forest to hire "tribal monitors" in the preparation of this proposed action. The archeologists and tribal people who were hired have gathered increased evidence of Continued →

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the impacts of this proposal. The DEIS does not include the full findings of the tribal monitors. We submit by reference any continuing findings by the tribal monitors as further evidence of the spiritual and cultural significance of Oak Flat.

Comment ID: 235-3
Response: CR4

The Tribal Values and Concerns section of the DEIS does not address the magnitude of the situation. The exclusion of the religious importance and religious value of the area in the DEIS is disconcerting. The enormous amount of data and statements made with regard to the religious importance of the area has been submitted to Congress and the US Forest Service, as well as other branches of federal, state, and municipal governments for many years. How could the DEIS not include any reference to this enormous body of data and record of both historical data and current practice?

Chi'Chil Bildagoteel (also known as Oak Flat) is a Holy and Sacred site for our Apache people and many other Native Americans. It is a place where we pray, collect water and medicinal plants for ceremonies, gather acorns and other foods, and honor those that are buried here. We have never lost our relationship to *Chi'Chil Bildagoteel*. Despite the violent history of the U.S. Government's exile, forced march and imprisonment of Native people on our reservations and the efforts by the U.S. Government to discourage, impede, or fully disallow us from coming to this holy area, we have our own legacy of persistence and never letting go of its religious value in our prayers, in our ceremonies, and in our family memories.

The Native religion is the first religion in this area. For over five years, we have established an encampment to protect the Holy Ground at *Chi'Chil Bildagoteel* with its four crosses, representing the entire surrounding Holy and Sacred area, including its water, animals, oak trees, and other plants central to our tribal identity. The four crosses are now part of the body of *Chi'Chil Bildagoteel*.

The analysis of the Tribal Values and Concerns focuses the impacts of the proposed land exchange and Resolution Copper mine on the past, without recognizing the current presence of religious and cultural practices that have endured at Oak Flat. This erasure of Native Americans in contemporary terms perpetuates the genocidal history of America. What was once gunpowder and disease is now replaced with bureaucratic negligence and a mythologized past that treats Native people as something invisible or gone. The permanent damage that will be caused by Resolution Copper's mine will contribute to this genocidal history, continuing now and into the future. The cumulative effects analyzed in the Oak Flat DEIS do not look at the present or the future.

Comment ID: 235-4
Response: CR4

Comment ID: 235-5
Response: CR4

With regard to the plenary power used by Congress to insert the land exchange into the 2015 National Defense Authorization Act (NDAA), the Southeast Arizona Land Exchange and Conservation Act failed to pass Congress a dozen times on its own merit. It took the intervention of Arizona Senators John McCain and (former Rio Tinto lobbyist) Jeff Flake, who snuck a midnight rider onto a must-pass defense bill to get it passed. Arizona Representative Paul Gosar defended the lack of process and exclusion of debate by traditional Apache, calling them "wards of the government" who were not worthy of being considered.

This not only dismissed the vocal opposition from other members of Congress representing their constituents but also reinforces the erroneous view that Native Americans are not full citizens of the United States. In the end, the Senators were forced to place the land exchange, that was never approved

by Congress before it was added to a midnight rider on a must-pass bill in order to complete the deal for Resolution Copper. In a released statement soon after the bill was passed, then Secretary of Interior, Sally Jewell said, **"I am profoundly disappointed with the Resolution Copper provision, which has no regard for lands considered sacred by nearby Indian tribes. The provision short circuits the long-standing and fundamental practice of pursuing meaningful government-to-government consultation with the 566 federally recognized tribes with whom we have a unique legal and trust responsibility."** (Statement by Interior Secretary Sally Jewell on the National Defense Authorization Act for Fiscal Year 2015, 12/19/2014)

We have included in our comments a 2011 record of a legislative hearing showing opposition from members of Congress to Resolution Copper's proposal and the process by which they have achieved it. We would not be in this position had they not exempted this land exchange from the law.

Because the US Forest Service refused requests to hold public meetings in communities on the San Carlos Apache Reservation, the Apache Stronghold organized several drop-in days for people to give testimonial on the enormous lack of analysis for how Resolution Copper's mine and the land exchange would impact Apache people, other Native American Tribes throughout the region, and non-native people who value the spiritual and religious nature and power of this holy site. The submitted testimonials attached to this letter are just a sample of the thousands of Native Americans who have spoken out in opposition to the land exchange, copper mine, associated infrastructure development, and the waste disposal.

Comment ID: 235-6
Response: NEPA30

Comment ID: 235-7
Response: NS1

The comments made by people through the Apache Stronghold's efforts include many spiritual connections to Oak Flat and the area that would be permanently destroyed by Resolution Copper's mine. Numerous people speak of buried family members. Most of them include childhood memories. Everyone speaks to the deep spiritual and religious connection that the Apache have to the land, water, plants and animals that would be permanently destroyed by this proposed action.

We submit the following evidence of Apache religious connection to Oak Flat. This is by no means an exhaustive list, but will allow for decision-makers to begin to understand the gravity of their negligent analysis:

- The Gaan people (Crown Dancers) are angels, Apache spiritual beings. Our Gaan exist within the three sacred sites of *Chi'Chil Bildagoteel* (Oak Flat), Gaan Canyon and Apache Leap. The Gaan live and breathe in these sites. The Gaan are the very foundation of our religion. They are our Creator, our Saints, our Saviors, and our Holy Spirits. This mine endangers our Holy Spirits and this was not considered in the impacts.
- We gather the acorns and plants that these lands provide for ceremonial and medicinal purposes and for other cultural reasons. The numerous natural elements, that come from these Holy Sites, are used as tools to conduct Religious Ceremonies, spiritual sweats, and Sunrise Ceremonies. The loss of these natural elements, fundamental to our religion, was not considered in the impacts.

Comment ID: 235-8
Response: CR4

- We have lived throughout these lands since time immemorial. For as long as may be recalled, our People have come together here. The Apache People continue to come together at Oak Flats and

Continued

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Apache Leap to conduct religious ceremonies and to pray or take rest under the shade of the ancient oak trees that grow in the area. These are holy, sacred, and consecrated lands which remain central to our identity as Apache People. Cultural significance is displayed largely in the historic social practices of a group. The Religious value of a current ongoing connection to the area is not addressed.

Comment ID: 235-9
Response: CR4

- In the nearby area called Devil's Canyon, the marks (petroglyphs) that exist are symbols of life on Earth. They exist on the steep ledges and canyon walls that rise high above the stream that has carved deep into the Canyon. This loss of our written history is not considered in the impact.

Comment ID: 235-10
Response: NS2

- We buried our ancestors in the Canyon's heart. This loss of our Sacred Burial Grounds is mentioned in the DEIS in passing. It states, "Burials are likely to be impacted; the numbers and locations of burials would not be known until such sites are detected as a result of project-related activities."
- The escarpment of Apache Leap, which towers above nearby Superior, is also sacred and consecrated ground for our People for a number of reasons, many of which are not appropriate to discuss here. As you know, however, that at least seventy-five of our People sacrificed their lives at Apache Leap during the winter of 1870 to protect their land, their principles, and their freedom when faced with overwhelming military force from the U.S. Calvary which would have required them to surrender as prisoners of war. The escarpment of Apache Leap, which towers above nearby Superior, is also Sacred and consecrated ground for our People.

  Although the DEIS has set aside Apache Leap as a Special Management Area, it does not discuss the spiritual and religious connection the desecration of *Chi'Chil Bildagoteel* will have on Apache Leap. They are of the same body and connected in every way. Creating the Apache Leap Special Management Area does not protect the Holy, Sacred, spiritual and religious nature of this consecrated ground. The protection of Apache Leap from subsidence is not conclusive. The impacts of the loss of this land form to Apache people has not been addressed.

Comment ID: 235-11
Response: CR4

- The Sunrise ceremony places Apache women's bodies into the ground where their ceremony exists. They build their homes, physically and spiritually, where they are called to have their ceremony. As several of the people who gave testimonial, the location of a Sunrise ceremony is one that each girl must arrive to herself and in her own understanding of a spiritual connection.
- Apache women have religious and spiritual meaning because of their ceremonies.
- The wood, rock, and water that are part of the ceremonies were not considered in the impacts.
- Usen is God. As with Christianity, Apache people pray to the Creator. If your neighbor's church is being destroyed or desecrated, most Americans would want to stop it from happening, regardless of their own faith. Not doing so in response to the destruction of Oak Flat is religious discrimination.

Comment ID: 235-12
Response: CR4

- The Holy Ground crosses and their enduring presence as a place of worship were not considered.

Comment ID: 235-13
Response: CR4

- The desecration of the Holy Ground in 2018 was deemed a hate crime by local and federal law enforcement. The determination that this was a hate crime was made because it is a known place of worship for Apache people, furthering the evidence that Oak Flat is recognized as a Holy and Sacred site.
- There was never consultation with or consideration for the hundreds of people who have come for a spiritual pilgrimage the past five years. Their spiritual connection to the land, water, plants and animals should be acknowledged as a potential direct impact from the proposed mine.

Comment ID: 235-14
Response: CR4

- The medicine men who have gathered for ceremony and spiritual sweats were never consulted.
- The Apache elders who go to Oak Flat and are vital bearers of spiritual story and memory were never consulted.

Comment ID: 235-15
Response: CR12

- Oak Flat is a gift of God, our Creator. How can you remediate the impact to the angels who dwell there and the young people who want to have future ceremonies where their ancestors before them have gathered in prayer since time immemorial?
- Moving the Emory oak trees is an insulting attempt at remediation.

Comment ID: 235-16
Response: MIT11

- The San Carlos Apache Tribe, as well as over 567 tribes in the United States, have shown support for the efforts of the Apache Stronghold in our efforts to stop the Resolution Copper mine.
- The tribal monitors are an insult. The US Forest Service needs to apologize for their use of a proxy for their obligation to analyze the impacts of the proposed action on the Apache connection to the land, water, plants and animals.

Comment ID: 235-17
Response: CR14

- The waters are connected within and beyond the boundaries of *Chi'Chil Bildagoteel*. Impacts and disruptions to this connectivity are not adequately addressed.

Comment ID: 235-18
Response: WT30

- The proposed action alternatives fail to recognize the cumulative effects of the land exchange to the Apache from all of the loss and impacts to land, water, timber and minerals on or adjacent to Apache traditional cultural and religious places over the past 150 years.

Comment ID: 235-19
Response: CR4

- The Area of Potential Effects (APE) ignores the issue of connectivity to Apache traditional cultural and religious places on federally managed lands and waters with the regional National Forest system.

Comment ID: 235-20
Response: CR21

- The proposed action alternatives violate the U.N. Declaration on the Rights of Indigenous Peoples, which affirms the rights of indigenous individuals and people to protect their culture. The DEIS does not consider an alternative which would not destroy the culturally and religiously vital *Chi'chil Bildagoteel*.

Comment ID: 235-21
Response: NEPA15

- Development of the Resolution Copper Mine would directly and permanently damage the NRHP (National Register of Historical Places)-listed *Chi'Chil Bildagoteel* Historic District TCP. Emory oak groves at Oak Flat, used by tribal members for acorn collecting, would likely be lost along with more than a dozen other traditional plant medicine and food sources. Other unspecified mineral or plant collecting locations and culturally important landscapes are also likely to be affected.

- Between 14 and 16 GDEs (groundwater dependent ecosystems), mostly Holy and Sacred springs, would be anticipated to be impacted by dewatering. Although mitigation would replace water, impacts would remain to the natural setting of these places.

- The DEIS fails to address the loss and contamination of water in communities surrounding the proposed project area including Globe, Superior, Miami, San Carlos, Kearny, Florence, Queen Valley and other surrounding areas.

Comment ID: 235-23
Response: WT50

A recent and well-known case, *Navajo Nation v. US Forest Service* (2008), cites the Religious Freedom Restoration Act of 1993 (RFRA) in its claims with regards to Native American rights to religious freedom. The Navajo, Hopi, Havasupai, and Hualapai tribes filed RFRA claims in a lawsuit against Flagstaff-based ski resort, Snowbowl. The resort was attempting to use reclaimed water for snow-making and tribal members attempted to prove that the snow made them sick during ceremony, as well as contaminated the plants that were used in ceremony on the peaks. In August 2008, the Ninth Circuit Court of Appeals rejected their RFRA claim. The decision claimed, in part, that the court found the impacts were not significantly preventing the religious practices to happen. In the case of Oak Flat, the impacts are undeniably prohibiting the Apache people from practicing the ceremonies at a Holy site. The construction of the mine would temporarily cut off access and once the mine has been completed, the ongoing safety concerns of subsidence would create a permanent barrier to Apache ceremony taking place. The Oak Flat DEIS gives deference to the agency following the law that allowed for the land exchange without ever evaluating whether their proposed action is illegal under a law such as RFRA.

Comment ID: 235-24
Response: NEPA4

We support the Tribes and congressional Leaders, Rep. Raul Grijalva, Senator Bernie Sanders and all co-sponsors in requesting a hearing be held by the appropriate Congressional committees to hear this evidence of the impact to a Holy and Sacred site before the land transfer is able to move forward. Exclusion of the impact to the Religion is unconstitutional and discriminatory, which invalidates the EIS. We ask Tonto National Forest not to move forward with the Resolution Copper project until an adequate analysis, based on consultation with and consideration of the impact to Native Americans as addressed in these documents, is completed.

Comment ID: 235-25
Response: NEPA 4

The Oak Flat DEIS does not address the current religious significance and the value given to Oak Flat by the Apache people, Yavapai people, Aravaipa and many others. Native American Religion has been excluded from the areas of concern and value. We submit the following testimony, gathered by our efforts, as a gift from the Apache people. The testimony informs the United States government of all that should be protected for those yet to be born by stopping this destruction. Our Creator is watching.

Wendsler Nosie, Sr
Apache Stronghold
The Apache Stronghold are individuals who come together in unity to battle continued colonization, defend Holy sites and freedom of religion, and are dedicated to building a better community through neighborhood programs and civic engagement. We work from San Carlos, Arizona connecting Apaches and other Native and non-Native allies from all over the world.

Be it resolved that the San Carlos Apache Tribe acknowledges the religious connection to Oak Flat, I, Terry Rambler, Tribal Chairman support the Apache Stronghold in their efforts to have Tonto National Forest complete an adequate analysis, based on consultation with and consideration of the impact to Native Americans as addressed in these documents.

Terry Rambler — Signature
September 27, 2019 — Date
Chairman
San Carlos Apache Tribe

Attached Documents:
Contact List for Attached Comments
Comments Collected by Apache Stronghold
Recent Articles Covering the Work of the Apache Stronghold
List of Save Oak Flat Petition Campaigns showing enormous public support
Legislative Hearing Before the Subcommittee on National Parks, Forests and Public Lands of the Committee on Natural Resources U.S. House of Representatives, 112th Congress First Session, Tuesday, June 14, 2011
U.N Declaration on the Rights of Indigenous Peoples
Wendsler Nosie Sr., Chairman, San Carlos Apache Tribe Testimonies 2007 & 2009
Terry Rambler, Chairman, San Carlos Apache Tribe Testimonies, March and November 2013

Apache Stronghold – Resolution EIS Comments
Supporting Documents Index

The attached documents are included in the Apache Stronghold comments package for the Resolution EIS for the purpose of documentation of the statements made in the Apache Stronghold public comment letter to Supervisor Bosworth. In addition, these documents provide evidence of disregard and failure to fully address the current religious significance, disregard by Arizona Congressmen towards Native American constituents, political corruption, hate crime of a Holy site, unity of religious and Tribal leadership across the nation, and overwhelming public support to not move forward with the Resolution Copper project until a hearing is held by the appropriate Congressional committees to hear this evidence of the impact to a Holy and Sacred site before the land transfer is able to move forward.

Comment ID: 235-26
Response: NEPA4

Section 1 - Tribal Resolutions and UN Declaration

Tribal Resolutions Supporting Repeal of Land Exchange

Inter Tribal Association of Arizona 21 Tribal Nations – ITAA Resolution 0419- Support for Repeal of Section 3003 of the FY 2015 National Defense Authorization Act, the Southeast Arizona Land Exchange, August 23, 2019

The National Congress of American Indians - Resolution #MSP-15-001 Support for Repeal of Section 3003 of the FY15 National Defense Authorization Act, the Southeast Arizona Land Exchange - The foregoing resolution was adopted by the General Assembly at the 2015 Midyear Session of the National Congress of American Indians, held at the St. Paul River Centre, St. Paul, MN, June 28 to July 1, 2015, with a quorum present.

United Nations Declaration on the Rights of Indigenous Peoples – Resolution adopted by the General Assembly on 13 September 2007

Section 2 - Committee Hearings, Testimonies and Statement

Hearing: Resolution Copper Hearing Before the Committee on Energy and Natural Resources US Senate, 112th Congress Second Session

Testimony of Wendsler Nosie Sr., Chairman, San Carlos Apache Tribe - Hearing Before the U.S. House Natural Resources Committee Subcommittee on National Parks, Forests and Public Lands Concerning the Southeast Arizona Land Exchange and Conservation Act 0f 2007 (H.R. 3301)

Testimony of Wendsler Nosie Sr., Chairman, San Carlos Apache Tribe – Hearing Before the U.S. Senate Energy and Natural Resources Committee Subcommittee on Public Lands and Forests Concerning the Southeast Arizona Land Exchange and Conservation Act 0f 2009 (S. 409)

Testimony of Terry Rambler, Chairman, San Carlos Apache Tribe – Testimony Before the House Committee on Natural Resources Subcommittee on Energy and Mineral Resources Legislative Hearing on H.R. 687 Southeast Arizona Land Exchange and Conservation Act of 2013

Testimony of Terry Rambler, Chairman, San Carlos Apache Tribe – Testimony Before the Senate Committee on Energy and Natural Resources Subcommittee on Public Lands, Forests, and Mining Legislative Hearing on S. 339 Southeast Arizona Land Exchange and Conservation Act of 2013

Press Release – Statement by Interior Secretary Sally Jewell on the National Defense Authorization Act for Fiscal Year 2015

Section 3 - Documents, News and Magazine Articles

Apache leaders call vandalism of Final 'prayer site' a hate crime
Apache Stronghold Journeys to Washington DC
Apache Stronghold Makes History – Poor Peoples Campaign
Apaches will defy mine that threatens sacred lands
Arizona copper mine stirs debate pitting profits vs religion
Arizona Congressman Threatens Apache Grandmothers with Arrest
AZ Parks Kept Mum on Waste Site Sought Gift from Mine
Blessing From New York Brought Apache Stronghold to #1 Trending on Facebook
FBI Investigation could impact copper, water deals
Holy Ground Desecrated at Site of Apache Resistance to Arizona Mine
New Report Provides Terrifying Detail of Mining Destruction Coming to Oak Flat
Op-Ed, Oak Flat vandalism an assault on religious freedom, Rev. Alison Harrington
Range Wars, A copper rush sparks last-ditch battles for Arizona's soul, Harper's Magazine
Save Oak Flat Petition Campaigns
Selling Off Apache Holy Land, New York Times
Struggles for Mount Graham, Oak Flat and Religious Freedom
Walk to Save Oak Flat Reach Their Destination
What's at Stake In Oak Flat? Edible Baja
Why Is No One Talking About the Land Battle in Oak Flat, AZ? Rev. Dr. William J. Barber, II

Section 4 - Resolution EIS Comments

The following testimonials are the result of gathering personal comments for the Resolution EIS Comments from San Carlos Apache Tribal elders, members of the San Carlos Apache Indian Reservation, and others in order to provide them with an opportunity and assistance to voice their personal thoughts and comments regarding the Southeastern Arizona Land Exchange and transfer of Chi'chil Bildagoteel (Oak Flat) into the private ownership of a foreign owned mining company, Resolution Copper, and how this land transfer affects them personally.

Emily Newell

From: Donna Morey
Sent: Wednesday, October 2, 2019 10:44 AM
To: Emily Newell
Subject: FW: TNF.Bosworth.DEIS.Extension.091719
Attachments: TNF_Bosworth_DEIS_Extension_091719.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Should add as a comment received during the comment period.

D

From: Lyndon, Nanebah - FS <nanebah.nezlyndon@usda.gov>
Sent: Wednesday, September 18, 2019 8:28 AM
To: Rasmussen, Mary C -FS <mary.rasmussen@usda.gov>; Hill, Kristina -FS <kristina.hill@usda.gov>; Suzanne Griset <sgriset@swca.com>; Chris Garrett <cgarrett@swca.com>; Morgan, Esther -FS <esther.morgan@usda.gov>
Subject: FW: TNF.Bosworth.DEIS.Extension.091719

EXTERNAL: This email originated from outside SWCA. Please use caution when replying.

From: Alex Ritchie [mailto:Alex.Ritchie@scat-nsn.gov]
Sent: Tuesday, September 17, 2019 2:50 PM
To: Lyndon, Nanebah - FS <nanebah.nezlyndon@usda.gov>
Cc: Justine Jimmie <justine.jimmie@scat-nsn.gov>; Roseria Astor <roseria.astor@scat-nsn.gov>
Subject: Fwd: TNF.Bosworth.DEIS.Extension.091719
Importance: High

Noni:

See below and attached. My assistant forgot to include you.

Alexander B. Ritchie
Attorney General
Department of Justice
San Carlos Apache Tribe
Post Office Box 40
16 San Carlos Avenue
San Carlos, Arizona. 85550
Tel. (928) 475-3344
Cel. (928) 200-5120
Fax. (928) 475-3348

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Begin forwarded message:

From: Roseria Astor <roseria.astor@scat-nsn.gov>
Subject: FW: TNF.Bosworth.DEIS.Extension.091719
Date: September 17, 2019 at 2:12:31 PM MST
To: "Bosworth, Neil -FS" <nbosworth@fs.fed.us>
Cc: Kathryn Leonard <kleonard@azstateparks.gov>, "jfowler@achp.gov" <jfowler@achp.gov>, "ASOWEB, BLM_AZ" <blm_az_asoweb@blm.gov>, Terry Rambler <trambler@scatui.net>, Vernelda Grant <apachevern@yahoo.com>, Dee Randall <DRandall@FORESTRY.SCAT-NSN.GOV>, Alex Ritchie <alex.ritchie@scat-nsn.gov>

This email transmits the attachment of Chairman Rambler's letter regarding the Draft Environmental Impact Statement. The original letter is being mailed certified with tracking number 7008 1300 0000 8339 2110.

Thank you.

Roseria Astor
Legal Secretary

SAN CARLOS APACHE TRIBE
Department of Justice
P.O. Box 40
San Carlos, Arizona 85550
T: (928) 475-3344/3339
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Terry Rambler
Chairman

SAN CARLOS APACHE TRIBE
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Phone (928) 475-1600 ❖ Fax (928) 475-2567

Tao Etpison
Vice-Chairman

September 17, 2019

Via E-mail and U.S. Postal Service

Neil Bosworth
Superintendent
Tonto National Forest
2324 E. McDowell Road
Phoenix, Arizona 85006
E-Mail: nbosworth@fs.fed.us

Dear Forest Supervisor Bosworth:

On behalf of the 16,800 members of the San Carlos Apache Tribe ("Tribe"), I request that the Tonto National Forest ("TNF") issue an extension of the comment period for the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Mine project ("RCM project") and the Southeast Arizona Land Exchange ("Land Exchange"). I further request that TNF consult with the Tribe to arrange for at least one open meeting on the Tribe's lands in order to encourage and optimize receipt of comments and questions from Tribal members – after all, our Tribe's members form a significant portion of the population directly impacted by these endeavors.

Comment ID: 251-1
Response: NEPA25

I am aware that on August 16th, Mary Rasmussen informed a group of stake holders and extension of time to comment on the DEIS because you had already provided an additional 45 days beyond that required by law. Thank you for that. However, I am writing to you to request that you reconsider your position due to recent developments which I believe justify a further extension of at least another 45 days.

As you know, the Tribe has severe reservations about the Tribal Monitor Program. We have several concerns about the Program but a major apprehension is the Program's impingement upon tribal sovereignty and TNF's ability to ensure that the Tribe's sovereignty is

Continued

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not impaired, explicitly or implicitly. I believe that developments in the last several weeks provide TNF and the Tribe with an avenue to address this concern.

Specifically, on August 29, 2019, you wrote to me in response to my July 10, 2019 correspondence to you regarding the 5th draft for the Programmatic Agreement ("PA"). As you know, among other matters, the Tribe was critical of the PA's description and use of a Tribal Monitor Program for identification of important cultural resources. Your August 29th letter provided some explanation of the Tribal Monitor Program. In your letter, you also stated I should reach out to you with any additional requests.

I am now reaching out to you to learn more about the Tribal Monitor Program. I request a meeting with you in your offices for a small number of my staff together with your staff to enlarge the Tribe's leaderships' understanding of this Program. Any documents you would be willing to provide me in advance of such a meeting would be greatly appreciated.

The other recent development that I believe justifies an extension of time to comment is the September 6, 2019 Public Notice from the U.S. Corps of Engineers ("Corps") announcing its review of Resolution Copper's application for a permit for a tailings storage facility ("TSF") at Skunk Camp. Attached for your convenience is the Public Notice. The Public Notice indicates that TNF, the State Historic Preservation Officer and unspecified Native American Tribes are in consultation regarding cultural resource impacts for this TSF project. *See* Public Notice at 3. The notice further states that tribes have been consulted and that consultations are being led by TNF. *Id.* Although not specifically stated, the implication is that the Corps has no intent to conduct its own Section 106 analysis.

Comment ID: 251-2
Response: CR13_A

Given this last development, I would be remiss if I did not ask TNF to provide the Tribe with all cultural resource information TNF has given to the Corps, all consultation materials between TNF and any tribes and for any other information in TNF's possession regarding cultural resources within the area of potential effects ('APE") for the Skunk Camp TSF. This information is necessary for the Tribe's ability to provide meaningful DEIS comments regarding the Skunk Camp TSF.

The APE for the Skunk Camp has been, and as far as the Tribe is aware, still is posted for no trespassing and is off limits for review and inspection. For Apaches, this is not and cannot be a "desktop" survey. We need time to visit, learn from the representatives of the clans with traditional ties to the Dripping Spring valley, and consider traditional knowledge in relation to the newly unveiled plans to destroy another cherished part of our homeland.

The APE is part of the traditional territories of T'iis Tseban (Pinal Band) and Tse Binesti'e (Aravaipa Band) Apaches driven from the Dripping Springs and Pinal Mountain areas by military-industrial campaigns from 1859 to 1874. Time is needed for the Apache aboriginal landowners to re-familiarize themselves with the land and resources they were evicted from. We request the opportunity, for the first time in generations, to be welcomed back to the springs.

Continued

Continued

camp areas, and plant and mineral gathering places to assess existing conditions. We need to assess and consider connections between what we see on the land today and what we have been told by our elders. I feel this obligation to visit and inspect the area personally and spiritually. Those campaigns slaughtered almost 400 Apaches and drove my direct ancestors from their homelands to San Carlos, paving the way for the industrial mining that is now culminating in the proposed Resolution Mine.

In addition to these two recent developments, there are other reasons to provide an extension for the DEIS comment period. The DEIS is extensive, complicated, technical, and unmistakably consequential. The Tribe cannot simply suspend our duties and responsibilities relating to other issues and concerns to study and prepare comments on the DEIS. It is not reasonable or useful for TNF to require a fully informed response from the Tribe within 90 days to a massive industrial proposal involving multiple alternatives.

Comment ID: 251-3
Response: NEPA25

Our initial review makes it clear that the DEIS fails in many ways to identify and analyze many irrevocable adverse impacts to the human and biophysical environment, including land, water, air, and cultural resources upon which San Carlos Apaches and many other Native American people and communities rely. We hope TNF will continue to fill in the many gaps in the DEIS as the proposed POO continues to evolve. We particularly request TNF issuance of a DEIS supplement or amendment to address our Tribe's well-established concerns regarding the processes proposed to complete the identification of cultural resources and sacred sites and to avoid and reduce impacts to these places, objects, and traditions.

Comment ID: 251-4
Response: CR5

On behalf of the San Carlos Apache Tribe, I ask you to give these requests every favorable consideration. I look forward to your response.

Sincerely,

SAN CARLOS APACHE TRIBE

Terry Rambler
Chairman

Cc: Katheryn Leonard, Arizona State Historic Preservation Officer
John Fowler, Advisory Council on Historic Preservation Executive Director
Raymond Suazo, USBLM Arizona State Director

San Carlos Apache Tribe
Tao Etpison, Vice Chairman
San Carlos Council Members
Vernelda Grant, THPO
Dee Randall, Forest Manager, Forest Resources
A.B. Ritchie, AG
Chrono

Continued

Colonel Barta kindly responded to my letter explaining that TNF was the lead agency for the preparation of an environmental impact statement under the National Environmental Policy Act (NEPA) and that jurisdictionally USACE was a cooperating agency if RCC applied for a permit to discharge dredged or fill material under section 404 of the Clean Water Act (CWA) and it was determined that in fact such a permit would be necessary. Colonel Barta also explained that the Corps had recently received RCC's application for a permit for the Skunk Camp Alternative. Colonel Barta made clear that the Corps' role in the NHPA process is limited to those areas over which your agency has jurisdiction, i.e., areas for which a section 404 permit would be required such as the tailings storage facility ("TSF") and associated pipelines. We understand this is USACE view of its limited role in this and greatly appreciate Colonel Barta's clear and succinct explanation of the Corps' position, although we do not necessarily agree.

Comment ID: 8030-2
Response: MIT27

Regretfully, the problems pertaining to meaningful government-to-government consultation with THP on any aspect of NHPA section 106 consultation about the RCM project including the Skunk Camp Alternative, has been problematic at best. Recently, the State Historic Preservation Office ("SHPO") and the Advisory Council on Historic Preservation separately warned TNF of compliance failures. TNF's responsive actions merely reaffirmed its lack of understanding of the minimal consultation compliance requirements.

Comment ID: 8030-3
Response: CR8

The purpose of this letter is not to document TNF's failure to engage in consultation with the Tribe and other affected Indian tribes. Rather this letter is intended to alert USACE that, at least as to the Skunk Camp Alternative, the primary responsibility for NHPA section 106 government-to-government with tribes has fallen squarely in the Corps' lap.

Comment ID: 8030-4
Response: CR13

In his August 23, 2019 correspondence, Colonel Barta wrote, "The Corps will continue to work with TNF on developing an appropriate PA for the project, as needed for our limited role, and I encourage the San Carlos Apache Tribe to stay engaged with TNF and other consulting parties to work through the issues you have identified in your letter." By this letter, I request that the Corps, as a cooperating agency, engage in government-to-government consultation regarding the Corps' permitting of the Skunk Camp Alternative for a TSF and associated pipelines to include the area of potential effects (APE). We would also encourage in our consultations that the Corps' jurisdiction be examined to determine the necessity for additional review of other aspects of the mine project.

Comment ID: 8030-5
Response: MIT27

There is no doubt that under NEPA, NHPA, the U.S. Department of Defense, American Indian and Alaska Native Policy, the USACE Tribal Policy Principles, and the various authorities cited in the latter two policies, that the Tribe has the right and the Corps has the duty to engage in government-to-government consultations. We ask that USACE engage in consultation with the Tribe in order to develop a PA which identifies, protects, and preserves the cultural, sacred, and historical assets at risk within the Corps' jurisdictional role in this project.

Terry Rambler
Chairman

SAN CARLOS APACHE TRIBE
P.O. Box 0, San Carlos, Arizona 85550
Phone (928) 475-1600 ❖ Fax (928) 475-2567

Tao Etpison
Vice-Chairman

November 7, 2019

Via E-mail and U.S. Postal Service

Michael Langley
Los Angeles District,
Regulatory Division
U.S. Army Corps of Engineers
3636 N. Central Ave, Suite 900
Phoenix, AZ 85012-1939
E-Mail: ResolutionMine404Comments.SPL@usace.army.mil

Re: San Carlos Apache Tribe's Request for Government-to-Government Consultation and Comments on Resolution Copper Company's Application for Permit, Application Number SPL-2016-00547-MWL

Dear Mr. Langley:

On behalf of the nearly 16,800 members of the San Carlos Apache Tribe ("Tribe"), thank you for the opportunity to present the Tribe's initial comments regarding Resolution Copper Company's Application Number SPL-2016-00547-MWL. As you are certainly aware as the Senior Project Manager for the U.S. Army Corps of Engineers ("USACE" or "Corps"), the Tribe has opposed the development of the Resolution Copper Mine ("RCM") and the Southeast Arizona Land Exchange. Our opposition stems in large part from the certain destruction of sacred sites and places and culturally significant resources which will occur as a result of the mine's development and the exchange of federal lands controlled by the Tonto National Forest ("TNF").

Comment ID: 8030-1
Response: NS1

On July 26, 2019, I corresponded with Colonel Barta, USACE District Commander for the Los Angeles District, expressing the Tribe's concern regarding compliance issues with section 106 of the National Historic Preservation Act ("NHPA") and deficiencies with a draft Programmatic Agreement ("PA:) under review by various agencies. Those issues persist today

Continued

The Tribe is also concerned about other technical aspects of RCC's application, the full panoply of which remain yet unknown to the Tribe. This is an additional basis for consultation with the Corps. In August or 2016, TNF Forest Supervisor Neil Bosworth issued a record of decision ("ROD") and finding of no significant impact ("FONSI") for a Resolution Copper Mining Plan of Operations ("MPO") for Baseline Hydrological and Geotechnical Data Gathering Activities ("Baseline Plan").

Comment ID: 8030-12
Response: ALT22

The Final Environmental Assessment for the Baseline Plan stated the purpose and need for the Baseline Plan was to provide hydrological, geochemical and geotechnical data which would be used to support the analysis of a proposed TSF. The data was deemed important to providing data TNF would need to meet the requirements of 40 CFR §1502.22, information that is "essential to a reasoned choice among alternatives." The information was necessary, according to the final EA, for the evaluation of the TSF geotechnical stability and quality issues deemed by TNF as critical to support a reasoned choice among alternative TSF sites.

A similar baseline analysis was not performed for the Skunk Camp Alternative that leads to the question of whether the information which has been provided with RCC's application provides sufficient information to make a reasoned choice among alternatives that the Skunk Camp Alternative is an appropriate location for a TSF. After all, whatever information was derived from the Baseline Plan, it was sufficiently significant to cause RCM to abandon the site as a TSF or for TNF to reject that location.

The Corps issues permits for the discharge of dredged or fill material pursuant to section 404 of the CWA and subject to the Corps' and EPA's 404(b)(1) Guidelines ("Guidelines"). *See* 33 U.S.C. § 1344; 40 C.F.R. pt. 230. The Corps cannot authorize a discharge without "sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with [the Section 404(b)(1)] Guidelines." 40 C.F.R. § 230.12(a)(3)(iv); *see* 33 C.F.R. §§ 320.2(f) and 320.4(a)(1). The Corps' and EPA's 404(b)(1) Guidelines impose important limitations on the Corps' ability to issue a Section 404 permit. 40 C.F.R. pt. 230.

Comment ID: 8030-8
Response: MIT27

The Tribe further seeks consultation to fully explore which guidelines should be applied by the Corps including whether "all appropriate steps have been taken to minimize potential adverse impacts." 40 C.F.R. § 230.10. This would include adverse impacts to cultural resources human health and welfare, aquatic life, other water dependent wildlife, ecosystem diversity, recreation, geological stability and any other attributes of the human condition which may be subject to significant degradation. *Id.* § 230.10(c)(1)-(4). The Tribe submits that the Corps has not received sufficient information from RCC to make this determination possible at this time and that the applicant should be mandated to submit additional information. As an example, the Tribe submits that there is a lack of information regarding the geology and its stability for any aspect of the Skunk Camp Alternative. No seismic study of the area has been performed despite the fact that a fault runs down almost the entire length of Drippings Spring Wash and the surrounding area is honeycombed with tailings sites. There is little or no information regarding springs and seeps that will be impacted the Skunk Camp Alternative even though TNF is fully

Comment ID: 8030-9
Response: ALT22

aware that springs and seeps are viewed as sacred and culturally important to the Western Apache.

Indeed, an examination of the Arizona Mining Reform Coalition, *et al.* comments regarding the DEIS and USACE's public notice set forth a host of reasons a 404 permit should not be issued at this time. The Tribe incorporates by reference as though fully set forth here the arguments made by the Coalition in its comments to TNF and the Corps of this date.

Comment ID: 8030-10
Response: MIT27

The Tribe respectfully submits that a studied and careful inspection and analysis of the Skunk Camp Alternative is the law and is necessary for the protection of the public and the environment. The Tribe is looking forward to working with the Corps to ensure that this "Preferred" Alternative fully complies with the applicable laws and regulations. I close with an affirmation of our desire for early, direct, continuous, step-by-step and professional, government-to-government consultation with the Corps. Let us address soon how the Corps and the Tribe may engage in meaningful consultation.

Comment ID: 8030-13
Response: ALT 22

On behalf of the San Carlos Apache Tribe, thank you for the opportunity to offer these comments.

Sincerely,

SAN CARLOS APACHE TRIBE

Terry Rambler
Chairman

Cc: Ned Bosworth, Forest Supervisor, TNF, nbosworth@fs.fed.us
Nanebah Lyndon, Tribal Religious Program Manager, TNF, nnez@fs.fed.us
Kathryn Leonard, Arizona State Historic Preservation Officer, kleonard@azstateparks.com
John Fowler, Advisory Council on Historic Preservation Executive Director, jfowler@achp.gov
Col. Barta, Army Corps of Engineers
Raymond Suazo, USBLM Arizona State Director
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Roger Featherstone, Arizona Mining Reform Coalition, PO Box 43565, Tucson, AZ 85733

San Carlos Apache Tribe
Tao Etpison, Vice Chairman
San Carlos Council Members
Vernelda Grant, THPO
Dee Randall, Forest Manager, Forest Supervisor
A.B. Ritchie, AO
Chrono

The Tribe reserves the right to supplement this Comment as part of its ongoing consultation with the Forest Service.

I. Introduction

In December 2014, Congress passed the Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for Fiscal Year 2015 (NDAA). Section 3003[1] of this law authorizes and directs the Secretary of Agriculture to administer an exchange which would convey 2,422 acres of Forest Service lands "in the area of the proposed mine to Resolution Copper in exchange for approximately 5,344 acres of private land on eight parcels located elsewhere in eastern Arizona."[2]

Section 3003 of the NDAA explicitly requires the Secretary of Agriculture to prepare an Environmental Impact Statement (EIS) prior to conveying the Federal land. Section 3003 also requires "[t]his EIS shall be used as the basis for all decisions under Federal law related to the proposed mine, the GPO, and any related major Federal actions, including the granting of permits, rights-of-way, or the approvals for construction of associated power, water, transportation, processing, tailings, waste disposal, or other ancillary facilities."[3]

The DEIS at issue here is the Forest Service's attempted compliance with Section 3003 and other Federal laws. The DEIS acknowledged the Forest Service's responsibility under Section 3003:

> Section 3003 of the NDAA explicitly requires the Secretary of Agriculture to prepare an EIS prior to conveying the Federal land. This EIS shall be used as the basis for all decisions under Federal law related to the proposed mine, the GPO, and any related major Federal actions, including the granting of permits, rights-of-way, or the approvals for construction of associated power, water, transportation, processing, tailings, waste disposal, or other ancillary facilities.
> Section 3003 of the NDAA requires this EIS to assess the effects of mining and related activities on such cultural and archaeological resources that may be located on the NFS lands conveyed to Resolution Copper, and identify measures that may be taken, to the extent practicable, to minimize potential adverse impacts on those resources, if any. The Secretary of Agriculture is further directed to engage in government-to-government consultation with affected Indian Tribes regarding issues of concern to the affected tribes related to the land exchange and, following such consultation, consult with Resolution Copper and seek to find

[1] *See* DEIS Appendix A.

[2] DEIS p. 3.

[3] *Id.*

> mutually acceptable measures to address affected tribes' concerns and "minimize the adverse effects on the affected Indian Tribes resulting from mining and related activities on the Federal land conveyed to Resolution Copper" (see 16 United States Code [U.S.C.] 539p(c)(3)).[4]

Section 3003 of the NDAA was the result of over a decade of defeats in Congress by proponents of the Land Exchange and their Congressional sponsors.[5] The successful opponents of the Land Exchange included a diverse group of Indian Tribes and organizations, environmental groups, recreational groups, academicians and religious organizations.[6] In response to these ten years of legislative defeats, the promoters of the Land Exchange added a rider, Section 3003, to the must pass 2015 NDAA appropriation bill. None of the traditional legislative safeguards, committee hearings, presentation of testimony, legislative debate and floor votes, were observed before Section 3003 was literally dropped into the NDAA. Plainly, Section 3003 had not seen the legislative light of day until it was added to the 2015 NDAA.

On March 18, 2016, Forest Service published a Notice of Intent (NOI) to prepare an EIS.[7] The Tribe filed a timely Scoping Comment with Forest Service.[8]

II. Oak Flat And The Area Around It

The Federal land which is to be exchanged and the surrounding environs that make up the area of Resolution Copper mine and its various components lies approximately sixty miles east of Phoenix, Arizona.[9] The mine and its various components will have an estimated surface disturbance of over 6,900 acres or approximately 11 square miles.[10]

[4] DEIS p. 3.

[5] *See generally* Introduction, Attachment One, Land Exchange Legislative History.

[6] *See generally* Introduction, Attachment Two, Resolutions Opposing Land Exchange; Attachment Three, Correspondence Opposing Land Exchange.

[7] DEIS ES-8, ES-10, DEIS pp. 21, 715. Attachment Forest Service Notice of Intent to Prepare EIS.

[8] *See* Attachment, San Carlos Apache Tribe's Scoping Comment.

[9] DEIS ES-1-3; DEIS Figure ES-1; DEIS p. 2 Figure 1.1-1.

[10] DEIS p. 3 & fn. 4. Visual, auditory and other disturbances, direct and indirect, extend the disturbances several thousand more acres.

Terry Rambler
Chairman

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Vice-Chairman

COMMENT
ON
DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE RESOLUTION COPPER PROJECT AND LAND EXCHANGE

December 23, 2019

On behalf of the more than 16,800 members of the San Carlos Apache Tribe (Tribe) and the San Carlos Council (Council), the Tribe's governing body, thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange. Thank you also for extending the time in which the Tribe was allowed to present this comment on the DEIS.

The DEIS is required to evaluate the potential impacts associated with the Forest Service, Tonto National Forest's (Forest Service or TNF) approval of the modified General Plan of Operations (GPO) for mining of the Resolution Copper Mine (RCM) deposit and a legislatively mandated land exchange of Federal and private parcels in southeastern Arizona. In addition to analyzing the environmental impacts of the land exchange and mining operations, the Draft EIS analyzes five alternatives for a tailings storage facility (TSF), including "Alternative 6 — Skunk Camp," which is the Forest Service's preferred alternative and the site of RCM's proposed TSF.

From our analysis, performed by staff and consultants that the Tribe retained for this purpose, we find that the DEIS fails to completely address the impacts or alternatives. For the following reasons, I respectfully request that the Forest Service reconsider the DEIS and work with the stakeholders in effort to either re-issue, or otherwise supplement the DEIS.

Comment ID: 30078-1
Response: NS1

A. Tribal Stewardship

The affected tribes are the original owners and continuing stewards of the land being proposed for industrial commodification and of the great majority of the cultural resources being proposed for destruction.

The DEIS fails to adequately describe the human environment associated with the Oak Flat Withdrawal Area and the region surrounding it. In particular, the DEIS fails to place the human environment in its cultural and historic context. The DEIS does not provide the cultural-historical framework needed by the Forest Service, other government agencies, and the public vital information necessary to understand the nature and magnitude of the impacts from the proposed mine and its various components to the affected tribes and their people.

Comment ID: 30078-2

Response: CR2

The DEIS fails to adequately acknowledge and document the irrevocable damage posed by the RCM project to historical, cultural, spiritual, and emotional connections which the affected tribes will suffer. The DEIS fails to provide both the analyses of the proposed RCM project's impacts on affected tribes and the analyses of ways and means to mitigate the significant impacts.

"Lip service" is the term that comes to mind when reading the DEIS's treatment of the RCM project's injuries to tribes. In section ES-1.3, the DEIS briefly acknowledges the controversy surrounding the proposed destruction of the Oak Flat sacred site and National Register Historic District. DEIS page ES-3 finds that "the expected significant environmental impacts and loss of the Oak Flat area, historically used by Native Americans who hold the land as sacred and use the area for spiritual and traditional uses."[11] The DEIS also lists some of the tribes' concerns, including "access routes, air, groundwater and surface water, plant and animal life, and landscapes, as well as less tangible attributes such as sense of place; sense of historical, spiritual, and tribal identity; opportunities for solitude; and opportunities to continue traditional cultural practices and ceremonies."[12] The DEIS recites mandates to analyze "how cumulative resource disturbance impacts tribal values and spiritual practices…. [and the] number of sacred springs or other discrete sacred sites that would be impacted, and potential effects on Native Americans from the desecration of land, springs, burials, and sacred site [and] Estimated acres of traditional resource collection areas that would be impacted."[13] But, these paltry references do not address the depth and breadth of the irreparable harms that tribes will suffer.

Comment ID: 30078-3

Response: CR4

Even more to the point and despite NEPA's core mandate to document the human environment, the DEIS fails disclose the unassailable truth that the land and mineral wealth

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[11] DEIS p. ES-3.

[12] DEIS pp. 24-25.

[13] DEIS p. 123.

Footnotes associated with Comment ID: 30078-3

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proposed for transfer to RCM belonged to the affected tribes 150 years ago, and that these resources were taken by force and with the loss of many of our ancestors. The DEIS should have referenced and discussed essential facts, including at a minimum:

- The proposed RCM impact area was under Native American control, and later claimed by Spain and Mexico until the 1848 treaty that ended the Mexican-American War (Spicer 1962).
- In the 1852 Treaty of Santa Fe[14] that followed the end of the U.S. war with Mexico, the U.S. Government formally recognized the domain of the Western and Chiricahua Apache Nations as extending from what would become central Arizona eastward to the Rio Grande. That Treaty obliged the Apaches to live exclusively under U.S. laws and jurisdiction and obligated the U.S. to "designate, settle, and adjust [the Apaches] territorial boundaries, and ... legislate and act as to secure the permanent prosperity and happiness of said Indians" (Kappler, 1904).
- Royce (1899: 922-923) on Map AZ 1, provides an authoritative depiction of the non-exclusive domain of Western and Chiricahua Apaches.[15] That map includes the RCM impact area within the Apache domain covered by the 1852 Treaty of Santa Fe.
- Despite the signed treaty and early cooperation between Apaches and the U.S. Government and the U.S. Government trust responsibilities for American Indians, various U.S. Government and Arizona Territorial Government policies and actions unlawfully abetted non-Indian encroachments onto the lands of Apaches and other Native American nations (Basso 1983; Ogle, 1970; Spicer 1962; Thrapp 1967).
- The U.S. Indian Claims Commission ("ICC") generally determined the boundaries of aboriginal lands of the affected tribes. Figure 1 below depicts the boundaries of aboriginal lands of the affected tribes.[16]

Comment ID: 30078-4

Response: CR2

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[14] *See* Attachment One, Tribal Stewardship.

[15] *See* Attachment Two, Tribal Stewardship.

[16] *See* Attachment Three, Tribal Stewardship.

Footnotes associated with Comment ID: 30078-4

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Figure 1. Boundaries of affected Tribes' Aboriginal Territories.

- Figure 2 below is a higher resolution depiction of the aboriginal lands in the vicinity of the RCM project impact area.[17] Figure 2 establishes that the DEIS proposed RCM project would have direct, indirect, and cumulative impacts on the aboriginal lands of Arizona's Apache, Yavapai, and Pima-O'odham tribes and nations.

[17] *See* Attachment Four, Tribal Stewardship.

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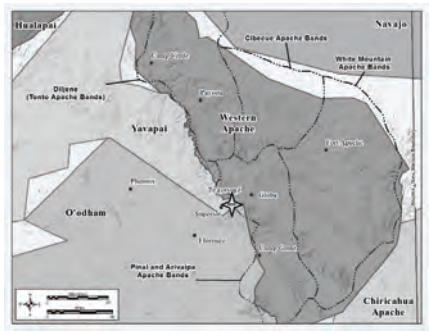

Figure 2. Boundaries of affected Tribes' Aboriginal Territories overlapping with the RCM impact area.

- In the early 1870s, Western Apaches relinquished about millions of acres of their aboriginal lands in exchange for reduced acres on reservation lands and U.S. Government guarantees of protection and assistance (Welch, 2016, pp. 82-88). Two additional maps[18] attached to these comments depict the results of U.S. Government closures of several Apache reservations and severances of more than 2,000,000 acres from the White Mountain and San Carlos reservations from 1873–1902. These facts are specifically relevant to assessments of the human environment and tribal values and concerns for the RCM project impact area because the U.S. Government effectively donated these tracts of Apache Reservation lands to non-Apache miners, farmers, and ranchers for industrial uses. In the latter 1800s and early 1900s, and in the 2015 NDAA Section 3003, justice-driven governance was trumped by profit-driven promises by miners.

[18] *See* Attachments Five and Six, Tribal Stewardship.

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- ICC Findings of Fact for Docket 22-D (Indian Claims Commission 1969) and Docket 22-E (Indian Claims Commission 1965) confirm the facts listed above and provide other court-confirmed facts directly relevant to understanding the historical context of the human environment of the RCM impact area.

The authoritative compendium of historical and cultural facts provided by the U.S. Smithsonian Institution is directly relevant to the human environment impacted by the RCM project. (Ortiz 1983). Nevertheless, the DEIS ignored such authority. The DEIS ignored the above-cited facts. The DEIS has not meaningfully acknowledged, much less analyzed, the human environment or the impacts of this project in these essential terms.

Based on these facts and authorities, the DEIS should have provided the historical context for documenting the proposed RCM project impact area and for analyzing and assessing those impacts on cultural resources, tribal values, and tribal communities. The DEIS should have embraced, and Forest Service remains legally obligated to embrace, the truth embedded in NDAA Section 3003, NHPA and NEPA. Namely, proponents of projects that propose to privatize and commodify public and former Indigenous lands and resources are obligated to compensate the public and tribal donors through context-sensitive recognitions, descriptions, and analyses of the people and historical dynamics that have invested the impacted area with their cultural and historical significance. The respectful recognition, description, and analysis of the Apaches' cultural resources, tribal values, tribal and tribal communities meaning and value to the human environment of the Apache and other Native American peoples.

Comment ID: 30078-5

Response: CR7

B. Religious Significance of Chi'chil Bildagoteel

The DEIS ignores the religious significance of Chi'chil Biłdagoteel (Oak Flat) and its surrounding areas to the Tribe and Western Apaches.[19]

Comment ID: 30078-6

Response: CR4

The Tribe has corresponded with the Forest Service and provided testimony to the U.S. Congress, regarding the preeminence of Oak Flat and its surrounding areas on our religious beliefs and values. Of all the concerns expressed by the Tribe, the impact of the proposed RCM project on the traditional religion and values of San Carlos Apache members is the most central and harmful, on a scale of cumulative effects so devastating that it cannot be completely described in English.

Despite all of the Tribe's careful, detailed documentation of the potential impacts on our people by the proposed mine project, the DEIS and, by extension, the Forest Service, have failed to sufficiently identify and discuss the profound religious significance of Oak Flat and

[19] It is not the Tribe's intent to ignore our fellow Native Americans by not mentioning the other tribes with ties to the area impacted by the RCM project in this section. All of the tribes have important connections to this area. The San Carlos Apache, however, can only to speak to our Western Apache religious values, beliefs and not to those of other tribes.

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surrounding areas to San Carlos Apaches and our relatives within the Western Apaches. Chapters 3.12 (Cultural Resources) and 3.14 (Tribal Values and Concerns) of the DEIS, provide mere lip service to the terms "cultural" and "tribal values and concerns". The DEIS offers no serious or comprehensive explanation of the integral role that Oak Flat and its surroundings areas have on our traditional religion, now and for hundreds of years in the past. Worse, the Forest Service's approach is that the proposed mine is a *fait accompli* – that nothing can or will be done to address the immediate, irreparable and incalculable harms that will be permanently perpetrated upon the Tribe's traditional religion and values. All this without regard for federal government's statutory obligations or trust responsibility to Western Apaches and our Tribe.

Leaders of our Tribe have testified before Congress to express the religious and sacred significance of Oak Flat to our people. On November 1, 2007, former Chairman Wendsler Nosie, Sr. presented testimony on H.R. 3301, the 2007 iteration of the Land Exchange Act, before the U.S. House Natural Resources Committee, Subcommittee on National Parks, Forests and Public Lands.[20] Among other things, he described Oak Flat, Apache Leap, and Devil's Canyon as holy and sacred sites for San Carlos Apaches.

> For as long as may be recalled, our [Apache] People have come together here. We gather the acorns and plants that these lands provide, which we use for ceremonies, medicinal purposes, and for other cultural reasons. We have lived throughout these lands, and the Apache People still come together at Oak Flats and Apache Leap to conduct religious ceremonies and to pray or take rest under the shade of the ancient oak trees that grow in the area. The importance of these lands has not changed. These are holy, sacred, and consecrated lands which remain central to our identity as Apache People.[21]

Our Tribe's leaders have testified before Congress on other occasions over the years always identifying the sacredness and sanctity of Oak Flat and the surrounding special places to our Western Apache People.[22] The eloquence of our Tribal Elders is poignant and is important for shedding light and understanding on the spiritual importance of places like Oak Flat.[23] The Memorandum to the Chairman, Vice-Chairman and Tribal Council on the subject of Sacred Sites in general and Oak Flat in particular signifies the singular import of sanctity and spirituality Chi'chil Biłdagoteel.

[20] *See generally* Attachment One, Religious Significance, Testimony of Former Chairman Nosie Nov. 1, 2007 pp. 1-2.

[21] *Id.*

[22] *See generally* Attachment Two, Religious Significance, Testimony of Former Chairman Nosie June 17, 2009; Attachment Three, Religious Significance, Testimony of Chairman Rambler, Nov, 20, 2013.

[23] *See generally* Attachment Four, Religious Significance, Elders Cultural Advisory Council's Memorandum To Chairman, Vice-Chairman, Tribal Council, December 14, 2011.

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> There are many sacred and holy sites throughout our traditional lands, on and off the Reservation. These are natural places filled with power, and we go to them (or invoke them in our prayer) for a variety of reasons: for prayers and ceremonies, to get healing and ceremonial items, or for peace and personal cleansing. These places are best known by the families whose ancestors originate from the areas in which these sites are located. There are so many of these holy places that no one person knows them all. We usually best know about the sites from the area our family comes from.
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> * * *
>
> Oak Flat is one of these sacred places. We call it Chich'il Biłdagoteel. The ancestors of some of our Tribal members lived there, and passed their knowledge to their descendents who are alive today. The Oak Flat area and everything in it belongs to powerful Diyin who we respect. The people have always held dances and healing ceremonies, and gathered food, medicinal plants, and many other healing items there. To this day some of us go to some of the holy places within Oak Flat area for prayer and healing.[24]

The DEIS fails to provide any description of the traditional religious role that Oak Flat and its surrounding areas has for San Carlos Apaches in everyday life. The Forest Service is well aware of the traditional religious roles and values of Oak Flat and its environs. The DEIS should include a comprehensive, detailed description of the meaning and significance that Oak Flat represents to our Tribe and Western Apaches. This would be a simple sign of respect to our people. This is particularly vital given that this mining project will result in the Oak Flat Withdrawl Area, its environment, the plants and animals, its waters, and all the sacred places within being completely destroyed by the mine's subsidence resulting from the proposed block-cave mining method. The words "harm" and "destroyed" do not describe the sheer violence that will be perpetrated by this mine.

Most tragically, the living spiritual being of Oak Flat and its attendant Ga'an and Diyin will withhold their presence and healing services to Apaches. It will prevent our access to them, and remove a part of the very heart and soul of what it is to be an Apache. These are all facts to Apaches and the impacts on Apaches, our life, our culture, our soul – all remain undescribed by the DEIS. This very paragraph does not even begin to provide a description of the harm that would be perpetrated.

[24] *Id.* pp. 1-2.

C. Elements of Apache Traditional Religion On Ga'an and Diyin[25]

Comment ID: 30078-7

Response: CR4

Apache religion is a highly ordered suite of patterned thoughts and actions grounded, like most or all religions, in precepts about the origin and development of the universe and the character and interrelations of objects and entities within it. (Basso 1983). The stark contrasts between Apache and Western metaphysical precepts help to explain the conflict over Chi'chil Biłdagoteel (Oak Flat) and the proposed RCM project. Previous attempts on the part of US Federal and Arizona governments and industrial boosters to characterize Apaches as "primitive" and "savage" (*see,* for example, Legislature of the Territory of Arizona 1871) have been debunked as misguided racist fabrications. (*see* Welch 2016, 2017). In fact, despite centuries of oppression and persecution, Apaches have created and have maintained a vast and intricate mythology (Goodwin 1939), an extensive complex of elaborate and compelling prayers, chants, and rituals (Goodwin 1938; Basso 1970), a set of sophisticated theories of natural and supernatural causality (Basso 1970), and a vast and intricately named and storied landscape, one populated and animated by subtle and profound natural and supernatural entities and significances. (Basso 1996).

Traditional Apache religion makes unique and fundamental contributions to the development and sustenance of personal and collective identity and well-being. (Basso 1969, 1970, 1983). The persistent importance of traditional religious thought and practice among Apaches today and into their future as a unique Indigenous people cannot be overemphasized.

According to traditional Apache religious thought and practice, everything that exists is a manifestation of its specific form of life (*bí'íhí'na*). All plants, animals, minerals, waters, and the earth itself has *bí'íhí'na*, as do fire, wind, lightning, thunder, rainbows, and an extensive group of supernatural beings (Diyin) that are seldom seen by humans. All these forms of life are distinct and all are distinctively different from one another and from human life. All are intrinsically, though in varying degrees, "holy" or "sacred" (*godiyíí*). (Goodwin 1938; Basso 1970, 1983).

Because all life forms are *godiyíí* they possess their distinctive forms of sacred power (*diyí'*). Diyí' can be called upon via prayers and chants by religious practitioners who have received training and demonstrated respect for the natural world in general and the life forms possessing the required or desired *diyí'*. (Goodwin 1938; Basso 1970). Different powers are called upon for different reasons, for example, to afford protection from dangers, to heal specific illnesses, to facilitate success in particular endeavors, to celebrate female puberty, and for other purposes. (Goodwin 1938; Basso 1969, 1970, 1983).

The existence of *diyí'* is the fundamental rationale for Apache demonstrations of "respect" (*diníłsįh*). Failure to display deference and *diníłsįh* causes the *diyí'* to withhold benefits to supplicants. (Basso 1970, 1983). Respect may be shown through simple avoidance and mercy, by refraining from taking any life unless it is required to sustain oneself or one's kin, and by

[25] The Source Materials for this section of the comment are in Attachment Five, Religious Significance.

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avoidance of causing any damage to the "home" (*goiíí'*) of the *diyí'*. For many Apaches and all practitioners of traditional Apache religion, active respect and avoidance of damage ensures stability and harmony. (Basso 1983).

Because they provide the *goiíí'* (homes) of and for the *diyí'* (sacred power) and Diyin (sacred beings), certain types of places – especially mountains, springs, unique landforms, and concentrations of what Westerners call biodiversity – are closely associated with holiness, sacredness. Forms of life with homes in these places are said to "belong" to that spring, mountain, or landform. Although a particular landform may itself possess great *diyí'*, as is certainly the case with Chi'chil Biłdagoteel, it is the unique combination and integration of all associated *diyí'* and Diyin that defines its sacred significance.

Specific places have and transcendent importance in traditional Apache religion. Apaches have, on the basis of centuries of close observations, respectful uses, and spiritual exchanges with places, developed conceptions of places, place-related powers, and place-linked sacredness. Certain places are the only available host for specific ceremonies. Certain other places provide plant, animal, water, and mineral resources required for ceremonials. Other specific places command respect because of associations with important supernatural events or processes or because they are the resting places of deceased persons. (Goodwin 1938, 1939; Basso 1983). Chi'chil Biłdagoteel is a sacred place for all of these reasons, a locality of unique and uniquely profound significance. If Oak Flat is destroyed then with it will be destroyed unique, centrally important, and irreplaceable aspects of traditional Apache religion.

Among the important implications of the facts that places are endowed with specific and often unique forms of sacred significance is that different places are not interchangeable for essential purposes in traditional Apache religion. Many spiritual and ritual observances cannot occur except in designated places. Particular plants, minerals, and animals required for specific ceremonials must be collected only at certain places. Particular sacred power must be invoked with prayers and chants that mention only the names of places that provide these *diyí'* and Diyin with homes. Because of these proscriptions the Apache landscape resonates with profoundly moral dimensions that sacred places symbolize and embody.

In light of the foregoing, it is understandable that damage to or destruction of sacred places, especially intentional destruction in pursuit of monetary gain or personal status enhancement, is regarded as repugnant and deeply immoral. One of Keith Basso's most knowledgeable and articulate Apache consultants, Nick Thompson, made this point in clear and compelling terms:

> "If you hurt one of these holy places, it's very, very bad. You will hurt yourself and all your people if you do that. You must always show respect and take care of those holy places. Each one helps us in some way. We depend on them to help us live right, to live the way we should. So we leave them alone except when we

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really need them. We pray to them to help us. If we hurt them they would stop helping us – and we would only know trouble." (Basso field notes on file, White Mountain Apache Tribe Historic Preservation Office, Whiteriver, Az.)

Jacob Henry, an enrolled member of the White Mountain Apache Tribe and a Tribal Monitor employed by the Forest Service's Tribal Monitoring Program, agreed to speak to employees of the Tribe's Department of Justice (DOJ). Mr. Henry consented to provide the DOJ with an affidavit.[26] Mr. Henry described his work with the Tribal Monitoring Program.[27] Mr. Henry stated under oath that on two specific occasions at distinct locations he "had a sensation come over me, a sensation I had felt in church" and that other persons who were present also "had a very deep, personal, powerful, spiritual connection to a presence we could not see, but could feel."[28] He described feeling overwhelmed by the presence he felt. [29] Ms. Lyndon was one of the person who also had a deep, powerful, spiritual connection, and was observed by Mr. Henry as weeping on the occasion.[30]

III. Consultation

The Forest Service consultation processes and principles are subject to statute and regulations. Specifically, the Forest Service is required to undertake government-to-government (G2G) consultations pursuant to NEPA and its implementing regulations, under Section 3003(c)(3) NDAA, as well as by the following authorities: National Historic Preservation Act (NHPA) and its implementing regulations (36 CFR Part 800); the Forest Service Handbook 1509.13 Chapter 10, Consultation with Indian Tribes and Alaska Native Corporations; and, the U.S. Department of Agriculture's own Departmental Regulations (1340-007, Policies on American Indians and Alaska Natives, 1350-01, Tribal Consultation, and 1350-002, Tribal Consultation, Coordination and Collaboration). Furthermore, the Council on Environmental Quality (CEQ) regulations (Sections 1501.2(d)(1) and 1501.7(a)(l)) and policies require federal agencies to (1) contact Indian tribes early in the planning process and provide tribes opportunities to consult and participate in EIS preparation; (2) enable tribes to participate as cooperating agencies with federal agencies in NEPA reviews; and (3) "recognize the interrelated cultural,

[26] *See* Attachment Six, Religious Significance, Affidavit of Jacob Henry.

[27] *Id*. ¶¶ 7, 8, 12, 16 -18.

[28] *Id*, ¶¶ 20-21, 23,

[29] *Id*. ¶ 23.

[30] *Id*. ¶ 20.

Footnotes associated with Comment ID: 30078-7

social, occupational, historical, or economic factors that may amplify the natural and physical environmental effects of the proposed agency action."[31]

The Forest Service has failed to consult with tribes in the manner prescribed by NEPA, NHPA, and NDAA Section 3003(c)(3).[32] Contrary to the assertions made by Forest Service that a three-track approach is appropriate, the consultation process required by the NDAA § 3003(c)(3) envisions an interconnected consultation process with the affected tribes. Consultation with Tribes must comply with the NHPA and NEPA. The Forest Service is required to engage in government-to-government consultation with Indian Tribes.[33]

Comment ID: 30078-8

Response: CR12_B

The Forest Service failure to consult is a matter of record, not opinion. The DEIS fails to reflect the results of previous consultations with the Tribe because it effectively has ignored virtually every concern and request conveyed in our July 2016 scoping comments. The DEIS also fails in numerous ways to support consultation efforts. The DEIS ignores the interrelations between the sociocultural and biophysical impacts of the proposed RCM. The Programmatic Agreement (PA) included in the DEIS (version 5) completely discounted and disregarded the Tribe's comments on the prior draft.

In the spring of 2016, after many months of deliberations to create a mutually acceptable memorandum of understanding between the Tribe and Forest Service to guide consultations pursuant to NDAA 3003 (c)(3) and related authorities, Forest Service eviscerated the previously agreed upon draft MOU.

The DEIS points to the Forest Service's consultation efforts made pursuant to NHPA Section 106 as a showing that it has met its burden for consultation. Yet, this effort ignores all of the other RCM specific mandates in NDAA Section 3003(c)(3). The Forest Service has, in effect, put all its consultation "eggs" in a NHPA "basket" – an arbitrary, capricious, and poorly executed decision.

The NHPA requires federal agencies to consider the effects of their undertakings on historic properties. 36 CFR § 800.16(f) defines consultation as "the process of seeking, discussing, and considering the views of other participants, and, where feasible, seeking agreement with them regarding matters arising in the Section 106 process." NHPA's Section 106 regulations (36 CFR Part 800) require agency consultations through the multiple steps in the Section 106 process with any Indian tribe that attaches religious and cultural significance to historic properties that may be affected by the agency's undertakings. However, and as noted in

Comment ID: 30078-9

Response: CR8

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[31] Environmental Justice Guidance Under the National Environmental Policy Act, p. 9 available at https://ceq.doe.gov/docs/ceq-regulations-and-guidance/regs/ej/justice.pdf, last viewed December 17, 2019.

[32] The Tribe incorporates by reference the ITAA Comment Nov. 7, 2019, pp.3, 30-34 and AMRC Comment Nov. 7, 2019, pp. 108-126.

[33] 36 C.F.R. § 219.4(a)(2).

Footnotes associated with Comment ID: 30078-8

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our September 30, 2019 letter to Supervisor Bosworth, Forest Service has failed to follow the guidance and steps prescribed within the Section 106 consultation process. The Forest Service failed to pursue government-to-government consultations essential to the Section 106 steps and determinations, especially the consultations required to make a "reasonable and good faith effort to carry out appropriate identification efforts" to find and document historic properties[34]; to evaluate the significance and determine the eligibility of identified historic properties[35]; to assess the adverse effects of the proposed mine and land exchange on historic properties[36]; and to resolve adverse effects.[37]

Our early efforts to develop a Memoranda of Understanding specifically addressing government-to-government consultation in compliance with NDAA Section 3003(c)(3) began in March of 2016 and collapsed in January of 2017. My letter to the Forest Service of January 17, 2017, recites events and positions by Forest Service personnel which sadly foreshadowed events which are occurring today.[38] It is perhaps because the Forest Service has maintained an attitude that the Land Exchange is a foregone conclusion regardless of the recklessness of proceeding with the RCM project that such an off-hand and casual approach has been taken toward consultation with the Tribe.

The Tribe has repeatedly corresponded with the Forest Service regarding the deficiencies in the consultation process.[39] The correspondence in Attachment Two of this section reflect only a portion of the writings between us which reflect a lack of meaningful consultation. The recent special Council meeting hosted by the Tribe clearly failed to qualify as meaningful consultation.[40] The Forest Service has expressly communicated to our Tribe during the special Council meeting that the Forest Service has no decision-making authority with respect to the proposed RCM mining project, meaning that the agency cannot deny the Land Exchange as an alternative under the DEIS.[41] Several questions went unanswered during the Council meeting and Forest Service did not have the personnel who could respond to questions regarding the PA.

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Comment ID: 30078-10

Response: CR12

[34] 36 CFR § 800.4(b).

[35] 36 CFR § 800.4(c).

[36] 36 CFR § 800.5.

[37] 36 CFR§ 800.6.

Footnotes associated with Comment ID: 30078-9

[38] *See* Attachment One, Government-to-Government Consultation with Tribe.

[39] *See* Attachment Two, Government-to-Government Consultation with Tribe.

[40] *See* Attachment Three, Government-to-Government Consultation with Tribe.

[41] *Id*. p.7.

Footnotes associated with Comment ID: 30078-10

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Cultural resource issues and concerns are explicitly recognized in the NDAA.[42] Our Tribe has clearly established that the Forest Service has failed to comply with the NHPA and Section 3003(c)(3)(A). The Tribe has a number of issues of concern listed in the Tribe's Scoping Statement and raised here which the Forest Service has failed to enter into any consultation process mandated by Section 3003(c)(3). Even if the Forest Service were capable of PA which satisfied the NHPA and its regulations, Forest Service would not have complied with its consultation obligations with tribes under the NDAA.

IV. The Current DEIS Stands Deficient and To Comply With NEPA, the Forest Service Must Prepare a DEIS Which Is Meaningfully Analytical and Subject To Public Review

A. Introduction

NEPA § 102(2)(C)(iii) requires that an EIS include a "detailed statement" discussing the reasonably foreseeable environmental impact both of the proposed federal action and of any feasible alternatives. The DEIS presented here does not include a "detailed statement" of reasonably foreseeable environmental impacts. 40 C.F.R. § 1502.24 requires agencies to "insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." The DEIS fails in several respects.

Under NEPA, an EIS is required for "major federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(c); *San Luis & Delta–Mendota Water Auth. v. Jewell*, 747 F.3d 581, 640 (9th Cir.2014). "A properly prepared EIS ensures that federal agencies have sufficiently detailed information to decide whether to proceed with an action in light of potential environmental consequences, and it provides the public with information on the environmental impact of a proposed action and encourages public participation in the development of that information." *Oregon Envtl. Council v. Kunzman*, 817 F.2d 484, 492 (9th Cir.1987).

"In assessing the adequacy of an EIS, [the court] employ[s] a 'rule of reason' test to determine whether the EIS contains a 'reasonably thorough discussion of the significant aspects of probable environmental consequences.'" *Hells Canyon Alliance v. U.S. Forest Serv.*, 227 F.3d 1170, 1177 (9th Cir.2000). "Under this standard, [the court's] task is to ensure that the [agency] took a 'hard look' at these consequences." *Id*. "The reviewing court may not 'flyspeck' an EIS ... or 'substitute its judgment for that of the agency concerning the wisdom or prudence of a proposed action.'" *Half Moon Bay Fishermans' Ass'n v. Carlucci*, 857 F.2d 505, 508 (9th Cir.1988), "If the agency has taken a 'hard look' at a decision's environmental consequences, the decision must not be disturbed." *Half Moon Bay*, 857 F.2d at 508 (*citing Kleppe v. Sierra Club*, 427 U.S. 390, 410 n. 21 (1976)).

[42] NDDA Section 3003(c)(3)(A).

Footnote associated with Comment ID: 30078-10

Here, the Forest Service has decidedly *not* taken a "hard look" at a number of empirical and scientific analyses, monitoring and mitigation measures, and cumulative impact analyses. The Tribe will *not* engage in unnecessary discussion of the DEIS's failures and will instead incorporate by reference the comments of ITAA and AMRC pursuant to Section 36 C.FR. § 218.8. The Tribe expressly adopts and incorporates in full ITAA's and AMRC's Comments and Exhibits/Appendices, having submitted them by had delivery on a separate electronic media drive. Generally, the Tribe may only add a few comments made by ITAA and AMRC, and will otherwise discuss the following deficiencies of the DEIS: namely, failure to consider the application of certain laws; water quantity and quality issues; flawed water modeling; lack of alternative mining technique analysis; and inadequate subsidence analysis by the Forest Service. .

B. Forest Service Failed to Analyze Whether the Religious Freedom Restoration Act and the American Indian Religious Freedom Act Applied

The Forest Service has expressly communicated to the Tribe that the agency has no decision-making authority with respect to the proposed Land Exchange, meaning that the agency cannot deny the land exchange as an alternative under the DEIS. The Forest Service's reasoning is that Section 3003 of the NDAA mandates the transfer and exchange of Oak Flat to RCM within 90 days of publication of the FEIS. However, the Forest Service is not relieved of its duty to analyze whether federal laws that protect religious liberty of all Americans, including San Carlos Apaches. The Forest Service made no such analysis in the DEIS.

Comment ID: 30078-11

Response: CR16

In 1993, Congress passed the Religious Freedom Restoration Act (Pub. L. No. 103-141, 107 Stat. 1488, 42 U.S.C. § 2000bb et. seq.) ("RFRA"), and confirmed that "the framers of the Constitution, recognizing free exercise of religion as an unalienable right, secured its protection in the First Amendment to the Constitution."[43] As an agency of the United States, Forest Service is obligated to carry-out the provisions of RFRA, as the RCM project will impact the religion of San Carlos Apaches.[44]

Under RFRA, "government may substantially burden a person's exercise of religion only if it demonstrates that application of the burden to the person (1) is in furtherance of a compelling government interest; and (2) is the least restrictive means of further that compelling governmental interest."[45]

Continued

[43] 42 U.S.C. § 2000bb(a)(1).

[44] "The term government includes a branch, department, agency, instrumentality, and official (or other person acting under color of law) of the United States, or of a covered entity." 42 U.S.C. § 2000bb-2.

[45] *Id*. at § 2000bb-1(a)-(b)(1)-(2).

Footnotes associated with Comment ID: 30078-11

Continued

RFRA's definition of "exercise of religion" was amended by the Religious Land Use and Institutionalized Persons Act (Pub. L. 106-274, 42 U.S.C. § 2000cc et seq) ("RLUIPA").[46] RLUIPA states, "[t]he term 'religious exercise' includes *any exercise of religion*, whether or not compelled by, *or central to, a system of religious belief*."[47] To qualify for RFRA's protection, an asserted religious belief must be sincere.[48]

The "exercise of religion" involves "not only belief and profession but the performance of (or abstention from) physical acts" that are "engaged in for religious reasons."[49] Practices that are compelled or limited by the tenets of a religious doctrine fall comfortably within RLUIPA's definition.[50] Courts have considered important writings, gathering places, and ceremonies and rituals as practices of religion for purposes of identifying the exercise of religion.[51]

With respect to important writings, "most religions embrace seminal, element, fundamental, or sacred writings. These writings often include creeds, tenets, precepts, parables, commandments, prayers, scriptures, catechisms, chants, rites, or mantras."[52] As to gathering places, "many religions designate particular structures or places as scared, holy, or significant. These sites often serve as gather places for believers. They include physical structures, such as churches, mosques, temples, pyramids, synagogues, or shrines; *and natural places, such as springs, rivers, forests, plains, or mountains.*"[53] Additionally, "most religions include some form of ceremony, ritual, liturgy, sacrament, or protocol. These acts, statements, and movements are prescribed by the religion and are imbued with transcendent significance."[54]

Continued

[46] *Burwell v. Hobby Lobby Stores, Inc.*, 573 U.S. 682, 696, 134 S.Ct. 2751, 2762 (2014) ("Congress mandated that this concept "be construed in favor of a broad protection of religious exercise, to the maximum extent permitted by the terms of this chapter and the Constitution.")

[47] 42 U.S.C. § 2000cc-5(7)(A) (Emphasis added). Congress mandated that exercise of religion "*be construed in favor of a broad protection of religious exercise, to the maximum extent permitted by the terms of this chapter and the Constitution.*" § 2000cc–3(g) (Emphasis added).

[48] *Hobby Lobby*, 573 U.S. at 717.

[49] *Employment Division v. Smith*, 494 U.S., 872, 877, 110 S.Ct. 1595, 1599 (1990).

[50] *Burwell v. Hobby Lobby Stores, Inc.*, 573 U.S. 682, 710, 134 S. Ct. 2751, 2770, 189 L. Ed. 2d 675 (2014).

[51] *U.S. v. Meyers*, 95 F.3d 1475, 1483 (10th Cir. 1996) (discussing the factors that assist courts identify religion); *see also Africa v. Com. of Pa.*, 662 F.2d 1025 (3rd Cir. 1981).

[52] *Meyers*, 95 F.3d at 1483.

[53] *Id.* (Emphasis added).

[54] *Id.*

Footnotes associated with Comment ID: 30078-11

Continued

The significance of Oak Flat and the documented cultural sites, songs, prayers, spiritual beings, and ceremonial sites confirms that Oak Flat hold significant religious meaning to San Carlos Apaches, thus illustrating the sincere and central religious principles of San Carlos Apaches. Such religious practices, as confirmed by the Ethno Study, has been well-documented as a practice of Apaches for hundreds of years. Today, Apache People still come together at Oak Flats and Apache Leap to conduct religious ceremonies and to pray, a ritual that stems from the ancestors of Apaches, which are holy and sacred, and remain central to the identity of Apache People. There are writings on the rocks at Oak Flat along with human remains and burials of materials and items of Apache Crown Dancers, the most powerful, spiritual protector of Apaches.

Young Apache girls who reach woman-hood go to Oak Flat to have their traditional Apache Sunrise Dance ceremony, a rite that entails the family of the young girl selecting a man and woman from the Apache community to serve as traditional god-parents to young Apache girl. This ritual entails the ceremony being performed for four-days, a number sacred to Apaches but also includes weeks of labor to put a traditional campsite together. This has been performed at Oak Flat since time immemorial. These young girls, as they progress in age and become wiser, always return to Oak Flat. That's the Apache way subject to irreparable harm that would derive, imposing severe consequences of Apache religion at Oak Flat, as a result of block-caving mining.

A government action that puts a religious practitioner to the choice of engaging in conduct that seriously violations his/her religious beliefs or facing serious consequences constitute a substantial burden for purposes of RFRA.[55] "Certain aspects of religious exercise cannot, in any way, be restricted or burdened by either federal or state legislation."[56] The freedom to hold religious beliefs and opinions is absolute.[57]

No greater burden exists than the harm that will result on Apache religion as a result of Oak Flat being destroyed due to the proposed block-cave mining method, causing Oak Flat to subside and forcing San Carlos Apaches to violate the tenets of their religion. The testimony presented by the San Carlos Apache Tribe explains the central role that Oak Flat has with the religion of San Carlos Apaches and how there is no other site that Apaches can go to practice certain ceremonies, songs, and rituals only available at Oak Flat.

When determining whether a substantial burden on the exercise of religion is in urtherance of a compelling governmental interest, the court must look beyond broadly formulated interests and scrutinize the asserted harm of granting specific exemptions to particular religious

Continued

[55] *Equal Employment Opportunity Commission v. R.G. & G.R. Harris Funeral Homes, Inc.*, 884 F.3d 560, 587 (6th Cir. 2018).

[56] *Braunfeld v. Brown*, 366 U.S. 599, 603, 81 S.Ct. 1144, 1146 (1961).

[57] *Cantwell v. State of Connecticut*, 310 U.S. 296, 303, 60 S.Ct. 900, 903 (1940); *Reynolds v. United States*, 98 U.S. 145, 166, 25 L.Ed. 244 (1878).

Footnotes associated with Comment ID: 30078-11

Continued

claimants.[58] RFRA contemplates a "more focused inquiry."[59] It "requires the Government to demonstrate that the compelling interest test is satisfied through application of the challenged law 'to the person'—the particular claimant whose sincere exercise of religion is being substantially burdened.[60] This requires courts to "loo[k] beyond broadly formulated interests" and to "scrutiniz[e] the asserted harm of granting specific exemptions to particular religious claimants" – in other words, to look to the marginal interest.[61]

The Forest Service does not have a compelling government interest in developing and operating a copper mine. Rather the Forest Service is a facilitator following the law it is required to perform. It would be irrational to argue that the Forest Service, a federal land management agency would be compelled to develop and operate a mine which will destroy the very land it is tasked to manage.

The least restrictive means standard is exceptionally demanding, which requires the governments to show that it lacks other means of achieving its desired goal without imposing a substantial burden on the exercise of religion by the objecting party.[62] "[I]f a less restrictive means is available for the Government to achieve its goals, the Government must use it."[63] This standard has no application because the Forest Service has no compelling government interest.

C. Forest Service Must Comply with International Legal Standards

The Tribe reminds the Forest Service that it must comply with international standards with respect to evaluation the proposed mining project at Oak Flat. International law protects the right of Native American religious practitioners to maintain and practice their religious traditions in relation to sacred areas.[64] Among the principle sources of international law are treaties entered into by independent States. International treaties are part of federal law, inasmuch as the United States Constitution, Article VI, Section 2, provides that treaties made under the authority of the United States are the "supreme law of the land," and binding on the "Judges in every state."[65]

Comment ID: 30078-12

Response: CR16

Continued

[58] *Burwell*, 573 U.S. at 726-27.

[59] *Id.*

[60] *Id., quoting Gonzales v. O Centro*, 546 U.S. 418, 431 (2006).

[61] *Burwell* at 727.

[62] *Id.* at 728.

[63] *United States v. Playboy Entertains Group, Inc.*, 529 U.S. 803, 815, 120 S.Ct. 1878 (2015).

Footnotes associated with Comment ID: 30078-11

[64] The Tribe is required to advance the argument in this section if the Tribe should ever decide that it wishes to seek any form of relief in an international forum.

[65] U.S. CONST. art. VI, cl. 2.

Footnotes associated with Comment ID: 30078-12

Continued

Moreover, the United States Supreme Court has noted that "[i]nternational law is part of our law, and must be ascertained and administered by the courts of justice of appropriate jurisdiction."[66]

The international treaties that are particularly relevant here are the International Covenant on Civil and Political Rights[67] and the International Convention on the Elimination of All Forms of Racial Discrimination.[68] The United States ratified the Covenant in 1992[69] and the Convention two years later in 1994.

The right to practice or manifest religion or belief is protected under Article 18(1) of the International Covenant on Civil and Political Rights, which states that "[e]veryone shall have the right to freedom of thought, conscience and religion [which includes] freedom…either individually or in community with others and in public or private, to manifest his religion or belief in worship, observance, practice and teaching."[70] In addition, Article 27 of the Covenant, which is of relevance to indigenous peoples, gives special consideration to the rights of minorities whose cultural and religious traditions differ from those of the majority.[71] Article 27 states, "Persons belonging to minorities shall not be denied the right, in community with the other members of their group, to enjoy their own culture, to profess and practise their own religion."[72]

Besides the Covenant, Article 5 of the International Convention on the Elimination of All Forms of Racial Discrimination provides that State parties are to "guarantee the right of everyone…to equality before the law, notably in the enjoyment of…[t]he right to freedom of thought, conscience and religion.[73] In interpreting and applying this Convention, the Committee on the Elimination of Racial Discrimination ("the Committee"), which monitors compliance with the treaty, has observed the need to take into account the particular characteristics of diverse groups in order to achieve effective equality in enjoyment of their human rights.[74] The Committee

Continued

[66] *The Paquete Habana*, 175 U.S. 677, 700 (1900).

[67] International Covenant on Civil and Political Rights, Dec. 16, 1966, S. Treaty Doc. No. 95-20, 6 I.L.M. 368 (1967), 999 U.N.T.S. 171 ("ICCPR").

[68] International Convention on the Elimination of All Forms of Racial Discrimination, Mar. 7, 1966, 660 U.N.T.S. 195 ("ICERD").

[69] Entered into force Mar. 23, 1976 and ratified by the United States Sept. 8, 1992.

[70] Article 18(1) of ICCPR.

[71] *Id.* at Article 27.

[72] *Id.*

[73] Article 5 of ICERD.

[74] CERD General Recommendations 32: Special Measures, para. 8.

Footnotes associated with Comment ID: 30078-12

Continued

has noted the distinctive characteristics of indigenous peoples in particular, in light of their histories and cultures, and has called upon States to take specific measures to protect their rights, including measures to "[e]nsure that indigenous communities can exercise their rights to practise and revitalize their cultural traditions and customs."[75]

D. The Forest Service Wrongly Analyzed a Number of Water Resource Issues.

1. Water Resources Issues

The RCM DEIS provides an inadequate evaluation of cumulative impacts on water resources in a region already experiencing shortages. The Arizona Department of Water Resources modeled the Pinal County water supply over a 100-year period, and shows an 8.1 million acre foot ("af") deficit, one that does not include the RCM requirement of over 600,000 af over the 40-year life of the mine. That is enough water for 168,000 homes over 40 years. The Forest Service has not taken into account the effect of RCM's water demand on the region or the Tonto National Forest itself. In effect, once mining commences, the region's water supply will be immediately and irreparably compromised.

Comment ID: 30078-13

Response: WT4_A

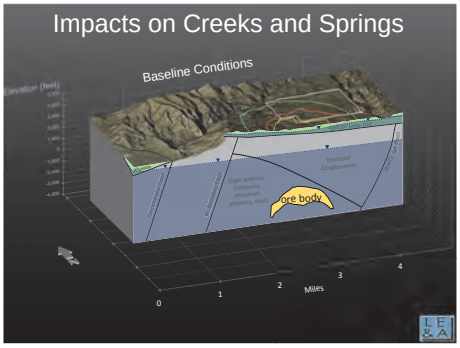

Fig. 1 – RCM Pre-impacts

[75] CERD's General Recommendation, CERD/C/51/Misc.13/Rev.4, para. 4(d)(e).

Footnote associated with Comment ID: 30078-12

The scale of the RCM project forms the very definition of an irreparable harm. Even Resolution Copper cannot stop this process once it is begun. Once the 1.8-mile wide collapse crater forms, the Apache Leap Tuff Aquifer, which supplies the Town of Superior and the Queen Creek community, will be altered forever, irreversibly and permanently altering the region's water resources.

Comment ID: 30078-14

Response: WT42

As stated in the DEIS, "The deep groundwater system is being and would continue to be actively dewatered, and once block-caving begins the Apache Leap Tuff would begin to dewater as well."[76]

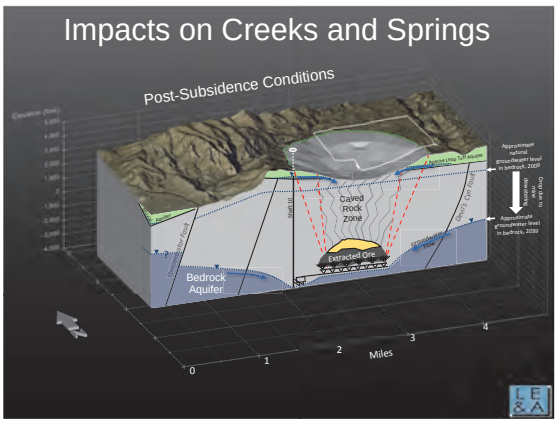

Fig. 2 – Impacts of RCM Operation

[76] (DEIS, at 296-299.

The DEIS analysis of past, present and reasonably foreseeable future regional water impacts is entirely inadequate, even though the Forest Service acknowledges that "groundwater demand is substantial and growing" and "total demand on the groundwater resources in the East Salt River Valley is substantial and could be greater than the estimated amount of physically available groundwater."[77] The DEIS does not take a realistic look at the consequences of RCM's plan to pump 180 billion gallons of water from the aquifer in the East Salt River Valley.[78]

Comment ID: 30078-15

Response: WT4

(Intentionally Blank)

[77] DEIS, at 342.

[78] 550,000 af, as cited in DEIS Table 2.2-1 for Alternative 6, equals approximately 179 billion gallons, although we note that the Mining Plan of Operations and other RCM documents referenced as much as 640,000 af over the 40-year life of the mine.

Footnotes associated with Comment ID: 30078-15

Tens of thousands of people in Pinal County rely on groundwater for their water supply and already, private wells are drying up.[79] As shown on Figure 3, the Forest Service's own

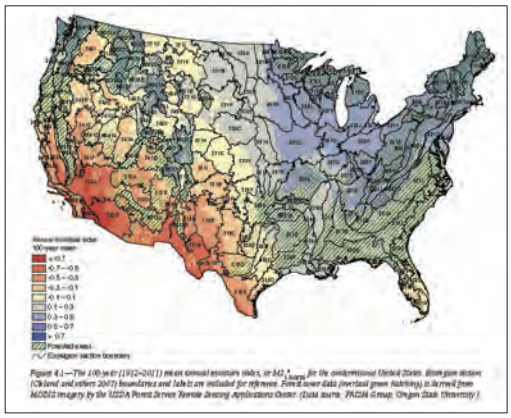

Fig. 3. USDA 100-year moisture index, showing much of Arizona has a moisture deficit, even when averaged over 100 years. Source, USDA, 2012, Forest Health Monitoring: National Status, Trends and

research shows that Arizona has experienced moisture deficits even when averaged over the last 100 years.

Comment ID: 30078-16

Response: WT4

The Tribe has deep concerns about allowing Resolution Copper to overdraw groundwater resources in Pinal County. One of the only remaining groundwater resources accessible to users in Pinal County is in the Tribe's Cutter Basin. The United States has a long and troubled history of reallocating resources promised to tribes when demand is high and off-reservation supplies are low. The Tribe fears that allowing Resolution Copper to withdraw billions of gallons of groundwater will create a decades-long regional water imbalance. This imbalance, in turn, will Continued

[79] ABC15 News, Private Wells Running Dry in Pinal County, Oct. 24, 2019, available at: https://www.abc15.com/news/region-central-southern-az/private-wells-running-dry-in-pinal-county.

Footnote associated with Comment ID: 30078-16

place the Tribe's own water resources at risk due to inexorable and unmet demand and dwindling supply.

Comment ID: 30078-17

Response: WT4

Colorado and other parts of the desert Southwest remain in an almost perpetual drought. The Drought Monitor map for December 2019,[80] and shows the long-term and short-term drought conditions in and around the project area and across much of the Colorado River Basin.

A 2017 Report to Congress further noted that the Colorado River (the source of critical water supplies to Arizona via the Central Arizona Project or "CAP") has experienced generally lower-than-normal flows for the past 16 years, with the lowest annual flows in the last 900 years.[81] The Report to Congress also noted that recent studies on the effects of climate change suggest that "a transition to a more arid average climate in the American West" may be under way.[82] Likely consequences of climate change include higher temperatures in the West, higher evapotranspiration, reduced precipitation, and decreased spring runoff.

The DEIS further fails to evaluate "reasonably foreseeable future" Colorado River shortages and cuts, as well as the events that will be triggered under the Drought Contingency Plan once shortages occur. It also fails to look at the project's impact on regional water resources when combined with these shortages.

Comment ID: 30078-18

Response: WT4

Resolution Copper Mine will obviously require a vast amount of water in a region of the country that is already experiencing water shortages. Arizona water law grants exceptional leeway to mines, which are essentially unregulated water users. As such, RCM may be entitled to develop a virtually unlimited number of wells and pump an unlimited amount of water from the Desert Wellfield.

The Forest Service has incorrectly concluded that because of this water right, it is relieved of considering impacts that would arise from the exercising of this right. This approach is not sufficient under NEPA and does not satisfy the requirement under NEPA to take a "hard look" at environmental impacts:

> In a cumulative impact analysis, an agency must take a "hard look" at all actions. An EA's analysis of cumulative impacts "must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment." *Lands Council*, 395 F.3d at 1028. "General

Continued

[80] Bathke, Deborah, U.S. Drought Monitor, National Drought Mitigation Center, December 3, 2019, https://droughtmonitor.unl.edu.

[81] Congressional Research Office, November 9, 2017, Drought in the United States: Causes and Current Understanding, at 14-15.

[82] *Id.*

Footnotes associated with Comment ID: 30078-18

Continued

> statements about 'possible effects' and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided.' *Neighbors of Cuddy Mountain*, 137 F.3d at 1380. "Some quantified or detailed information is required. Without such information, neither the courts nor the public . . . can be assured that the [agency] provided the hard look that it is required to provide."

Te-Moak Tribe of Western Shoshone v. Dept. of Interior, 608 F.3d 592, 603 (9th Cir. 2010).

Comment ID: 30078-19

Response: WT4_H

Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions."[83] One of the greatest contributions the Forest Service *could have made* to this process—but did not—would have been to conduct a thorough analysis on cumulative impacts of Resolution's plan to pump 180 billion gallons of water from the aquifer in the East Salt River Valley.

2. Improper Definition of Baseline Conditions

In order to construct the deep mine infrastructure, RCM has been dewatering the deep aquifer by pumping groundwater from the East Plant Site since 2009. Over the last five years, the average pumping rate has been approximately 620 gallons per minute,[84] which corresponds to 326 million gallons per year, or 1,000 acre-feet per year. During peak operation of the mine, pumping would increase to 3,992 acre-feet per year (DEIS, Appendix H), or between 160,000 acre-feet over 51 years to provide access to the expanded deep mine workings.[85] Resolution's total, actual water demand is unclear (see below), but the DEIS estimates a total of 621,000 acre-feet of water over the life of the mine. Changes in the aquifer due to mine dewatering (and due to eventual block caving and land subsidence) could affect seeps, springs, flowing streams and riparian areas.[86]

Comment ID: 30078-20

Response: NEPA19

The analysis of impacts on water supply and groundwater dependent ecosystems ("GDEs") in the DEIS is flawed because it discounts most of the impacts of mine dewatering. Since 2009, Resolution has engaged in a large dewatering project to facilitate construction of Shaft 10 and allow future development of the deep workings for this mine. This has led to a Continued

[83] 40 CFR §1508.7.

[84] WSP, Resolution Copper Groundwater Flow Model Report, p. 5.

[85] Westlake Resources, Resolution Copper Water Balance, Tailings Alternatives, Table 5, 2018.

[86] DEIS, at 295.

Footnote associated with Comment ID: 30078-19

Footnotes associated with Comment ID: 30078-20

Continued

decline in water levels in the deep bedrock aquifer of more than 2,000 feet, as documented in nearby monitoring wells.[87]

Due in part to the fact that the pumping is being conducted legally (i.e., Resolution has a permit for this pumping), the Forest Service has classified this past and current dewatering as a baseline condition that is not considered in the DEIS toward potential environmental impacts.[88] This decision defies common sense and is improper under NEPA. The only purpose of the dewatering in question is to facilitate future mining. However, an even more egregious decision than not counting the pumping that has already taken place is the decision not to count the "baseline" pumping rate even after the mine becomes operational. During the life of the mine, all groundwater pumping that is necessary to conduct deep mining must be considered part of the project.

The decision to classify mine dewatering as a "baseline" condition is buried in the groundwater modeling technical reports. It is summarized briefly here. In support of the DEIS, two versions of the groundwater model were run. The first run was the "No Action" alternative which is a misnomer, because this scenario inexplicably incorporates components of the mining operation. In particular, the "No Action" alternative assumes that the mine would not be developed or operated but that mine dewatering would continue anyway for 51 years – the presumed life of the non-existent mine.

Comment ID: 30078-21

Response: NEPA19

The second modeling run seeks to simulate the proposed action, which incorporates some additional dewatering to maintain the expanded project infrastructure of full-scale mining as well as the hydrogeological effects of the collapse crater.[89] Impacts are defined as the difference in groundwater drawdown between these two modeling scenarios.[90] However, impacts from development of the mine only count as impacts if they are greater than the baseline impacts. In other words, impacts to water supply and groundwater dependent ecosystems (GDEs) due to the substantial current dewatering program are not considered. In addition, for every year over the entire life of the mine, the current level of dewatering is subtracted from predicted future pumping, grossly under-reporting the amount of dewatering that will actually occur. This means that under the proposed action, much of the groundwater pumping at the mine location (even during mine operation) is not considered to be part of the project.

There may be a logical rationale for excluding the pre-mine dewatering (we do not agree with this rationale, but there may be one) but surely, during the life of the mine, the pumping of

Continued

[87] DEIS, at 312.

[88] Garrett, April 11, 2018, Process Memorandum to File, Selection of Appropriate Baseline Conditions for NEPA Analysis, at 4.

[89] DEIS, at 303.

[90] Garrett, at 5; DEIS, at 66).

Footnotes associated with Comment ID: 30078-21

Continued

thousands of acre feet of water to allow mining operations (and for no other purpose) must be considered a component of the overall project.

As shown on Figure 3, after 51 years of "No-Action," up to 500 feet of drawdown is predicted under Superior and impacts of 10 feet or more of drawdown extend over an area encompassing approximately 50 square miles. This decision explains why hydrogeological impacts of the so-called "No-Action" alternative can be quite substantial. For example, under the "No-Action" alternative, the groundwater model predicts a lowering of the water table at Bored Spring (located on the west side of Apache Leap) by nearly 100 feet. The degree of impact will almost certainly dry out Bored Spring, but it does not count as a project impact because of the Forest Service's improper definition of "baseline." Such effects do not count because they occur under the "No-Action" alternative even though virtually 100% of the cause of this drop in the water table is mine dewatering. Simply put, this is bad science because the "No-Action" analysis wrongly characterizes the facts of the current and prior dewatering.

The consequence of this decision is to under-report the impacts of the preferred alternative and over-report impacts from the "No Action" alternative because it improperly assigns mining impacts (dewatering) to "No Action."

3. Inadequate Assessment of Water Usage

Ever since the General Plan of Operations (GPO) was submitted in 2016, there have been contradictions about how much water the Resolution Mine says it will require in order to operate. The DEIS does nothing to resolve this confusion and—in fact—is contradictory on this topic.

Comment ID: 30078-22

Response: WT3

In Table 2.2-1 ("Tailings Storage Facility Comparison") the DEIS states that the preferred alternative (Skunk Camp Tailings option) will require 550,000 acre-feet of water from outside sources ("pumped from Desert Wellfield"). Similarly, Table 2.2-1 states that this is less water than would be needed for the proposed action (the Near West tailings option is listed as requiring 600,000 acre-feet over the life of the mine). The reader is then directed to Appendix H for further details of mine water Balance and use.

Contrary to Table 2-2.1, Appendix H tabulates that Skunk Camp (Alternative 6) requires more water each year than Near West (Alternative 2): 25,881 acre-feet per year during peak operations for Skunk Camp vs. 22,250 acre-feet per year for Near West (p. H-3).

In conclusion, the DEIS cannot possibly evaluate the impacts of the mine's water usage if it cannot figure out just how much water Resolution plans to use.

4. Inadequacy and Unreliability of Groundwater Models

40 CFR §1502.24 requires that agencies ensure scientific integrity of analyses in environmental impact statements. This means that scientific analyses must be reliable. As noted in the DEIS,

Comment ID: 30078-23

Response: WT71

> The Groundwater Modeling Workgroup recognized that a fundamental limitation of the model—of any model—is *the unreliability of predictions far in the future*, and the workgroup was tasked with determining a time frame that would be reasonable to assess.[91] (Emphasis supplied).

The Workgroup subsequently "determined that results could be reasonably assessed up to 200 years into the future." (DEIS, p. 300). This is a problem because some hydrogeological impacts not only persist, but actually get worse in timeframes beyond 200 years.

The groundwater model was actually run for 1,000 years into the future (DEIS, p. 296) although only the first 200 years are reported quantitatively in the DEIS. This long-term analysis documented that in some areas around the mine, groundwater levels will continue to decline for many hundreds of years, thus potential impacts to GDEs will only increase beyond the 200-year cut-off for analysis. For example, the 1,000-year hydrograph produced by Resolution's modeling consultant for Hidden Spring predicts a continuing decline in groundwater levels for almost 800 years.[92] That impacts continue (and worsen) over such vast timeframes is a testament to how large and disruptive this project truly is and how environmental impacts from this project should be measured on a geologic time scale.

By limiting the period of analysis to 200 years, the Forest Service is discounting the worst impacts that are predicted to occur in later centuries. The Forest Service also acknowledges (see quotation above) that the best scientific tool available (three-dimensional groundwater modeling) is not up to the task of analyzing such impacts. The Forest Service did not meet its obligation under 40 CFR §1502.24 because it did not maintain scientific integrity in analyzing hydrogeological impacts beyond 200 years, even though such impacts are certain and significant.

The limitations and unreliability of the groundwater model are simply the most recent chapter in a long saga of Resolution falsely claiming that it understands the hydrogeology of the project area well enough to assess impacts due to mining. Indeed, Resolution has conducted substantial investigations into the hydrogeology of the project area; however, the Forest Service has failed to recognize that the knowledge base was still inadequate for the purposes of the DEIS.

The hydrogeology of the project area is extremely complex, with multiple aquifers, multiple faults and variable rock types. When combined with a proposed project of such immense

[91] DEIS, p. 300.

[92] Groundwater Working Group Meeting Notes, Meeting #8 held on May 15, 2018.

Continued

Continued

scale, it is a significant challenge to conduct a groundwater impact analysis and the Forest Service has not met this challenge. Starting at least as early as 2016, Resolution's consultants assured the Forest Service scientists and others that the West Boundary Fault, Concentrator Fault and other faults would limit the western aerial extent of groundwater drawdown (under Superior and farther west) from mine dewatering at Shafts 9 and 10. Resolution's own computer model contradicted this conclusion, instead showing nearly 10 feet of drawdown as far west as the Boyce Thompson Arboretum (see Figure 5 showing substantial drawdown beyond the boundary faults surrounding the mine site). In addition, Resolution's hydrogeological studies failed to predict the inflow of 600 gallons per minute of hydrothermal groundwater (170° F) that was encountered when sinking Shaft 10.

The analysis of water resource impacts in the DEIS is a segmented environmental analysis, which is improper under NEPA. In particular, by utilizing separate computer models and non-overlapping model domains, the Forest Service incorrectly isolated its analysis of mine dewatering from its analysis of hydrogeological impacts of pumping from the Desert Wellfield. Any effects of aquifer drawdown from the Desert Wellfield are not considered in the Mine Groundwater Model and *vice versa*. As shown in Figure 5, drawdown from these two pumping areas almost certainly overlap, thus rendering the isolated modeling analyses incomplete and inadequate for NEPA purposes. Resolution Copper constructed the groundwater models is such a way that cumulative impacts from the two discrete pumping areas are impossible to evaluate.

Comment ID: 30078-24

Response: WT69

In short, the assessment of water impacts in the DEIS is deficient because the field investigations and computer modeling upon which this assessment is based are still inadequate to reliably and accurately predict the long-term impacts on the vast amount of pumping Resolution must conduct at the mine site as well as in the East Salt River Valley.

Comment ID: 30078-25

Response: NS2

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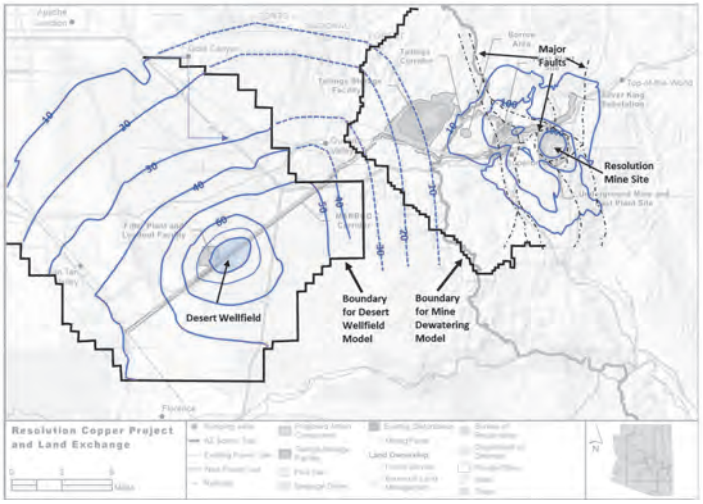

Figure 5. Map showing non-overlapping modeling domains (solid black lines) for Desert Wellfield groundwater model and Resolution Mine groundwater model. By separating the model domains, impacts from dewatering from the Desert Wellfield are not accounted for in the Mine model and impacts from mine dewatering are not accounted for in the Desert Wellfield model. As shown here, the zones of groundwater depression almost certainly overlap (dashed blue lines are hypothetical extensions of groundwater drawdown contours from the Desert Wellfield. These are not reported in the DEIS because the model domain did not extend far enough east.) Isolating the pumping areas into separate models under-estimates impacts and renders conclusions from both models unreliable. Sources: Base Map: DEIS, Figure ES-2; Desert Wellfield drawdown contours redrawn from DEIS, Figure 3.7.1-2 (Desert Wellfield modeling analysis area and maximum modeled pumping impacts); Mine model contours redrawn from WSP, October 31, 2018, Memo: Resolution Copper Groundwater Flow Model – Predictive Results, Figure 5 (Regional Groundwater Model Predicted Drawdown-Proposed Action Post Closure (Year 200); Faults are redrawn from WSP, February 2019, Resolution Copper Groundwater Flow Report, Figure 2.1 (Regional Geology Map).

Figure associated with Comment ID: 30078-23

5. **Inadequate Analysis of Impacts on Groundwater-Dependent Ecosystems**

In evaluating this project, the Forest Service has violated its own groundwater policy for Tonto National Forest. The DEIS acknowledges that "Between 14 and 16 GDEs, mostly sacred springs, would be anticipated to be impacted by dewatering." Use of groundwater that impacts springs and streams is contrary to Tonto National Forests groundwater policy:

Groundwater shall be managed for the long-term protection and enhancement of the Forest's streams, springs and seeps, and associated riparian and aquatic ecosystems. Development and use of groundwater for consumptive purposes shall be permitted only if it can be demonstrated that such proposals will adequately protect Forest resources.[93]

Comment ID: 30078-26
Response: WT19

One of the most important expectations of the groundwater modeling effort was to assist the Forest Service in evaluating future impacts to springs and perennial streams that support groundwater-dependent ecosystems (GDEs).[94] The computer model used to evaluate this issue does not quantitatively simulate groundwater-surface water interactions: "Changes in stream flow cannot be evaluated based on the groundwater model."[95] Instead, it was decided that a finding of hydrogeological "impact" would only be identified if the model predicted at least a 10-foot drop in the groundwater elevation in the immediate vicinity of a GDE. As stated in the DEIS,

> … the Groundwater Modeling Workgroup determined that to properly reflect the level of uncertainty inherent in the modeling effort, results less than 10 feet should not be disclosed or relied upon, as these results are beyond the ability of the model to predict."[96]

In short, the Forest Service has acknowledged that its scientific methodology (groundwater modeling) has a limit of precision of plus or minus 10 feet. The Working Group concluded that drawdowns of less than 10 feet could still have an impact on GDEs:

The Groundwater Modeling Workgroup recognized that while the model may not be reliable for results less than 10 feet in magnitude, changes in aquifer water

Continued

Comment ID: 30078-27
Response: WT61

[93] Martin and Loomis, Keeping Our Streams Flowing: Tonto National Forest Groundwater Policy, in: Furniss, Clifton and Ronnenberg, eds., 2007, Advancing the Fundamental Sciences: Proceedings of the Forest Service National Earth Science Conference, October 2004, PNW-GTR-689, USDA, Forest Service, Northwest Research Station.

Footnote associated with Comment ID: 30078-26

[94] BGC Environmental, November 2018, Review of Numerical Groundwater Model Construction and Approach, Section 1.1, "Issues to be Addressed by the Groundwater Model."

[95] *Id*., Section 4.9.2.

[96] DEIS, at 301.

Footnotes associated with Comment ID: 30078-27

Continued

level much less than 10 feet still could have meaningful effects on GDEs, even leading to complete drying.[97]

Due to the limitation of the model, in places where the model predicts drawdown greater than zero but less than 10 feet, the Forest Service assumed (without proof) that there are no impacts, "to properly reflect the level of uncertainty inherent in the modeling effort, results less than 10 feet should not be disclosed or relied upon."[98] The Forest Service did not scientifically conclude that 10 feet or more of groundwater drawdown is needed to cause an impact on GDEs, this was just an arbitrary number based on limitations of the method of analysis, not some scientific principle.

In conclusion, the Forest Service chose a methodology that is incapable of analyzing impacts of mine dewatering and the collapse crater on GDEs. As noted in BGC's review of the groundwater model, there are two principal ways to simulate groundwater-surface water interaction in the selected modeling software (MODFLOW-SURFACT): using the drains (DRN) software package or the streamflow routing (SFR) packages.[99] Resolution used the DRN approach but BGC points out that the SFR approach would have been better: "The SFR package allows for the most comprehensive modeling of groundwater-surface water interaction." [100]

In this instance, the Forest Service is not meeting its obligation under 40 CFR §1502.24, because it is relying on a scientific method (groundwater modeling) that is not capable of predicting significant hydrogeological impacts for this complex project.

6. **Inadequate Consideration of Alternatives to Block Cave Mining as a Way to Avoid Permanent Water Resource Impacts**

Comment ID: 30078-28
Response: AMT1_B

Once the 1.8-mile wide collapse crater forms, as a result of RCM's operations, the Apache Leap Tuff Aquifer will be altered forever. As stated in the DEIS, "The deep groundwater system is being and would continue to be actively dewatered, and once block-caving begins the Apache Leap Tuff would begin to dewater as well."[101] The Apache Leap Tuff Aquifer is a critical source of water for springs and creeks, many of them sacred. This permanent impact would not occur if alternative underground mining methods were employed, but the Forest Service did not conduct an adequate analysis of alternative mining methods (as discussed elsewhere in these comments)

Continued

[97] *Id.*

[98] *Id.*

[99] BGC Engineering, November 2018, Review of Numerical Groundwater Model Construction and Approach, Section 4.9.

[100] BGC Engineering, Section 4.9.2.

Footnotes associated with Comment ID: 30078-28

[101] DEIS, at 296-299.

Footnote associated with Comment ID: 30078-28

Continued

largely because the Forest Service accepted Resolution's assertion that any method other than block cave mining would be too expensive.

The DEIS disclosed a number of profound impacts due to the collapse crater that cannot be mitigated, including to water resources. By failing to conduct an acceptable and competent evaluation of project alternatives that could avoid the impacts caused by the collapse zone, the Forest Service is allowing one factor (cost of mining; *i.e.*, Resolution's profitability) to outweigh all environmental and social factors combined.

7. **Mitigation of Impacts to Groundwater Dependent Ecosystems**

Comment ID: 30078-29
Response: MIT3

The DEIS concludes that the Resolution Copper Mine project will or is likely to deplete water supplies and harm or destroy the streams, springs, seeps and other water features in Oak Flat, Ga'an Canyon (Devil's Canyon), Mineral Creek and Queen Creek: "Between 14 and 16 GDEs, mostly sacred springs, would be anticipated to be impacted by dewatering. Although mitigation would replace water, impacts would remain to the natural setting of these places."[102]

First, the estimate of 14 to 16 GDEs is almost certainly an underestimate because springs impacted by "baseline" mine dewatering (see comment 1, above) are simply not counted. Second, the proposed mitigation for GDEs is inadequate. Mitigation plans are outlined in an April 2019 report by Montgomery & Associates entitled, "Monitoring and Mitigation Plan for Groundwater Dependent Ecosystems and Water Wells." This report calls for replacing water flows in springs and creeks by pumping water from nearby wells (i.e., tapping groundwater from deeper in the aquifer), storing water in tanks and piping the water to the creek or stream or by constructing various water-collecting devices such as so-called "guzzlers," surface water capture systems or even trucking water in from alternative sources. Replacing a natural system with a manufactured facsimile of the system is not the intention of mitigation under NEPA. Just as it would not be permissible to replace the real Half Dome with a very large photograph of Half Dome, it is not permissible to replace lost GDEs with artful but artificial copies of natural systems. It was not the intention of NEPA to replace nature with Disney-like imitations of nature.

Comment ID: 30078-30
Response: MIT1

Second, the monitoring plan for GDEs is also inadequate because its discussion of triggers (i.e., occurrences or observations that would trigger mitigation activities) is vague and incomplete. The Montgomery Report (Monitoring and Mitigation Plan for Groundwater Dependent Ecosystems and Water Wells) reveals that Resolution has built in (and the Forest Service has bought into) any number of ways to avoid actually implementing mitigation measures for GDEs. In particular, the Plan explains that Resolution will somehow differentiate the impacts from its dewatering from other variables such as "changes in weather and/or climate, impacts to the regional and/or local groundwater system from other human causes, landscape changes such as landslides and fires, natural succession of the GDE into a new presentation such as an increase in phreatophytic plants coincident with a reduction in spring flow rates, or other reasons not

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[102] DEIS, at 123.

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included in this document." Other than noting that Resolution will employ "multiple lines of evidence" there is no quantitative or qualitative discussion of how Resolution will accomplish this difficult task. Considering that all of the GDEs covered by the monitoring plan have already been identified as likely to be severely impacted by mine dewatering, this is a problematic situation and is inadequate under NEPA.

Third, mitigation triggers are described qualitatively as a decline in groundwater elevations or a decline in stream flow but there are no quantitative triggers. This is inadequate. The DEIS should clearly delineate quantitative triggers for each GDE (i.e., groundwater decline of greater than X feet over Y monitoring events) and the DEIS must clearly explain how Resolution intends to "confirm that observed changes are caused by mine activities" and the DEIS must confirm that these methods are scientifically reliable.

Comment ID: 30078-31
Response: MIT1

Finally, Appendix J of the DEIS specifies that the monitoring and mitigation plan is not intended to address water sources associated with perched shallow groundwater in alluvium or fractures. Including shallow fracture flow in this statement incorrectly excludes important and probably inevitable impacts directly related to mining. Fracture flow[103] is likely the dominant groundwater flow mechanism in the Apache Leap Tuff and this groundwater unit is the source of water discharges that support riparian zones in Ga'an Canyon (Devil's Canyon), Mineral Creek and possibly Queen Creek. The groundwater system in the Apache Leap Tuff will be profoundly and irrevocably altered by the formation of the collapse crater. The DEIS is incorrect in excluding shallow fracture flow from monitoring and mitigation requirements.

Comment ID: 30078-32
Response: MIT1

8. Water Quality Impacts-Acid Rock Drainage

As noted in the DEIS, "The deposit is associated with hydrothermal alteration and includes a strong pyrite "halo" in the upper areas of the deposit, containing up to 14 percent pyrite. This mineralization has ramifications for water quality, as sulfide-bearing minerals such as pyrite have the potential to interact with oxygen and cause water quality problems (acid rock drainage). (DEIS p. 140). Much of the mineralized halo (i.e., rocks with abundant sulfide minerals but a lower grade of copper) will not be mined out, rather it will become a permanent part of the collapse zone.

The DEIS makes the incredible assumption that the mineralized, fractured rock in the collapse zone will not be in contact with oxygen, thus will not form acid rock drainage. This is a highly optimistic conclusion that defies common sense. As the collapse zone forms, the rock will become fractured (thus increasing its hydraulic conductivity many orders of magnitude) and

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[103] Groundwater flow is generally thought of as flow through porous media, that is, through the pore spaces between the grains that make up sediments and sedimentary rocks. This is considered "primary porosity." Fractures are a form of secondary porosity, created due to tectonic forces or other stresses on the rock. Large fractures can increase rates of groundwater flow very substantially compared to the generally slow flow through porous media, thus can be very important in mountainous regions with significant fracturing.

Footnote associated with Comment ID: 30078-32

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largely dewatered. For the purposes of groundwater modeling, Resolution assumes that the hydraulic conductivity[104] of rock in the cave zone will increase by as much as a factor of a million: "Maximum hydraulic conductivity values were altered by a multiplier of 1E+6 or to a hydraulic conductivity of 100 ft/day, whichever occurs first…The maximum hydraulic conductivity value of 100 ft/day was selected because it is much higher than the natural, un-altered bedrock, but higher values caused the model to become unstable." (WSP, February 2019, Resolution Copper Groundwater Flow Report, pp. 37-38). This statement highlights another deficiency of the groundwater model: hydraulic conductivity of rock in the collapse zone was arbitrarily limited to 100 ft/day because the model would crash if higher (i.e., more realistic) values were used.

Comment ID: 30078-33
Response: WT49

Atmospheric air will easily penetrate the fracture zone, supplying oxygen into a subsurface environment that has probably been devoid of oxygen for thousands if not millions of years. This assumption (no oxygen thus no acid-generating reactions in to collapse zone) is likely incorrect and likely greatly understates the impacts from acid rock drainage within the mine and in ore stockpiles.

9. Water Quality Impacts-Tailings Facility

The scale of this project is hard to grasp, but the volume of tailings produced by Resolution Copper would fill the Rose Bowl to its brim, not once, but nearly 1,800 times, and over an area of 6 square miles and up to 500 feet high. Imagine lower Manhattan, from the East River to the Hudson and down to the Ferry Terminal buried under 50 stories of rubble. This vast volume of waste material will permanently disturb 16,000 acres of land of which nearly 8,000 acres is Arizona State Land.

The principal accomplishment of the DEIS seems to be to propose a new location for the mine's 1.37 billion tons of tailings, but the DEIS is inadequate in its assessment of impacts at this new location to surface water and groundwater quality due to seepage from the preferred tailings storage facility.

Comment ID: 30078-34
Response: WT7

Water quality impacts from the tailings is one of the most profound and concerning environmental issues for a mine of this size, yet there is virtually no defensible scientific analysis of this issue in the DEIS. For this reason alone, the DEIS should be withdrawn. Indeed, except the Near West site, there is no true, data-supported, site-specific analysis of potential impacts to surface water and groundwater quality at any of the alternative tailings sites.

[104] Hydraulic conductivity is a measure of the ease by which groundwater flows through an aquifer. This, in turn, affects the groundwater velocity through the aquifer. Solid rock has a very low hydraulic conductivity; sandstone has a higher hydraulic conductivity and very coarse grained sediments like gravels have even higher hydraulic conductivity.

Footnote associated with Comment ID: 30078-33

Resolution Copper has long proposed the "Near West" location for its tailings storage facility. In support of this proposal, Resolution conducted considerable geotechnical and hydrogeologic studies at Near West. As described in its August 2016 "Plan of Operations for Baseline Hydrologic & Geotechnical Data Gathering," Resolution constructed 16 drill sites to accommodate a total of 16 groundwater testing and monitoring wells; completed 38 geotechnical drill holes and piezometer installations and constructed geotechnical test trenches at 32 sites in and around the Near West Site. Resolution described this work as being needed to "collect hydrologic, geochemical and geotechnical data in order to provide baseline information on these aspects of the environment over an area being considered for a potential tailings storage site."[105] While we do not concur that Resolution's studies at Near West were sufficiently thorough, at least they conducted site-specific studies.

No studies of this scale and scope have yet been completed at the Skunk Camp site. Instead, the DEIS analysis for Skunk Camp contains mere speculation and substitutes data from Near West to complete the essential hydrogeological evaluation. In the context of understanding hydrogeological impacts at Skunk Camp and comparing the alternatives tailings sites, the DEIS must provide real data for each site. At best, the current analysis provides a qualitative ranking that Skunk Camp is better than other sites because water quality impacts at Skunk Camp could be more easily controlled. This qualitative assessment is an inadequate substitute for the NEPA requirement to accurately analyze potential environmental impacts to groundwater and surface water quality.

Comment ID: 30078-35
Response: WT7

V. Conclusion

This mining project has long-term consequences to the groundwater resources in Arizona as a whole and the Phoenix Active Management Area, in particular; in some cases, permanent consequences. Once mining commences, the formation of a collapse crater becomes inevitable and unstoppable. The DEIS acknowledges that total demand for water in the East Salt River Valley is growing and could be greater than the available supply.[106] And yet, the DEIS does not take a realistic look at the consequences of Resolution's plan to pump some 550,000 acre feet or 180 billion gallons of groundwater from the Desert Wellfield in East Salt River Valley.

Comment ID: 30078-36
Response: WT4

Considering the effects of ongoing drought conditions and likely reductions in deliveries of Colorado River water to Arizona via the CAP, it is possible that impacts from Resolution's pumping in the East Salt River Valley will be irreversible. Even more certain is the irreversibility of Resolution Copper's impacts to the Apache Leap Tuff Aquifer which will be altered forever: permanently altering the region's water resources and threatening permanent and unmitigable

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[105] Resolution, August 2016, General Plan of Operations, Baseline Hydrologic & Geotechnical Data Gathering Activities On Tonto National Forest, at 1.

[106] DEIS, at 342.

Footnote associated with Comment ID: 30078-36

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impacts to local streams and springs, many of which are sacred to this Tribe. This is the very definition of an permanent, irreparable harm.

Comment ID: 30078-37
Response: DOC1

E. The Forest Service Failed to Take a "Hard Look" at Alternative Mining Techniques.

The Tribe fully adopts AMRC's Comment regarding Alternative Mining Techniques at pp. 204-211 and Dr. Chambers' Report at AMRC's Appendix A.

The Tribe would only add that Resolution Copper has limited more than just Dr. Kliche with its information regarding limited information about the tonnage of higher grade mineable ore. RCM has refused to give similar information in the appraisal context to Congress and to senior Forest Service officials. It certainly behooves RCM to low-ball the quantity and grade of ore which is mineable. And, it is a disservice to the Tribe and the public for the Forest Service to allow Oak Flat to be destroyed because the Service failed to take a "hard lock" at sketchy and tenuous data relied upon by Dr. Kliche.

Comment ID: 30078-38
Response: AMT1

F. The Forest Service Failed to Adequately Analyze the Multiple Effects of Subsidence

1. **Surface Subsidence**

According to the DEIS, subsidence of the earth's surface will occur in two or more major locations. First, subsidence of the mountain formation overlying the ore body of the proposed mine will collapse into the cavern created through the block and cave mining process during the mining process and thereafter. (Section 3.2.2.2). Second, subsidence will occur as a result of the pumping of underground water from aquifers west and northwest of the mine site to supply water for mining activity, transportation of crushed, overburdened, and mineral-laden transportation of processed ore concentrates to the processing facility, and the application of water to mitigate surface erosion of the waste deposits by wind. The removal of groundwater from these aquifers will result in a loss of vertical hydraulic support of the valley fill material overlying these aquifers and will result in surface subsidence. (Section 3.7.1).

The mountain formation in which the ore body is located east of Superior, Arizona and those mountains related to it located east of the mine site, including the Pinal Mountain range, extend south of Miami and Globe, Arizona into the San Carlos Apache Reservation on the east.

2. **The Effects Of Subsidence On Weather Modification**

The DEIS fails to discuss the weather patterns which will be affected during and after the mining process by a vertical collapse of the mountain formation overlying and surrounding the ore body. The draft fails to consider wind rose patterns which will be affected by the vertical

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collapse of the mountain unit, and the resulting alteration of the related precipitation. (3.2.2.1). The San Carlos Apache Reservation is located approximately 20 miles east of the Oak Flat site which is the site of the ore body and the central location of the collapse which will occur. That mountain formation is a weather maker for the region and a sky island within the desert. It provides a substantial influence on wind patterns and the patterns of rainfall and snowfall within the region.

Subsidence will have an effect on precipitation on the Reservation. The San Carlos Apache mineral strip and the San Carlos Apache Cutter Basin are two locations which will be affected by any change in precipitation which will result from the collapse and subsidence of any portion of the mountain range. The San Carlos Apache mineral strip is located on the west side of the Gila River below Coolidge Dam. The Cutter Basin is located between the San Carlos River and the western San Carlos Apache Reservation boundary near Globe, AZ, approximately 20 miles east of the mine site. The water supply and recharge for the Cutter Basin is primarily from two sources: the first and greatest source is precipitation on the Pinal Mountains through the snowmelt and rainfall entering the mountain front recharge zone and moving to the northeast into the Cutter Basin. The other source of the recharge is the surface precipitation falling on the headwaters of Ranch Creek and Goodwin Wash on the San Carlos Reservation and the infiltration of that surface flow into the Cutter Basin. The water in the Cutter Basin west of the San Carlos boundary is the water supply for the City of Globe, which has municipal wells lined up running north and south along the western boundary of the San Carlos Reservation overlying the Cutter Basin. The groundwater in the Cutter Basin is also a primary source of water presently, and in the future, for the San Carlos Apache Tribe. It is high quality compared to other sources of water for both the City of Globe and the San Carlos Apache Tribe. The rights to the groundwater in the Cutter Basin and the surface water overlying the Cutter Basin within the San Carlos Apache Reservation were adjudicated in 1999 in case number W 1-4, *In re the General Adjudication of All Rights to Use Water in the Gila River System and Source*.

Pursuant to an agreement related to that adjudication, the City of Globe may pump up to 2,500 acre-feet of water per year from the City of Globe municipal wells located on the west side of the western boundary of the San Carlos Reservation. The Tribe has the exclusive right to use both surface water and groundwater within the Reservation under the San Carlos Apache Settlement Act, Pub. L. No. 102-575, 106 Stat. 4740 (October 30, 1992) and the San Carlos Apache Tribe Water Rights Settlement Agreement dated March 30, 1999. A decrease in precipitation on that portion of the watershed which supplies the recharge of both surface and groundwater for the Cutter Basin would dramatically threaten the San Carlos Apache Tribe's vested rights to surface water and groundwater, which water rights are held in trust by the United States.[107]

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Comment ID: 30078-39

Response: WT89

[107] *See* Globe Equity Decree No. 59, entered June 29, 1935 and Judgment and Decree entered on December 21, 1999 in W 1-204.

Footnote associated with Comment ID: 30078-39

Continued

Negative impacts to weather patterns may extend east through the Reservation into the upper Gila drainage in New Mexico. The draft fails to discuss in any matter whatsoever the potential impact on the environment, including the precipitation and wind patterns which will result from the collapse of a portion of the mountain range and its impact in all directions surrounding the collapsed mountain formation. The DEIS also fails to discuss the precipitation patterns for direct runoff to the Gila River as a result of that collapse, the precipitation available in the terms of surface water and rainfall on the mineral strip, and the effect on the adjudicated water rights under the Globe Equity Decree.

The Globe Equity Decree adjudicates rights to the mainstream of the Gila River from ten miles east of the New Mexico boundary with the State of Arizona to near the junction of the Gila and Salt Rivers on the west side of Phoenix, Arizona. The DEIS contains no analysis of the potential changes to precipitation as it contributes to the flows of the Gila River and the storage of the waters of the Gila River, including in the San Carlos Reservoir within the San Carlos Reservation, and the flows and water available to the holders of water rights under the Globe Equity Decree.

The draft fails to analyze the impact of the subsidence on the surface and groundwater contributions to the Salt and Black Rivers to the north and east of the mine site. The northern boundary of the San Carlos Apache Reservation includes the Black and Salt River, which boundary begins east of Pinal Creek and extends east to the headwaters of the Black River to 109 degrees, 30 minutes east, roughly coinciding with the alignment of Eagle Creek on the eastern side of the Reservation.

Comment ID: 30078-40

Response: WT30

The DEIS also fails to deal with the precipitation pattern and groundwater contribution to the San Carlos River watershed and its contribution to the water supplies of the San Carlos Apache Reservation. The San Carlos River drainage is located wholly within the San Carlos Apache Reservation and it begins on the south side of the drainage between the Black and Salt River drainage on the north and the Gila River drainage on the south. The San Carlos River drainage is dependent upon precipitation on the watershed.

Comment ID: 30078-41

Response: WT30

3. **Impact on Regional Springs**

"There are 338 springs mapped within 5 miles of the project footprint. (see figure 3.8.3-1). This includes 24 springs and several stream segments that are considered to be groundwater dependent with the potential to be impacted by the project." (Section 3.8.3.2). The DEIS fails to analyze the legal right of Resolution Copper or the Forest Service to appropriate and permanently destroy the production of the 24 springs, which the draft acknowledges will be destroyed as a result of the dewatering process or subsidence. The Forest Service has failed to discuss the Forest Service's Federal Reserved water rights, and those water rights which may have been acquired by prior appropriation under state law which could be permitted by the state of Arizona under the statutory law of prior appropriation. The draft also fails to discuss any effort that Resolution

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Comment ID: 30078-42

Response: NEPA14

Comment ID: 30078-43

Response: NEPA14

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Copper may have made to acquire the surface water rights to those springs under the statutory process for acquiring rights to surface water under prior appropriation pursuant to Arizona law. In addition, those springs contribute water to a number of tributaries to the Gila and Salt River Systems and the draft fails to discuss the impact or the right that the Forest Service or Resolution Copper could acquire to interfere with senior water rights of water holders to the Salt or Gila River in any matter whatsoever. The DEIS admits:

- Eight springs are anticipated to be impacted under the proposed action, because of the block-cave mining;
- Two springs would be directly disturbed by the subsidence area;
- Three perennial stream reaches in Devil's Canyon and Queen Creek would be impacted by reduced runoff from the subsidence area; and
- One perennial stream reach of the Gila River would be impacted by reduced runoff from the tailings facility.

The water from those springs generally provides a higher quality of water to the rivers in the region than is available from other tributary sources of the region and is closer to a neutral pH than most of the contributions to groundwater in the region. The reduction in groundwater supplies regionally from the loss of those springs would result in the loss of the springs' contributions to high quality recharge water for the groundwater in the region and a decline in water quality in the region.

Comment ID: 30078-44

Response: NEPA14

Comment ID: 30078-45

Response: WT54

The DEIS fails to discuss the law concerning the use of groundwater and the right to use it in Arizona. Generally, an overlying landowner may drill a well and use the water beneath the land for beneficial purposes on that land. The right to use groundwater on other than the land overlying the well is dependent upon the issuance of a permit to transfer water from wells located miles away from the point of production and is inconsistent with the general law of the State of Arizona.

No process for environmental assessment of pipelines from proposed locations of wells and the process required for permits to transfer groundwater from one location to a different location has been discussed in the DEIS. The DEIS also fails to show the use of groundwater from wells which are located in the Salt River drainage and the potential impact on the subflow and water supply of the Salt River.[108] Arizona's groundwater law is limited to percolating

Comment ID: 30078-46

Response: WT21_C

Comment ID: 30078-47

Response: WT19

[108] *See in re the General Adjudication of All Rights to Use Water in the Gila River System and Source*, 198 Ariz. 330, 9 P.3d 1069 (2000) ("*Gila IV*"); June 30, 1994 Order filed in W1-W4; *Order Re: Report of the Special Master on the Arizona Department of Water Resources' Subflow Technical Report, San Pedro River Watershed and Motion for Approval of Report* dated September 28, 2005 filed in case number W1-103 ("2005 Decision").

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groundwater unconnected to surface flow or the subflow of surface water streams. The draft fails to provide a location for the wells to be used or any analysis of the impact on surface water or subflow.

A well which intercepts any portion of its water from the subflow of a stream is subject to the law of prior appropriation under state and federal law. All of the water pumped from the well which takes any portion of its water from subflow is subject to the general subject matter jurisdiction of the State water adjudication court.[109] The test for whether the cone of depression of a well would intercept the subflow of a river is whether that well, assuming pre-development conditions and steady state pumping, would cause a reduction in subflow of 1/10 of one foot. If so, the entire production of that well is included within the subject matter jurisdiction of the adjudication court adjudicating prior appropriation water rights. (*See* 2005 Decision).

Comment ID: 30078-48

Response: WT19

The use of a well which acquires any of its water from a surface water right subject to prior appropriation can only be acquired after 1919 by strict compliance with the statutory process set out in the Arizona Revised Statutes.[110]

There is no indication of the specific location of the proposed production wells by Resolution Copper and no analysis of whether the production of such wells would cause a drawdown of 1/10th of one foot under pre-development conditions pumped at steady state. In fact, the DEIS's analysis of the production of pumping of wells acknowledges that the data points available for analysis for a numerical model are inadequate to provide reasonably accurate scientific results accurate to a point of less than 10 vertical feet of reduction.

The fact that RCM failed to provide statistical data and data points necessary to provide a modeling result which would be capable of producing a reliable scientific prediction of a level less than a drawdown of 10 feet is indefensible and a material failure of this DEIS to properly evaluate the environmental impact of the operation of multiple wells proposed to be operated by Resolution Copper to support its mining operations, its ore processing facility, and its transportation by pipeline of processed ores and processed waste. It is also a material failure of the DEIS to properly evaluate the environmental impact of the drawdown of groundwater levels and its potential impact on water supplies and flowing streams, partially dependent upon the base-flow contribution of groundwater, which could be reduced by the operation of the production wells.

4. **Other Effects of Subsidence**

The DEIS fails to analyze the environmental impact on the vegetation dependent upon precipitation generated by the mountains which will be subject to subsidence. The impact and a

Continued

[109] *See Gila IV*; June 30, 1994 Order filed in W1-W4 at pages 1, 62, and 63.
[110] *See* Ariz. Laws 1919, ch. 164, § 5 *et seq.*; Arizona Revised Statutes § 45-151 *et seq.*

Footnotes associated with Comment ID: 30078-48

Continued

diminution of vegetation or alteration of the location of fallout could affect commercial timber and vegetation which supports grazing and wildlife on the San Carlos Reservation. Commercial timber, livestock grazing, wildlife, and fisheries management are substantial components of the economy of the San Carlos Apache Reservation.

Comment ID: 30078-49
Response: WT89

G. The Forest Service Failed to Analyze Impacts on Other Water Resources

1. Impact On The Central Arizona Project

The DEIS fails in total to evaluate the potential impact on the Central Arizona Project (CAP) canal reach from Granite Reef to the Tucson area, which overlays in part the potential subsidence zone caused by the pumping of various production and dewatering wells by Resolution Copper. A subsidence by a few inches in the gradient of the CAP canal can profoundly and adversely affect the integrity of the CAP delivery system to the Tucson and southern Pinal County area.

Comment ID: 30078-50
Response: WT10

2. Impact On Groundwater Storage

The subsidence caused by groundwater pumping for production and stabilization and maintenance of waste storage sites has not been properly analyzed. The potential subsidence of those aquifers may permanently decrease the storage capacity of the groundwater aquifers and will render the potential recharge of such groundwater aquifers impossible. No analysis of those potential impacts on the future water supplies and the management of those groundwater supplies and potential recharge has been made in the DEIS.

Comment ID: 30078-51
Response: WT10

H. The Forest Service Failed to Analyze the Impacts of Radioactive Materials And Heavy Metals

The DEIS acknowledges the existence of radioactive, toxic and hazardous materials, heavy metals and asbestos in the ore body and in overlying and surrounding geologic structures (N-3, 4). It summarily deals with these radioactive, toxic and hazardous materials, heavy metals and asbestos in primarily a spreadsheet form, acknowledging the existence of a few samples in which radioactive, toxic and hazardous materials, heavy metals and asbestos were identified and reciting a degree of risk that was related to that sample concentration. (Section 3.7.1, p. 113). The spreadsheet insufficient date to quantitatively evaluate the mineralization of the ore body and the surrounding geologic structure.

The DEIS does not describe the process by which the degree of risk was evaluated or the definition of the various categories of risk, which are employed in its spreadsheet analysis. It fails to deal with the concentration of the radioactive, toxic and hazardous materials, heavy metals and asbestos in the mining process and the location of the radioactive, toxic and hazardous materials, heavy metals and asbestos into the water system and the chemical reaction of the radioactive,

Comment ID: 30078-52
Response: TS24

Continued

Continued

toxic and hazardous materials, heavy metals and asbestos with the ore, waste rock, and solution in the transport pipeline of these various components and the processed ores, the various locations and the deposition and creation of waste dump sites containing the residue of those processes. It also fails to deal with the fact that radioactive materials described in the spreadsheet are currently located in consolidated hard rock, where the transmission of radioactive materials to other locations is slow to non-existent, to a situation where the hard rock will be pulverized, which will make the radioactive material readily available for chemical reaction and transportation by the water pipeline systems for processing and transporting the ore to dump sites. It also fails to recognize that once the material has been placed in the dump sites, the radioactive, toxic and hazardous materials, heavy metals and asbestos can become airborne from the surface of the dump sites and waste sites and be transported up by local air movement into populated zones. The EIS fails to consider the change in wind rose configurations related to their construction, orientation, and altitude, compared to the natural terrain.

The evaluation of the risk from exposures to radioactive, toxic and hazardous materials, heavy metals and asbestos is limited to a summary word or two including the word "risk." The DEIS fails to describe the methodology of the summary conclusion concerning risk and any method of applying the risk analysis to public health, air, or water quality. (Section 3.7.1, p. 113).

Comment ID: 30078-53
Response: TS24

The DEIS also fails to recognize that radon, once freed from the hard rock ore, can become readily transportable through the ambient air, without the aid of a particle, through humidity, and in the gaseous form. It also fails to recognize that the application of water to the surface of the waste storage sites through precipitation and sprinkling of water to reduce dust from escaping the storage sites, will cause the percolation downward of radioactive, toxic and hazardous materials, heavy metals and asbestos materials including radon into the underground water system over time, which will cause a degradation of the local groundwater quality. No analysis of the potential airborne distribution of radioactive, toxic and hazardous materials, heavy metals and asbestos by the ambient air system or the transfer of the radioactive, toxic and hazardous materials, heavy metals and asbestos in solution resulting from the percolation of precipitation or of water applied for stabilizing the waste systems has been made in the DEIS.

Comment ID: 30078-54
Response: TS24

CONCLUSION

The goal of NEPA is two-fold: (1) to ensure the agency will have detailed information on significant environmental impacts when it makes its decisions; and (2) to guarantee that this information will be available to a larger audience. "The NEPA process is intended to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." 40 C.F.R. § 1500.1(c). The goals of NEPA are not satisfied by the DEIS, It is deficient on a score of matters. We would encourage the Forest Service to go back and get it right. Thank you for the opportunity to comment,

Terry Rambler
Chairman

SAN CARLOS APACHE TRIBE
P.O. Box 0, San Carlos, Arizona 85550
Phone (928) 475-1600 ❖ Fax (928) 475-2567

Tao Etpison
Vice-Chairman

December 23, 2019

Neil Bosworth
Supervisor
Tonto National Forest
U.S. Department of Agriculture
2324 E. McDowell Road
Phoenix, Arizona 85006
E-M: nbosworth@fs.fed.us

Dear Supervisor Bosworth:

On behalf of the over 16,800 members of the San Carlos Apache Tribe ("Tribe") and the San Carlos Council, as the governing body of the Tribe, this letter transmits the Tribe's comment to the Tonto National Forest ("Forest Service") on the proposed Resolution Copper Mine ("RCM") Project (the "Project") and Land Exchange Draft Environmental Impact Statement (DEIS"). This comment supplements the Tribe's detailed scoping comments to the Forest Service for the Project submitted on July 18, 2016. In addition, the Tribe incorporates by reference comments submitted by the Arizona Mining Reform Coalition et al., submitted November 7, 2019 and July 18, 2016, and adopts and incorporates by reference the comments submitted by the Inter Tribal Association of Arizona, Inc. ("ITAA"), Earthworks and the Access Fund.

Oak Flat, known to Apaches as Chí'chil *Bildagoteel* (pronounced Chi Chill Bił Dah Go Tell, or "a broad flat of Emory oak trees"), is a most precious culturally and geographically defined landscape within the Tonto National Forest whose ecological integrity is vital to the continuation of Western Apache cultural practices, particularly to many members of the San Carlos Apache Tribe.

Comment ID: 30079-1
Response: NS2

The Southeast Arizona Land Exchange Act ("SEALECA"), a piece of federal legislation forced into the Fiscal Year 2015 National Defense Appropriations Act, as the result of back room deals subverting the will of the majority of members of Congress, transfers Oak Flat to Resolution Copper Mining, a subsidiary of BHP Billiton and Rio Tinto, foreign conglomerates.

Some may see Oak Flat a simple, but inhospitable, dry, rocky landscape. Rio Tinto and BHP Billiton see billions of dollars in profits lying beneath the surface, and others see only jobs.

Apaches see Oak Flat differently – it is a church, a place for worship and the practice of our traditional religion. It is the center of our most sincerely held, religious beliefs, where *diyi'*(sacred power) can be called upon via prayers. Oak Flat is the *goiíí'*(home) of our *diyi'n*, visited by our *ga'an* (spiritual beings) who provide us with healing and spiritual services. It is also a place that speaks to the very essence of tribal culture.

Comment ID: 30079-2
Response: CR4

Covering 4,309 acres, Oak Flat lies within the traditional territory of the *T'iis Tsebán* (the "cottonwood trees gray among rocks people"), also known as the "Pinal Band" of Apaches, and is closely associated with the related *Tsé Binesti'é* (the "surrounded by rocks people"), also known as the Aravaipa Band. At least eight Apache clans have direct ties to this location. Tribal members continue to visit Oak Flat for prayer and a wide range of traditional needs and practices. The ethnographic and ethnohistoric study of the area surrounding Oak Flat, conducted by Anthropological Research, LLC, at the request of the Tonto National Forest, identifies 404 traditional cultural properties of at least nine tribes with traditional ties to the area.

For at least a half millennium through to the present day, members of our Tribe have utilized the Oak Flat area for traditional religious ceremonies, such as the Sunrise Dance, where we celebrate the event of a girl's maturation from puberty over four days, through dance, drumming, song and prayer, and the visitation of Crown Dancers. It is a place where Apache Holy Ground rituals occur, where we commune with and sing to our Creator God, and celebrate our holy spirits, including our mountain spirits, the Ga'an. It is a place filled with rock paintings and petroglyphs, what some may describe as the footprints and the very spirit of our ancestors, hallmarks akin to the art found in gothic cathedrals and temples, like the Western Wall in Jerusalem, St. Peter's Basilica in Vatican City, or Angor Wat in Cambodia. This is why I call Oak Flat the Sistine Chapel of Apache religion.

Oak Flat is also a burial ground, a holy cemetery. Recently, using cadaver dogs, an effort which was not done with the approval of tribes, the Forest Service found the remains of up to 100 bodies, many of whom were most likely our Apache Ancestors. The echoes of their encampments still reverberate with the outlines of wikiups, lava rock structures, metate stones for grinding foodstuffs, and other tools and artifacts.

Continued

Continued

Oak Flat is also a place where our members still conduct traditional harvesting of plants important to our diet, such as acorns from Emory oaks, and healing plant-based medicines for a wide range of ailments.

As you have personally witnessed, it is a pristine, bucolic oasis of many varied plants and animals that depend on Oak Flat's waters. Water is very scarce in Arizona. Pinal County predicts an 8.1 million acre foot deficit in its water supply. And yet, Oak Flat is a place of water, what Apaches call tu. The water in the area plays an integral role in our traditional religion and ceremonies. Oak Flat is also full of seeps, some 46 springs, and a number of streams and ponds form an integral part of the region's weather system and the formation of ancient aquifers, like the Apache Tuff, which lies below the Town of Superior and supplies the town's municipal water system, and the Queen Creek community.

The area surrounding Superior, Arizona, as well as Oak Flat, Apache Leap and Ga'an Canyon, was also the area where mining interests and the press ignited vigilante, genocidal, militias and military campaigns between 1859 and 1874 that killed over 380 Pinal Apaches – including many women and children – and resulted in the confining of survivors in a prisoner of war camp known as Old San Carlos.

For all of these reasons and factors, Oak Flat was listed in the U.S. National Register of Historic Places. Yet, if it becomes operational, the Resolution Copper Mine will swallow up and completely destroy Oak Flat in its entirety – all of the historic, cultural properties, our burial ground, our place of worship, our church, and the foundation of our traditional religious beliefs. Rio Tinto, BHP Billiton and the Forest Service each admit this wholesale destruction will occur.

Ironically, the Forest Service was established in 1905 principally to protect the region's watershed. However, the SEALECA and the 1872 Mining Act eliminates these protections. The Forest Service's Draft Environmental Impact Statement ("DEIS") blindly follows the SEALECA, and ignores other controlling statutes and regulations.

Totaling some 400 pages, that methodically details the destruction of Oak Flat and its environment, the DEIS casts the Project as a *fait accompli*, despite the certain and massive environmental catastrophes that will result once the mine becomes operational. As you know, the DEIS received 6,500 pages of analytical comments in opposition from tribes and Oak Flat supporters, including the Center for Biological Diversity, the Sierra Club, and the Arizona Mining Reform Coalition. Even though these comments point to serious, critical flaws in the DEIS, we have been advised by the Forest Service that it will not reconsider or issue a supplemental DEIS; instead, the Forest Service will only provide responses to the comments received.

According to the DEIS, the block cave mining technique was chosen because it was the most profitable method to extract a cubic mile of copper ore body lies over 1 mile below the surface. In the process, the Oak Flat area will subside or cave-in starting in year six after the mining begins, ultimately collapsing an area approximately 2 miles in diameter of the earth's surface and swallowing and destroying Oak Flat. While the DEIS proclaims that this mining technique is the only alternative, we believe that RCM has intentionally withheld information as to the ore body's CU value, which may open up the possibility of other mining alternatives.

The mine will also consume well over 550,000 acre-feet of water, enough water to supply 168,000 homes over 40 years. This in an area already stressed by long-term drought. Worse, the water modelling employed for the DEIS's conclusions has major data gaps that do not adequately portray the impact of this mine on the region's water supply. The Forest Service does not even account for the impacts that the mine will have on the Tonto National Forest's own water supply. Nor does it take into account the Pinal County water deficit of 8.1 million acre feet 100 years from now.

Comment ID: 30079-3
Response: WT4

Comment ID: 30079-4
Response: WT4

The DEIS details how mine's waste will eventually be stockpiled over an area encompassing six square miles and 500 feet high. Imagine one-quarter of Manhattan, from Canal Street through Wall Street and down to the Staten Island Ferry buried in up to 50 stories of rubble. Just imagine the environmental disaster this stockpile of mining waste will create for the whole area, including our Reservation which stands only 14 miles away, yet the DEIS takes no issue with the stockpile and even leaves the issue for resolution at a later date.

In 40 years, when the copper will run out if RCM is allowed to mine, the quality of life, especially the elimination and pollution of scant water supplies will affect not just Apaches, but all humans that live in the surrounding areas. Once the water dries up and what remains becomes contaminated, what will prevent the people living off our Reservation to go to Congress and ask Congress for the water under the San Carlos Apache Reservation? Clearly, without question, this mine will put Apache children, grandchildren and those not born at risk. Without water, without our church, I fear for the very survival and existence of Apache life, culture and religion.

Comment ID: 30079-5
Response: CR4

As with the comments submitted by the ARMC and others, the Tribe's analysis of the DEIS shows that it is ill conceived, missing fundamental data, forwarding flawed analyses and methodologies, and does not meet the legal standards of other federal statutes and regulations. In addition, the Forest Service has not engaged in meaningful government-to-government consultation, as established by executive orders and statutes.

For these reasons, I respectfully request that the Forest Service reconsider the DEIS and work with the stakeholders in effort to either re-issue, or otherwise supplement the DEIS.

As we say in our Apache language, A'híyi'é (thank you) in advance for your attention to the Tribe's comments.

Sincerely,

SAN CARLOS APACHE TRIBE

Terry Rambler
Chairman

Enclosure

Comment of the San Carlos Apache Tribe on the TNF RCM DEIS

Cc: Maria Dadgar, Exec. Dir., ITCA, mariadadgar@itcaonline.com

Nanebah Lyndon, Tribal Relations Program Manager, TNF, nnez@fs.fed.us
Kathryn Leonard, Arizona State Historic Preservation Officer, kleonard@azstateparks.gov
John Fowler, Advisory Council on Historic Preservation Executive Director, jfowler@achp.gov

San Carlos Apache Tribe
Tao Etpison, Vice Chairman
San Carlos Council Members
Vernelda Grant, THPO
Dee Randall, Forest Manager, Forest Resources
A.B. Ritchie, AG
Chrono

YAVAPAI-APACHE NATION

Executive Office

Chairman Jon Huey

Vice Chairwoman Tanya Lewis

2400 West Datsi Street, Camp Verde, AZ 86322

Phone (928)567-1021 Fax (928)567-3994

December 13, 2019

Neil Bosworth, Supervisor
Tonto National Forest Service
2324 E. McDowell Road
Phoenix, Arizona 86006

RE: Yavapai-Apache Nation Comments on the Resolution Copper Mine EIS

Dear Supervisor Bosworth:

On behalf of the Yavapai-Apache Nation, we share our concerns and recommendations regarding the Resolution Copper Mine.

Consultation:
The consultation with the Tonto National Forest Service and the Yavapai-Apache Nation has been fair and open. Your most recent effort was an inclusive event attended by concerned Tribes in late October 2019. The meeting was beneficial to discuss important issues and respond to them. The meeting was conducted with several Tribes who shared their perspectives; however the Nation prefers a government to government consultation as a face to face conversation between the Nation and the Tonto National Forest Service. We look forward to scheduling a consultation in the near future.

THE TRIBAL MONITORING PROGRAM
We support this effort as a step forward in the evolution of Cultural Resource Management (CRM). We have some concerns about how information gathered is being incorporated into the data set. We believe the monitoring program should be more fully integrated into the long-term CRM plan. This is a positive program and with further consultation with the Nation the concerns will sort out over time.

LOCATION OF THE MINE SPOILS/TAILINGS
Vincent Randall, the Nation's Apache Culture Director has been involved with the process of designating a tailing site since its inception, including visiting the proposed sites. The challenge has been to identify a location with minimal environmental and cultural heritage impact. Our preferred alternative is the Skunk Camp near Hayden.

CONTINUITY
Enclosed is the Nation's letter dated October 6, 2017 for your reference regarding Apache Leap and the Resolution Copper Mine. We are fully aware of the significant ongoing cultural and environmental impacts it will generate. It is our intention, working in conjunction with the Tonto National Forest Service, to mitigate the impacts to Shii Ke Yaa (the Apache Homeland) to the extent we can.

Thank you for your attention to this matter. Additionally, the Nation appreciates the work Nanebah Nez Lyndon has done to make the consultation process professional and comprehensive. The Nation submitted an official letter in October 2019 reflecting our participation in the process, as well as a letter requesting mitigation measures that we believe off-set the cultural and environmental impact of the project. It is our hope the process continues without interruption and in respect to those Tribes who have actively participated in the process.

Cordially,

Jon Huey, Chairman

CC: Tanya Lewis, Vice Chairwoman
Vincent Randall, YAN Apache Culture Director
Scott Canty, YAN Attorney General
Chris Coder, YAN Cultural Office
Nanebah Nez Lyndon, Tonto National Forest Service

City of Apache Junction

Home of the Superstition Mountains

October 31, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
PO BOX 34468
Phoenix, AZ 85067-4468
(sent via email comments@resolutionmineeis.us)

RE: Resolution Copper Draft Environmental Impact Statement

Mr. Bosworth,

Thank you for the opportunity for the city of Apache Junction to submit comments on the Draft Environmental Impact Statement, prior to finalization, for disclosure of impacts associated with the Resolution Copper Project and associated land exchange.

The city of Apache Junction is in support of this project and excited at the prospect of Resolution Copper capable of producing 20% of the world's copper through the next 50 years. The 1,000 plus jobs this project is anticipated to create is important to those rural and surrounding communities. Further, this project offers great potential for other positive economic benefits to not only those surrounding and rural communities but also to the state of Arizona.

Thank you for your consideration.

Comment ID: 284-1

Response: NS1

Sincerely,

Jeff Serdy

Jeff Serdy
Mayor

CITY OF GLOBE ARIZONA

150 N Pine Street Globe Arizona 8501

October 22, 2019

Resolution Copper EIS Comments
PO Box 34468
Phoenix, AZ 85067-4468

By email: comments@resolutionmineeis.us

Re: Globe City Council Comments; Resolution Copper Draft Environmental Impact Statement

Mr. Neil Bosworth:

Thank you for the opportunity for the Globe City Council to submit comments on the Draft Environmental Impact Statement for disclosure of impacts associated with the Resolution Copper Project and associated land exchange.

The City of Globe City Council is very excited about the Resolution Copper Project in Pinal County. The City Council sees great benefit in Globe being located less that 24 miles away from the Resolution Project, that is anticipated to produce 20% of the worlds copper over the next 50 years. The primary and secondary economic impacts of this project will be significant to Arizona and our region, including the creation of 1,400 direct jobs and an estimated 2,300 indirect jobs during operation.

Comment ID: 518-1

Response: NS1

For these reasons, the City of Globe City Council wants to express strong support for the Resolution Copper Project, and urge the U.S. Forest Service to complete, without delay, a robust Final Environmental Impact Statement and Record of Decision. The Council does submit the following comment for your consideration:

- The City of Globe supports the relocation of the tailings facility to Skunk Camp in Gila County. We fully support the preferred tailings alternative and urge the USFS to disclose the direct and indirect employment impacts and the associated positive fiscal impacts of this facility, as it is the only portion of the operation which would have a footprint within Gila County.

Comment ID: 518-3

Response: SO9

The Globe City Council would like to thank the U.S. Forest Service for giving us this opportunity to voice support and provide comments in regard to the proposed Resolution Copper Project.

Comment ID: 518-4

Response: ALT30

If you have any further questions, please contact our City Manager, Paul Jepson at (602) 672-6024.

Sincerely,

Al Gameros,
Mayor, City of Globe
On behalf of the Globe City Council

Town of Florence
P.O. Box 2670
775 North Main Street
Florence, Arizona 85132

Phone (520) 868-7500
Fax (520) 868-7501
TDD (520) 868-7502

www.florenceaz.gov

TOWN SERVICES

Building Safety 868-7573
Community Development 868-7575
Finance 868-7624
Fire 868-7609
Grants 868-7513
Human Resources 868-7545
Library 868-8311
Municipal Court 868-7514
Parks & Recreation 868-7589
Police 868-7681
Public Works 868-7620
Senior Center 868-7622
Town Attorney 868-7557
Utility Billing 868-7680
Water/Wastewater 868-7677

October 22, 2019

Resolution EIS Comments
PO Box 34468
Phoenix AZ 85067-4468

RE: Resolution Copper Project and Land Exchange Draft Environmental Impact Statement

To whom this may concern:

The Town of Florence appreciates the ability to comment on the Resolution Copper Project and Land Exchange Draft Environmental Impact Statement. The Town has been tracking the Resolution Copper project for several years and has been in annual contact with the project team throughout the EIS process.

Of particular interest to the Town of Florence is the location of the proposed tailings facility. The placement of 1.5 billion tons of rock crushed to a fine sand by the end of the life of the mine is concerning if located within the viewshed and upstream watershed of Florence. Florence takes great pride in not only our mountain vistas, but also of outdoor recreation opportunities, and ultimately our source of drinking water, supplied by the Gila River.

Comment ID: 515-4
Response: NS2

Within the EIS's reasonable range of alternatives six alternative tailings sights were analyzed. For the reasons listed above, the Town of Florence is strongly opposed to the proposed Peg Leg Site (Alternative 5). Not only would this site potentially impact Florence, it would require 23-28 mile pipeline for tailing disposal which carries with it a series of environmental impacts that are both secondary and cumulative in nature.

After study of the DEIS and conversations with the Project Team, The Town of Florence prefers the Skunk Camp Site (Preferred Alternative) for the proposed tailings facility. The Skunk Camp site is located adjacent to the existing Ray Mine and is located in an area that has been impacted by and has supported industrial mining activities for over 100 years. It is also located much closer to the Resolution Copper site and its associated plant.

Comment ID: 515-3
Response: ALT30

Respectfully Submitted

TOWN OF Florence

By _____
Tara Walter, Mayor

mesa-az
CITY COUNCIL

October 15, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth:

Thank you for the opportunity to comment during development of the Final Environmental Impact Statement for the Resolution Copper Project. I hope the United States Forest Service has the resources to quickly complete the Environmental Impact Statement for this project, which I support.

Comment ID: 267-1
Response: NS1

As an elected official in a nearby community, I am was pleased to see the economic impacts the project will have on the east valley when reviewing the DEIS. This project is vital to our national security and specifically the defense industry which operates in my community.

The only outstanding question I have is related to local transportation infrastructure. Will there be traffic impacts from people living in the east valley and commuting to work at the mine? I understand there will be several thousand construction jobs and more than 1,500 permanent jobs created by the project's development.

Comment ID: 267-2
Response: TR8

Thank you for your consideration of these comments and questions.

Sincerely,

Councilmember Kevin Thompson
Mesa City Council, District 6

Hannah French

From: Resolution Comments <comments@resolutionmineeis.us>
Sent: Thursday, October 31, 2019 9:55 AM
To: Emily Newell
Subject: Fwd: DEIS Letter
Attachments: Resolution Mine - Letter of Support -2019.pdf

EXTERNAL: This email originated from outside SWCA. Please use caution when replying.

---------- Forwarded message ---------
From: **Karen Norris** <miamiclerk@cableone.net>
Date: Wed, Oct 30, 2019 at 8:27 AM
Subject: Re: DEIS Letter
To: Bryan Sappala <Bryan.Seppala@riotinto.com>, <comments@resolutionmineeis.us>

Hi Bryan,

Here is the letter. Please let me know if you need me to mail the original anywhere. I will be out of the office the rest of the week but will be in Saturday to catch up on a few things. Thank you.

Karen Norris, C.M.C.
Town of Miami, AZ
miamiclerk@cableone.net
928-473-4403

----- Original Message -----
From: "Bryan Sappala" <Bryan.Seppala@riotinto.com>
To: "Karen Norris" <miamiclerk@cableone.net>
Sent: Tuesday, October 29, 2019 10:41:10 AM
Subject: Re: DEIS Letter

Thanks for the update!

Tell Joe hi for me.

Sent from my iPhone

> On Oct 29, 2019, at 10:36 AM, Karen Norris <miamiclerk@cableone.net> wrote:
>
> Bryan,
>
> I just talked to Joe about that this morning at our staff meeting and he said he will be working on that today. I will try and keep him on schedule to get that done today.
>

> Thank you.
>
> Karen Norris, C.M.C.
> Town of Miami, AZ
> miamiclerk@cableone.net
> 928-473-4403
>
> ----- Original Message -----
> From: "Bryan Sappala" <Bryan.Seppala@riotinto.com>
> To: "Karen Norris" <miamiclerk@cableone.net>
> Sent: Tuesday, October 29, 2019 10:21:48 AM
> Subject: DEIS Letter
>
> Hi Karen,
>
> Hope all is well, I just wanted to check and see if you had any more questions around the letter or submitting it.
>
> Thanks,
>
> Bryan
>
> Sent from my iPhone

TOWN COUNCIL
Darryl Dalley, Mayor
Sammy Gonzales, Vice-Mayor
Michael Black
Patricia Bringhurst
Jose "Angel" Medina
Dan Must
Dan Reiman

ADMINISTRATION
Joseph Heatherly
Town Manager
Karen Norris
Town Clerk

TOWN OF MIAMI
"Copper Center of the World"

500 W. Sullivan St.
Miami, AZ 85539
928-473-4403
www.miamiaz.gov

October 30, 2019

Resolution EIS Comments
PO Box 34468
Phoenix, AZ 85067-4468

By email:
comments@resolutionmineeis.us CC:

Re: Miami Town Council Comments in response to release of the Resolution Copper Project and Land Exchange Draft Environmental Impact Statement

Mr. Neil Bosworth:

Thank you for the opportunity for the Miami Town Council to submit comments on the Draft Environmental Impact Statement for disclosure of impacts associated with the Resolution Copper Project and associated land exchange.

With the addition of the preferred tailings alternative within the geographical boundaries of Gila County we feel it vital to recognized that Resolution Copper has and will continue to create significant economic benefit to our county, and as such, Gila County and the Town of Miami has a special interest in this proposal. We are a rural county with a population of 54, 947, of which approximately 6.2% are unemployed and 21% are living at or below 200% of the federal poverty level.

Comment ID: 283-1
Response: ALT30

More than 90% of the land within our county is either owned by the federal government or Native American Tribes and despite annual Payments in Lieu of Taxes (PILT) by the federal government, the non-availability of over 90 percent of the land in our county creates unique financial, economic, and social constraints on the ability of the county and local governments to meet the needs of the people living within our county, such as funding education, providing for the safety of the public, or creating a positive economic environment for full employment, among others.

In December 2014, Congress passed, and the President approved the National Defense Authorization Act (NDAA) for Fiscal Year 2015. Section 3003 of the NDAA authorizes a land exchange between Resolution Copper and the United States. The NDAA includes the exchange of 2,422 acres of National Forest land for 5,344 acres of private lands. The National Forest lands that will be exchanged include the 760 acre Oak Flat parcel and lands that overlie the ore body. These lands as well as adjacent lands have been involved in copper mining for the past 141 years. The private lands that would become federal lands are located in various areas of Arizona including high-priority conservation lands that would become part of the San Pedro Riparian and Las Cienegas national conservation areas.

In addition, we believe that this proposal is consistent with the Tonto National Forest Land and Resource Management Plan (LRMP) of 1985 as amended, and that the mineral exploration, development and operational activities as outlined in this proposed plan will be conducted in a manner that minimizes adverse environmental impact on the Tonto National Forest surface resources as codified in 36 CFR Part 28.

Resolution Copper activities have had a substantive positive impact in the Town of Miami and other regional communities in and around the Copper Triangle. To date Resolution Copper has spent many years and nearly $2 billion developing plans to access the copper ore body that was discovered in 1996. Economic benefits to the local area as well as to Arizona will continue for at least another 50 years with an estimated Arizona economic benefit of more than $1 billion annually over the lifespan of the operation, including $200 million in federal and, $113 million state and local tax revenue. More importantly the DEIS recognizes peak project workforce of 3,700 and steady state of 2,600 resulting in more than $134 million in direct employment compensation and half a billion in indirect annually.

In Gila County, we recognize and understand the importance of protecting our natural resources while providing opportunities and access to those whose livelihoods depend on resources located on federal land as well as access for multiple use, multi- cultural activities, and multi-recreational opportunities to the public. Historically, our economy and our residents have depended heavily upon resource-based industries and, more recently, upon recreation opportunities on federal land. We appreciate that we must take care of the land, but we need to be able to use the land to take care of ourselves.

Hard rock mining represents a substantial component of the economy within Arizona, with residents having accumulated over a century of mining expertise. Many of the towns and cities in the eastern Arizona counties have depended historically and culturally on the mining industry, which has functioned as a critical base industry to drive the economy. Spending by base industries, and the associated taxes, stimulate local market economies such as retail, construction, local business services, banks, hospitals and local, county, state and federal governments. The revenue from base industries like mining also helps to stabilize local governments, resulting in lower taxes for residents and sustained investments that strengthen the communities through strong education, public safety, youth recreation activities, and cultural programs among others.

For these reasons, the Town of Miami wants to express strong support for the Resolution Copper Project, and to urge the U.S. Forest Service to complete, without delay a robust Final Environmental Impact Statement and Record of Decision. The Council does submit the following comments for your consideration:

Comment ID: 283-7
Response: NS1

Recreation

- We request clarification related to the loss of hunting opportunities and revenues related to the preferred tailings alternative. We believe these numbers are inflated and do not accurately reflect actual impacts. Hunters who currently utilize the proposed skunk camp footprint will continue to hunt and retain access to the public lands surrounding the tailings storage facility and the more that 90 of federal lands within our county. Moreover the potential loss of revenue does not reflect this reality or that those revenues are largely related to AZGF license fees and not money spent in our county.

Comment ID: 283-2
Response: SR26

Socioeconomics

- We believe the socioeconomic section of the DEIS underestimates local tax revenue streams related to new commercial development, supply chain, housing, and hotels that will result through this operation. The FEIS should more thoroughly describe these revenue streams and include the indirect benefits of the operation.

Comment ID: 283-3
Response: SO14

Water

- We are pleased to see that there are robust monitoring and mitigation measures included in the DEIS for potential groundwater impacts from mining. Appendix D of the DEIS proposes to use the Arizona Game and Fish In-Lieu fee mitigation site along the Lower San Pedro to offset impacts to Waters of the United States. This mitigation is located in Gila County and in close proximity to local Copper Triangle communities of Hayden, Winkelman and Kearny and as such we strongly support the inclusion of this mitigation in the Final EIS. Conservation of these types of properties can also broaden the economy of local communities and enhance ecotourism and birding.

Comment ID: 283-4
Response: MIT3

Tailings Storage Facility

- This tailings facility will be a first of its kind in the Copper Triangle and in the state of Arizona to employ such a degree of technology and best practice design features aligned with international standards. Skunk Camp will not be visible to any local municipalities or communities and its selection is a direct result of public involvement and tribal consultation. We fully endorse and support the preferred tailings alternative and urge the USFS to disclose the direct and indirect employment impacts and the associated positive fiscal impacts of this facility as it is the only portion of the operation which would have a footprint within Gila County.

Comment ID: 283-5
Response: ALT30

Traffic

- The Town of Miami proposes that mitigation should include traffic monitoring at impacted intersections and surface streets, should there be a need due to increased traffic. Implementation of proper traffic management measures as necessary. In addition, contributions to the maintenance of the affected roads as warranted.

Comment ID: 283-6
Response: MIT1

Thank you for your consideration.

Respectfully submitted on behalf of the Miami Town Council,

S. Gonzales

Sammy Gonzales, Vice Mayor
Town of Miami, AZ

City of Phoenix
OFFICE OF THE CITY COUNCIL
Vice Mayor Jim Waring
District 2

Tonto National Forest
Resolution EIS Comments
PO Box 34468
Phoenix, AZ 85067-4468

Re: Resolution Copper DEIS comment

To whom it may concern:

As a member of the Phoenix City Council since 2011, I am keenly supportive of projects that are important to the well-being of the entire state. Resolution Copper Mining is one such project and also one that I have been proud to support as both Councilmember and in my previous position as Arizona State Senator.

Comment ID: 275-1
Response: NS1

I have seen Resolution Copper collaborate with local leaders for nearly 15 years, and I am appreciative of the company's willingness to proactively address issues raised by stakeholders throughout the process. I believe the project is forward-thinking, innovative and will help Arizona continue to build its economy for decades to come. The time has come to approve the land exchange and allow the company to move forward with the project.

As a former staff member for Sen. John McCain, I recall the former U.S. Senator's support for this project because of the importance of copper for both economic and national defense needs.

I urge the U.S. Forest Service to approve the land exchange as soon as possible. Thank you for the opportunity to comment.

Sincerely,

Jim Waring

200 West Washington Street, Phoenix, Arizona 85003-1611 • 602-262-7445 • FAX 602-495-0577 • TTY: 602-495-5810

Superior Governing Board

Arlynn Godinez, President

Nathan Duarte, Clerk

Ignacio Magallanez, Member

Mila Besich, Member

Bruce Armitage, Member

Stephen Estatico, Superintendent

William Duarte Jr./Sr. High School Principal

Ken Major IFK Elementary Principal

Pamela Duarte, Business Manager

Maria Munoz, Special Services Director

Bertha Montano, District Secretary

Michael Diaz-Gonzalez Transportation Supervisor

Anthony Denogean Maintenance Supervisor

Melissa Perez Food Service Supervisor

Melanni Garcia Payroll Specialist

Valerie Garcia-Denogean CTE Director

SUPERIOR UNIFIED SCHOOL DISTRICT #15
ONCE A PANTHER, ALWAYS A PANTHER

Comment ID: 322-1
Response: MIT1

The Superior Unified School District Governing Board has unanimously approved the following comments concerning the Draft Environmental Impact Statement for the proposed Resolution Copper Project and Land Exchange.

The Resolution Copper Mine project is located within the District's boundaries. The DEIS states there will be an increase in revenue from property tax of the Resolution Copper Project and Land Exchange to the District. However, based on the current Arizona school funding formula, the District will not receive any additional funding. The District will require additional funding for building its infrastructure and programs due to the anticipated growth to the Town of Superior's population. The District currently has a partnership funding agreement with Resolution Copper for $1.2 million over four years. Students in Superior need increased educational opportunities that enhance the skills for the 21st Century work force, which includes those needed at the Resolution Copper Mining Project and other high-tech industries. In the long-term, this will encourage our graduates to contribute to Superior's growth, including its economy. A financial commitment from Resolution Copper is necessary for this to happen. The Governing Board will expect a new longer-term agreement or the establishment of an education foundation if the Land Exchange were approved to offset this loss of funding.

The Superior Unified School District Governing Board understands the population of the Town will increase once the mine is operational. An increase in population will require an increase for additional services such as fire, ambulance, and police. It will also call for the need for social services such as childcare, counseling, and drug rehabilitation. The Town currently is not prepared to add these additional services. Resources will be needed to provide these services in the near future.

The Superior Governing Board believes the DEIS does not address any mitigation strategies for the housing impacts. The DEIS indicates that 25% of the Resolution Copper workforce will live in Superior. This will require a substantial increase in the number of housing units. The Governing Board would like the lack of housing as well as the problems associated with it (e.g., increased crime rates and the devaluation of property) be addressed in the final EIS.

Recreation and tourism will be a major part of development in the future of Superior. The DEIS mentions that it would support the Recreational Users Group (RUG) and the surrounding trail system. It does not define what that support entails. The Superior School District would like that support to be identified and defined before the Land Exchange is approved.

Comment ID: 322-2
Response: SO14

Comment ID: 322-4
Response: MIT3

Comment ID: 322-3
Response: MIT1

Superior Unified School District #15
1500 Panther Drive, Suite 101
Superior, Arizona 85173
520-689-3000 (main) 520-689-3009 (fax)
Web: wwwsuperiorusd.org

The Superior Unified School District School Board understands there will be a possible 18% decrease in the amount of water flowing through Queen Creek. The wells and springs around the community will be negatively impacted as well. The Governing Board asks that a project from the 1999 Restoration and Management Plan for Queen Creek or an updated version be funded to prevent any water loss to these areas.

There will be a significant increase in traffic due to the influx of workers and heavy trucks traveling into Superior. This will take a heavy toll on the roads in town and will affect the wear, longevity, and safety on our school buses. The Governing Board recommends mitigation around the issues due to increased traffic.

The DEIS states that the preferred tailing site is located at Skunk Camp. The Superior Governing Board believes this site should be established as the designated tailings location in the final EIS. This site would have the least environmental impact on the community.

In closing, the Superior Unified School District Governing Board supports the Resolution Copper Project and Land Exchange. Resolution Copper has partnered with the District to provide educational support to its schools and programs for over 15 years. We believe that support should continue as long as the mine is operational. Superior is a growing community and there are many opportunities to be developed in and around town. There are also many issues that will need to be addressed before the town and the school district can plan for its future. The Superior Unified School District believes that economic mitigations are necessary for its schools, its students, and the Town of Superior to prosper as a full partner under the project.

Comment ID: 322-5
Response: MIT1

Comment ID: 322-6
Response: MIT1

Comment ID: 322-8
Response: MIT3

Comment ID: 322-7
Response: ALT30

Sincerely,

Superior Unified School District #15 Governing Board

Arlynn Godinez, President

Jon Nathan Duarte, Clerk

Mila Besich, Member

Ignacio Magallanez, Member

Bruce Armitage, Member

Stephen Estatico, Superintendent

Superior Unified School District #15
1500 Panther Drive, Suite 101
Superior, Arizona 85173
520-689-3000 (main) 520-689-3009 (fax)
Web: wwwsuperiorusd.org

Letter number 261 is duplicated with letter number 924

Emily Newell

From: Resolution Comments <comments@resolutionmineeis.us>
Sent: Wednesday, October 16, 2019 11:03 AM
To: Emily Newell
Subject: Fwd: FW: Comment Letter - Town of Superior
Attachments: 10 11 19 DEIS Comment Letter.pdf

EXTERNAL: This email originated from outside SWCA. Please use caution when replying.

---------- Forwarded message ---------
From: **Rasmussen, Mary C -FS** <mary.rasmussen@usda.gov>
Date: Fri, Oct 11, 2019 at 11:51 AM
Subject: FW: Comment Letter - Town of Superior
To: Todd Pryor <manager@superioraz.gov>
Cc: Chris Garrett <cgarrett@swca.com>, Donna Morey <dmorey@swca.com>, comments@resolutionmineeis.us <comments@resolutionmineeis.us>, Sando, Mark -FS <mark.sando@usda.gov>, Bosworth, Neil -FS <neil.bosworth@usda.gov>, Torres, Tom -FS <tom.torres@usda.gov>, Scaggs, John - FS <john.scaggs@usda.gov>, Quintana, Devin -FS <devin.quintana@usda.gov>, michael.w.langley@usace.army.mil <michael.w.langley@usace.army.mil>

Todd,

Thanks for sharing a copy of the formal comment letter with the EIS project team.

We appreciate the specificity and clarity of the comments expressed – and look forward to discussions with you on these topics as the impact study progresses toward finalization.

Mary C. Rasmussen, Team Leader
Resolution Copper Mine EIS
Forest Service

Tonto National Forest
p: 602-225-5246
c: 480-710-7304
mary.rasmussen@usda.gov
2324 E. McDowell Rd
Phoenix, AZ 85006
www.fs.fed.us
USDA

Caring for the land and serving people

From: Todd Pryor [mailto:manager@superioraz.gov]
Sent: Friday, October 11, 2019 11:25 AM
To: Rasmussen, Mary C -FS <mary.rasmussen@usda.gov>
Subject: Comment Letter

Please find attached our final comment letter. I have submitted this through the official channels as well, but I wanted to get you a copy and thank you for your help throughout our review process.

Sincerely,

Todd Pryor

Town Manager

Town of Superior

(520) 689-5752

manager@superioraz.gov

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TOWN OF SUPERIOR

Town Hall • 199 N. Lobb Ave., PO Box 218 • Superior, Arizona 85173
520-689-5752 • Fax: 520-689-5822 • TDD Relay 1-800-367-8938

October 10, 2019

Mr. Neil Bosworth, Supervisor
Tonto National Forest
2324 E. McDowell Rd.
Phoenix, Arizona 85006

RE: Comments on the Draft EIS

Dear Supervisor Bosworth,

The Town of Superior has completed its review of the Draft Environmental Impact Statement (DEIS). We would like to commend you on a very thorough and considered document. This is a significant milestone for our community, Resolution Copper, our state, and region. As a key stakeholder, the Town would like to comment on several areas where we would like to support the document's conclusions or where we feel the document can be improved or clarified.

The Town of Superior appreciates the initial investments of Resolution Copper into our community and supports the mining industry and the jobs that they bring. The Town of Superior supports the Resolution Copper project so long as our mitigation requests are well funded and included in the final record of decision.

Comment ID: 261-1
Response: NS1

Tailings

The DEIS suggested alternative for the tailings location at Skunk Camp is also the Town of Superior's preferred alternative. Earlier recommendations that placed the tailings sites closer to Superior and Queen Valley would have had significantly greater impacts on water, recreation, socioeconomics, and other issues. The new recommended Skunk Camp location is not in the view-shed of Superior or Queen Valley. After years of discussion and concern, this new location is a positive change that will be a much safer alternative to the original choices near Superior.

Comment ID: 261-2
Response: ALT30

Water

Data in the DEIS indicates that there will be a possible 18 percent drop in the amount of water flowing through Queen Creek, a drop in water wells in town limits by 10 to 30 feet, and impacts to a number of springs and seeps around the community over the next 56 years. Resolution Copper Mining has committed to making sure that any decrease in water will be replaced. The Town feels strongly that this commitment should be memorialized into any final Record of Decision and as a mitigation in the 404 permit, with appropriate funding and/or bonding attached.

Comment ID: 261-3
Response: MIT1

Continued

Continued

The Town of Superior proposes several steps to augment the mitigation plan, with a focus on prevention rather than only mitigating the loss. The Town has been studying the 1999 Restoration and Management Plan for Queen Creek, and there are many projects within that plan that could be funded through the mitigations that would prevent the water loss and help to restore the Queen Creek watershed. The Town has been working to refine this study into action plans through a National Park Service grant. An executive summary is attached. Many of these plans have been reviewed through an Environmental Assessment and could be implemented immediately. Proposals include:

- Return Freshwater Mine Inflow Directly into Queen Creek above Magma Bridge, restoring some of the natural flow in Queen Creek by collecting streamflow that has seeped into the mine and discharging it back into the creek. (RMP Action 2)
- Discharge Treated Mine Dewatering Discharge into the Creek above Magma Bridge to augment the natural flow. (RMP Action 4)
- Implement a Program to Remove Exotic Vegetation and Manage Floodway Vegetation in Queen Creek. (RMP Action 9 and 11)
- Construct water retention structures in Queen Creek to improve aquifer recharge (SWT ES)
- The addition of aquifer recharge strategies to the mitigation plans for the Springs and Seeps in the current mitigation plans.

These items are all very cost-effective steps to mitigate the direct impact on Queen Creek, and additional items that should be considered include:

- An alternative water supply should be provided for the Boyce Thompson Arboretum to avoid interruption of the water supply to the gardens due to decreased surface and groundwater availability.
- Construct an Off-Channel Stormwater Lake on BHP property in Queen Creek. (RMP Action 6)
- Discharge reclaimed water into Queen Creek at the US 60 Park (RMP Action 2)
- Install a well below the effluent discharge to supply water to the stormwater lake. (RMP Action 5 and 6)

Environmental Justice

Superior is identified as the only environmental justice community in this report, as this project will forever change the scenic resources of the community and the dark skies so valued in the community would be lost. According to the DEIS, sky brightness will increase by 40% to 160%. The report does not have any mitigation plans listed for environmental justice, despite saying that Superior will suffer "disproportionately high and adverse" impacts. The Town requests that more information on this impact be included in the FEIS, with a mitigation plan including dark sky compliant lighting.

Comment ID: 261-4
Response: MIT1

Socioeconomic

The DEIS states that though the Town of Superior is the closest municipality to the mine, it will receive few of the tax revenues. In most scenarios, the increased cost of services the Town will be required to maintain due to the mine's impacts will exceed the revenue gain. This is especially true when factors such as maintenance issues for traffic and public safety are either not quantified or under calculated. We respectfully ask that you work with the Town to quantify these actual costs.

Comment ID: 261-5
Response: SO14

Housing

The DEIS projects 25% of the workforce for Resolution Copper will live in the Town of Superior, requiring 455 new residential living units. It also notes a vacant building average of 319 residences, many of which are not up to current standards.

The Town of Superior proposes that BHP transfer to the Town the developable land they own within Town limits to make it available for the construction of temporary and long-term workforce housing. This transfer should be completed within two years, so that development may coincide with demand.

Comment ID: 261-6
Response: MIT1

Public Safety

The report states that the cost of public safety will increase by 50% at full mine operations, or $375,000. The correct amount of a 50% increase based on the FY 2020 budgeted expenditures is $802,627, which is more than twice the projected tax increase. The existing contract for public safety will fall hundreds of thousands of dollars short per year bridging this gap, and the contract is on a five-year cycle with no guarantee of renewal. We request that the USFS work with the Town and RCM to develop more accurate projections to determine the actual costs and include in the FEIS a strategy to fund this critical impact long term.

Comment ID: 261-7
Response: SO14

Traffic

The DEIS has indicated that the development and operations of the Resolution Copper mine will add significant stress to our streets and some intersections may exceed ADOT standards. These impacts are projected to be greatest during the construction period, as this is when the largest number of employees will be on-site. The DEIS does not list any mitigations to this projected problem, and we ask that this is addressed in the FEIS.

The Town of Superior proposes that mitigations should include traffic monitoring at these intersections, and implementation of proper traffic management measures as necessary. In addition, contributions to the maintenance of the affected roads are warranted.

Comment ID: 261-8
Response: MIT1

Recreation

The Town of Superior wishes to support the inclusion of the proposed multi-use trail plan as mitigation in the Environmental Impact Statement (EIS) for the Resolution Copper Project and Land Exchange. To some extent, this plan will serve to replace recreational resources lost as a result of the federal land exchange and development activities at Resolution Copper Company's proposed mine site. It will also enhance outdoor recreational opportunities for the Town of Superior, the Copper Corridor region, and well beyond.

The Town feels that the current language does not sufficiently address the funding for this project. It states that a local non-profit will fund the project, and only lists RCM as a possible funding source for that non-profit. A cost estimate for the project needs to be developed with funding placed in an endowment sufficient to ensure its construction and maintenance. Firm timelines for implementation also need to be included in the plan.

Comment ID: 261-9
Response: MIT1

Bronco Creek

The proposed Bronco Creek project would drill up to 25 holes in the same area as the recreation plan. As this drilling project is funded, but not owned by Rio Tinto, this is a direct contradiction of promises made to the Town by the company. They have also applied for a permit to drill on claims they have filed on the land exchange

Continued

Continued

properties. This project makes it impossible to develop these properties and undermines the intent of the legislation. We respectfully request that you add language to the FEIS that expressly prohibits drilling on the Town's proposed recreational area that is critical to its growth and sustainability.

Comment ID: 261-10
Response: MIT1

Funding Assurances

The existing contracts will improve the community's quality of life and increase economic development, but they would not mitigate the increased cost for basic infrastructure in any way. A payment in lieu of tax needs to be implemented to avoid the town facing catastrophic financial failure as a direct result of mine impacts. This can be addressed by the formation of a foundation funded by an endowment sufficient to fund the mitigations not addressed by bonding.

Comment ID: 261-13
Response: MIT1

Filter Plant

The Town of Superior respectfully requests that the Filter Plant be located adjacent to or within the Town of Superior. This will provide additional jobs and potential economic development, as it would require re-activation of the Marco Rail line and provide a potential stimulus for other industrial users to relocate to town. A commitment from RCM to make the line available for secondary industrial and recreational uses would be a necessary component to offset the environmental justice impacts that would go with this relocation.

Comment ID: 261-14
Response: ALT1

Land Exchange

The three properties that the law grants the town right to purchase have been made valueless by vagueness in the legislation itself. The language grants the mineral rights to one of the three parcels but is not specific about the other two. The town needs clarification from the federal government to determine if the purchase includes mineral rights on the unspecified properties, and to seek a legislative remedy if it is found not to.

Comment ID: 261-15
Response: NEPA12

We are most grateful for your consideration of the impacts of the Resolution Copper Project, and for including them in the EIS so that others are able to review and comment on them. We look forward to continuing this productive dialogue with you and your staff as this plan unfolds. Please contact our Town Manager, Todd Pryor at 520-689-5752 or manager@superioraz.gov, if you have questions or would like additional information.

Thank you for your attention to this matter of critical importance to the Town of Superior. In the meantime, please accept my best regards.

Sincerely,

Todd Pryor
Town Manager
Town of Superior

Emily Newell

From: Resolution Comments <comments@resolutionmineeis.us>
Sent: Friday, September 6, 2019 11:24 AM
To: Emily Newell
Subject: Fwd: FW: Request for a Meeting with Town of Superior and Tonto National Forest
Attachments: Final Budget 2019 2020.pdf

EXTERNAL: This email originated from outside SWCA. Please use caution when replying.

---------- Forwarded message ---------
From: **Rasmussen, Mary C -FS** <mary.rasmussen@usda.gov>
Date: Thu, Sep 5, 2019 at 6:20 PM
Subject: FW: Request for a Meeting with Town of Superior and Tonto National Forest
To: comments@resolutionmineeis.us <comments@resolutionmineeis.us>

From: Todd Pryor [mailto:manager@superioraz.gov]
Sent: Thursday, September 5, 2019 4:07 PM
To: Mila Besich <mila@superioraz.gov>; Torres, Tom -FS <tom.torres@usda.gov>
Cc: Rasmussen, Mary C -FS <mary.rasmussen@usda.gov>; Bosworth, Neil -FS <neil.bosworth@usda.gov>; Sando, Mark -FS <mark.sando@usda.gov>; Lynne Nemeth <lynne.nemeth@btarboretum.org>; Boultinghouse, Veronica - FS <veronica.boultinghouse@usda.gov>
Subject: RE: Request for a Meeting with Town of Superior and Tonto National Forest

I noticed a fairly substantial math error in the Socioeconomic section, and I was hoping you could clarify it before I work on a comment.

On page 651, the report states that the cost of public safety in the Town of Superior will increase by 50% at full mine operations, or $375,000. The correct amount of a 50% increase based on the FY 2020 budgeted expenditures is $802,627. The $375,000 number seems to be based on the police budget alone and not police, fire, and ambulance. It also ignores the expenses of the RCM Emergency Services Contract.

This factor alone requires a re-think on the entire section, and perhaps the public safety section as well, as the revenue created by the current tax structure will not come anywhere near the projected expenses, and this needs to be reflected as a significant, neigh, huge, impact of mine operations.

Continued

Continued

If the Town does not have sufficient revenue to increase our police force to meet this increase call load, the public safety of the community will suffer. The town does not have the resources to make up this shortfall in any other way.

I am working on draft comments, but this would require a re-think of many of our mitigation strategies. Can you check on this data and let me know the nature of this error so that I may correctly respond? I have attached the town budget for your consideration.

Thank you,

Comment ID: 250-1
Response: SO14

Todd Pryor

Town Manager

Town of Superior

(520) 689-5752

manager@superioraz.gov

From: Mila Besich <mila@superioraz.gov>
Sent: Thursday, July 18, 2019 12:55 PM
To: Torres, Tom -FS <tom.torres@usda.gov>
Cc: Rasmussen, Mary C -FS <mary.rasmussen@usda.gov>; Bosworth, Neil -FS <neil.bosworth@usda.gov>; Sando, Mark -FS <mark.sando@usda.gov>; Todd Pryor <manager@superioraz.gov>; Lynne Nemeth <lynne.nemeth@btarboretum.org>; Boultinghouse, Veronica - FS <veronica.boultinghouse@usda.gov>
Subject: Re: Request for a Meeting with Town of Superior and Tonto National Forest

Hi Tom,

Thank you. We appreciate everyone's time and attention. Looking forward to this meeting.

Thank You,

Mila Besich

Mayor

Town of Superior

C.520-827-0676

Sent from my iPhone

On Jul 18, 2019, at 11:59 AM, Torres, Tom -FS <tom.torres@usda.gov> wrote:

> HI Mila – We look forward to sitting down with you and others to discuss the various road access and mining issues that are important to the Town of Superior.
>
> Neil is aware of your request and sees this meeting as very important. He will be back in the office next Monday.
>
> Tom

<image001.png>

Tom Torres
Deputy Forest Supervisor
Forest Service

Tonto National Forest

p: 602-225-5375
c: 602-550-9692
tom.torres@usda.gov
2324 E. McDowell Rd.
Phoenix, AZ 85006
www.fs.fed.us
<image002.png><image003.png><image004.png>
Caring for the land and serving people

From: Mila Besich [mailto:mila@superioraz.gov]
Sent: Wednesday, July 17, 2019 4:02 PM
To: Rasmussen, Mary C -FS <mary.rasmussen@usda.gov>; Bosworth, Neil -FS <neil.bosworth@usda.gov>; Sando, Mark -FS <mark.sando@usda.gov>
Cc: Todd Pryor <manager@superioraz.gov>; Lynne Nemeth <lynne.nemeth@btarboretum.org>; Boultinghouse, Veronica - FS <veronica.boultinghouse@usda.gov>; Torres, Tom -FS <tom.torres@usda.gov>
Subject: RE: Request for a Meeting with Town of Superior and Tonto National Forest

Mary,

Thank you for reaching out. I am going to have our assistant reach out and set a meeting up for us. We may need to look at the second week in August due to the Rural Policy Forum. We would also like for Lynne Nemeth from the Arboretum to attend.

Thanks

P lnlEhvlfk

Mayor

Town of Superior

P. 520-689-5752

C. 520-827-0676

Sent from Mail for Windows 10

From: Rasmussen, Mary C -FS <mary.rasmussen@usda.gov>
Sent: Wednesday, July 17, 2019 9:44:29 AM
To: Mila Besich <mila@superioraz.gov>; Bosworth, Neil -FS <neil.bosworth@usda.gov>; Sando, Mark -FS <mark.sando@usda.gov>
Cc: Todd Pryor <manager@superioraz.gov>; Lynne Nemeth <lynne.nemeth@btarboretum.org>; Boultinghouse, Veronica - FS <veronica.boultinghouse@usda.gov>; Torres, Tom -FS

<tom.torres@usda.gov>
Subject: RE: Request for a Meeting with Town of Superior and Tonto National Forest

Hello Mila,

Neil is away on vacation for the second half of July.

May I suggest that you contact Neil's executive assistant to schedule a meeting in early August.

Veronica has access and arranges calendars and meeting schedules for both Neil and Tom.

Veronica's contact info:

Veronica Boultinghouse, Executive Assistant

phone: 602-225-5284

email: veronica.boultinghouse@usda.gov

<image001.png> **Mary C. Rasmussen, Team Leader**
Resolution Copper Mine EIS
Forest Service

Tonto National Forest

p: 602-225-5246
c: 480-710-7304
mary.rasmussen@usda.gov

2324 E. McDowell Rd
Phoenix, AZ 85006
www.fs.fed.us
<image002.png><image003.png><image004.png>

Caring for the land and serving people

From: Mila Besich [mailto:mila@superioraz.gov]
Sent: Monday, July 15, 2019 3:38 PM
To: Bosworth, Neil -FS <neil.bosworth@usda.gov>; Rasmussen, Mary C -FS <mary.rasmussen@usda.gov>; Sando, Mark -FS <mark.sando@usda.gov>
Cc: Todd Pryor <manager@superioraz.gov>; Lynne Nemeth <lynne.nemeth@btarboretum.org>
Subject: RE: Request for a Meeting with Town of Superior and Tonto National Forest
Importance: High

Greetings Neil, Mark and Mary,

I would like to bring your attention to three critically important matters that will have a great impact on Superior, clearly necessitating a face to face meeting with you in the very near future. Please send me your best available dates the week of July 29th. Below you will find updates and concerns that the Town of Superior has in regards to these specific projects that have the potential to adversely impact Superior and the natural areas surrounding our community. I have included Lynne Nemeth, the new Executive Director for the Arboretum as we would like to include her in our discussions with the Forest Service.

Imerys-Forest Road 4: The Forest Service needs to be advised that the public meeting with Imerys on Friday, July 12 did not go well. Everyone left the meeting frustrated and angry that Imerys had no real plans on how to create access to the Arnett Canyon trail or create a new connecting route to Forest Road 4. The public, along with the Town of Superior, is concerned that this re-route will not be completed before the busy winter recreation season. The Town of Superior did record the entire meeting. Imerys responded that it could take up to three years before the Forest Service will permit a new road to make the new connection for Forest Road 4, and if accurate, this is unacceptable. We all need to come up with a solution to this problem, and quickly.

The Tonto and the Town need to have a discussion before any further meetings with Imerys are held. If Forest Road Four is not fixed, it will have a negative impact on our local economy, limit recreational access for our residents and create a variety of safety issues when people realize the road is closed and do not have the resources to turn around. The road is marked but we all know there will be those who may not heed posted signs.

Resolution Copper - Draft EIS: As the data on the Resolution Copper Draft EIS comes out, the Town is growing increasingly concerned about the projected loss of water in the Queen Creek watershed. We have asked Resolution to share their mitigation plan with us as soon as possible, however we began requesting this information in late March. We are now in mid-July and Resolution advised us that they still need another thirty days. We are concerned that the Draft EIS will come out and it will only show the loss of water and not the actual mitigations that are needed. The Town has several suggestions and ideas on how to mitigate this water loss and we would like to ensure that the Forest Service and or SWCA are aware of our suggestions, as we cannot guarantee that our message will be carried forward by Resolution Copper or that our suggestions for mitigations will be their priorities.

We would like to request a meeting with either the Forest Service and/or SWCA for a briefing on the findings of the EIS as soon as it is appropriate and before further public meetings are hosted. This is important to the Town so we can appropriately communicate to our residents and also intelligently respond within the EIS Comment period.

Bronco Creek: This project will continue to be a lingering concern that will negatively affect Superior and the Arboretum. Recently, Town staff created a map that shows the plot lines and all of the Bronco Creek claims. The Town of Superior and the Arboretum are surrounded by their claims. We all understand that some of this is unlikely to happen but it still poses a huge threat to Superior and the Boyce Thompson Arboretum. Bronco Creek could essentially hold up any major development in Superior as the Land Exchange does not clarify that when the Town buys the Land Exchange - Airport Contiguous properties from the Federal Government that it will include the mineral rights. While the overall Bronco Creek drilling plan is separate from the Resolution Copper EIS it does affect the true benefits of the Land Exchange to Superior as well as the RUG plan which are mitigations for the loss of Oak Flats resulting from Resolution Copper's mine development and operations.

The Town understands that the Tonto National Forest is under great stress with limited resources and having to push through a tremendous amount of work in and around the Superior area. We appreciate the time and effort that you afford us. Please let Todd or me know of your best available dates and times for a meeting the week of July 29. The only day we cannot meet is July 31.

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October 16, 2019

Mr. Neil Bosworth, Supervisor
Tonto National Forest
2324 E McDowell Road
Phoenix, AZ 85006

RE: Comments on Resolution Copper Project and Land Exchange Draft Environmental Impact Statement (DEIS)

Dear Forest Supervisor Bosworth:

The Gila County Board of Supervisors appreciates the opportunity to offer comments on the above referenced document. Although not located within the geographic boundaries of Gila County, Resolution Copper has and will continue to create an economic benefit to Gila County; however, with the late inclusion of the Skunk Camp site, Alternative 6, the project now has a direct impact on Gila County residents in the Dripping Springs area.

Comment ID: 28824-3
Response: ALT26

Tailings Facility Location Chapter 2

Gila County is aware of the applicant's proposed tailing sites included in the Draft EIS, Chapter 2 and understands that the preferred Alternative 6 site is the most remote sight and is the least objectionable tailings location; however, we recognize and respect the concerns of our citizens in Hayden and Winkelman. If Alternative 6 remains the preferred site in the Record of Decision Gila County encourages the USFS and Resolution Copper Company to take all measures possible to mitigate any impacts of concern to those communities.

Gila County requests that all mitigation measures for tailings facilities aimed at public health and safety are met and Gila County agrees that these measures are critical to monitoring and remediating any unforeseen environmental contamination problems.

Comment ID: 28824-1
Response: MIT1

Socioeconomics: Estimated 4% reduction in property values for 31 properties in the vicinity of the tailings facility (DEIS page 655). Gila County requests that the USFS and Resolution Copper Company mitigate those reductions with the property owners.

Continued

Phone (928) 425-3231 Fax (928) 425-0319 T.D.D. (928) 425-0839

Continued

If Skunk Camp remains the preferred site in the Record of Decision designed and created by the FS, Gila County requests that the FS and Res Copper ensure that all mitigation measures be in place to reduce the impacts to adjacent property owners.

Gila County supports any and all mitigation measures to offset the estimated $70,000 in wildlife-related tourism from the loss of Oak Flat and Skunk camp (DEIS page 653).

Comment ID: 28824-2

Response: MIT1

The Gila County Board of Supervisors thanks you for the opportunity to comment and requests to be kept informed and included in the process moving forward.

Respectfully submitted,

Woody Cline
Chairman, Gila County Board of Supervisors

PINAL COUNTY

Supervisor Pete Rios
Board of Supervisors
District 1

October 31, 2019

Mr. Neil Bosworth
Tonto National Forest - Resolution EIS Comments
PO Box 34468
Phoenix AZ 85067-4468

Dear Mr. Bosworth:

As Pinal County District 1 Supervisor and a native to the Hayden-Winkelman area, I am extremely familiar with copper mining and the Resolution Copper Project and Land Exchange. The majority of the project footprint including the mine and associated ancillary facilities are located within my district. Copper mining represents an important base industry for the economy in rural Pinal County and specifically the Copper Triangle communities. Please accept the following comments on the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange.

The communication and consultation from TNF with local communities and incorporation of their feedback has improved the mine plan in important ways. This is most notable in the alternatives analysis and selection of the preferred tailings alternative called Skunk Camp, which locates a tailings facility off public lands, behind the Ray Open Pit mine and far away from local communities and popular recreational areas. The technology incorporated into this tailings storage facility will be unlike anything that currently exists in the state of Arizona. It incorporates two separate resilient and robust embankments into one impoundment and the design is aligned with the most stringent criteria consistent with best practices internationally. The ridged design features consider long-term physical stability to endure maximum floods and 10,000 year seismic events – far beyond any credible earthquake for Arizona. The approach to reclaiming the tailings at the same time as operations with vegetation types native to the local landscape is another innovative tailings management approach that has not been implemented in Arizona to date. This approach to tailings will be a demonstration of how these facilities need to be managed in the future and I applaud the TNF for this process and outcome. However, I would like to see additional groundwater monitoring down gradient of the Skunk Camp tailings storage facility and before the confluence of the Gila River incorporated into the Final EIS.

Comment ID: 314-1

Response: MIT1

The socioeconomic analysis has concluded that the overall socio-economic impact of the Resolution Copper Project would result in tens of billions tax revenues and thousands of jobs with hundreds of millions in wages. These types of revenues will be vital to Pinal County and the Copper Triangle since spending by base industries, and the associated taxes, stimulate local business and construction, business services, banks and hospitals. The revenue from this mine will result in lower taxes for residents and sustained investments that strengthen the communities through strong education. The DEIS discloses the high and low valuation of the Superior Unified School District (SUSD), both of which would be a windfall of tens of millions in taxes annually. However, the DEIS does not disclose what this would mean for the average resident of Superior in terms of lowering of their average annual taxes – please disclose this in the Final EIS along with the high and low estimate of the tax benefit directed back to the SUSD. Please also add a statement on the benefits to the communities of Hayden and Winkelman by relocating the tailings storage facility at Skunk Camp given that some portion of the jobs would be re-allocated in this general vicinity.

Comment ID: 314-2

Response: SO14

Comment ID: 314-3

Response: SO10

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In recognition of the need to diversify and enhance our Copper Triangle economy, I strongly support the proposed mitigations that will bring much need day time tourism to the Town of Superior and wish to see these further committed and memorialized in the Final EIS including: RC-214 Recreational Users Group and Superior Trails Network Plan; An offset to the loss of bouldering at Oak Flat has been found called the "Inconceivables" as RC-213; A new campground to replace the Oak Flat campground called "Castleberry" (RC-215).

Comment ID: 314-4

Response: MIT3

I also strongly support the conservation of the Lower San Pedro 7B parcel as described in Section 3003 of the National Defense Authorization Act for Fiscal Year 2015 (NDAA) located near the Town of Mammoth and finalization of the compensatory mitigation plan riparian conservation, restoration and preservation projects geared towards communities located closest to the project (Queen Creek - Town of Superior; Gila River – Gila River Indian Community; Lower San Pedro In-Lieu Fee – Winkleman, Hayden, Keary). Conservation of these riparian areas will also help drive diversification and protect special places for wildlife.

Comment ID: 314-5

Response: MIT3

For these reasons, I wanted to re-iterate my support for the Resolution Copper Project, and ask that the TNF complete the Final EIS in the timeliest manner to benefit rural Pinal County and local Copper Triangle Towns and Cities.

Sincerely,

Pete Rios
Pinal County Supervisor District 1

FEC's Comments on Resolution Mine Draft EIS Air Quality Section

Submitted by Feng Mao

- Draft EIS Pg. 277 AERMOD/AERMET

  The 2019 NEPA Air Quality Impacts Analyses Report indicates that Resolution used AERMOD 18081 version and AERMET 16216 version for near-field analyses. It is not clear why AERMET 16216 instead of AERMET 18081 was used. Please note that the EPA released an updated AERMOD/AERMET version (dated 19191) on August 21, 2019. It is recommended to review the recent AERMOD/AERMET updates to check whether such updates will affect the modeled results or not.

  Comment ID: 278-1

  Response: AQ15

- Draft EIS Pg. 277 CALPUFF

  In the 2017 Appendix W Final Rule, EPA removes CALPUFF as a preferred model for long-range transport assessments. It is recommended to provide justification why the use of CALPUFF is appropriate for Class I area PDS increment and AQRV analyses.

  Comment ID: 278-2

  Response: AQ9

- Draft EIS Pg. 277 Years of Meteorological Data

  It is recommended to delete the statement of "The dispersion models relies on 2 continuous years of meteorological data collected from the on-site monitors". While AERMOD used 2 years site-specific meteorological data, CALPUFF used 3 years of gridded data.

  Comment ID: 278-3

  Response: DOC1

- Draft EIS Pg. 277 Types of Emissions Sources

  The statement that the emission sources were categorized into two groups (point source and area source) is incorrect. Depending on the source release characteristics, the emission sources were characterized as point source, area source, volume source as well as line source (see NEPA Air Quality Impacts Analyses Report). For example, emissions from material transfer processes were modeled as volume source and emissions from roadways were modeled as LINE source.

  Comment ID: 278-4

  Response: DOC1

- Draft EIS Pg. 281 Background Concentrations

  The most recent 3 years of monitoring data show that the concentration levels in Year 2017 were higher than previous years. However, the NEPA Air Quality Impacts Analyses does not consider the 2017 monitoring data for the background concentrations determination. Would it be a concern?

  Comment ID: 278-5

  Response: AQ2

- Draft Pg. 285 Table 3.6.4-1 and Pg. 289 Table 3.6.4-2

Continued

Continued

It is recommended to split "Pollutant" column into two columns, "Pollutant" and "Averaging Time Period". Readers may have difficulty to understand "No2_AN", "NO2_1H",... etc.

Comment ID: 278-6
Response: DOC1

- Draft Pg. 285 Table 3.6.4-1

  For 1-hr and 8-hr CO, it is not appropriate to use "3rd high over 2 years" as the modeled design concentration. The form of the NAAQS for CO is "Not to be exceeded more than once per year", which differs from the form of the NAAQS for PM_{10} ("Not to be exceeded more than once per year on average over 3 years"). It is recommended to determine highest, second highest concentrations (H2H) over the entire receptor network for each year modeled and then select the highest concentration as the modeled design concentration (see ADEQ's modeling guidance).

  Readers may be confused by the background concentration of 9 $\mu g/m^3$ for 1-hr NO2. Figure 3.6.3-1 indicates that the background concentration for 1-hr NO_2 is around 10 ppb (19 $\mu g/m^3$). It is recommended to add a footnote to clarify that a temporally varying NO_2 background concentration profile was used for modeling.

Comment ID: 278-7
Response: AQ16

- 2019 NEPA Air Quality Impacts Analyses Report Pgs 53-54 – Tailings Storage Facility (TSF) Wind Erosion Emissions Estimate and Modeling

  It is recommended to provide clarifications for the following items:

  - The wind speed dataset used (location, elevation, height of meteorological tower and the data duration);
  - Justification for using a factor of 1.2 to convert hourly wind speed to fastest mile (the report cited an EPA study which modeled a coal mine at Wyoming; however, a representative factor could vary from one region to another. It is recommended to review the wind speed data from a nearby NWS station to select an appropriate conversion factor).
  - Justification for using a control efficiency of 90% (any citation?)
  - The base elevation and release height of area source being modeled (did the modeling consider the altitude of TSF in Year 14 of mining life?).

Comment ID: 278-8
Response: AQ13

Letter number 30075 is a duplicate of letter number 1467

November 7, 2019

Mr. Neil Bosworth
Forest Supervisor
Tonto National Forest
2324 East McDowell Road
Phoenix, AZ 85006

Submitted electronically to: www.ResolutionMineEIS.us/Comment.

RE: **Draft Environmental Impact Statement for the Resolution Copper Project and Land Exchange**

Dear Mr. Bosworth:

The Arizona Game and Fish Department (Department) has reviewed the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange. The Department understands Resolution Copper Mining, LLC (Resolution Copper) has proposed to develop an underground copper mine near the town of Superior in Pinal County, Arizona on unpatented mining claims on the Tonto National Forest (Forest), along with a connected, legislatively mandated land exchange. The project, as proposed, includes the mine site, associated infrastructure, a transportation corridor, a tailings storage facility, and access routes. The Department understands Resolution Copper is owned by Rio Tinto and BHP Copper, Inc. As a cooperating agency, the Department has provided the Forest with technical expertise, review of draft documents, and recommended mitigation measures and conservation opportunities to support the development of the DEIS.

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish Commission (Commission), has jurisdictional authority and public trust responsibilities for the management of state fish and wildlife resources. It is the mission of the Department to conserve Arizona's diverse fish and wildlife resources, and manage for safe, compatible outdoor recreation opportunities for current and future generations. The Department recognizes the importance of projects like Resolution Copper that contribute to the state's economic development. Similarly, the Department believes that through effective planning and coordination with the Department, projects such as Resolution Copper can avoid, minimize or mitigate to the extent possible, adverse impacts on the state's fish and wildlife resources and wildlife-related recreation. For these reasons, the Department has expressed interest in all land planning initiatives that may affect the management of the state fish and wildlife resources and/or wildlife-related recreation. The Department has provided comments based on the agency's statutory authorities, public trust responsibilities, and special expertise related to wildlife resources and recreation.

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The Department appreciates the collaborative process provided by the Forest and Resolution Copper, including consideration and incorporation of many of the Department's recommendations to avoid, minimize or reduce impacts to wildlife and recreational opportunities, as well as Resolution Copper's willingness to develop Best Management Practices associated with the operation and maintenance of the facility and associated infrastructure. The Department concurs with the Forest's selection of Alternative 6 - Skunk Camp North Tailings Corridor Option as the Preferred Alternative. The Department has concluded that compared to the other alternatives presented in the DEIS, the Preferred Alternative had fewer overall impacts to wildlife and recreational opportunities. The Department has prepared the following comments on the DEIS in the interest of assisting the Forest and Resolution Copper in developing a voluntary habitat management approach that will compensate for the loss of water, fish and wildlife habitat, and recreational opportunities as a result of this project.

Comment ID: 30075-11
Response: ALT30

The Department recognizes that these conservation opportunities, while not required, are recommended as voluntary compensatory measures that supports the mutual benefits and missions of Resolution Copper, the Forest, and the Department. Rio Tinto's approach to offset loss to biodiversity are "...conservation actions that are designed and implemented to address those residual impacts with a goal to achieve at least a no net loss or net gain for biodiversity" (Rio Tinto 2017). This approach is consistent with the Arizona Game and Fish Commission Policy and the Department's Policy for developing habitat compensatory plans for landscape-scale projects, to achieve at least a no net loss for wildlife habitat (AGFD 1994). The Department has provided specific comments on the DEIS in the attached comment matrix. Additionally, the Department has also identified opportunities for voluntary mitigation and conservation for Resolution Copper for the Preferred Alternative. Please see the Department's comment on Appendix J: Mitigation and Monitoring Plan in the attached comment matrix.

The Department respectfully requests the Forest and Resolution Copper continue collaboration on a voluntary compensatory plan, beyond what is legally mandated, to achieve a no net loss of habitat, and such a plan be included in the Draft Record of Decision. In addition, the Department requests an the establishment of operation and maintenance endowment fund sufficient for the life of the mine be included to implement mitigation of short-term and long-term environmental actions that may occur as a result of this project.

Comment ID: 30075-14
Response: MIT1

For your convenience, the attached comment matrix includes the Departments recommended mitigation measures and conservation opportunities that have been submitted and discussed with Resolution Copper. The Department appreciates the Forest and Resolution Copper's willingness to develop a compensatory plan that exemplifies sustainable development and good stewardship of the state's natural resources.

The Department appreciates the opportunity to review and provide comments on the DEIS. Please contact Clay Crowder (ccrowder@azgfd.gov or 623-236-7666) directly with any questions regarding this letter.

Sincerely,

Jim deVos
Assistant Director, Wildlife Management Division

cc: Clay Crowder, Habitat Branch Chief
Ginger Ritter, Project Evaluation Program Supervisor
Jay Cook, Regional Supervisor, Region VI, Mesa
Kelly Wolff, Habitat, Evaluation and Lands Program Manager

AGFD # M19-08093632

Attachments: Arizona Game and Fish Department (AGFD). 2019. M19-08093632 AGFD Comment Matrix on the Draft EIS for Resolution Copper Project.

Literature Cited

Arizona Game and Fish Department (AGFD). 2018. Report on Species of Economic Importance, Wildlife Related Recreation and Public Access within the Resolution Copper Mine Project Area.

AGFD. 1994. Department Operating Manual. Commission Policy A.1.9., Department Policy for Habitat Compensation Policy (I.2.)

Resolution Copper. 2016, General Plan of Operation

Resolution Copper. 2019. Revised Wildlife Plan

Rio Tinto. 2017. Our evolving approach to biodiversity www.riotinto.com/ourcommitment/spotlight-18130_21621.aspx, date accessed October 30, 2019.

December 12, 2019

Mr. Neil Bosworth
Forest Supervisor
Tonto National Forest
2324 East McDowell Road
Phoenix, AZ 85006

Submitted electronically to: www.ResolutionMineEIS.us/Comment.

RE: **Amend AGFD Comments on Draft Environmental Impact Statement for the Resolution Copper Project and Land Exchange**

Dear Mr. Bosworth:

The Arizona Game and Fish Department (Department) has reviewed our comments submitted on the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange on November 7, 2019.

The Department determined that some comments were inadvertently omitted due to multiple reviewers when the comments were collated and prepared for submittal. Therefore, the Department requests that the Forest consider the attached comment matrix as the Department's official comments on the DEIS; replacing the previous comment matrix that accompanied our letter dated November 7, 2019. The attached table has all of the Department's original comments, as well those that were inadvertently omitted (highlighted blue).

The Department appreciates the opportunity to review and provide comments on the DEIS. Please contact Clay Crowder (ccrowder@azgfd.gov or 623-236-7666) directly with any questions regarding this letter.

Sincerely,

Jim deVos
Assistant Director, Wildlife Management Division

cc: Clay Crowder, Habitat Branch Chief
Ginger Ritter, Project Evaluation Program Supervisor
Jay Cook, Regional Supervisor, Region VI, Mesa
Kelly Wolff, Habitat, Evaluation and Lands Program Manager

AGFD # M19-08093632

Attachments: Arizona Game and Fish Department (AGFD). 2019. M19-08093632 AGFD Revised Comment Matrix on the Draft EIS for Resolution Copper Project.

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Ch 2 - Alternatives, Including the Proposed Action

page	section	issue	comment/observation	action requested	
30	2.2.2	The land exchange does not fully compensate the public for lands and waters loss to wildlife habitat and for recreational purposes.	It is the policy of the Arizona Game and Fish Commission (A.1.9.) that AGFD shall seek compensation at a 100% level, when feasible, for actual or potential habitat losses resulting from land and water projects. The current preferred alternative will result in permanent loss or significant degradation of 13 square miles of Resource Category III habitat. The AGFD mitigation goal is no net loss of this habitat value. We anticipate net loss of up to 13 acres from the tailings storage facility alone. The AGFD's Habitat Compensation Policy (I.2.) is to recommend that anticipated losses be compensated by replacement of habitat values in-kind, or by substitution of high value habitat types, or by increased management of replacement habitats, so that no net loss occurs. AGFD supports a proposal consisting of 2,600 acres of Category 1 habitat owned by BHP -Billiton along the San Pedro River near San Manuel in Pinal County. Additionally the property will open six miles of river to low-impact recreational access. There are additional conservation opportunities in the adjacent uplands which could open thousands of acres of recreational access in the Coronado National Forest on the west side of the Galiuro Mountains.	**Action:** AGFD requests the identified 2,600 acre property be placed conservation ownership and public access (including water rights) be included in Ch. 2 as an Elements Common to All Action Alternatives. In addition, AGFD requests an operation and maintenance endowment fund sufficient for the life of the mine be included to mitigate short-term and long-term environmental actions that may occur as a result of the project.	**Comment ID:** 30075-16 **Response:** MIT3
General - DEIS	General - DEIS	It is incumbent upon the preparer to employ all reasonable aids to assist the public in their review.	The bookmarks for the full copy pdf are missing for important components such as chapters, glossary, literature cited etc. (see the left hand menu). The scale of the project necessitates an interactive (GIS-based) map to allow the public to identify areas of concern and compare alternatives. In addition, the DEIS often defers the reviewer to referenced documents that are not readily accessible in the literature cited nor searchable on the USFS website.	**Action:** Ensure bookmarks are enabled in all major pdfs to allow quick access to chapters and sections; Include an interactive map with a layer for each alternatives to allow the public to visualize the project footprint and assess potential impacts; Provide links to all citations in the literature cited to improve transparency and reduce review time; and Improve document search ability on the website (e.g., ordering the drop down menu by author's last name to coincide with the literature cited).	**Comment ID:** 30075-17 **Response:** NEPA45

Ch 3 - Water Resources 3.7

page	section	issue	comment/observation	action requested	
299			The DEIS states that the Groundwater Workgroup discussed all fundamental parts of the numerical groundwater model, including model predictive runs.	**Action:** Provide the factual basis for the change in interpretation of the base case predictive modelling for the flowing reach of Queen Creek.	**Comment ID:** 30075-18 **Response:** WT79
310	3.7.1.3	Typo	"We are doing it. LOL." appears to be a typo.	**Action:** Correct text	**Comment ID:** 30075-19 **Response:** NEPA45

Ch 3 - Water Resources 3.7

page	section	issue	comment/observation	action requested	
302	3.7.1-3	Queen Creek	The DEIS at 334 and Table 3.7.1-3 states that the predicted modeled groundwater drawdown caused by Resolution mine dewatering and the block-cave is less than 10 feet for the flowing reach of Queen Creek from km 17.39 to 15.55, except in 4 sensitivity modelling runs. On September 12, 2018, SWCA presented to the Groundwater Modeling Workgroup a Table containing a summary of Potential Impacts to Groundwater-Dependent Ecosystems. This Table concludes that the flowing reach of Queen Creek from Km 17.39 to 15.55 could experience groundwater drawdown between 10-30 feet under both the best-calibrated base case modeled and sensitivity runs. The sensitivity modeling hydrographs from the Groundwater Modeling Workgroup indicated numerous runs showed impacts greater than ten feet for Queen Creek under the proposed Action Alternative 200 years after the start of mining. This finding is consistent with Figure 5 of the WSP Memo, Groundwater Flow Model –Predicted Flows to Block Cave (October 2018), which details the "final results" of the base case predictive simulations. Figure 5 shows Queen Creek at Km 17.39 within the 10-foot groundwater drawdown contour. The WSP GDE hydrograph for QC 17.39 has been revised from August 2018 (showing more than 10 feet of drawdown) to October 2018 (showing less than 10 feet of drawdown). The DEIS, Vol. 1 at 299 states that the Groundwater Workgroup discussed all fundamental parts of the numerical groundwater model, including model predictive runs. On November 12, 2018 SWCA had attached the revised QC 17.39 hydrograph along with other hydrographs to the Groundwater Workgroup by email (App. X). Revised hydrographs were not reviewed and discussed in detail by the Groundwater Workgroup. The revised sensitivity analysis hydrograph appears in App. L of the DEIS.	**Action:** Provide the factual basis for the change in interpretation of the base case predictive modelling for the flowing reach of Queen Creek.	**Comment ID:** 30075-20 **Response:** WT79

Ch 3 - Water Resources 3.7

page	section	issue	comment/observation	action requested	
317-325	Bored Spring		**Bored Spring** has the highest riparian value, supporting a standing pool and a 500-foot riparian string of cottonwood, willow, mesquite, saltcedar, and sumac. The Proposed Action will increase the groundwater drawdown at this spring by 30 to 50 feet. This will lead to complete loss of this riparian habitat.	**Action**: As Arizona Game and Fish Commission Policy I2.3, "Wildlife and Wildlife Habitat Compensation", requires compensation measures to eliminate or reduce impacts to riparian habitats, AGFD requests incorporation of the proposed mitigation listed in the comments for Appendix J.	**Comment ID:** 30075-21 **Response:** MIT3
320	Table 3.7.1.3		For the **McGinnel Mine Spring**, Table 3.7.1.3 indicates that 86 of 87 sensitivity runs show a drawdown greater than 10 feet in the Proposed Action alternative 200 years after the start of mining. However, the hydrograph from the sensitivity modeling results from the Groundwater Modeling Work Group indicate only 1 out of 87 runs show impacts greater than 10 feet for McGinnel Mine Spring in the Proposed Action alternative 200 years after the start of mining.	**Action:** The sensitivity modeling results should be verified and changed in the FEIS, if warranted.	**Comment ID:** 30075-22 **Response:** WT79
	Table 3.7.1.3	Middle and Lower Devils Canyon	Table 3.7.1-3 states that Spring DC-6.6W, a spring located on the wall of Middle Devil's Canyon, is predicted to experience drawdown of 10-30 feet and dry up 200 years after the start of the mine as a result of Resolution Mine's dewatering and block-cave mining.	**Action:** The modeled prediction of the mine-related loss of this spring must be reconciled with any predictive statement that the Middle Devil's Canyon baseflow is not expected to experience drawdown.	**Comment ID:** 30075-1 **Response:** WT82
321	Table 3.7.1.3	Possible drawdown impacts to GDEs.	For **McGinnel Spring**, the table indicates that 85 of 87 sensitivity runs show a drawdown greater than 10 feet in the Proposed Action alternative 200 years after the start of mining. However, the hydrograph from the sensitivity modeling results from the Groundwater Modeling Work Group appears to indicate that none of the runs show an impact greater than 10 feet for McGinnel Spring in the Proposed Action alternative 200 years after the start of mining.	**Action:** The sensitivity modeling results should be verified and changed in the FEIS, if warranted.	**Comment ID:** 30075-23 **Response:** WT79

Ch 3 - Water Resources 3.7

page	section	issue	comment/observation	action requested	
302	3.7.1-3	Middle and Lower Devils Canyon	Table 3.7.1-3 states that the predicted modeled groundwater drawdown caused by Resolution mine dewatering and the block-cave is less than 10 feet for Middle Devil's Canyon. Groundwater drawdown of 10-30 feet caused by Resolution Mine block-caving is estimated for one spring in Devil's Canyon, Spring DC-6.6W. On September 12, 2018, SWCA presented to the Groundwater Modeling Workgroup a Table containing a summary of Potential Impacts to Groundwater-Dependent Ecosystems. This Table concludes that seven locations, including springs, in Devil's Canyon will experience greater than 10 feet of groundwater drawdown caused by Resolution Mine block-caving. In addition to Spring DC-6.6W, they are: DC8.8C; DC8.2W, DC8.1C; DC7.1C, DC6.14C; DC6.1E.	**Action:** The Proposed Action modeling results should be re-checked for accuracy and the Table corrected, if necessary.	**Comment ID:** 30075-24 **Response:** WT62
		Middle and Lower Devils Canyon	Even after 200 years, the predicted extent of the 10-foot drawdown zone will continue to increase, as groundwater continues to flow towards the collapsed block cave zone. GDEs to the south and southeast of the East Plant Site, such as Spring DC-6-6W and Devil's Canyon, will be primarily affected. Review of Numerical Groundwater Model Construction and Approach at Section 4.17.6.3.	**Action:** Describe the environmental effects of continued long-term propagation of groundwater drawdown on the aquatic resources of Middle and Lower Devil's Canyon.	**Comment ID:** 30075-2 **Response:** WT16

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		Middle and Lower Devils Canyon	**General Comment:** Devils Canyon is to the immediate east of Oak Flat. The middle and lower reaches of Devils Canyon, from km 9.14 to the confluence with Mineral Creek (5.7 miles) have perennial streamflows, arising both from discrete springs along its walls and from groundwater inflow from the Apache Leap Tuff aquifer along the channel bottom. This groundwater originates from the Apache Leap Tuff aquifer. DEIS, vol. 1 at 313; Review of Numerical Groundwater Model Construction and Approach (Mining and Subsidence Area)(BGC Engineering, November 1, 2018). The middle and lower reaches of Devils Canyon are a Groundwater-Dependent Ecosystem (GDE). DEIS, Vol. 1 at 312. This GDE consists of a 2.1 mile long, 50-acre riparian gallery and a 0.5 mile long saturated reach with several large perennial pools. Dominant riparian species are sycamore, cottonwood, ash, alder, and willow, and wetland species at spring locations. DEIS, Vol. 1 at 329.	**Action:** The effects of the Resolution Project on this important riparian area are of great importance to AGFD. AGFD requests the following comments and actions be considered for this GDE.	**Comment ID:** 30075-25 **Response:** WT8

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302	3.7.1-3	Middle and Lower Devils Canyon	Given that the perennial streamflows in Devils Canyon are dependent both from springs along its walls as well as groundwater inflow along the channel bottom, what is the scientific basis for the categorical statement in vol. 1 at 329 that "[g]roundwater inflow along the main stem of Devil's Canyon is not anticipated to be impacted" and the statements in Table 3.7.1-3 that for the main channel of Middle Devils Canyon, "[d]rawdown is possible but unlikely" and for Lower Devils Canyon, "additional drawdown due to block-caving is unlikely"? The MODFLOW-SURFACT model was used to model the groundwater impacts related to Resolution Mine's panel caving and dewatering activities related to ore removal. But the model's large grid cells could not be used to accurately model baseflow discharge to perennial reaches of Devils Canyon. As a result, the model cannot predict changes to Devil's Canyon stream flows as a result of the Resolution Mine Project. Review of Numerical Groundwater Model Construction and Approach (BGC Engineering, November 1, 2018). Given this fact, the conclusions in Table 3.7.1-3 that drawdown of the wetted stream reaches in Devil's Canyon are "unlikely" and "not anticipated" do not appear to be supported by data or analysis. The Groundwater Modeling Workgroup and the Tonto NF understood that predicting reductions in streamflows due to [Resolution Mine] groundwater drawdown "is the most fundamental hydrology question to be answered in the EIS". Review of Numerical Groundwater Model Construction and Approach at Section 5.7.	**Action:** Describe in greater detail in Vol. 1, page 301 the model's limitations in predicting effects to stream reaches and a factual basis for the predictive statements in the DEIS that Devil's Canyon streamflows will not be impacted. Analyses of impacts based on theoretical modeling must be supported by credible scientific evidence and data. NEPA 40 CFR 1500.2; 1502.1; 1502.22.	**Comment ID:** 30075-26 **Response:** WT61
330	Table 3.7.1-5	Possible drawdown impacts to GDEs.		**Action:** The title of this table should read "Summary of potential impacts on groundwater-dependent ecosystems from surface flow losses **due to subsidence from block cave mining**."	**Comment ID:** 30075-27 **Response:** DOC1

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	Table 3.7.1-5	Middle and Lower Devils Canyon	Categorical statement in vol. 1 at 329 that "[g] roundwater inflow along the main stem of Devil's Canyon is not anticipated to be impacted" and the statements in Table 3.7.1-3 that for the main channel of Middle Devils Canyon, "[d]rawdown is possible but unlikely" and for Lower Devils Canyon, "additional drawdown due to block-caving is unlikely"? This conclusion is drawn by examining this one stressor in isolation. A full discussion of the environmental effects on Devil's Canyon requires an analysis of all combined stressors (mine dewatering; the block cave zone; loss of runoff in the subsidence area), along with climate change. The Department has repeatedly emphasized the importance of analyzing cumulative impacts to wildlife and habitat: "While individually, each impact may not have a significant effect on any species, an analysis of their additive and interactive impacts may reduce to suitability of the area for occupation or use by certain species, especially those that . . . rely on high ecosystem integrity . . ." (Letter dated July 18, 2016 to Neil Bosworth, Tonto NF Forest Supervisor, from Jim deVos, Assistant Director, AGFD Wildlife Management Division).	**Action:** Base the anticipated effects analysis on Devil's Canyon and its aquatic resources on the combined effects of all stressors on the ecosystem. This analysis belongs in Section 3.7.1.4, "Environmental Consequences"	**Comment ID:** 30075-3 **Response:** WT8

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		Middle Devils Canyon Queen Creek	The GW modeling workgroup collectively determined that to properly reflect the level of uncertainty inherent in the groundwater model, modelled groundwater drawdown of less than 10 feet should not be relied on, as these results are beyond the ability of the model to predict. Vol. 1 at 301. The additional step of presenting composite sensitivity/uncertainty contours for GDEs based upon additional modeling runs was a progressive and conceptually conservative approach. However, the DEIS inadequately communicates to the reader that changes in aquifer water levels much less than 10 feet can dramatically alter a riparian ecosystem. See Vol. 1 at 301. Ten feet of drawdown is not a scientifically supported impact threshold for groundwater dependent ecosystem function. The 10-foot contour interval should be the starting point for disclosure to flow and ecological function—in other words, the 10-foot drawdown contour is not analogous to "no impacts" or the aerial extent of the mine's impacts.	**Action:** Provide a more complete discussion of potential adverse effects to the riparian ecosystems of Middle Devil's Canyon and Queen Creek.	**Comment ID:** 30075-4 **Response:** DOC1

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		Queen Creek	The perennially flowing reach of Queen Creek between km 17.39 and 15.55 may be supported by baseflow from the regional aquifer. Much of the flowing reaches also originate from dewatering discharges from a long-standing perlite mining operation, where the mine pit intersects with the regional aquifer. DEIS at 316. This flowing reach of Queen Creek contains wet reaches and deep pools with complex riparian overstory habitat structure. The Department's vegetation and fish and aquatic herpetological surveys (conducted in 2017) documented mature native riparian-dependent vegetation, including mature Fremont cottonwood, Arizona Ash and Gooding's Willow, and the presence of lowland leopard frogs, Red-spotted toad metamorphs, a black-necked gartersnake, and a diverse assemblage of aquatic macroinvertebrate species. This portion of Queen Creek lie within the Boyce Thompson Arboretum and Arnett-Queen Creek Important Bird Area (IBA), with provides migratory, winter and breeding habitat for at least 275 avian species, including 62 species of Special Conservation Status in Arizona. The following comments relate to this important GDE.		**Comment ID:** 30075-5 **Response:** WT8
	3.7.1-5	Queen Creek	Table 3.7.1-5 is a summary of potential impacts to GDEs from loss of surface water runoff due to the crater subsidence. Queen Creek at Boyce Thompson Arboretum below Superior to Whitlow Ranch Dam is estimated to experience a 13.4% reduction of runoff. The Table concludes that Queen Creek is largely ephemeral and that impacts on its xeroriparian vegetation "would be unlikely".	**Action:** Revise the description and the analyss of the effects to include the perennially flowing reach of Queen Creek and its riparian gallery between km17.39 and 15.55	**Comment ID:** 30075-6 **Response:** DOC1
307	3.7.1-5	Queen Creek	Categorical statement in vol. 1 at 329 that "[g] roundwater inflow along the main stem of Devil's Canyon is not anticipated to be impacted" and the statements in Table 3.7.1-3 that for the main channel of Middle Devils Canyon, "[d]rawdown is possible but unlikely" and for Lower Devils Canyon, "additional drawdown due to block-caving is unlikely"?	**Action:** revise the description and the analyss of the effects to include the perennially flowing reach of Queen Creek and its riparian gallery between km17.39 and 15.55	**Comment ID:** 30075-28 **Response:** DOC1

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307	3.7.1-5	Queen Creek	Table 3.7.1-5 summarizes the effects to Queen Creek in isolation to other direct and indirect impacts to the creek.	**Action:** full discussion and disclosure of the environmental effects on Queen Creek caused by the Propose Action requires an analysis of all combined stressors (mine dewatering; the block cave zone; loss of runoff in the subsidence area), along with climate change	**Comment ID:** 30075-29 **Response:** WT17
307	3.7.1-5	Figure of wells	Six perennial springs will experience drawdown greater than 10 feet under the "No Action" Alternative (where Resolution Mine continues dewatering Mine shafts #9 and #10, but the mine is not built: Bitter, Bored, Hidden, McGinnel, McGinnel Mine, and Walker Springs. Drawdowns of this magnitude will likely cause these springs to dry up completely.	**Action:** Mitigation is appropriate for the mine-related loss of these springs to wildlife. Incorporate the comments in Appendix J that relate to mitigation and conservation opportunities to address the mine-related loss of these springs to wildlife.	**Comment ID:** 30075-30 **Response:** MIT3
354	3.7.3.4	Water Quality Impacts on Surface Runoff and Streamflow	Clarification on existing text which reads "Once fully formed, precipitation within the subsidence footprint would not be expected to report as runoff to either Queen Creek or Devils Canyon resulting in a decrease in streamflow in both drainages."	**Action:** Clarify to include: By using the data presented in Table 3.7.3-4 (D-8.1C) and Table 3.7.3-5 (Queen Creek at Magna Avenue) an estimated 365 acre feet/year of precipitation would remain in the subsidence zone and presumably percolate through the fractured rock in the block-cave area. This surface water will initially carry oxygen that will contribute to chemical weathering and impact the groundwater.	**Comment ID:** 30075-31 **Response:** WT49
346	3.7.2	Queen Creek	Section 3.7.2, which identifies potential risks to water quality, including surface water, does not discuss or analyze the mine's permitted discharges to Queen Creek under ADEQ AZPDES Permit AZ0020389. This permit authorizes the discharge of mine site stormwater runoff from Outfall 001 and the discharge of treated mine water, industrial water, and seepage pumping from Outfall 002 to a tributary of Queen Creek. AGFD is concerned about additional discharges as Queen Creek is already impaired for aquatic and wildlife use.	**Action:** Discuss these discharges and permit limitations. Include Queen Creek in Figure 3.7.2-1 as part of the Analysis Area.	**Comment ID:** 30075-32 **Response:** WT44

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314	3.7.2.-1	Queen Creek	Exceedances of numeric or narrative surface water quality standards for Queen Creek could potentially occur if permit discharge effluent limitations are exceeded. Any exceedances would further impair Queen Creek for aquatic and wildlife use. The DEIS, Vol. 2 at 363 acknowledges that The Forest Service has a responsibility to analyze and disclose to the public any potential impacts on surface water and groundwater as part of the NEPA process, separate from the State permitting process.	**Action:** Analyze and disclose to the public any potential impacts on surface water and groundwater as part of the NEPA process, separate from the State permitting process.	**Comment ID:** 30075-33 **Response:** WT48
361	3.7.2.2	Surface Runoff	Modeling Details - Identifies 4 water sources for block-cave area, including:	**Action:** Add - the amount of surface water from subsidence zone	**Comment ID:** 30075-34 **Response:** DOC1
364	3.7.2.2	Queen Creek	The DEIS states that Resolution Copper is not proposing any direct discharges to surface waters.	**Action:** Correct this statement in light of potential Resolution Mine discharges to Queen Creek under AZPDES Permit AZ0020389.	**Comment ID:** 30075-35 **Response:** WT44
365	3.7.2.2	Groundwater	1. Groundwater inflow Apache Leap; 2.Groundwater inflow deep groundwater system: 3. Blowdown water from cooling; and 4. Excess mine service water.	**Action:** Block-cave sump water chemistry should be remodeled to include the oxygenated surface water.	**Comment ID:** 30075-36 **Response:** WT49
368	3.7.2.2	Impacts on Surface Runoff and Streamflow	Question for the third paragraph on p. 354. Third paragraph. What are acceptable levels of lost seepage and how is effectiveness of the existing controls measured?	**Action:** Clarify what the acceptable levels of lost seepage are and how is effectiveness of the existing controls is measured.	**Comment ID:** 30075-37 **Response:** DOC1
370	3.7.2.3	Queen Creek	The DEIS states that Queen Creek has the potential to receive additional pollutants caused by the Resolution Copper Project only from runoff or seepage from tailings in Alternatives 2, 3, and 4.	**Action:** Correct this statement in light of potential Resolution Mine discharges to Queen Creek under AZPDES Permit AZ0020389.	**Comment ID:** 30075-38 **Response:** WT44

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380, 417	3.7.2.4	Recylced Water and Seepage Ponds	The closure process for the slurry tailings facility under all Alternatives involves a phased process where the recycled water pond on the tailings facility, along with pumped back seepage, is allowed to evaporate. This is estimated to take five years. In the arid environment of the Southwest, areas of open water are an important resource for wildlife, particularly for migrating passerine and waterfowl species that seek open water for resting and drinking. Migratory birds will be attracted to open water at the Resolution Mine site. The recycled water pond can be expected to acidify after closure. As the ponded water evaporates, the water acidifies and becomes toxic to birds through exposure and ingestion. Mine tailings ponds have been documented to contain high concentrations of sulfuric acid (low pH levels) and metals. This occurred at the Arizona Morenci Mine site, where avian mortalities occurred on an inactive tailings impoundment. Phelps Dodge Corporation entered into a plea agreement with the Justice Department under the federal Migratory Bird Treaty Act, and a civil settlement with the United States and the State of Arizona for natural resource damages for avian mortalities in United States of America, et al. v. Freeport-McMoran Corporation, et al. (USDC CV-12-0307-TUC-CKJ)	**Action:** Resolution Mine must develop an effective bird hazing protocol to prevent avian exposure to acidified and metalliferous waters.	**Comment ID:** 30075-39 **Response:** MIT1
417	2.2.4-1 table	Seepage Ponds	The Table states that closure of the tailings recycled water pond is estimated to take up to 25 years after the end of operations. Until that time, excess seepage in seepage ponds would be pumped back to the recycled water pond, and reclamation would take place on the embankment and tailings beaches. It could take 20 years for the ponds to passively evaporate all incoming seepage.	**Action:** Development and implementation of a long-term bird hazing protocol at the seepage ponds is an essential mitigation for the prevention of large-scale avian mortalities. See above Comment.	**Comment ID:** 30075-40 **Response:** MIT1
421	3.7.2.2	Bypass Seepage Mixing and Loading Models	For Skunk Camp, one data point is insufficient to determine background water quality.	**Action:** More samples should be collected and the model should be re-run once additional samples are collected to better depict background water quality conditions.	**Comment ID:** 30075-41 **Response:** WT7

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430	3.7.2.2 Overall Effect of Uncertainties on the Model Outcomes	Water Quality	Queen Creek and Arnett Creek are already impaired for aquatic and wildlife use from copper during stormflow conditions.	**Action:** Consider revising this discussion. For Queen Creek and Arnett Creek, since they're impaired for copper during stormflow conditions, AGFD believes that many of the constituents of concern would be elevated during stormflow conditions, not reduced via dilution.	**Comment ID:** 30075-42 **Response:** WT44
432	3.7.2.2 – Constituents of Concern	Water Quality	Upper Queen Creek is currently listed as impaired for lead by ADEQ.	**Action:** The text should be revised to include lead as a constituent of concern.	**Comment ID:** 30075-43 **Response:** WT44
196, 460		Devil's Canyon Queen Creek	The discussion of effects to riparian vegetation and species as a result of reductions of surface water and groundwater in Devil's Canyon and Queen Creek is perfunctory.	**Action:** An EIS requires a federal agency to take a hard look at all foreseeable direct and indirect impacts of the project on natural resources and on the components, structures, and functioning of affected ecosystems. *EarthReports, Inc. v. FERC*, 828 F.3d 949, 955 (D.C. Cir. 2016); 40 CFR §§1502.16, 1508.8, 1508.25.	**Comment ID:** 30075-7 **Response:** WT8
		Devil's Canyon Queen Creek	Groundwater and surface flow declines are adversely altering riparian ecosystems throughout the southwest, resulting in a decline of pioneer trees *Populus fremontii* (Fremont Cottonwood) and *Salix goodingii* (Goodding willow). In a study of the San Pedro River, *P. fremontii* and *S. gooddingii* were dominant over *T. ramosissima* (tamarisk) at sites where surface flow was present more than 76% of the time, inter-annual ground-water fluctuation was less than 0.5 m, and average maximum depth to ground water was less than 2.6 m. Abundance of *S. gooddingii* declined sharply as ground-water fluctuation exceeded 0.5 m and *P. fremontii* declining as ground-water fluctuation exceeded about .8 m. Degraded water tables lead to a species composition shift to the more drought-tolerant tamarisk which lowers wildlife habitat quality, and leads to loss of scenic areas for recreation. *Surface water and ground-water thresholds for maintaining Populus-Salix forests, San Pedro River, Arizona*, S.J. Lite, J.C. Stromberg (Arizona State University, 2005); *Cottonwood and Willow Ecology Notes*, Blackman and Ingraldi, (Arizona Game and Fish Department).	**Action:** Discuss and disclose the potential loss of riparian ecosystems due to a drop in groundwater tables of even less than 10 feet in the Devil's Canyon and Queen Creek watershed.	**Comment ID:** 30075-8 **Response:** WT8

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		Middle Devils Canyon Queen Creek Springs	The DEIS does not contain a discussion of the potential cumulative impact of climate change on surface water resources. A cover letter dated November 6, 2018 from Resolution Copper to the Forest Service references an enclosure from WSP, November 2018, entitled *Resolution Copper Groundwater Flow Model – "Climate Change"*. The Department cannot locate this technical report on the USDA Tonto NF Resolution Copper Project EIS website.	**Action:** Discuss the effects of climate change trends in the southwest United States as a cumulative impact on surface water resources within the Resolution Mine analysis area.	**Comment ID:** 30075-9 **Response:** AQ11
		Middle Devils Canyon Queen Creek Springs	The uncertainties concerning the extent of groundwater drawdown and its effect on riparian habitats do not relieve the Forest Service of its responsibility under NEPA to discuss the mitigation of likely impacts. *South Fork Band Council v. U.S. Department of the Interior*, 588 F.3d 718 (9th Cir. 2009).	**Action:** Discuss potential mitigation for losses of riparian ecosystems.	**Comment ID:** 30075-10 **Response:** MIT30
N5-7	3.7.3.4	Table 3.7.3-5 Changes in Avg Monthly Flow	Since many of the streams are ephemeral in nature, the average monthly streamflow changes may not adequately demonstrate the impacts of a reduction in flows. Water will be present in the streams less frequently due to the reduction of runoff making it to the streams and, therefore, water will be available in smaller quantities and in shorter timeframes. This may have a bigger impact to habitat and wildlife than the average flow volumes depict.	**Action:** Consideration should be given to revising the text accordingly for re: potential wildlife impacts due to flow reductions.	**Comment ID:** 30075-44 **Response:** WI3
N8-13	3.7.2.4	Unavoidable Adverse Effects	This section states "Alternative 5 and 6 are located at the head of larger alluvial aquifers with some distance downstream before the first perennial water (the Gila River). Adverse effects are not anticipated from these alternatives, and in addition these locations offer more flexibility in responding to potential problems with additional seepage control." However, on page 417 under PREDICTED REDUCTIONS IN ASSIMILATIVE CAPACITY, it says "For Alternative 6, the discharge of seepage into the Gila River uses more than 20 percent of the assimilative capacity for selenium."	**Action:** Clarify why this is not considered an adverse effect as AGFD believes the seepage from Alternative 6 that uses more than 20 percent of the assimilative capacity for selenium would be an adverse affect as concentrations of selenium have adverse impacts to birds.	**Comment ID:** 30075-45 **Response:** WT57

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RC-211, pp. J-8,9	3.7.3	Alternative 6, Impacts on Wetlands	In the section "Impacts on Wetlands," it should be noted that stock tanks can be habitat for wildlife, including T&E species. These stock tanks should be surveyed to determine what species are impacted and a mitigation plan should be developed if T&E species identified.	**Action:** Consideration should be given to revising the text re: use of stock tanks as potential wildlife habitat, including for T&E species. Stock Tanks should be surveyed to determine what species are impacted and a mitigation plan should be developed if T&E species are identified.	**Comment ID:** 30075-46 **Response:** MIT1

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458	3.8.4.2	Seepage Ponds	The text also discusses development of a bird hazing protocol. No details are given.	**Action:** Develop and provide the bird hazing protocol as part of the public review through NEPA. At a minimum, provide the AGFD the opportunity to comment on the document as the protocol is critical for preventing large-scale avian mortalities at the seepage ponds.	**Comment ID:** 30075-47 **Response:** MIT1
460	3.8.4.2	Seepage Ponds	The text states that for more information on the analysis of chronic and acute exposure of avian species to chemical constituents in the seepage ponds, the reader should consult "Screening of Geochemistry Predictions for Effects on Wildlife Process Memorandum" (Newell 2018k). The Newell 2018k report cannot be located on the USDA Tonto NF Resolution Mine website.	**Action:** Add the report to the website. NEPA requires scientific data to be available for public scrutiny.	**Comment ID:** 30075-48 **Response:** NEPA32
460	3.8.4.2	Seepage Ponds	The text at 460 states that avian species could use the seepage ponds, resulting in potential acute and chronic exposure to heavy metals.	**Action:** Development and implementation of a long-term hazing protocol at the seepage ponds is an essential mitigation for the prevention of large-scale avian mortalities.	
460, 196	3.8.4.2	Devil's Canyon/Queen Creek	The discussion of effects to riparian vegetation and species as a result of reductions of surface water and groundwater in Devil's Canyon and Queen Creek is perfunctory. *An EIS requires a federal agency to take a hard look at all foreseeable direct and indirect impacts of the project on natural resources and on the components, structures, and functioning of affected ecosystems. EarthReports, Inc. v. FERC, 828 F.3d 949, 955 (D.C. Cir. 2016); 40 CFR §§1502.16, 1508.8, 1508.25*	**Action:** Provide a more robust analysis that includes all foreseeable direct and indirect impacts of the project on riparian vegetation and species as a result of reductions of surface water and groundwater in Devil's Canyon and Queen Creek.	**Comment ID:** 30075-49 **Response:** MIT1
451	3.8.3.1	Analysis	The AGFD (HDMS) is referenced as a source for special status species occurrence within the project area, however no ERT Report or species list was referenced in the Literature Cited. Newell (2018j) also cites HDMS 2012, but it is unclear what sources this is. A special status species list report should be updated every six months either through the ERT or the HDMS program. Analysis or interpretation using data older than six months may be inaccurate.	**Action:** A current species list (obtained through the ERT or HDMS) should be obtained every 6 months for each alternative to include the mine footprint and associated infrastructure (e.g., Figure ES-7 of the DEIS). Update the analysis and interpretations with the current data. The data should be referenced in the literature cited along with the Project ID number (if obtained from the ERT) or the date the list was obtained from HDMS. The ERT report can be generated at https://azhgis2.esri.com/.	**Comment ID:** 30075-50 **Response:** WT8
452	3.8.3.2	Existing Conditions and On-Going Trends, Special Habitat Areas	Riparian habitats are of the highest value to Arizona wildlife species, and are unique and/or irreplaceable on a statewide or ecoregion basis. However the DEIS lacked an in depth analysis and associated impacts According to a quick analysis (9/30/19) using AGFD riparian GIS data, approximately 1,134 acres of riparian area [not including the 5 mile buffer] will be affected by Alt 6 (Skunk Camp). This includes all aspects of the project (*i.e.* tailings, access roads, fenceline, subsidence zone, etc.)	**Action:** Add a riparian area section and adequately address in the DEIS. Also, add riparian areas to the list of special habitat areas in first sentence of section. Revise Alt 6 to reflect that 1,134 acres of riparian area will be affected.	**Comment ID:** 30075-51 **Response:** DOC1
452	3.8.3.2	Analysis	The discussion of Special Habitat Areas, Wildlife Connectivity, and cumulative impacts are not adequate.	**Action:** Bolster sections accordingly. Ensure conclusions regarding cumulative impacts are clearly stated and supported by evidence. Clearly define the temporal scale for short-term and long-term impacts (e.g., the life of the mine or 100 years). See the ERT report for important wildlife linkages.	**Comment ID:** 30075-52 **Response:** WT8
458	3.8.4.2	Correction/Clarification	The primary impacts of the project and the effects need to be clearly stated up front. This analysis lacks impacts to biodiversity and ecosystem function and services.	**Action:** Clearly state the primary impacts of this project to wildlife will be habitat loss and fragmentation.	
459	3.8.4.2	Correction/Clarification	"Effects from increased amounts of edge would include decreased habitat block size." It is unclear what the significance of 'habitat blocks' are.	**Action:** Define habitat blocks as described in the 2013 Pinal County Wildlife Connectivity Assessment and the methods for why they are used. Provide a map showing the blocks.	**Comment ID:** 30075-53 **Response:** NEPA54
460	3.8.4.2	Impacts common to all alternatives	Lighting impacts are not fully described. Lighting impacts can also include: life cycle activities, molting, mating, navigation, foraging, communicating; in addition changes in migration or dispersal could occur.	**Action:** To reduce impacts, considered: the need, intensity, direction, duration and spectrum of the lighting. Options to consider include: eliminate any upward facing lights, use minimum needed for safety, shield, canter or cut lighting to ensure light only reaches areas needing illumination and reduce glow, light only high stretches of roads (ie. crossings, etc), do not install lighting in areas of wildlife linkage or connectivity.	**Comment ID:** 30075-54 **Response:** DOC1
461	3.8.4.2	general closure and reclamation impacts	How is reclamation success going to be measured? vegetative cover may increase but will require monitoring and maintenance to ensure for a higher success and weed free habitat.	**Action:** Develop and include the monitoring and maintenance plans for reclamation.	

Comment ID: 30075-55 **Response:** DOC1

Comment ID: 30075-56 **Response:** MIT1

Comment ID: 30075-57 **Response:** MIT33

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461	3.8.4.2	Correction/Clarification	There is no introductory sentence stating why bats are most likely to be affect.	**Action:** Expand the introduction to being nocturnal and reliant on echolocation, bats are among the taxa most likely to be affected by light and sound pollution (Stone et al. 2015).	**Comment ID:** 30075-58 **Response:** DOC1
461	3.8.4.2	Correction/Clarification	Page 461 states "The proposed use of LED lights may impact fast-flying species—like Brazilian free-tailed bats (Tadarida brasiliensis), California leaf-nosed bat (Macrotus californicus), and spotted bat (Euderma maculatum —more than slower flying species, like cave myotis (Myotis velifer) (Stone et al. 2012).	**Action:** Correction - Stone et al. 2012 Using an experimental approach, showed LED caused a reduction in activity of slow-flying bats not fast flying bats.	**Comment ID:** 30075-59 **Response:** DOC1
461	3.8.4.2	Correction/Clarification	"The increased artificial lighting at night may result in a lower food intake for some bat species and possibly lower reproductive success for some species of aerial-hawking bats (i.e., prey is pursued and caught in flight)."	**Action:** add citation.	
463	3.8.4.2	Analysis	Running an ERT report using the new Pinal County Riparian and Wildlife Connectivity data suggests Alt 6 has impacts to important connectivity zones at the tailings facility site.	**Action:** connectivity should be included in the discussion and analysis.	
463	3.8.4.2	Impacts	Wildlife connectivity is lacking information, impacts, and connection to habitat blocks. It should be made clear to the reader what these concepts mean and how they connect together on the landscape.	**Action:** This section should include the connection to the habitat blocks and describe the impacts fully. It should also be discussed that there would be impacts to the corridors themselves, the linkage they provide, and blocks through fragmentation and disconnection. This section should also explain the difference between Category 1 and Category 2 blocks as described in the 2013 Pinal County Wildlife Connectivity Assessment. Also include a discussion about preserving the ability of wildlife species to move between or within habitat blocks. Linkages allow animals to access essential resources such as food and water during their daily activities.They also allow longer seasonal migratory movements between summer and winter habitats and facilitate the dispersal movements of animals in search of mates or breeding sites. Linkages that connect otherwise isolated populations help prevent small populations from extinction (Laurance1991, Beier and Loe 1992), help maintain genetic diversity, and reduce the risk of inbreeding(Beier and Loe 1992, Bennett 1999). Habitat connectivity also helps ensure that critical ecological processes such as pollination and seed dispersal, which often depend on animal intermediaries, are maintained. In some cases the linkages themselves may sustain actively reproducing wildlife populations (Perault and Lomolino 2000, Beier et al. 2007). Linkages are also expected to play an important role in helping animal populations adapt to and endure the effects of climate change by allowing animals to shift their range with latitude or elevation asvegetation communities change their distribution and suitable environmental conditions shift of the landscape (Hannah et al. 2002, Glick et al. 2009).	**Comment ID:** 30075-60 **Response:** DOC1 **Comment ID:** 30075-61 **Response:** WI15 **Comment ID:** 30075-62 **Response:** WI15
463	3.8.4.2	Analysis	Is is unclear what table 3.8.4-3 is showing the reviewer. Is this projected losses of habitat? How was this information derived and is it still current?	**Action:** Bolster the narrative for table 3.8.4-3 and any other tables as applicable, and state its importance and how it was derived and/or provide a link to the source.	**Comment ID:** 30075-63 **Response:** DOC1
464	3.8.4-1 table	acres of habitat blocks	It is unclear what the table means and where the data came from.	**Action:** A summary of the assumptions and methods is needed for clarification and transparency. A map should be included and the full disclosure as to what this all means is needed.	**Comment ID:** 30075-64 **Response:** DOC1
464	3.8.4.2	Correction/Clarification	Does table 3.8.4-1 include the 1 mile buffer? Clarify what habitat block 1 and 2 refer to.	**Action:** Clarify how this information was derived and what it includes/excludes.	

Comment ID: 30075-65 **Response:** DOC1

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466	3.8.4.2	Analysis	AGFD generated an ERT Report (Project ID: HGIS-09773) dated 8/9/19, and found approximately 20 species are missing from the analysis for Alternative 6 (see Table 3.8.4-2), some of which are Threatened and Endangered (T & E) species. Ecologically important areas and species of economic concern are missing from the discussion. Table 3.8.4-2 is missing a source, and it is unclear how the acreage of habitat was derived for each species. Presence/absence data is not included from species survey reports.	**Action:** See aforementioned comments regarding species lists (obtained through the ERT or HDMS). Include a source for Table 3.8.4-2, and any subsequent tables as applicable. Ensure sources are included in the Literature Cited, and methods are clearly stated in the sources. Data should be updated prior to the release of the EIS. Data that is older than six month would require an update. Include presence/absence data from species survey reports or other relevant document and state why some species were excluded and included see table 3.8.4-2. Include a discussion of 'special areas documented with in the project vicinity' and 'species of economic and recreation importance within the project vicinity.'.	**Comment ID:** 30075-66 **Response:** WI22
478	3.8.4.3	bighorn sheep capture	Clarification is needed as to the federal action and purpose and need. This information is in additional areas of the document and needs to be corrected.	**Action:** Correct the discussion of the project. The federal action would be authorizing helicopter landings for the purpose of research and monitoring to inform prompt response to indications that a disease event is threatening bighorn sheep herd viability within 5 wilderness areas on the Tonto National Forest. The proposed project is for a 5 year timeline.	**Comment ID:** 30075-67 **Response:** DOC1
480	3.8.4.4	Mitigation Measures Applicable to Wildlife	Mitigation measures should be identified in Chapter 3. A DEIS must outline steps that might be taken to mitigate adverse effects, both on and off site. Mitigation measures must be developed for all effects, even for impacts not considered "significant". CEQ, 1502.14(f); 1502.16(h); 1508.14 All relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of federal agency. This serves to alert agencies or officials who can implement these extra measures, and will encourage them to do so. The EIS and the Record of Decision should indicate the likelihood that such measures will be adopted or enforced by the responsible agencies. CEQ, 1502.16(h), 1505.2	**Action:** Incorporate the comments in Appendix J that relate to mitigation and conservation opportunities.	**Comment ID:** 30075-68 **Response:** MIT34
480	3.8.4.4	Mitigation Effectiveness and Impacts	There is no mention of wildlife habitat and connectivity. What water resources are being replaced 1: 1- previous statements include the access to stock tanks and wildlife waters, are there others? Where are the best management practices identified - need reference.	Action: References need to be in place for the mitigation measures. Mitigation developed should be referenced as it is not only being developed through the 404 permitting process, but through the discussions with AGFD and other entities. Conservation opportunities should be realized in this section.	**Comment ID:** 30075-69 **Response:** MIT3
480	3.8.4.4	Mitigation measures applicable to wildlife	Migratory bird and golden eagle is excluded from mitigation measures. In 2015, AGFD submitted comments on the baseline activities EA. One of the concerns highlighted was the request for mitigation for migratory birds by avoiding vegetation clearing in the project area during the breeding season. It remains the expert opinion of AGFD, that despite traffic and human disturbance, many birds choose to nest in trees along roads. Actions must be identified in the DEIS to mitigate for potential impacts during the breeding season.	**Action:** Conduct nesting bird surveys no later than one week prior to any disturbance. The description of actions to be taken should include procedures for what to do if an active nest is discovered. In addition, if adult birds are present and nesting, ground and vegetation disturbing activities must be avoided until the young have fledged.	**Comment ID:** 30075-70 **Response:** MIT1
479/480	3.8.4.4	mitigation measures applicable to wildlife	Clarification regarding the measures noted in the ROD, FPO, and required by FS...still indicates voluntary commitments of conservation actions.	**Action:** Incorporate the comments in Appendix J that relate to mitigation and conservation opportunities.	**Comment ID:** 30075-71 **Response:** MIT3

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448	3.8	Analysis	In general in the analysis it was unclear what data was used, where it came from, and when it was modified. Citation such as Newell (2018) et seq.) failed to clarify methods and sources. Further it appeared outdated data was used for the final analysis, and therefore does not reflect the current conditions or associated impacts which may affect the analysis. The literature cited is a place to show your work but did not adequately reference sources. For example there were no citations for where the species list data came from other than the following citation: Arizona Game and Fish Department. 2018a. Arizona Heritage Data Management System: Species Abstracts. Available at https://www.azgfd.com/Wildlife/HeritageFund/. This citation is specifically for species abstracts, not species list for the project area.	**Action:** Provide greater transparency regarding the analysis. Provided evidence to support conclusions. Update analysis with current data. Include a more robust narrative in Section 3.8 about the methods and assumptions. Ensure all sources are appropriately cited in the the DEIS, and special reports. Further include separate citations for the State Wildlife Action Plan (SWAP), ERT report, data requests from the HDMS or AGFD, and data and reports provided by AGFD. Clearly state in the narrative where the DEIS analysis differs from information or special reports provided by AGFD.	**Comment ID:** 30075-72 **Response:** DOC1
452	3.8.3.2	Impacts to Species of Economic and Recreational Importances (SERI)	Impacts to SERIs resulting from habitat loss and loss of important wildlife corridors was not adequately addressed.	**Action:** Bolster analysis and impacts to SERIs.	**Comment ID:** 30075-73 **Response:** WI20
N5-7	3.7.3.4	Table 3.7.3-5 – Changes in Avg Monthly Flow	Since many of the streams are ephemeral in nature, the average monthly streamflow changes may not adequately demonstrate the impacts of a reduction in flows. Water will be present in the streams less frequently due to the reduction of runoff making it to the streams and therefore water will be available in smaller quantities and in shorter timeframes. This may have a bigger impact to habitat and wildlife than the average flow volumes depict.	**Action:** Consideration should be given to revising the text re: potential wildlife impacts due to flow reductions accordingly. If wildlife matters are addressed in sections other than section 3.8 - Wildlife, please direct the reader to where it is discussed in greater detail.	**Comment ID:** 30075-74 **Response:** DOC1
RC-211, pp. J-8,9	3.7.3	Alternative 6, Impacts on Wetlands	In the section "Impacts on Wetlands," it should be noted that stock tanks can be habitat for wildlife, including T&E species. These stock tanks should be surveyed to determine what species are impacted and a mitigation plan should be developed if T&E species identified.	**Action:** Consideration should be given to revising the text re: use of stock tanks as potential wildlife habitat, including for T&E species. Stock Tanks should be surveyed to determine what species are impacted and a mitigation plan should be developed if T&E species are identified. This information should be included in Section 3.8.	**Comment ID:** 30075-75 **Response:** MIT1

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6	3.1 Monitoring	Conservation measures committed to by Resolution set forth only by the USFWS BO.	The conservation measures per the USFWS are required measures.	**Action:** Additional conservation measures have been discussed between the AGFD and Resolution Copper. These conservation measures should be recognized and included in the DEIS. They are included in AGFD's comments to Appendix J.	**Comment ID:** 30075-76 **Response:** MIT6
6	3.1 Monitoring	BMPS and Mitigation are not monitoring	The BMPs and reference to Appendix J for mitigation is out of place here as this is the monitoring section.	**Action:** Only summarize monitoring actions in this section. These should be outside of mitigation commitments and should be an entire plan by itself. Or could be included, with a name change to the document as the Wildlife and Habitat Monitoring Plan.	**Comment ID:** 30075-77 **Response:** MIT1
7	3.4	Vegetation Management	Only mentions catchment basins and ponds for monitoring.	**Action:** Develop a vegetation plan that includes monitoring to avoid invasive species potentials into any of the areas for disturbance. This should include a reseeding plan, etc to include a plant list and ensure weed free mix, along with BMPs to reduce the spread.	**Comment ID:** 30075-78 **Response:** MIT1
7	3.1.1.2	Migratory Birds	Use of Saguaros not limited to these species	**Action:** Just add "for example" when listing species	
7	3.1.1.1	Golden Eagle	Plan for possibility of new nests?	**Action:** Identify the actions to be taken if a new breeding pair appears in the project vicinity.	**Comment ID:** 30075-79 **Response:** DOC1
7	3.1.1.3	Bat BMPs	"If construction would occur near roosting areas, Resolution would work with AZGFD to develop best management practices (BMPs) to reduce impacts as part of the Avian and Bat Protection Plan."	**Action:** Construction at the Project site should be initiated outside of the breeding season for most bats. Buffers around bat hibernacula based on wind direction patterns, adjacent land use, and surrounding vegetation should be maintained. Lighting should be reduced in flyways to prevent potential impacts to foraging behavior. AGFD will work with Resolution Copper to develop an Avian and Bat Mitigation Plan.	**Comment ID:** 30075-80 **Response:** MIT1
7	3.1.2	Reptiles and Sonoran Desert Tortoise	Moving of gila monsters during construction or other.	**Action:** Include language - Handling and relocation of Gila monsters will be done by a trained biological monitor with the proper permits.	**Comment ID:** 30075-81 **Response:** MIT1
8	3.1.2	Reptiles and Sonoran Desert Tortoise	Clarify that tortoises shall not be handled by workers	**Action:** In second paragraph of section 3.1.2.4, add sentence "Handling and transportation of Sonoran desert tortoise and Gila monster will only be conducted by a trained biological monitor.	**Comment ID:** 30075-82 **Response:** MIT1
9	Appendix x	Wildlife fencing shall be installed "where possible and applicable:	Fencing should be installed around all ponds to reduce wildlife from entering. Wildlife regulary die in or around ponds that are not fenced as demonstrated by other mines in the area.	Action: Include 'Where possible and applicable install wildlife proof fencing around all ponds.	**Comment ID:** 30075-83 **Response:** MIT1

Comment ID: 30075-84
Response: MIT1

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9	3.3	AGFD common mitigation measures and BMPs		**Action:** Include the following measure in the Wildlife Plan and in App J of the DEIS. If trenching will occur, trenching and backfilling crews should be close together to minimize the amount of open trenches at any given time. Avoid leaving trenches open overnight. Where trenches cannot be backfilled immediately, escape ramps should be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The slope should be less than 45 degrees (1:1). Trenches that have been left open overnight should be inspected and animals removed prior to backfilling.	**Comment ID:** 30075-85 **Response:** MIT1

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268	3.5	Table 3.5.4-9 indicates new access points along tailings pipeline corridor	Retain public access to the east of Oak flats	**Action:** Access routes established for the tailings pipeline corridor should remain open to the public for access to the east side of oak flats so long as the access does not interfere with operations or public and worker safety.	**Comment ID:** 30075-86 **Response:** MIT1
482	3.9.1	Language in the introduction referencing hunting (bird, small and big game)		**Action:** References to hunting should include big and small game species.	**Comment ID:** 30075-87 **Response:** DOC1
489	3.9.3.2	Land management	It is not clear in this paragraph what is going on with the land management, etc.	Action: Suggested clarification is: Hunting opportunities are available on all public lands, including lands managed by the ASLD. The lands included are also within the Game Management Units, as identified by the AGFD as 24A, 24B and 37B. A valid hunting license is required on all public lands as well as those managed by ASLD. In addition, the following should be included: Currently hunting opportunities within the vicinity of the project area in Game Management Units (GMUs) 24A, 24B, and 37B include: six out of Arizona's ten big game species (mule deer, white-tailed deer, javelina, mountain lion, black bear, and bighorn sheep), small game (cottontail, jackrabbit, Gambel's quail, scaled quail), migratory game birds (mourning dove, white-winged dove, and band-tailed pigeon) and fur bearing or predatory mammals (e.g. coyote and bobcat). Species such as these are considered Species of Economic and Recreational Importance (SERI) to AGFD and citizens of Arizona (Arizona Game and Fish Department 2012). Several of these species currently occupy habitat that has 100% overlap with the proposed RCM project area including the TSF alternatives, tailings pipeline corridors and/or new power lines. The majority of the proposed RCM project area is located within GMU 24B. The Near West TSF alternatives 2 or 3 and Silver King TSF alternative 4 are located in GMU 24B; the East Plant Site and Skunk Camp TSF alternative 6 locations are in GMU 24A; and the Peg Leg TSF alternative 5 location is in GMU 37B. Several proposed mine features either currently exist, or would be located exclusively on private lands, or are linear features (pipelines or powerlines) in all 3 GMUs.Based on the values mapping, AGFD notes that a moderate to high number of participants (hunters) found portions of the Near West TSF alternative 2 or 3 west of Superior (GMU 24B) to be of high value for hunting mule deer, white-tailed deer, javelina, quail, dove, and predators. In the area of the Silver King TSF alternative 4 (GMU 24B), a moderate to high number of participants valued the area for mule deer and predator hunting; but a low to moderate number of participants valued it for javelina, quail and dove hunting. As elevations increase to the north and east in the Montana and Peachville Mountain areas near Silver King; more hunters highly valued the area for white-tailed deer hunting. The area of the Peg Leg TSF alternative 5 in GMU 37B is highly valued by a high to moderate number of participants for quail, javelina and predator hunting; and moderate to low number of participants for dove, mule deer and white-tailed deer hunting. The area of the East Plant Site in GMU 24A is highly valued by a moderate to high number of participants for quail and predator hunting; and a low to moderate number of participants for dove, javelina, mule deer and white-tailed deer. The area of the Skunk Camp TSF alternative 6 in GMU 24A is highly valued by a high number of participants for quail hunting, but a low number for dove hunting. A moderate number highly value the area for white-tailed deer, mule deer and javelina hunting; and a low number of participants for predator hunting.	**Comment ID:** 30075-88 **Response:** SR26
500	3.9.4.1 Hunting	Hunter Success	Hunter success is not a recognized impact	**Action:** Include a discussion about how a hunter's experience and success around these areas would decline.	**Comment ID:** 30075-89 **Response:** SR26

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500	3.9.4.1	Information and Reference missing	This section does not include information and reference to the SERI report provided by AGFD, which should have been included in the analysis.	**Action:** This section should include information and reference to the SERI report provided by AGFD.	**Comment ID:** 30075-90 **Response:** DOC1
500	3.9.4.9	recreation		**Action:** Clarify to include: The proposed RCM and TSF alternatives would eliminate motorized vehicle access via multiple modes and dispersed camping opportunity in GMU 24B (Map 3; Appendix 5) and areas of OHV recreation. Using GIS and routes identified in the TNF TMP, AGFD calculated there would be 23.49 miles of roads and 1737 acres of dispersed camping opportunity on the TNF lost to the RCM project footprints (TSF, Barrows, Tailings Corridor, MAARCO; Table 13 and Appendix 6). The majority of the routes that would be eliminated are unmaintained routes that do not require technical 4x4 vehicles or skill, and which are also popular for dispersed camping. The motorized routes that would remain open around RCM facilities are more rugged and require more technical 4x4 vehicles and skill. As a result, the motorized routes remaining open would not accommodate all classes of vehicles and would restrict access to those 4x4 only. Map 3 illustrates the access routes around the perimeter of the proposed Near West TSF alternative 2 or 3 and mine facilities suitable for OHV and extreme 4x4 vehicles and users with technical skill levels. The loss of access also equates to elimination of motorized dispersed camping opportunity from the most accessible low elevation portions of the high hunter use area depicted in Map 3 (TRCP survey indicates a moderate to high number of hunters value the area). Loss of motorized routes and dispersed camping areas would likely result in more concentrated recreation levels and congested conditions (e.g. camping, OHV, recreational shooting, horseback riding etc.) along remaining low elevation access points close to US Highway 60.	**Comment ID:** 30075-91 **Response:** SR26
513	3.9.4.9	Mitigation missing dispersed camping	The measures should include dispersed camping.	**Action:** The RUG should be described in such a way that it is clearly also covering mitigation for dispersed camping, motorized access, etc. As it is still not clear in the effectiveness and impacts paragraph that dispersed camping is included in the RUG plan.	**Comment ID:** 30075-92 **Response:** MIT3
513	3.9.4.9	Mitigation missing funding mechanisms	Long-term funding mechanisms are lacking for these two mitigation projects, specifically the replacement campground (Castleberry) and the Superior Trail Network.	**Action:** Identify funding strategies for the Castleberry Campground and the Superior Trail Network. Other mitigation measures clearly state that Resolution will fund them.	**Comment ID:** 30075-93 **Response:** MIT1
513	3.9.4.9	Mitigation missing birding trail	Arizona Birding Trail identification is missing.	**Action:** A discussion of the Arizona birding trail should be included. The Trail is an ecotourism project that showcases several of the communities and areas affected by Resolution's project footprint, including Boyce Thompson Arboretum, the towns of Superior and Kearny, the Gila and San Pedro rivers, as well as the Arizona Trail. Assistance in funding the Arizona Birding Trail greatly compliments Resolution Copper's commitment to environmental stewardship as well as their relationship with the Town of Superior and the greater "Copper Corridor" community in eastern Pinal County.	**Comment ID:** 30075-94 **Response:** SR25
508/509	3.9.4.7 and 3.5	Motorized Access	Missing information for re-routing dripping springs access road or proposed road to north as indicated in RUG.	**Action:** Reference proposed access routes in RUG and information for dripping springs is missing.	**Comment ID:** 30075-95 **Response:** SO3

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349-350	Appendix J -- Mitigation and Monitoring Plan	Water Resources Monitoring Plan	AGFD staff participated on the interagency Groundwater Modeling Work Group.	**Action:** AGFD requests a copy of the document entitled "Monitoring and Mitigation Plan for Groundwater Dependent Ecosystems and Water Wells," prepared by Montgomery and Associates Inc. in April 2019. AGFD would like to review the GDE monitoring and mitigation plan.	**Comment ID:** 30075-96 **Response:** MIT38
443-444	Appendix J -- Mitigation and Monitoring Plan	Water Resources Monitoring Plan	Implementation of various mitigation actions related to water resources is not assured because the actions are proposed by RCM.	**Action:** Mitigation measures identified in the water resources monitoring and mitigation plan should be included in the ROD/Final EIS and the final mining plan of operations by the U.S. Forest Service.	**Comment ID:** 30075-97 **Response:** MIT8
J-11	Appendix J -- Mitigation and Monitoring Plan	Stormwater ponds	This only includes exclusion fencing.	**Action:** Include escape ramps, hazing, monitoring of site for any mortality.	
J-11	Appendix J -- Mitigation and Monitoring Plan	Reptile and Sonoran Desert Tortoise Plan	It is not clear as to if this is required or voluntary.	**Action:** Ensure this measure is taken, it should be made clear that even though it may be a voluntary agreement, due to the Forest requirements, it will be assured.	**Comment ID:** 30075-98 **Response:** MIT1
J-11	Appendix J -- Mitigation and Monitoring Plan	Stormwater ponds	Mitigation measures do not seem to apply to all alternatives.	**Action:** Clarify if measures are common to all alternatives.	
J-12	Appendix J -- Mitigation and Monitoring Plan	Loss of abandoned mine	Mitigation measures do not seem to apply to all alternatives.	**Action:** Clarify if measures are common to all alternatives. In addition, this should be a developed plan.	**Comment ID:** 30075-99 **Response:** MIT1
J-14	Appendix J -- Mitigation and Monitoring Plan	Recreation	None of the listed address loss of dispersed campsites.	**Action:** There should be a measure to address dispersed camping sites and if it is vested under an existing measure, should be clarified.	
J-23	Appendix J -- Mitigation and Monitoring Plan	Socioeconomic	None are listed.	**Action:** The analysis AGFD performed concluded there would be significant economic impacts for wildlife related recreation. There should be a measure to address this developed with the AGFD. Some of it may be within other measures, but is not clearly stated.	**Comment ID:** 30075-100 **Response:** DOC1
J-10	Appendix J -- Mitigation and Monitoring Plan	Wildlife	How often will coordination be done with the Project Evaluation Program? What data will be used to determine species occurrence? How will you ensure you are not using 'stale' data? How will the measures be implemented and by whom?	**Action:** Address questions. Consider referencing the ERT and clarify ERT reports will be updated every 6 months to to ensure the latest conditions/species are assessed over the life of the project. Clarify the HDMS data being used and add to the Literature Cited. Consider coordinating with the Project Evaluation Program before, during, and after construction to assist with mitigation.	**Comment ID:** 30075-101 **Response:** DOC1
J-10	Appendix J -- Mitigation and Monitoring Plan	Habitat	The Sonoran Desert has the most biodiversity of all of the Nation's deserts. However, the DEIS has no mitigation measures for impacts to upland/desert vegetation.	**Action:** Include conservation measures for the loss of high valued Sonoran Desert habitat.	**Comment ID:** 30075-102 **Response:** MIT3
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	Below outlines AGFD recommended mitigation and conservation opportunities submitted and discussed with Resolution Copper. AGFD appreciates Resolution Copper's interest in voluntary mitigation measures and conservation opportunities towards the development of a voluntary compensatory plan beyond what is currently mandated.	**Action:** Incoporate the mitigation and conservation opportunities listed below.	**Comment ID:** 30075-103 **Response:** MIT3

Comment ID: 30075-104 **Response:** MIT1

Comment ID: 30075-105 **Response:** MIT3

Comment ID: 30075-106 **Response:** MIT3

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J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Habitat** Compensation for Direct Impacts – Permanent loss of riparian or aquatic and upland/desert wildlife habitat as a result of Proposed Action and Alternatives. Compensation is for SERI, SGCN and T&E Resource Category I and III habitat loss	***Resource Category I:*** Riparian Habitats (all types) including perennial streams, springs or wetlands – Habitats in this category are of the highest value to Arizona wildlife species, and are unique and/or irreplaceable on a statewide or ecoregion basis. **Recommended Compensatory Ratio:** 1:1 for restoration (0 to 100%), 5:1 for preservation (or 5 acres of riparian for every 1 acres removed) ***Resource Category III:*** Sonoran Desert, Chaparral, Grasslands, Woodlands – Habitats in this category are of high to medium value for Arizona wildlife species, and are relatively abundant on a statewide basis. **Recommended Compensatory Ratio:** 1:1 for restoration or commensurate restored biological value (e.g. 50% buffelgrass invaded acre restored to 100% native = compensation of 2:1), 3:1 for preservation	**Comment ID:** 30075-107 **Response:** MIT3
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Water Resources** Loss/depletion of surface water, springs, seeps; and loss of stock water or wildlife watering features and source wells. Water Quality impacts to wildlife and habitat in Queen Creek, Mineral Creek, Devils Canyon, Arnett Creek, or Telegraph Canyon (direct impacts to habitat – sedimentation, toxic mine contaminants etc.) There are six (6) springs identified within the Skunk Camp alternative.	***Resource Category I:*** Riparian Habitats (all types) including perennial streams, springs or wetlands – Habitats in this category are of the highest value to Arizona wildlife species, and are unique and/or irreplaceable on a statewide or ecoregion basis. **Recommended Compensatory Ratio for Perennial Streams:** 1:1 for restoration (0 to 100%), 5:1 for preservation 1 mile stream lost= 5 miles preservation **Recommended Compensatory Ratio for Constructed Waters:** 1:1 replacement for wildlife catchment or livestock waters **Recommended Compensatory Ratio for Springs:** 5:1 for constructed perennial (new well, wildlife water)	**Comment ID:** 30075-108 **Response:** MIT3
				Recommended Water Quality and Aquatic Species/Habitat Biomonitoring: Develop an "Aquatic Species and Habitat Biomonitoring and Response Strategy" (physical and chemical parameters) for incorporation into the EIS. **Alternative Mitigation Strategies:** 1. Construct and maintain new wildlife water developments (catchments) near the source lost; enhance & maintain other existing livestock or wildlife water developments near the source lost; Develop new wells and trough systems; avoid developments in zone of drawdown impact 2. Capture and isolate flows from impacted springs and pipe out of mine facilities to use offsite for wildlife 3. Construct or improve habitat for native fish and other aquatic species (restoration, augment flows or restoring flows (e.g. San Pedro acquire water rights for beneficial use of Fish & Wildlife; or severe & transfer water rights to instream flows), surface water protection) 4. Augment surface flows to impacted streams	**Comment ID:** 30075-133 **Response:** MIT1

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J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Wildlife-Related Recreation** Economic Impact from loss of wildlife-related recreation in mine facility footprints Loss or impacts to public access for wildlife-related recreation (hunting, camping, OHV, shooting, wildlife watching, hiking) from mine facilities development and land exchange	**Recommended Mitigation for Wildlife Related Recreation and Access Losses:** Based on equivalent compensation for restoring or protecting public access and wildlife recreation values through funding easements/ROWs; watchable wildlife programs, destinations or trails; hunting and fishing outreach; game population transplants/augmentations **Alternative Strategies:** 1. Fund or contribute to Cross Victory Ranch access (via an agreement) which may have expired. 2. Pay for access easements along the Lower San Pedro; west side of Galluros is inaccessible and properties along the San Pedro may provide access. BHP owns property along the San Pedro 3. Top of the World habitat conservation and inclusion of Resolution properties into AGFD Landowner Relations Program (access agreements or easements) (Integrity Land & Cattle LLC) or other. AZ Land and Water Trust came to Pinal County to explore a property acquisition and access agreement. This property may also compliment public access to Forest south of US 60. 4. Great AZ Birding & Wildlife Trail – web page, app, trail signs; AGFD Watchable Wildlife involved; Pinal County wants to use the San Pedro and Middle Gila segments to launch; using existing public access points; future opportunities to develop south of Mammoth and other locations; trail is basically destination points along a road network; BTA-Queen Canyon Trailhead, Superior Park and Kelvin trailhead are destination points; potential mitigation would be to support trail kiosks, watering stations, restrooms or other needs. 5. Restore public access through Martin Ranch	**Comment ID:** 30075-109 **Response:** MIT3
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Recreation** Loss or impacts to public access for wildlife-related recreation (hunting, camping, OHV, shooting, wildlife watching, hiking) from mine facilities development and land exchange	Maintain access to stock tanks and AGFD wildlife waters for maintenance and public access. Maintain or relocate key public access routes at current recreation levels and spectrums; see AGFD report: Species of Economic Importance, Wildlife Related Recreation and Public Access within the Resolution Copper Mine Area. Reconfigure FR8/FR650 to preserve public access within Silver King TSF location	**Comment ID:** 30075-110 **Response:** MIT3
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Recreation** Public Access for recreation lost in Oak Flat area	Create or enhance public access to the areas south, east and west of the Oak Flat where TNF lands were exchanged with Resolution Copper for mining through new roads/routes or improvements to existing roads/routes that could provide access in the immediate vicinity. Provide access to Devil's Canyon, Oak Creek and/or eastern portions of Apache Leap.	**Comment ID:** 30075-111 **Response:** MIT1

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page	section	issue	comment/observation	action requested	
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Wildlife** Direct impacts to ESA SERI, SGCN and other common small animals during mine construction, operation and closure (and/or population impacts to SERI, SGCN and ESA species)	**Golden Eagle** – Near West and Peg Leg TSF sites are within 10 miles of 2 active nest sites and 1 potential nest site; Impacts include loss of foraging habitat at TSF and mine facilities. Identify raptor resources potentially affected; recommend minimum 3-year monitoring period prior to construction to identify nesting, foraging and wintering habitats and, if feasible, include one cycle of prey population fluctuations (USFWS guidelines 2002) Monitor nest productivity at active nest sites within 5 miles of project boundaries pre/post construction to see if land conversion and habitat loss impact nest productivity; document changes. Carry into reclamation phase and evaluate post-closure reclamation and raptor response. Utilize seasonal and/or spatial buffer zones for level and duration of construction activities during nesting period at occupied versus unoccupied nest sites (see Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (USFWS 2002); and time construction outside breeding season if feasible. Prevent additional encroachment of human activity on nest sites (i.e. new roads, trails etc.); acquire lands around nest sites; create habitat management plans around nest sites	**Comment ID:** 30075-112 **Response:** MIT3
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Wildlife** Direct impacts to ESA SERI, SGCN and other common small animals during mine construction, operation and closure (and/or population impacts to SERI, SGCN and ESA species)	**Migratory & Breeding Birds** – tied to impacts & mitigation for riparian habitats; During the initial project construction and startup and delivery of tailings material to TSF site(s), adult Migratory Bird species that are currently nesting are likely to abandon nests during tailings delivery/deposit. This impact is likely to be lessened once delivery starts as birds are not likely to begin nesting while materials are being deposited. Initiate construction outside breeding periods for species that use Saguaros (SGCN: elf owl, Gila woodpecker, gilded flicker, white-winged dove), key riparian habitats Develop an Avian and Bat Protection Plan in coordination with AGFD.	**Comment ID:** 30075-113 **Response:** MIT1
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Wildlife** Direct impacts to ESA SERI, SGCN and other common small animals during mine construction, operation and closure (and/or population impacts to SERI, SGCN and ESA species)	**Bats** – Loss of habitat for bats, specifically roosting/maternity roost areas. Identify mines/adits/shafts with known bat roosting areas. If activities are adjacent to bat roosting/maternity sites, develop BMPs to reduce human encroachment. See also recommendations under "Habitat" section above.	**Comment ID:** 30075-114 **Response:** MIT1
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Wildlife** Direct impacts to ESA SERI, SGCN and other common small animals during mine construction, operation and closure (and/or population impacts to SERI, SGCN and ESA species)	**Kit Fox** – The MAARCO corridor and the filter plant will occur within the known range of kit fox in Arizona. Additionally, the filter plant overlaps with global positioning system (GPS) locations from kit foxes that were radio collared from 2010-2013 and portions of the MAARCO corridor are within 1.5 miles of kit fox den sites (see AGFD Supplemental Information on Kit Fox; Andrew Jones 4-12-18) Work with AGFD to develop and implement kit fox mitigation plan.	**Comment ID:** 30075-115 **Response:** MIT1

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page	section	issue	comment/observation	action requested	
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Wildlife** Direct impacts to ESA SERI, SGCN and other common small animals during mine construction, operation and closure (and/or population impacts to SERI, SGCN and ESA species)	**Reptiles and Sonoran Desert Tortoise (ESA-CCA)** – Conduct survey for Sonoran desert tortoises, in accordance with the Desert Tortoise Survey Guidelines for Environmental Consultants, to determine the presence/absence of this species prior to construction. If tortoise or sign of are identified in the project areas, refer to: The Recommended Standard Mitigation – Measures for Projects in Sonoran Desert Tortoise Habitat, Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects, and Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat (see https://www.azgfd.com/wildlife/nongamemanagement/tortoise/). Implement routine Buffelgrass eradication and control in the vicinity of the mine to restore and preserve habitat quality. Old wildfire burn areas south of Near West and GPO at Gonzales Pass is infested (north/south of US60). Implement conservation actions detailed in the Candidate Conservation Agreement Survey the project site for amphibian and reptile species prior to any development; remove sensitive species for appropriate placement within zoos and museums.	**Comment ID:** 30075-116 **Response:** MIT3
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Water Resources** Water Quality impacts to wildlife and habitat	1. Aquatic Species and Habitat Biomonitoring and Response Strategy (physical and chemical parameters) 2. Provide copies of discharge monitoring reports and all ambient sampling above and below discharge points sent to AGFD (QCAMP 1 & 2 monitoring locations);	**Comment ID:** 30075-117 **Response:** MIT1
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Habitat** Indirect or Cumulative impacts to riparian and upland habitat adjacent to mine footprint as a result of Proposed Action (GPO and Alts)	1. Develop Wildlife Management Plan in coordination with AGFD, USFWS and USFS biologists 2. Concentrate on BMP's and site designs to minimize light pollution (cantering, direction, duration, context sensitive design); 3. Traffic controls to reduce speed, reduce dust; staff training to avoid wildlife collisions/mortality; traffic management to reduce conflicts with local outdoor recreation	**Comment ID:** 30075-118 **Response:** MIT1
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Habitat** Loss of abandoned mine or cave habitat for bats due to closure	1. Conduct pre-closure surveys multiple years and visits/year to document species presence/absence and develop appropriate closure methods in coordination with AGFD, BCI and USFS biologists 2. Implement wildlife exclusion measures pre-closure to minimize wildlife entrapment and mortality during closure; consider seasonal timing of closure on any sites with potential maternity roosts.	**Comment ID:** 30075-119 **Response:** MIT1
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Habitat** Electrical Transmission Lines	1. Use existing transmission lines and access routes for construction; Install and maintain power line facilities in a way that will reduce raptor collisions and electrocution.	**Comment ID:** 30075-120 **Response:** MIT1

Appendix j.k

page	section	issue	comment/observation	action requested	
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Habitat** Tailings Corridors	1. Prevent soil erosion and sedimentation to stock tanks, springs and streams adjacent to corridors during pipeline construction and operation using sediment control measures. 2. Maintain access to stock tanks and AGFD wildlife waters for maintenance and public access. 3. During pipeline construction cover open trenching; inspect trenches routinely for entrapped wildlife and remove; provide wildlife escape ramps; inspect under construction equipment prior to use and remove any wildlife seeking cover 4. Conduct special status species surveys prior to construction of tailings corridor pipelines across perennial or intermittent streams and rivers (e.g. Gila River, Mineral Creek, Devils Canyon) and designated Critical Habitats to determine species presence/absence. Develop site specific wildlife mitigation plan in coordination with AGFD, USFWS and USFS biologists to address construction related actions to avoid, minimize and mitigate impacts to special status species. (e.g. timing of construction, species relocations etc.) 5. Include wildlife crossing structures along the pipeline corridor (overpass or underpass). Coordinate with AGFD to determine the location, frequency and design of wildlife crossing structures.	**Comment ID:** 30075-121 **Response:** MIT3
J-10	Appendix J -- Mitigation and Monitoring Plan	AGFD recommended mitigation and conservation opportunities submitted to Resolution Copper	**Habitat** Wildlife Related Plant Species	1. Develop a mitigation plan for loss of plants that provide habitat for wildlife (focus on those protected under Arizona's Protected Native Plant Law). 2. Saguaro cacti that cannot be avoided should be salvaged and transplanted on site along with an additional cactus of equal or greater height. Any cacti that cannot be transplanted in the project area, or that must be destroyed, should be replaced at a 3:1 ratio for those up to 12 feet in height, and a 5:1 ratio for those 12 feet or with arms. 3. All saguaros planted or transplanted should be monitored at least once a year for a minimum of 5 years and replaced as needed to achieve no net loss of preconstruction saguaro numbers within each size class. 4. Transplant/relocate cactus/agave to vicinity of Gonzales pass wildlife fire impact area to restore native cacti/agave; augment transplants with purchased/propagated source stock for burn area restoration	**Comment ID:** 30075-122 **Response:** MIT3
J-10	Appendix J -- Mitigation and Monitoring Plan	Mitigation measures and BMPs.	Common mitigation measures and BMPs.	**Action:** Below are common mitigation measures and BMPs. Include measures in the Wildlife Plan and in App J of the DEIS. Work with the AGFD Project Evaluation Program for project specific measures. Minimize impacts to vegetation during project construction. Staging areas should be located in previously disturbed sites, and kept as small as possible. Implement erosion and drainage control measures during the project to prevent the introduction of sediment-laden runoff into adjacent surface waters, and to prevent impacts to surface water quality. Stabilize exposed soils, particularly on slopes, with native vegetation as soon as possible to prevent excess erosion.	**Comment ID:** 30075-123 **Response:** MIT1

Appendix j.k

page	section	issue	comment/observation	action requested	
J-10	Appendix J -- Mitigation and Monitoring Plan	Mitigation measures and BMPs.	Common mitigation measures and BMPs.	Action: Include measures in the Wildlife Plan and in App J of the DEIS. Please comply with the Arizona Native Plant Law regulations. Determine if a Native Plant Inventory should be conducted to identify, record, and coordinate plant salvage efforts for species that are Protected under the Arizona Native Plant Law. In addition, the applicable land management agencies should be consulted regarding guidelines for revegetation efforts. https://agriculture.az.gov/plantsproduce/native-plants http://nester-az-agriculture.pantheonsite.io/sites/default/files/Native%20Plant%20Rules%20-%20AZ%20Dept%20of%20Ag.pdf	**Comment ID:** 30075-124 **Response:** MIT1
J-10	Appendix J -- Mitigation and Monitoring Plan	Mitigation measures and BMPs.	Common mitigation measures and BMPs.	**Action:** Include measures in the Wildlife Plan and in App J of the DEIS. Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. To view a list of documented invasive species in or near your project area visit http://login.imapinvasives.org/azimi/login/?nextn/azimi/. To build a list: login, go to Query and Reports, select a geography value relevant to your project area, and select "View Report" for a list of reported species. Arizona has noxious weed regulations (Arizona Revised Statutes, Rules R3-4-244 and R3-4-245); please see the Arizona Department of Agriculture website for prohibited and restricted noxious weeds. https://www.invasivespeciesinfo.gov/unitedstates/az.shtml https://agriculture.az.gov/pests-pest-control/agriculture-pests/noxious-weeds https://plants.usda.gov/java/noxious?rptType=State&statefips=04 AGFD recommends coordination with the Arizona Sonora Desert Museum for guidance on measures to minimize the potential spread of buffelgrass (Pennisetum ciliare). Additionally, the City of Tucson and Pima County have buffelgrass regulations. https://www.desertmuseum.org/buffelgrass/	**Comment ID:** 30075-125 **Response:** MIT1
J-10	Appendix J -- Mitigation and Monitoring Plan	Mitigation measures and BMPs.	Common mitigation measures and BMPs.	**Action:** Include the following measures in the Wildlife Plan and in App J of the DEIS. Artificial night lighting, which may be intensified by the collection mirrors, may attract insects and the species that prey on them (e.g. bats). It could also impair the ability of nocturnal animals to navigate, and may negatively affect reptile populations. It is recommended to use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.	**Comment ID:** 30075-126 **Response:** MIT1

Appendix j,k

page	section	issue	comment/observation	action requested	
J-10	Appendix J -- Mitigation and Monitoring Plan	Mitigation measures and BMPs.	Common mitigation measures and BMPs.	**Action:** Include measures in the Wildlife Plan and in App J of the DEIS. The western burrowing owl (*Athene cunicularia hypugaea*), a special status species that is regulated under the Migratory Bird Treaty Act (MBTA), has been recorded in the vicinity of your project. If suitable habitat for this species is present within or adjacent to your project area, an occupancy survey for western burrowing owl should be conducted to determine if this species occurs within your project footprint. Guidelines for conducting this survey are found in Burrowing Owl Project Clearance Guidance for Landowners which can be accessed on-line at https://www.azgfd.com/wildlife/speciesofgreatestconservneed/raptor-management/burrowing-owl-mangement/. Note that the survey should be conducted by a surveyor that is certified by the Arizona Game and Fish Department (AGFD). If an active burrowing owl burrow is detected, contact AGFD and the U.S. Fish and Wildlife Service for direction, in accordance with the Burrowing Owl Project Clearance Guidance for Landowners. https://www.azgfd.com/wildlife/speciesofgreatestconservneed/raptor-management/burrowing-owl-mangement/	**Comment ID:** 30075-127 **Response:** MIT1
J-10	Appendix J -- Mitigation and Monitoring Plan	Mitigation measures and BMPs.	Common mitigation measures and BMPs.	**Action:** Include measures in the Wildlife Plan and in App J of the DEIS. In order to limit the spread of non-native, invasive plant species, landscape with drought-tolerant species that are native to Arizona. Information on native plant species that could be used in landscaping can be found on the Arizona Native Plant Society's website: http://aznps.com/nativegardening.php http://aznps.com/invasives/GrowNative/invasives.html	**Comment ID:** 30075-128 **Response:** MIT1
J-10	Appendix J -- Mitigation and Monitoring Plan	Mitigation measures and BMPs.	Common mitigation measures and BMPs.	**Action:** Include measures in the Wildlife Plan and in App J of the DEIS. The Department encourages the development of management practices that will result in maintenance of existing riparian areas and to actively encourage the protection of in-stream flows. The most significant component needed to maintain wildlife connectivity are drainage corridors and other wash systems. Preservation of riparian areas is also important for maintaining water quality and improving degraded water by removing, transforming and retaining nutrients, sediments and other natural and human-made pollutants. Riparian habitats are areas of critical environmental importance to wildlife and fisheries. Arizona State Governor Executive Order No. 91-6 recognizes the critical nature of riparian areas, and encourages the development of management practices that will result in maintenance of existing riparian areas and to actively encourage the protection of in-stream flows.	**Comment ID:** 30075-129 **Response:** MIT3

Appendix l,m,n

page	section	issue	comment/observation	action requested	
RC-211,pp. J-8,9	Appendix N	Tables N-2, N-3 -- Surface Water Quality	Comment on Tables N-2 and N-3.	**Action:** Tables N-2 and N-3 should be revised to include the number of samples that were collected for the surface water samples, similar to Table N-1 for the groundwater samples.	**Comment ID:** 30075-130 **Response:** DOC1
RC-211,pp. J-8,10	Appendix N	Table N-4 -- Exceedances of Surface WQ Standards	Comment on Table N-4.	**Action:** Table N-4 should document under what hydrologic conditions the surface water quality exceedances were observed (under baseflow or stormflow?).	**Comment ID:** 30075-131 **Response:** DOC1
RC-211,pp. J-8,11	Appendix N	Table N-4 -- Exceedances of Surface WQ Standards	Comment on Table N-4.	**Action:** Include Gila River water quality results in this table since it is impacted by Alternatives 5 and 6.	**Comment ID:** 30075-132 **Response:** DOC1

Douglas A. Ducey
Governor

Arizona State Land Department
1616 West Adams, Phoenix, AZ 85007
(602) 542-4631

Lisa A. Atkins
Commissioner

November 7, 2019

Mr. Neil Bosworth
District Supervisor
Tonto National Forest
PO Box 34468
Phoenix, AZ 85067-4468

RE: Resolution Copper Draft Environmental Impact Statement Comments

Dear Supervisor Bosworth,

As a cooperating agency, the Arizona State Land Department (ASLD) appreciates the opportunity to submit comments for the record on the Resolution Copper Draft Environmental Impact Statement (DEIS).

The ASLD manages a perpetual land Trust consisting of approximately 9.2 million acres located throughout the State, including subsurface mineral estate. Our comments reflect ALSD's responsibility to ensure that the land is best managed on behalf of the Trust's beneficiaries and therefore, ASLD must evaluate the potential risks and contributions for all projects on land and resources within the Trust.

Comment ID: 562-1
Response: NS1

ASLD recognizes and appreciates the mineral development, financial, technological, and career opportunities that Resolution Copper brings to the State, and ASLD supports the advancement of the project. However, ASLD does have concerns regarding the selected preferred alternative tailing facility site within the Skunk Camp/Dripping Springs Valley. The location is predominately State Trust land, and it is highly likely that this location will adversely impact the Trust.

Comment ID: 562-2
Response: NS1

This comment letter constitutes the official response of ASLD and has been organized into the following sections: 1) general comments (including the location of the preferred alternative tailing location at Skunk Camp), 2) DEIS comments from internal ASLD subject matter experts, and 3) concluding remarks.

GENERAL COMMENTS:

SKUNK CAMP TAILING FACILITY – PREFERRED ALTERNATIVE

Comment ID: 562-3
Response: ALT30

ASLD acknowledges that the Skunk Camp tailing facility location has been identified as the preferred alternative in the DEIS prepared by the Tonto National Forest (TNF). ASLD prefers Silver King as the location for the tailings site, as it is located on federally managed land and requires significantly less water over the life-of-mine (LOM). In contrast, the Skunk Camp alternative location is comprised of over 65 percent State Trust land and requires much higher volumes of water to support the tailing slurry pipeline.

Comment ID: 562-4
Response: WT4_G

The greatest potential adverse impact to the Trust will be the water (usage of approximately 600,000 acre-feet (AF) over the LOM) that will be extracted from the aquifer beneath the Superstition Vistas Planning Area (SVPA). This level of water consumption is partially a result of the potential need to transport a projected 1.7 trillion tons of waste material to the Skunk Camp location. Based upon the anticipated groundwater requirements contained in the DEIS, the negative impact of the proposed water consumption sourced from the Superstition Vistas Planning Area (SVPA) far outweighs the estimated financial benefits to the Trust resulting from other aspects of the project by a factor of 20:1 (based on current growth projections for the Pinal County portion of the East Salt River Valley developed by the Maricopa Association of Governments).

Comment ID: 562-5
Response: SO18

ASLD is also concerned that a potential sale of the State Trust land directly at or near the Skunk Camp property would not adequately recognize the future value of the Skunk Camp property and fails to consider the inherent decrease in surrounding property values once the facility is established. As this area is immediately adjacent to the SVPA, it has future value as recreational, development, or open space property that supports the anticipated growth in the SVPA. By encumbering a large area with mine tailing storage, the surrounding State Trust land will be depreciated to the detriment of the Trust.

Comment ID: 562-6
Response: NEPA20

The Skunk Camp location would require a US Army Corps Jurisdictional Determination (JD) for the Dripping Springs Wash. If this watershed were determined to be a Jurisdictional Water(s) of the U.S., this decision could greatly compromise ASLD's ability to realize the highest value for those State Trust lands located downstream. As upstream determinations set precedence, this JD has the potential to expose these lands to additional Federal regulation that they would not have absent such a determination.

SUBJECT-SPECIFIC DEIS COMMENTS:

WATER IMPACTS

Comment ID: 562-7
Response: MIT1

Resolution's proposed withdrawal of water for mining operations from wells to be drilled along the MARRCO (Magma Arizona Railroad Company) rail corridor is estimated to range from 180,000 AF to as much as 600,000 AF over the LOM. Resolution has stored and/or obtained Long-Term Storage Credits (LTSCs) for approximately 313,000 AF of Central Arizona Project (CAP) water, of which approximately 256,000 AF are located within the Phoenix Active Management Area (AMA). However, the location along the rail corridor where Resolution proposes to withdraw the water is outside the area of hydrologic impact (AOI) where the water storage occurred. Therefore, the local aquifer in the central portion of the SVPA, and not the one(s) where the storage occurred, will be the aquifer impacted by Resolution's proposed withdrawals. In terms of a 100-year Assured Water Supply (AWS), the water represents the equivalent of an annual buildout demand of up to 6,000 AF per year (AFY).

Resolution could partially mitigate this impact by withdrawing its 256,000 AF of Phoenix AMA LTSCs from within the AOI of storage. This would have the effect of reducing the local area impact in the central SVPA to around 3,440 AFY. Even with this mitigation, at a density of three units per acre, assuming three persons per household, and using a water demand of one AFY per acre (Source: Arizona Department of Water Resources' Fourth Management Plan models for new single-family residential development), Resolution's withdrawals, if mitigated by recovering the LTSCs from within the AOI of storage, would still potentially result in the loss of the development of at least 3,440 acres of State Trust land. State Trust land has recently been auctioned for residential development in the area near the SVPA for approximately $156,000 per acre. Therefore, even with partial mitigation, the loss of 3,440 acres of developable State Trust land represents a minimum potential loss to the Trust of at least $536,640,000 in revenue.

SLURRY PIPELINE ON STATE TRUST LAND

Comment ID: 562-8
Response: WT23

In order to minimize the amount of water necessary to supply the Skunk Camp alternative location's slurry pipeline, the tailings should be dewatered to the maximum extent possible with the most current technology. The recovered slurry water should then be recycled (in addition to any contaminated groundwater pumped from beneath the tailing facility) and reused within the system.

Comment ID: 562-9
Response: MIT1

Skunk Camp's proposed slurry pipeline would be constructed over eight miles of State Trust land in the Dripping Springs Mountains. In order to minimize the potential environmental risk, ASLD requests that all components of the pipeline be engineered and constructed pursuant to best management practices to reduce the possibility of a breach or spill occurring on State Trust land. These design methods may include using thick single-walled or double-walled pipe sections lined with high-density polyethylene, installing a comprehensive pipeline monitoring network, and peer-review of the construction and design.

Comment ID: 562-10
Response: NEPA42

ASLD also requests that TNF provide written confirmation acknowledging approval of the pipeline corridor that crosses land under its jurisdiction. Receipt of this document is necessary for ASLD to begin issuing Rights-of-Way for the selected pipeline alignment.

CULTURAL RESOURCES OF SKUNK CAMP

Comment ID: 562-11
Response: CR5

The results of cultural resources inventories for all alternatives have not yet been fully reported or evaluated. The DEIS provides some preliminary numbers for the significant cultural resources that will be directly impacted based on the different alternatives. These are the cultural resources that have been recommended as eligible for listing on the Arizona and National Registers of Historic Places (A/NRHP) and those that need testing to determine their register eligibility. Final determinations of eligibility and effect have not been completed, but the preliminary numbers indicate that the Skunk Camp alternative will directly impact significantly more cultural resources than any of the other alternatives (Table 1; Figure 1). Skunk Camp with the North Pipeline alternative will impact 2.8 to 4.5 times more cultural resources that the other alternatives, while the South Pipeline alternative will impact 3.3 to 5.4 times more.

Table 1. Cultural resources directly impacted by the different alternatives

Tailing Storage Alternatives	Cultural Resources Directly Impacted
Skunk Camp (South Pipeline Alternative)	301
Skunk Camp (North Pipeline Alternative)	253
Peg Leg (West Pipeline Alternative)	75
Peg Leg (East Pipeline Alternative)	90
Silver King	60
Near West (both Alternatives 2 and 3)	56

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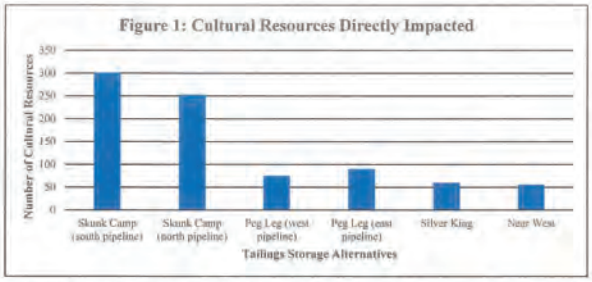

Regardless of the pipeline corridor selected, the Skunk Camp alternative will directly impact significantly more cultural resources, most of which are on State Trust lands. While the reporting of the Skunk Camp inventories has not been completed, the preliminary results given to the ASLD Cultural Resources Section indicate that almost all the cultural resources in the Skunk Camp alternative consist of Classic period Salado sites. Previous research in the region has revealed that habitation sites from this time period have the potential for large numbers of human burials (for example, partial excavation of Togetzoge Pueblo near Top-of-the World resulted in the recovery of 70 burials), and the numbers of sites in the Skunk Camp alternative suggests that several hundred burials could be impacted.

ASLD will assure that the requirements of the Arizona Antiquities Act and the State Historic Preservation Act are fulfilled for those cultural resources on State Trust lands, but the identified preferred alternative (Skunk Camp) has the most significant impact to cultural resources and will require the most mitigation of the adverse impacts.

LESSEE IMPACTS OF SKUNK CAMP

Comment ID: 562-12
Response: LG3

The Skunk Camp tailing facility greatly impacts several long-term ASLD grazing lessees and compromises future revenue generation for the Trust. A total of three grazing leases are likely to be impacted with an estimated minimum loss of 113 animal units. Over the approximately 40-year LOM, the Trust will recognize an estimated grazing revenue loss of $800,000 at the Skunk Camp location.

Additional impacts to grazing lessees downstream from the mine may include the potential loss of surface water for which claims have been filed in the General Stream Adjudication. Loss of surface water may require lessees downstream of the mine to install wells to provide stockwatering.

CONCLUDING REMARKS:

ASLD appreciates the time and efforts of the collaborative TNF and SWCA teams in producing the multi-year DEIS project, and for ASLD's ability to participate as a cooperating agency on behalf of the State Land Trust and its Beneficiaries.

The Resolution Copper project has the potential to positively and negatively affect future development within the region. As the mine expands, available housing will be in short supply in the East Valley and this may act as a catalyst for the development of land within the SVPA. As demand for housing increases, the corresponding land values will increase. The Trust has the opportunity to recognize significant future revenue from these land sales. Conversely, the extraction and transportation of groundwater out of the SVPA greatly compromises the ability to develop these lands to their full planned potential, and as a result reduces the income and value of the Trust.

Comment ID: 562-13

Response: SO18

ASLD requests continued involvement in the completion of the final Environmental Impact Statement (EIS) as a cooperating agency stakeholder. ASLD asks that the TNF's project team continue to work with ASLD's Mineral, Cultural Resources, and Water Rights sections throughout all remaining stages of the EIS process. ASLD points of contact for this project include Aaron Magezi (amagezi@azland.gov) regarding minerals and rights-of-way, Pam Muse (pmuse@azland.gov) regarding water rights and Michael O'Hara (mohara@azland.gov) regarding cultural resources.

Sincerely,

Lisa A. Atkins
Commissioner
Arizona State Land Department

5

LORENZO SIERRA
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DISTRICT 19

COMMITTEES:
GOVERNMENT
WAYS & MEANS

October 14, 2019

Tonto National Forest
Resolution EIS Comments
PO Box 34468
Phoenix AZ 85067-4468

Re: Resolution Copper DEIS comment

To whom it may concern:

As a longtime Arizonan, former city council member and legislator, I understand the importance of copper to the state. I have taken the time to learn about the Resolution Copper project in Superior, and I believe it offers immense value to Arizona.
As a mining region with a legacy of tailings, I am encouraged to learn about the reclamation work that has already been done in Superior, and the fact that progressive reclamation will occur as the project moves forward.
The economic benefit to the state will be a tremendous asset for decades to come. In a traditional mining region that has faced recent economic hardships, the numerous jobs this project will create will play a role in strengthening the economy in Superior and beyond. It is my understanding many of them will be high-tech STEM jobs, which is important to the United States and Arizona's future economic growth.
I commend the U.S. Forest Service for the thorough process it has conducted on this process, and I urge you to complete it in a timely matter. Please don't hesitate to reach out anytime if you have any thoughts or questions.

Comment ID: 282-1

Response: NS1

Sincerely,

Lorenzo Sierra

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DISTRICT 30

COMMITTEES
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Arizona House of Representatives
Phoenix, Arizona 85007

October 29, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

First, I congratulate the United State Forest Service for completion of the Draft Environmental Impact Statement for this project, which I support, as quickly as possible.
Second, I understand this project has gone above and beyond the norm of a typical NEPA as it relates to tribal/public engagement and I encourage the project and USFS to continue this practice. Specifically, I am extremely supportive of the Tribal Monitoring Program and Community Working Group which the USFS and Resolution Copper have established to not only engage with stakeholders but also participate in development of the project.

Comment ID: 285-1

Response: NS1

Finally, as the USFS has identified the Skunk Camp Alternative as its preferred TSF location can the USFS further analyze the workforce development, job training, and local economic impacts to the communities of Winkelman, Kearny, and Hayden? It is vital that these communities receive benefits that are equal to the footprint impact to their region should the TSF be constructed at Skunk Camp.

Comment ID: 285-2

Response: SO10

Thank you for your consideration of these comments during the development of the Final Environmental Impact Statement.

Respectfully,

Robert Meza
House of Representatives
Legislative District 30

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DISTRICT 5

COMMITTEES:
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TECHNOLOGY

Arizona House of Representatives
Phoenix, Arizona 85007

October 10, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

Thank you for the opportunity to comment during development of the Final Environmental Impact Statement for the Resolution Copper Project. I hope the United State Forest Service has the resources to quickly complete the Environmental Impact Statement for this project, which I support.
As an elected official in rural an Arizona community, I am was pleased to see the economic impacts the project will have on the east valley when reviewing the DEIS. This project is vital to our national security and specifically the defense industry which operates in my community. As I think about our state's economic stability, projects like the Resolution Copper project will be vital to a healthy stable economy in Arizona going forward.
I understand there will be several thousand construction jobs and more than 1,500 permanent jobs created by the project's development. It is important to create as many jobs in rural AZ, and I am grateful that the Resolution Copper project will do that.

Comment ID: 296-1

Response: NS1

Thank you for your consideration of these comments and questions.

Sincerely,

DAVID L. COOK
1700 WEST WASHINGTON, SUITE H
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DISTRICT 8

COMMITTEES:
NATURAL RESOURCES
ENERTY & WATER

Arizona House of Representatives
Phoenix, Arizona 85007

October 24, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468

Attn: Resolution DEIS Comments

Supervisor Bosworth:

On August 9th, the United States Forest Service (USFS) reached an important milestone with the release of the Draft Environmental Impact Statement (DEIS) for the Resolution Copper project. I appreciate the need for the USFS to be thorough in its review of the impacts of mine development on federal land. This DEIS is a great example of how the National Environmental Policy Act process can be done in a manner that engages the community extensively and uses feedback to shape the development of a mining project.

Comment ID: 302-1
Response: NS1

As an elected leader that lives near this project, I have an acute interest in the impacts this project will have in supporting Arizona's economy and the constituents I represent. With the extensive support from the county, state and federal cooperating and consulting agencies as well as Native American tribes, I am proud to say our community is shaping the outcome of the mine. Specifically, the preferred tailings site is a direct result of community and tribal input after consideration of multiple alternative sites.

The Resolution Copper mine will have a significant impact on Arizona and the United States. The DEIS confirms that this project alone will have the capacity to produce 25% of U.S. copper demand for 40 years. In the process of mining the ore body, Resolution Copper will create 1,500 permanent jobs in a region that is desperately in need of economic development.

I would like the USFS to further encourage the commitment of Resolution Copper to pursue workforce development, job training, and local economic development. Developing the workforce for this state-of-the-art mining project will be a multiple-year effort that should get underway as soon as possible. The DEIS details several key factors related to local development which highlight the need for this project. The project should continue to evolve and expand its partnership framework with local communities to ensure both are prepared to take full advantage of the opportunities this project will bring.

Resolution Copper has shown a commitment to the local community through independent funding agreements and scholarship programs for the schools in the Copper Triangle. Additional support

from the property tax impacts will provide a school funding stream which is vital to modernization of the Superior Unified School District.

I appreciate the time and efforts contributed by the USFS, Resolution Copper and the public through active and meaningful participation in meetings and providing substantive comments that help shape the project. I encourage the USFS to complete the Final Environmental Impact Statement for this project as quickly as possible.

Sincerely,

DAVID L. COOK
State Representative, District 8

MARK FINCHEM
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DISTRICT 11

COMMITTEES:
FEDERAL RELATIONS
Chairman
NATURAL RESOURCES
ENERGY & WATER
JUDICIARY

Arizona House of Representatives
Phoenix, Arizona 85007

October 23, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468

Attn: Resolution DEIS Comments

Mr. Bosworth:

I write to express my full support of the Resolution Copper project moving forward and encourage the United States Forest Service to quickly complete the Final Environmental Impact Statement under NEPA. Regarding the process to date, I have a few comments I would like the Forest Service to consider under NEPA.

- The approval process has been transparent and has actively sought the involvement of the community and other external stakeholders.
- I strongly encourage the USFS to maintain the planned 90-day public comment period and not consider any extensions.

Comment ID: 303-1
Response: NEPA31

- The USFS should be applauded for identifying a tailings storage facility alternative that addresses the majority of public concerns.
- The economic impacts highlighted in the material illustrate the critical need to have this project up and running without delay.

Thank you for the opportunity to comment during the development of the Final Environmental Impact Statement for the Resolution Copper Project. Completing your work is critically important to our mining sector, our local economies, our state, and our local workforce anxious to get started on this project.

Sincerely,

Representative Mark Finchem
District 11

JEFF WENINGER
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DISTRICT 17

COMMITTEES:
COMMERCE, CHAIRMAN
TECHNOLOGY, VICE CHAIR
LAND & AGRICULTURE

Arizona House of Representatives
Phoenix, Arizona 85007

October 15, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
PO Box 34468
Phoenix AZ 85067-4468

Attn: Resolution DEIS Comments

Dear Mr. Bosworth:

As Chair of the Arizona House of Representatives Commerce Committee, I am always eager to learn about businesses in Arizona. Resolution Copper is a company that will stimulate our economy and one that I am glad is located in Arizona. Thank you for the opportunity to comment during development of the Final Environmental Impact Statement for the Resolution Copper Project. I hope the United States Forest Service has the resources to quickly complete the Environmental Impact Statement for this project, which I support.

Comment ID: 305-1
Response: NS1

I look forward with great anticipation to this project being up and running and the economic boost it will give to rural Arizona. When I think about the future of our state finances, a project like this will be of utmost importance in providing the resources for a stable healthy economy in years to come. I understand there will be several thousand construction jobs and more than 1,500 permanent jobs created by the project's development. I am pleased to see the economic impacts this project will have on Arizona.

Hopefully the review process is quick and efficient. These are the types of projects we need in Arizona.

Thank you for your consideration of these comments.

Sincerely,

JEFF WENINGER
Arizona State Representative
Legislative District 17

JW/tb:im

WARREN PETERSEN
MAJORITY LEADER
1700 WEST WASHINGTON, SUITE H
PHOENIX, ARIZONA 85007-2844
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DISTRICT 12

COMMITTEES:
RULES
ELECTIONS
GOVERNMENT
LEGISLATIVE COUNCIL
JOINT LEGISLATIVE BUDGET
JOINT COMMITTEE ON CAPITOL REVIEW

Arizona House of Representatives
Phoenix, Arizona 85007

October 15, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

I was pleased to see that the United States Forest Service has completed the Draft Environmental Impact Statement for the Resolution Copper mine project in Superior, Arizona. As an elected State Legislator that represents a community in the region of the project, I appreciate the thorough and comprehensive review and analysis that has been completed.
I appreciated the fact that water impacts were considered and studied so thoroughly. Managing Arizona's water resources is of great importance to me personally and to the future of our state. So, it was very reassuring to see that through the comprehensive Draft EIS process that there were no anticipated negative impacts to the water supply for communities inside and outside of the copper triangle.
The economic development and job creation that comes with development of a project of this scale is a game changer. $8,000,000,000 for one project is a huge investment. The thousands of direct and indirect jobs that have been and will be created throughout the life of this project is significant and will shape our economy for years to come.
Therefore, I strongly encourage and support a Final Environmental Impact Statement and Record of Decision in favor of this project.

Comment ID: 308-1
Response: NS1

Sincerely,

Warren Petersen
Majority Leader
House of Representatives

BEN TOMA
1700 WEST WASHINGTON, SUITE H
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DISTRICT 22

COMMITTEES:
WAYS AND MEANS,
Chairman
REGULATORY AFFAIRS
APPROPRIATIONS
JOINT LEGISLATIVE BUDGET
JOINT COMMITTEE ON CAPITOL REVIEW

Arizona House of Representatives
Phoenix, Arizona 85007

October 30, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
PO Box 34468
Phoenix AZ 85067-4468

Attn: Resolution DEIS Comments

Dear Mr. Bosworth:

As Chair of the Arizona House of Representatives Ways & Means Committee, I am always eager to learn about large scale projects being developed in our state. Resolution Copper is a company that has been and will continue to stimulate our economy for decades to come. It is my sincere hope that the United States Forest Service will quickly complete the Environmental Impact Statement for this project, which has my full support.

I look forward with great anticipation to this project being given the final approvals necessary to realize the economic development and the proceeding economic boost it will give to rural Arizona and to our state as a whole. When I consider the future of our state finances, a project of this magnitude will be of utmost importance in providing the resources for a stable healthy economy in years to come. The jobs, which will number in the thousands through the construction phase and the more than 1,500 permanent jobs created by the project's development is of critical importance to the local economy.

I strongly encourage this review process to move as quickly and as efficiently as possible and to complete the Final Environmental Impact Statement without delay. These are the projects we need in Arizona.

Comment ID: 309-1
Response: NS1

Thank you for your consideration of these comments.

Sincerely,

Representative Ben Toma
District 22

JAY LAWRENCE
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DISTRICT 23

COMMITTEES:
MILITARY & VETERANS AFFAIRS,
Chairman
HEALTH & HUMAN SERVICES,
Vice-Chairman
JUDICIARY

Arizona House of Representatives
Phoenix, Arizona 85007
October 30, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

I am in full support of the Resolution Copper project moving forward and encourage the United States Forest Service to quickly complete the Final Environmental Impact Statement under NEPA.
I have a few comments I would like the Forest Service to consider under NEPA.

- The approval process has been transparent and has actively sought the involvement of the community and other external stakeholders.
- I strongly encourage the USFS to maintain the planned 90-day public comment period and not consider any extensions.
- The USFS should be applauded for identifying a tailings storage facility alternative that addresses the majority of public concerns.
- The economic impacts highlighted in the material illustrate the critical need to have this project up and running without delay.

Thank you for the opportunity to comment during the development of the Environmental Impact Statement for the Resolution Copper Project. Completing the Final Environmental Impact Statement is critically important to our mining sector, our local economies and our state as a whole.

Comment ID: 312-1
Response: NS1

Sincerely,

Representative Jay Lawrence
District 23
602-926-3095
Jlawrence@azleg.gov

RUSSELL BOWERS
SPEAKER OF THE HOUSE
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DISTRICT 25

NATURAL RESOURCES, ENERGY & WATER
RULES
LEGISLATIVE COUNCIL
Chairman

Arizona House of Representatives
Phoenix, Arizona 85007

October 30, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

I write today to urge the completion of the Environmental Impact Statement (EIS) by the United Forest Service for the proposed Resolution Copper Project in Superior, Arizona.

I was pleased to see the recent release of the draft EIS and have been impressed with the outreach and transparency of this project with residents in Arizona's Copper Corridor.

The project represents an incredible opportunity to safely extract a critical resource, satisfying 25% of U.S. copper demand for 40 years. It will also revitalize the local economy by creating 1,500 permanent jobs in the region and provide a funding stream to modernize the Superior Unified School District. The Resolution Copper Project also responsibly manages the environmental impact and protects the cultural heritage of the site.

Thank you for your consideration of these comments during the development of the final EIS. It is my hope that this project moves forward as quickly as possible so the many benefits to our state can be realized.

Comment ID: 315-1
Response: NS1

Sincerely,

Rusty Bowers
Speaker of the House
Arizona's 25th Legislative District

SHAWNNA BOLICK
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DISTRICT 20

COMMITTEES:
WAYS & MEANS
Vice-Chairman
ELECTIONS
FEDERAL RELATIONS

Arizona House of Representatives
Phoenix, Arizona 85007

November 4, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix AZ 85067-4468

Attn: Resolution DEIS Comments

Dear Mr. Bosworth:

Thank you for the opportunity to comment on the Resolution Copper Land Exchange Draft Environmental Impact Statement (EIS). I commend the dedication, professionalism and due diligence with which the Tonto National Forest team has conducted itself during this process.

As a member of the House's Federal Relations committee, I am eager for the Resolution Copper Project to move forward. This project will boost the local economy, ensuring growth in this area for future generations. I encourage the United States Forest Service to quickly complete the EIS for this project – which has my full support.

As an advocate for economic development and education, I applaud Resolution Copper for their commitment to the community to support apprenticeship programs and secondary educational opportunities. Their efforts to develop a local Entrepreneurship and Innovation Center will ensure the local community can find avenues to participate in the development and successes of this project.

I hope you will give the final approval necessary to spur the economic development to rural Arizona and to our state. The creation of thousands of jobs between the construction phase to the more than 1,500 permanent jobs by the project's development is paramount to the growing the local economy.

I strongly encourage this review process to move as quickly and as efficiently as possible and to complete the Final EIS without delay. These are the projects we need in Arizona.

Thank you for your consideration.

Comment ID: 316-1

Response: NS1

Sincerely,

Shawnna Bolick

Representative Shawnna Bolick
Legislative District 20

NOEL W. CAMPBELL
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DISTRICT 1

COMMITTEES:
TRANSPORTATION
Chairman
MILITARY & VETERANS AFFAIRS
PUBLIC SAFETY

Arizona House of Representatives
Phoenix, Arizona 85007

November 7, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468

Re: Resolution DEIS Comments

Dear Mr. Bosworth,

I am in full support of the Resolution Copper project moving forward and encourage the United States Forest Service to quickly complete the Final Environmental Impact Statement under NEPA.

I have a few comments I would like the Forest Service to consider under NEPA.

The approval process has been transparent and has actively sought the involvement of the community and other external stakeholders.

I strongly encourage the USFS to maintain the planned 90-day public comment period and not consider any extensions.

The USFS should be applauded for identifying a tailings storage facility alternative that addresses the majority of public concerns.

The economic impacts highlighted in the material illustrate the critical need to have this project up and running without delay.

Thank you for the opportunity to comment during the development of the Environmental Impact Statement for the Resolution Copper Project. Completing the Final Environmental Impact Statement is critically important to our mining sector, our local economies, and our state as a whole.

Comment ID: 571-1

Response: NS1

Sincerely,

Noel Campbell

Representative Noel Campbell

STEVE PIERCE
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DISTRICT 1

Arizona House of Representatives
Phoenix, Arizona 85007

October 9, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

As a member of the House of Representatives who represents rural Arizona, I'd like to write you and ask for your support for the Resolution Copper project. Thank you for the opportunity to comment during development of the Final Environmental Impact Statement for the Resolution Copper Project. I am extremely supportive of this project moving forward and hope the United State Forest Service will quickly complete the Environmental Impact Statement. The positive economic impact this will have to the state of Arizona will be significant.

Comment ID: 907-1

Response: NS1

Regarding the future of our state finances, a project like this will be of utmost importance to provide the resources to have a stable healthy economy for years to come. I understand there will be several thousand construction jobs and more than 1,500 permanent jobs created by the project's development. The revenues local cities and towns will see as a result of the development of this project, particularly property and sales taxes are vital to the future of our State.

Thank you for your consideration of these comments.

Sincerely,

Steve Pierce

Steve Pierce
State Representative
Legislative District 1

ALMA HERNANDEZ
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DISTRICT 3

COMMITTEES:
FEDERAL RELATIONS
HEALTH & HUMAN SERVICES

Arizona House of Representatives
Phoenix, Arizona 85007

November 6, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

I would like to congratulate the United States Forest Service for completion of the Draft Environmental Impact Statement for Resolution Copper Project and Land Exchange, which I support. I would also like to applaud the Tonto National Forest for their efforts in conducting a transparent and inclusive process. I understand this project has gone above and beyond the norm of a typical NEPA as it relates to tribal and public engagement and I encourage the project and USFS to continue this practice. Specifically, I am extremely supportive of the Tribal Monitoring Program and Community Working Group which the USFS and Resolution Copper have established to not only engage with stakeholders but also participate in development of the project. Please ensure this process continues through completion of NEPA and fulfillment of the land exchange as mandated by congress.

Comment ID: 1281-1

Response: NS1

Comment ID: 1281-2

Response: NS2

As an elected member of the Arizona House of Representatives from Legislative District 3 in Pima County I am aware of the need for coexistence between mining and environmental stewardship. This project is an example of how modern practices can place an emphasis on responsible mineral extraction while also implementing mitigations which in many ways exceed the levels of potential impacts. Furthermore, Arizona needs more operators like Resolution Copper as they are actively changing the narrative around mining through active community partnerships, environmental clean-up, progressive reclamation, and most notably the way in which Resolution Copper ensures the safety of their employees and surrounding communities. Resolution Copper has a demonstrated track record in its open relationship with labor organizations which is also a testament to their focus on employee wellbeing. With this in mind, I request the USFS to include in the Final Environmental Impact Statement a statement on the no action alternative which demonstrates the opportunities and jobs that would otherwise not exist without this project development over the course of its projected mine life.

Comment ID: 1281-3

Response: NS2

Comment ID: 1281-4

Response: SO8

Thank you for your consideration of these comments during the development of the Final Environmental Impact Statement. I encourage its completion as soon as possible and request the USFS to move forward without delay.

Comment ID: 1281-5

Response: NS1

Sincerely,

Sincerely,

Alma Hernandez

Representative Alma Hernandez

KEVIN PAYNE
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DISTRICT 21

COMMITTEES:
PUBLIC SAFETY,
Chairman
GOVERNMENT,
Vice-Chairman
TRANSPORTATION

Arizona House of Representatives
Phoenix, Arizona 85007

November 6, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
PO Box 34468
Phoenix AZ 85067-4468

Attn: Resolution DEIS Comments

Dear Mr. Bosworth:

As a State Representative, I am excited and eager for the Resolution Copper Project to move forward in the process. As a small business owner, I know firsthand what a project of this scale will do to support the local economy. I am writing to encourage the United States Forest Service to quickly complete the Environmental Impact Statement for this project, which has my full support.

I applaud Resolution Copper for their commitment to the community to support apprenticeship programs and secondary educational opportunities. Their efforts to develop a local Entrepreneurship and Innovation Center will ensure the local community can find pathways to participate in the development and successes of this project. Additionally, their support of the education systems to promote STEM and robotics programming will assist students in developing the interest and skills needed for the project.

I look forward with great anticipation to this project being given the final approvals necessary to realize the economic development and the proceeding economic boost it will give to rural Arizona and to our state as a whole. The jobs, which will number in the thousands through the construction phase and the more than 1,500 permanent jobs created by the project's development is of critical importance to the local economy.

I strongly encourage this review process to move as quickly and as efficiently as possible and to complete the Final Environmental Impact Statement without delay. These are the projects we need in Arizona.

Thank you for your consideration of these comments.

Comment ID: 1387-1

Response: NS1

Thank you,

Representative Kevin Payne

FRANK CARROLL
[illegible]
fcarroll@azleg.gov

DISTRICT 22

COMMITTEES
ELECTIONS,
EDUCATION
TECHNOLOGY
STATE & INTERNATIONAL AFFAIRS

Arizona House of Representatives
Phoenix, Arizona 85007

November 7, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
PO Box 34468
Phoenix AZ 85067-4468

Attn: Resolution DEIS Comments

Dear Mr. Bosworth:

As a State Representative, I am excited and eager for the Resolution Copper Project to move forward in the process. I am writing to encourage the United States Forest Service to quickly complete the Environmental Impact Statement for this project, which has my full support.

I applaud Resolution Copper for their commitment to the community to support apprenticeship programs and secondary educational opportunities. Their efforts to develop a local Entrepreneurship and Innovation Center will ensure the local community can find pathways to participate in the development and successes of this project. Additionally, their support of the education systems to promote STEM and robotics programming will assist students in developing the interest and skills needed for the project.

I look forward with great anticipation to this project being given the final approvals necessary to realize the economic development and the proceeding economic boost it will give to rural Arizona and to our state as a whole. The jobs, which will number in the thousands through the construction phase and the more than 1,500 permanent jobs created by the project's development, are of critical importance to the local economy.

I strongly encourage this review process to move as quickly and as efficiently as possible and to complete the Final Environmental Impact Statement without delay. These are the projects we need in Arizona.

Thank you for your consideration of these comments.

Sincerely,

Comment ID: 1427-1

Response: NS1

Tonto National Forest

Resolution EIS Comments

PO Box 34468

Phoenix AZ 85067-4468

Re: Resolution Copper DEIS comment

To whom it may concern:

I would like to express my gratitude for this opportunity to provide comment on the Resolution Copper Mine and Land Exchange Draft Environmental Impact Statement. The Tonto National Forest (TNF) should be applauded for the transparent and robust manner in which you have applied NEPA throughout this process. The thorough analysis of alternatives which will decrease significantly potential environmental impacts while maintaining economic opportunities is a testament to the ability of this process to find the means to extract minerals in a responsible and sustainable manner with public interest at the forefront. Furthermore, the project and TNF should be commended for the collaborative efforts in consulting with community members, local elected officials, groups/organizations and Native American Tribes that may be potentially affected by the mine and land exchange.

As an elected State Representative, I am proud to represent a diverse district that has been impacted by mining throughout many years. I believe this project is critical to reshaping how the mining industry operates in Arizona. Resolution Copper has already invested more than $50 million dollars in reclamation of the West Plant site where they did not create the environmental liabilities, and has from the beginning of this process agreed to progressive reclamation of its future operations.

Additionally, Resolution Copper has expressed a willingness to work with labor organizations to ensure that the 3700 expected employees are provided with safe high paying jobs once the project becomes operational. Their apprenticeship program provides full-time employment and secondary education for participants and through their scholarship program they have awarded over $600,000 to local and Native American students. All of this illustrates the dedication they have to working with labor unions, and local communities to ensure their inclusion in the success of this project.

For these reasons, and many more, including the positive economic impact to our state and the local economy I want to express my support for the project and to see it proceed.

Thank you for your consideration of these comments during the development of the Final Environmental Impact Statement.

Sincerely,

Representative Daniel Hernandez, Jr

Comment ID: 1494-1

Response: NS1

Letter ID: 30073 (Page 1 of 2)
Format: Submitted by webform, 11/12/2019
Sender:
Cesar Chavez
Arizona House of Representatives
Contact info:
cchavez@azleg.gov
Content:

November 12, 2019

Tonto National Forest
Resolution EIS Comments
PO Box 34468
Phoenix AZ 85067-4468

Re: Resolution Copper DEIS comment

To whom it may concern:

I am thankful for the opportunity to provide comment on the Resolution Copper Mine and Land Exchange Draft Environmental Impact Statement. I commend the dedication and professionalism for which the Tonto National Forest (TNF) has conducted the NEPA process by transparently preparing a rigorous analysis of potential economic and environmental impacts as well as identifying alternatives to the original proposal. The project and TNF should be commended for the collaborative efforts in consulting with community members, local elected officials, groups/organizations and Native American Tribes that may be potentially affected by the mine and land exchange.

As an elected State Representative, I am proud to represent many diverse economic, cultural and environmental interests across our great state. With this in mind I would like to express my support for the Resolution Copper Project and Land Exchange.

One of the largest challenges that Arizona faces is funding for public education. As a state we lag behind in both funding and performance. However, Resolution Copper has taken the initiative to work with a number of rural schools to both supplement funding needs and support enhanced performance. This commitment was further solidified earlier this year when Resolution Copper agreed to a multi-year $1.2M agreement with the Superior Unified School District which is focused on providing 21st century educational tools and opportunities for local students. I am excited to see this project continue to progress and by virtue of its operations positively impact school funding across the state through increased tax revenues, most notably the anticipated $19-$30 million dollar annual mill levy.

Comment ID: 30073-1

Response: NS1

Letter ID: 30073 (Page 2 of 2)	
Format: Submitted by webform, 11/12/2019	
Sender: Cesar Chavez Arizona House of Representatives	
Contact info: cchavez@azleg.gov	
Content: I would also like to voice my support of the preferred alternative tailings storage facility skunk camp. This location not only reduces the project's impact on public lands but also helps protect local communities from undue negative socioeconomic impacts that could arise from being in close proximity a significant facility such as this. Thank you for your consideration of these comments during the development of the Final Environmental Impact Statement. Sincerely, Representative Cesar Chavez	**Comment ID:** 30073-2 **Response:** ALT30

Letter 258 is a duplicate of Letter 923

REGINA COBB
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DISTRICT 8

COMMITTEES:
APPROPRIATIONS
Chairman
EDUCATION
WAYS & MEANS
JOINT LEGISLATIVE BUDGET
JOINT COMMITTEE ON CAPITAL REVIEW

Arizona House of Representatives
Phoenix, Arizona 85007

August 8, 2019
Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

As an elected State Representative and the Chair of the House of Representatives Appropriations Committee, I have a keen interest in the positive fiscal impacts this project will have on region and on Arizona's economy as a whole. The significant capital investment and job creation the Resolution Copper Mine will create will benefit generations to come.

I strongly encourage the United State Forest Service to complete the Final Environmental Impact Statement for this project, which I support, as quickly as possible.

Comment ID: 923-1
Response: NS1

A project of this size and scope will have a significant and long-term impact on Arizona and the United States. The DEIS confirms that this project alone will have the capacity to produce 25% of US copper demand for 40 years. In the process of mining this ore body, Resolution Copper will create 1,500 permanent jobs in this rural region that is desperately in need of economic development.

I would like the USFS to further encourage the commitment of Resolution Copper to continue their workforce development, job training, and local economic development work in the community. Developing the workforce for this state-of-the-art mining project will be a multi-year effort that should not be hindered in any way.

Comment ID: 923-2
Response: MIT1

The project should continue, unimpeded, to evolve and expand its partnership's with local communities to ensure the region and the State are prepared to take full advantage of the opportunities this project will bring.

I appreciate the thoroughness shown by the US Forest Service to review the impacts of this project's development on federal land. It's continued development and ultimate operation is critical to the future of Arizona.

Thank you for the opportunity to provide these important comments during the DEIS comment period.

Sincerely,

Regina E. Cobb

Az State Representative
Regina E. Cobb

Letter 299 is a duplicate of Letter 817

THOMAS "T.J." SHOPE
SPEAKER PRO TEMPORE
1700 WEST WASHINGTON, SUITE 11
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DISTRICT 8

COMMITTEES:
RULES
Vice-Chairman
EDUCATION
NATURAL RESOURCES
ENERGY & WATER
ETHICS
Chairman
ADMINISTRATION
Chairman
LEGISLATIVE COUNCIL

Arizona House of Representatives
Phoenix, Arizona 85007

August 20, 2019

Resolution EIS Comments
Tonto National Forest, United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4668

To Whom It May Concern:

I have been following the proposed Resolution Copper Project in Superior, Arizona for many years and I was pleased to see the recent draft EIS release for comment. I know this project will have a large economic impact to the district which I represent and Pinal County.

The draft EIS is a great example of how the National Environmental Policy Act process can be done in a manner that engages the community extensively and uses feedback to shape a mining project. I have been impressed with the outreach and transparency of this project with people in the Copper Corridor. I support this project moving forward.

Comment ID: 299-1
Response: NS1

The project represents an incredible opportunity for the district in which I represent and State of Arizona. I am encouraged to see that anticipated economic benefits have been verified and that all impacts of the proposed mine have been thoroughly analyzed in the draft EIS. I am especially supportive of the preferred tailings alternative and world class design principles included in the skunk camp tailings storage facility.

Comment ID: 299-2
Response: ALT30

I have engaged with the company and its employees on a regular basis and am excited to see this project move forward. As member of the Arizona House of Representatives, I know these kinds of projects are important to future of our state. As the process continues to move forward I encourage the Forest Service and company to continue collaborating with community stakeholders to shape the project in a mutually beneficial manner.

I appreciate you including my comments in the draft EIS process. I look forward to following this process and hope it can be moved forward expeditiously.

Sincerely,

Representative Thomas "T.J." Shope, Jr

State Representative, District 8
Speaker Pro Tempore
Vice-Chairman – House Rules Committee
Member – House Education Committee
Member – Natural Resources, Energy & Water Committee

Letter 852 is a duplicate of Letter 907

JOHN FILLMORE
1700 WEST WASHINGTON, SUITE H
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DISTRICT 16

COMMITTEES:
EDUCATION,
Vice-Chairman
APPROPRIATIONS
ELECTIONS

September 12, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

I have been an elected official in Arizona for several years and represent the district adjacent to the district where the Resolution Copper mine is located. I am extremely supportive of this project moving forward and hope the United State Forest Service will quickly complete the Environmental Impact Statement. The positive economic impact this will have to the state of Arizona will be very helpful.

Because I represent a district near the Resolution Copper mine, a functioning mine will help the economy in my district and our region. I am happy to see that impacts of the project to our communities have been analyzed and minimized to the greatest extent possible.

I know mining can use a lot of water and it is reassuring to see that through the collaborative DEIS process that there were not any anticipated negative impacts to water supply for communities inside and outside of the copper triangle. As the project moves forward the USFS should continue to promote operational practices which conserve water to the greatest extent possible.

While in the State Legislature, I have always tried to create and promote policy that will allow businesses to thrive. I appreciate the economic development and job creation that comes with development of a project of this scale. $8,000,000,000 for one project is a huge investment. The revenues local cities and towns will see as a result of development of this project, particularly property and sales taxes are vital to the future of our State.

Comment ID: 852-1

Response: NS1

Thank you,

Representative John Fillmore

JOHN KAVANAGH
jkavanagh@azleg.gov

DISTRICT 23

COMMITTEES:
GOVERNMENT
Chairman
APPROPRIATIONS
Vice-Chairman
PUBLIC SAFETY

JOINT LEGISLATIVE BUDGET
JOINT COMMITTEE ON CAPITOL REVIEW
ADMINISTRATION

Arizona House of Representatives
Phoenix, Arizona 85007

October 14, 2019

Tonto National Forest
Resolution EIS Comments
PO Box 34468
Phoenix AZ 85067-4468

Re: Resolution Copper DEIS comment

To whom it may concern:

I appreciate the opportunity to comment on one of the greatest economic opportunities for the State of Arizona in my lifetime. I wholeheartedly endorse and support the Resolution Copper Mining land exchange in Superior and urge it be approved as soon as possible.
In my role as an Arizona Legislator, I represent not only my district in the Arizona House of Representatives, but the entire state. I understand that this project could have a $40 billion economic impact on the state over the life of the project. The state tax revenue of a project this size represents an enormous benefit to the priorities that we as legislators work hard to support every year, including education, health care, technology, job creation, the arts and more.
It is not often a project with these many benefits comes along, including revitalizing the Copper Triangle, creating STEM jobs, protecting the ecology of the surrounding region and more.
It is for these reasons that I support this project and urge you to complete the process in a timely fashion. Please do not hesitate to reach out at any time should you wish to discuss this project.

Comment ID: 297-1

Response: NS1

Sincerely,

Representative John Kavanaugh
Legislative District 23
602-926-5170

Senator Vince Leach
District 11

STATE SENATOR
FIFTY-FOURTH LEGISLATURE

CAPITOL COMPLEX, SENATE BUILDING
PHOENIX, ARIZONA 85007-2890
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COMMITTEES:
Appropriations
Vice Chairman
Finance
Government
Judiciary

Arizona State Senate

August 8, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468

Attn: Resolution DEIS Comments

Mr. Bosworth,

I would like to congratulate the United State Forest Service for the completion of the Draft Environmental Impact Statement for the Resolution Copper mine project. As an elected State Senator that represents a community adjacent to the project, I appreciate the thorough and comprehensive review and analysis that has been completed thus far.

It goes without saying that water in Arizona is one of the greatest issues and concerns in an arid state like ours. So, it was most reassuring to see that through the collaborative DEIS process that there were not any anticipated negative impacts to the water supply for communities inside and outside of the copper triangle. As the project moves forward, I encourage the USFS to continue to promote operational practices which conserve water to the greatest extent possible.

Further, I appreciate the economic development and job creation that comes with development of a project of this scale. $8,000,000,000 for one project is a huge investment. The revenues local cities and towns in our region will see as a result of development of this project, particularly property and sales taxes are vital to the future of our State.

Thank you for your consideration of these comments during the development of the Final Environmental Impact Statement.

Sincerely,

Vince Leach, Senator
11th Legislative District

Comment ID: 264-1

Response: NS1

HEATHER CARTER
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DISTRICT 15

COMMITTEES:
CHAIR
HIGHER EDUCATION AND
WORKFORCE DEVELOPMENT
VICE-CHAIR
HEALTH AND HUMAN SERVICES
MEMBER
APPROPRIATIONS

Arizona State Senate

October 18, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468

Attn: Resolution DEIS Comments

Mr. Bosworth,

I want to express my support for the Resolution Copper project and for the USFS to quickly complete the Final Environmental Impact Statement and Record of Decision in favor of this project.

The USFS has done a thorough and independent analysis of the project as evident in the DEIS report. The project remains an extraordinarily important opportunity to the State of Arizona and United States of America as it provides a long-term supply of copper and potentially a number of other critical minerals.

The USFS and the Resolution Copper team have done significant work related to incorporation of public input into the project design. The proposed trails and recreation mitigations detailed in the DEIS will provide the local communities with world class outdoor recreation opportunities that otherwise would likely never be possible. These outdoor recreation opportunities will provide immediate economic diversification for the local economy and further lessen the reliance on mining for sustainability. This project is a perfect example of how a mining project can have net positive impacts to the communities and the environment.

In addition, I applaud Resolution Copper for the efforts they have made to support the local education systems. Through their financial commitments to the Superior Unified School District to modernize and enhance classrooms and curriculum, to their funding and support of a local robotics program, to the significant educational scholarships for local and Native American students and the apprenticeship opportunities it is clear they are committed to this community. Helping local students find pathways to future employment opportunities at the project is critical to the economic future for their residents and it is what a good corporate citizen should be doing.

Thank you for the opportunity to comment at this critical point in the NEPA process for the Resolution Copper Project.

Sincerely,

Heather Carter, Ed.D
Arizona State Senator
Legislative District 15

Comment ID: 304-1

Response: NS1

SENATOR KAREN FANN
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DISTRICT 1

COMMITTEES:
Rules,
CHAIRMAN

October 4, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

As President of the Arizona State Senate, I want to express my support for the Resolution Copper project and for the USFS to quickly complete the Final Environmental Impact Statement and Record of Decision in favor of this project.

Comment ID: 896-1

Response: NS1

In my duties as president of the Senate, I help oversee the state budget and care for the fiscal management of the state of Arizona. A project like this will be immensely important to the healthy financial state of Arizona. Additionally, the project remains an extraordinarily important opportunity to the State of Arizona and United States of America as it provides a long-term supply of copper and potentially a number of critical minerals.

This project will help stabilize Arizona's economy throughout lean times in future years and therefore it is one of the most important projects we have before us today. I wholeheartedly support this project and look forward to the responsible mining that Resolution Copper will preform for many years to come.
I am grateful to submit comment at this point in the NEPA process for the Resolution Copper project.

Sincerely,

Senator Karen Fann

President Karen Fann
District 1
Arizona Senate

SENATOR DAVID GOWAN
1700 WEST WASHINGTON, SUITE 200
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gowan@azleg.gov
DISTRICT 14

COMMITTEES:
Appropriations,
CHAIRMAN
Water and Agriculture,
Natural Resources

October 16, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

I am in full support of the Resolution Copper project moving forward and encourage the United States Forest Service to quickly complete the Final Environmental Impact Statement under NEPA.

I have a few comments I would like the Forest Service to consider under NEPA.

- The approval process has been transparent and has actively sought the involvement of the community and other external stakeholders.
- I strongly encourage the USFS to maintain the planned 90-day public comment period and not consider any extensions.
- The USFS should be applauded for identifying a tailings storage facility alternative that addresses the majority of public concerns.
- The economic impacts highlighted in the material illustrate the critical need to have this project up and running without delay.

Thank you for the opportunity to comment during the development of the Environmental Impact Statement for the Resolution Copper Project. Completing the Final Environmental Impact Statement is critically important to our mining sector, our local economies and our state as a whole.

Sincerely,

Comment ID: 1017-1

Response: NS1

David M. Gowan, Sr.

David Gowan
Arizona State Senate
Legislative District 14

Senator Sine Kerr
Arizona State Senate
Legislative District 13

Arizona State Senate

Committees:
Water & Agriculture Committee, Chair
Natural Resources & Energy, Vice Chair
Transportation & Technology
Joint Committee on Capital Review
Appropriations

October 16, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468

Attn: Resolution DEIS Comments

Mr. Bosworth,

As a member of the Arizona Senate, I am always eager to learn about businesses in Arizona and the positive impact they will have on our state. Resolution Copper is a company that will provide a huge economic boost to our economy and I am glad they are located in Arizona. I come from a dairy background and have traveled the state and understand that economic development in rural Arizona is important. This project would be very helpful and important for rural Arizona. Thank you for the opportunity to comment during development of the Final Environmental Impact Statement for the Resolution Copper Project.

Comment ID: 1018-1

Response: NS1

I look forward to the economic boost it will provide to Arizona, but particularly rural AZ. I am excited to see what the economic impact will be. When I think about the future of our state finances, a project like this will be important to provide the resources to have a stable healthy economy for years to come. These resources can then be poured back into our economy in other areas where they are desperately needed. I hope the review process is quick and efficient. These are the types of projects we need in Arizona.

I understand there will be several thousand construction jobs and more than 1,500 permanent jobs created by the project's development.

Thank you for your consideration of these comments and questions.

Sincerely,

Sine Kerr

Senator Sine Kerr
Senate District 13 | Chair – Water & Agriculture Committee

1700 West Washington Street, Room 302 • Phoenix, AZ 85007 • Phone: 602-926-5955
• E-mail: skerr@azleg.gov

October 18, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

I write to express my support for the Resolution Copper mining project and for the USFS to quickly complete the Final Environmental Impact Statement and Record of Decision in favor of this project.

Comment ID: 1046-1

Response: NS1

It is evident in the draft EIS that the USFS has done a thorough and independent analysis of the project. The project is an extraordinarily important opportunity to the State of Arizona and United States of America as it provides a long-term supply of copper and potentially a number of critical minerals.

The economic development and job creation that comes with the development of a project of this scale is critical to copper triangle, the east valley and the state as a whole cannot be overlooked or undervalued in this process. An $8 billion investment and the creation of 1,500 permanent jobs would result in significant economic development, employment, and much needed revitalization of the region. Further, I was pleased to see through this process it was determined there were no anticipated negative impacts to the water supply for communities inside and outside of the region.

Thank you for the opportunity to comment at this critical point in the NEPA process for the Resolution Copper mine project. It is project that will have a positive multi-generational impact on our state and should be approved as quickly as possible.

Sincerely,

Eddie W. Farnsworth

Senator Eddie Farnsworth, President Pro Tempore LD12.

SENATOR RICK GRAY
Majority Leader
1700 WEST WASHINGTON, SUITE S
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DISTRICT 21

Arizona State Senate

SENATE COMMITTEES
Education
Health & Human Services
Judiciary
Vice-Chairman
Rules
Vice-Chairman

November 4, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

Mr. Bosworth,

As the Arizona Senate Majority Leader, I am grateful to businesses that want to be located in Arizona. Resolution Copper is a special business that I am glad is working responsibly and diligently on their project in Superior, AZ. This is a company that will provide a huge economic boost to our economy, and it will be especially beneficial for rural Arizona.

Comment ID: 1148-2
Response: NS1

I look forward to the economic boost it will provide to Arizona. I am pleased to see the economic impacts the project will have on Arizona. When I think about the future of our state finances, a project like this will be important to provide the resources to have a stable healthy economy for years to come. These resources can then be poured back into our economy in other areas where they are desperately needed. I understand there will also be several thousand construction jobs and more than 1,500 permanent jobs created by the project's development.

Putting together the state budget is always an important task, but thinking about the economic success that a project like Resolution Copper would bring to Arizona makes my job a lot easier. These are the types of projects we need in Arizona. I hope the review process is quick and efficient.

Thank you for the opportunity to comment during development of the Final Environmental Impact Statement for the Resolution Copper Project.

Sincerely,

Rick Gray
Senate Majority Leader

Arizona State Senate

November 6, 2019

Resolution EIS Comments
P.O. Box 34468
Phoenix, AZ 85067-4668

To Whom It May Concern:

Thank you for the opportunity to submit written comments regarding the proposed Resolution Copper Mine in Superior, Arizona. As the State Senator for Legislative District 8 which is the district in which Resolution Copper resides I have a particular interest in seeing the project and land exchange move forward. This single project will have one of the largest economic impacts to our State in the modern era, both in the construction phase and once operational. The economic and social impact to our local economies, Pinal County and the State is a game changer. And for that reason, I am in full support of Resolution Copper mining project and land exchange.

Comment ID: 1312-1
Response: NS1

Comment ID: 1312-2
Response: NS1

As part of the Final Environmental Impact Statement I would like the U.S. Forest Service to more holistically describe how tax revenue from concentrate tolling will be distributed within the Arizona educational system and how property taxes for residents within Pinal County will be impacted.

I also Understand that Resolution Copper is assisting the local government, schools, and Chambers of Commerce to prepare for a balanced economy, can you ensure that the Final Environmental Impact Statement acknowledges the opportunities which are on the brink of being realized through these efforts. These opportunities include a business incubator, increased outdoor recreation and tourism, a new hotel, and completion of a multi-generational center. Finally, it is critical that funding commitments from Resolution Copper be made clear in the Final Environmental Impact Statement such that momentum toward taking full advantage of these opportunities continues. Shared success in this project is critical to ensure the Town of Superior realizes a sustainable and vibrant economic environment.

Comment ID: 1312-3
Response: SO14

I appreciate your consideration of these important issues and for their inclusion in the Draft Environmental Impact Statement process. I look forward to following the progress of this important permitting process and request that the Final Environmental Impact Statement be developed without further delay.

Sincerely,

State Senator Frank Pratt

DAVID BRADLEY
ARIZONA STATE SENATE
1700 WEST WASHINGTON
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dbradley@azleg.gov

DISTRICT 10

SENATE MINORITY LEADER

October 21, 2019

Tonto National Forest
Resolution EIS Comments
PO Box 34468
Phoenix AZ 85067-4468

Re: Resolution Copper DEIS comment

To whom it may concern:
Thank you for the opportunity to comment on the Resolution Copper land exchange Draft Environmental Impact Statement. I commend the dedication, professionalism and due diligence with which the Tonto National Forest team has conducted itself during this process.
As an Arizona State Senator and Minority Leader in the Senate, I am proud to represent many economic, cultural and environmental interests across our great state. I am grateful that the Tonto National Forest has studied all aspects of this project, including the tribal impacts. I urge the continued consideration of tribes' interests in this process.
Education issues are at the forefront of policy discussions at the Capitol and are of critical importance to the future of our state. I am very pleased to see the commitment and significant financial contributions Resolution Copper has made to the local school systems to support STEM and robotics education. Their apprenticeship program provides full-time employment and secondary education for participants as well as their scholarship program awarding over $600,000 to local and Native American students illustrates the dedication they have to working with the local community to ensure their inclusion in the success of this project.
For these reasons, and many more, including the positive economic impact to our state I am anxious to see the process continue and have the issues discussed and addressed to meet the concerns of all the interested parties.
Thank you for your consideration of these comments during the development of the Final Environmental Impact Statement.

Comment ID: 1065-1
Response: NS1

Dave Bradley

David Bradley

Senator Sylvia Allen
Arizona State Senate
District 6

Arizona State Senate

Committees:
Education, Chairman
Health & Human Services
Natural Resources & Energy
Water & Agriculture

October 28, 2019

Mr. Neil Bosworth
Tonto National Forest Supervisor
United States Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468

Attn: Resolution DEIS Comments

Mr. Bosworth,

Thank you for the opportunity to comment during development of the Final Environmental Impact Statement for the Resolution Copper Project. It is my hope that the United States Forest Service acts quickly to complete the Environmental Impact Statement for this project, which I support wholeheartedly.

As a State Senator living in a community immediately adjacent to the project and a lifelong advocate for the wise stewardship of our State's precious natural resources, I can say without a doubt that this project has and will continue to live up to the commitments Resolution Copper has made to the community. I was pleased to see items like the economic impacts of the project detailed in the Draft EIS as I reviewed the material.

This project is vital to not only our economy but to our national security. Relying on the domestic production of copper and other crucial minerals is critically important to our military for the future of our country.

Thank you for your consideration of these comments during the development of the Final Environmental Impact Statement. It is my hope that this project will continue to move along the project timeline in the most expeditious manner. Our local communities are waiting anxiously for the jobs and economic opportunities that are so critically needed in this part of our state.

Comment ID: 318-1
Response: NS1

Sincerely,

Senator Sylvia Allen
Legislative District 6

1700 West Washington Street, Room 303 • Phoenix, AZ 85007 • Phone: 602-926-5409
Toll free: 1-(800) 352-8404 x65409 • E-mail: sallen@azleg.gov

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
3636 N. CENTRAL AVE, SUITE 900
PHOENIX, AZ 85012-1939

November 7, 2019

SUBJECT: Draft Environmental Impact Statement for Resolution Copper Mine (Corps file No. SPL-2016-00547

Neil Bosworth, Forest Supervisor
Tonto National Forest
2324 East McDowell Road
Phoenix, AZ 85006

Dear Mr. Bosworth:

I am writing in regard to the recently released Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange. As the public review period for the DEIS draws to a close, I wanted to provide a brief response to you and your team regarding the DEIS, particularly as it relates to the Clean Water Act Section 404 permitting process for this project.

The U.S. Army Corps of Engineers (Corps) is a cooperating agency for this project under the National Environmental Policy Act (NEPA) for development of the environmental impact statement (EIS) and will use this EIS as part of our decision-making process for the 404 permit. Corps staff have participated in the development of the DEIS and will continue to be a part of the NEPA process through publication of the final EIS. For this reason, we do not have any formal comments to submit on the DEIS. We will continue to remain engaged with your staff as the process progresses to share information, address issues as they come up, and refine the analysis for this project as they relate to the permitting process.

Lastly, I wanted to specifically mention my appreciation to you and your project team for the manner in which they have worked with my staff on this project. This is a very demanding and complicated project, but the process has been made less difficult by the sense of teamwork, effective communications, and offers of technical assistance conveyed by your team. We look forward to continuing our relationship with your agency.

If there is anything we can do to be of further assistance on this project, please contact me or Michael Langley, the Corps's project manager for this project.

Sincerely,

Sallie Diebolt
Chief, Arizona Branch
Regulatory Division

CC: Mary Rasmussen, TNF

COMMENT RESOLUTION FORM

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response	
K. Ryan / BLM	ES-1.4 & 1.1 & 1.5.3	ES-4 & 3 & 14	Statements such as "Because Congress directed that a single EIS is to support all Federal decisions related to the proposed mine, the USACE is relying on this EIS to support a decision for issuance of a Section 404 permit" could be misconstrued that no other NEPA procedures and/or documents would be necessary. The NDAA, at Section (c)(9)(B) states that…"*the Secretary [of Agriculture] shall prepare a single environmental impact statement under [NEPA] which shall be used as the basis for all decisions under Federal law related to the proposed mine and the Resolution mine plan of operations…*" The NDAA goes on at Section (c)(9)(D) to state that "*Nothing in this paragraph precludes the Secretary from using separate environmental review documents prepared in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.) or other applicable laws for exploration or other activities not involving— (i) the land exchange; or (ii) the extraction of minerals in commercial quantities by Resolution Copper on or under the Federal land.*" Although it is true that, through the NDAA, Congress has directed the Secretary of Agriculture (and the Forest Service) to prepare a single EIS as the basis for decision under Federal law, there is nothing that precludes the Secretary (of Agriculture)- or any other Federal agency -from using separate/supplementary compliance review and procedures in accordance w/applicable laws.		**Comment ID:** 28449-1 **Response:** NEPA35
F.Mendoza/ BLM	ES-1.5	ES-5	Add: The EIS needed to inform decisions on the potential environmental consequences of land use authorizations across BLM lands for project features (pipelines, access roads) considered under Peg Leg Alternative.		**Comment ID:** 28449-2 **Response:** NEPA43

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response	
F.Mendoza/ BLM		ES-9	Categories of issues don't explain what the issue is; suggest issue statements be included in this section		**Comment ID:** 28449-3 **Response:** DOC1
Murray/BLM	ES	11	Figure ES-2 – Figure should be modified to indicate the White Canyon Wilderness (per the AZ Desert Wilderness Act of 1990) not ACEC.		**Comment ID:** 28449-4 **Response:** DOC1
Murray/BLM	ES	18	Last Sentence – should indicate amount or percentage of seepage collected, as this sentence reads now it appears that all the seepage is captured by the well field, but according to Table 3.7.1-7 more than 10,000 acre feet are lost to the aquifer after seepage controls.		**Comment ID:** 28449-5 **Response:** DOC1
K. Ryan / BLM	ES-3.12	ES-26	The cultural resources analysis is flawed and, therefore, the conclusions are incorrect. The alternatives analysis is not a 1:1 comparison because most of the Alternative TSF footprints have yet to be fully inventoried. The Forest Service needs to either 1) complete the cultural resources inventories as is indicated in Section 2.5 (pg 121), or 2) perform a new analysis based on known site densities (cultural resources/historic properties per acre) as derived from current, valid inventory data. The current level of inventory per Alternative must be accounted for and disclosed, regardless of the method applied.		**Comment ID:** 28449-6 **Response:** CR5
F.Mendoza/ BLM	1.5.2	14	The Appleton Whittell Offered Parcel would be added to the LCNCA; not the Dripping Springs Parcel; need correction		**Comment ID:** 28449-7 **Response:** DOC1

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response
K. Ryan / BLM	1.7.4	25	Issue 4– Cultural Resources appears to be limited in scope to prehistoric and historic resources that are "important to many tribes." As stated, the issue is duplicative with Issue 1- Tribal Values and Concerns.	Comment ID: 28449-8 Response: NEPA60
			The Forest Service also needs to analyze and disclose the potential impacts to historic-age sites and features that may be/have been important to non-native people such as Euro-Americans, African-Americans, Chinese-Americans, etc., or otherwise justify why these types of cultural resources were excluded from analysis.	Comment ID: 28449-9 Response: CR6
F.Mendoza/ BLM	1.7.10	26	Recommend mentioning 'impacts on the Arizona Trail' in this section. Also, a significant impact form the loss of land base for recreation opportunities is not clearly stated (that would be the main impact during development, and after reclamation), and is quantifiable in acres.	Comment ID: 28449-10 Response: NEPA60
F.Mendoza/ BLM	1.7.11	27	Recommend mentioning 'Impacts on visual resources along scenic state highways and the Arizona Trail'	Comment ID: 28449-11 Response: NEPA60
F.Mendoza/ BLM	1.7.12	27	Recommend mentioning impacts of new road development along pipelines that would open new areas to vehicle access. Also mention the loss of access due to the tailings storage facility.	Comment ID: 28449-12 Response: NEPA60
L. Uhr/BLM	Table 2.2-1	31	Change "Distance for Tailings Slurry" to "Length of Pipeline Needed" Is this current distance as the crow flies or is it the actual length that pipe would need to be laid to reach the storage facility? Also, what kind of pipeline and how large diameter would it need to be to transport PAG and NPAG slurry?	Comment ID: 28449-13 Response: DOC1
F.Mendoza/ BLM	Fig 2.2.2-1	33	Map is completely misleading in the depiction of the parcels, shown not to scale, use dots instead of polygons.	Comment ID: 28449-14 Response: DOC1
L. Uhr/BLM	Chap 2, sec. 2.2.2.1	35	BLM will likely not complete the cadastral survey until 2020.	Comment ID: 28449-15 Response: DOC1

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F.Mendoza/ BLM	2.2.7	88	Recommend adding after "mining plan of operations ", 'and applications for other land use authorizations'	Comment ID: 28449-16 Response: DOC1
F.Mendoza/ BLM	2.2.7.1	90	Insufficient description of the conditions along the Alt 5 pipeline corridors to analyze impacts on transportation; some places require road construction, other places require upgrading existing routes.	Comment ID: 28449-17 Response: TR11
F.Mendoza/ BLM	Table 2.2.7-1	93	Mention the Gila River crossings required under 'Other design considerations'	Comment ID: 28449-18 Response: DOC1
L. Uhr/BLM	Chap. 2, 2.2.8	94	Dripping Springs Valley, add an "s" after Spring, look throughout document for this issue, I have seen it more than once.	Comment ID: 28449-19 Response: DOC1
K. Ryan / BLM	2.3.1.1	102-103	Because the Forest Service and other agencies have no authority to enforce compliance on Resolution Copper's "voluntary" mitigation and monitoring measures, it does not make sense to include them in the analysis. Similarly please ensure the "Mitigation Effectiveness" subsections are substantive and not redundant.	Comment ID: 28449-20 Response: MIT3
F.Mendoza/ BLM	3.5	110	Include a summary of miles of new road that would be constructed for access to pipelines/powerlines, and miles of existing road that would be improved for access for pipeline/powerline development. Indicate whether the roads along the pipelines would be open to public use, or only administrative vehicles.	Comment ID: 28449-21 Response: DOC1
F.Mendoza/ BLM	3.9	116	Include the number of acres of public land base lost for dispersed recreation (acres covered up by developments or fenced off) under alternative 5. This is a key impact.	Comment ID: 28449-22 Response: SR13
F.Mendoza/ BLM	3.11	120	Add miles of the Arizona Trail that the proposed development would be visible from, across the alternatives	Comment ID: 28449-23 Response: SR36

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K. Ryan / BLM	2.5	121	The cultural resources analysis is flawed and, therefore, the conclusions are incorrect. The alternatives analysis is not a 1:1 comparison because most of the Alternative TSF footprints have yet to be fully inventoried. The Forest Service needs to either 1) complete the cultural resources inventories as is indicated in Section 2.5, or 2) perform a new analysis based on known site densities (cultural resources/historic properties per acre) as derived from current, valid inventory data. The current level of inventory per Alternative must be accounted for and disclosed, regardless of the analysis method applied. For example, data provided for the Alternative 5 TSF are not adequate for direct comparison with other alternatives because only 7,770 acres of the 10,782-acre Peg Leg TSF footprint has been inventoried to date (as reported in Chamorro et al. 2019; Accession No. 2018-072.ASM).	Comment ID: 28449-24 Response: CR5
F.Mendoza/ BLM	3.1	127	Add 'miles of new road construction to support the project' in Transportation and access section	Comment ID: 28449-25 Response: DOC1
F.Mendoza/ BLM	3.2.3.1	135	Alternative 6 involves federal (USFS) land for the pipeline routes; clarification needed in last paragraph of section	Comment ID: 28449-26 Response: DOC1
F.Mendoza/ BLM	Fig 3.2.3.1	137	Map needs attention: it has no landmarks for reference (rivers, land lines, highways, towns).	Comment ID: 28449-27 Response: DOC1
F.Mendoza/ BLM	3.3.2.2	164	Include the acres of soils vulnerable to fugitive dust in the soils analysis, affected by the TSF and the pipeline routes. Construction and traffic would generate dust	Comment ID: 28449-28 Response: WI7
F.Mendoza/ BLM	Fig 3.3.3-1	167	Highlight on map soils prone to fugitive dust, if any.	Comment ID: 28449-29 Response: WI7
F.Mendoza/ BLM	3.3.4-2	190	Add fugitive dust in soil analysis	Comment ID: 28449-30 Response: WI7

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F.Mendoza/ BLM	Table 3.3.4-2	193	Add acres of soils vulnerable to fugitive dust that would be disturbed	Comment ID: 28449-31 Response: WI7
D Tersey, BLM	Table 3.3.4-4	204	Take of endangered species does not apply to T & E plant species. The penalties apply to "reduce to possession". The status definitions need to be corrected.	Comment ID: 28449-32 Response: DOC1
F.Mendoza/ BLM	3.3.4.9	209	Add fugitive dust and BMPs to control dust as mitigation	Comment ID: 28449-33 Response: MIT3
F.Mendoza/ BLM			Add mileage of BLM travel route within the analysis area (among state highways, county and NFS roads).	Comment ID: 28449-34 Response: DOC1
	3.5.2.1	244	Under Alt 5: Add mileage of new road construction on BLM lands. Add mileage of existing routes that would be improved for pipeline development, and route mileage that would be foregone. Also mention that the Peg Leg county road cross the tailings storage site, and that it provides access to an existing communication site.	
F.Mendoza/ BLM	Fig 3.5.2-1	245	BLM furnished route inventory information for the analysis area; recommend using it on this map, at least the main public land access routes identified in the BLM Middle Gila Canyons Travel and Transportation Plan which is involved in the Peg Leg alternative. Show county roads affected.	Comment ID: 28449-35 Response: DOC1
F.Mendoza/ BLM	3.5.3.2	249	Add Cottonwood, Price, Whitlow Ranch, Cochran, Peg Leg and Battle Axe roads to the list of directly affected county roads (Peg Leg Alt)	Comment ID: 28449-36 Response: DOC1
F.Mendoza/ BLM	3.5.3.2	251	Include list of main BLM roads affected directly by pipelines and TSF under Peg Leg alt: Raymert Rd, Mineral Mtn Rd, Cottonwood Canyon Rd., Sandman Rd, South Butte Rd., Grayback Rd, Spine Rd. Mention also that Peg Leg Road, a county road from Florence Kelvin Highway to an existing communication site, crosses the Peg Leg tailing site; this should be mentioned, along with any mitigation to keep it open or realign it so its access purpose is preserved.	Comment ID: 28449-37 Response: DOC1
				Comment ID: 28449-38 Response: DOC1

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F.Mendoza/ BLM	Fig 3.5.4-1	259	Depict on map the main public land access routes in the Middle Gila Canyons area (data previously furnished)		Comment ID: 28449-39 Response: DOC1
F.Mendoza/ BLM	Table 3.5.4-5	264	Add other BLM and County roads to table under Alt 5? (Mineral Mtn, Cottonwood Canyon, Price Rd, Whitlow, Cochran, Battle Axe, Reymert) These roads will be directly affected		Comment ID: 28449-40 Response: DOC1
F.Mendoza/ BLM	3.5.4.5	269	Transportation routes and changes in access: Discuss the BLM main routes directly affected by the Peg Leg and pipeline route development. Discuss the new road construction needed and where. Also discuss existing roads that would be improved for the pipelines.		Comment ID: 28449-41 Response: DOC1
F.Mendoza/ BLM	3.5.4.7	271	Ripsey Wash Tailings: Indicate the mileage of existing routes that would be lost to public use due to development of this project. The mileage lost under Alt 5 would add to those.		Comment ID: 28449-42 Response: DOC1
F.Mendoza/ BLM	3.5.4.7	272	Ray Land Exchange: Indicate the mileage of existing routes that would be lost to public use due to this project. The mileage lost under Alt 5 would add to those losses.		Comment ID: 28449-43 Response: DOC1
F.Mendoza/ BLM	3.5.4.7	272	The description of the location of the Len Grazing allotment is incorrect, please address. The Len is east of SR79, and west of the White Canyon Wilderness, and north of the Gila River. Correction needed on impacts; The west pipeline route for Alt 5 would affect roads in the Len allotment, including new road construction and temporary disruption of existing roads.		Comment ID: 28449-44 Response: DOC1
Murray/BLM	Ch.3	276	Figure 3.6.2-1 – The White Canyon ACEC and Wilderness Area have different boundaries and are not necessary one in the same. An ACEC is a BLM designation in an RMP, while a Wilderness designation is an act of Congress. Also, the Needle's Eye is not designated as an ACEC (Safford RMP), it's just a wilderness. There are other instances in the document where this information may be important, but in this case the legend in the map should be edited – perhaps by just removing the ACEC heading.		Comment ID: 28449-45 Response: DOC1

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F.Mendoza/ BLM	Table 3.6.4-4	290	Correct name: White Canyon is a Wilderness area, with an ACEC outside the wilderness but adjacent to it.		Comment ID: 28449-46 Response: DOC1
F.Mendoza/ BLM	Fig 3.6.4-3	291	Fix name for White Canyon 'Wilderness' not 'ACEC'; could add the ACEC adjacent to the wilderness, which is not depicted		Comment ID: 28449-47 Response: DOC1
F.Mendoza/ BLM	3.11.3.2	293	OHV recreation roads: Add to the list of scenic routes in the analysis area that would be affected in the foreground views by the proposed action or alternatives: Alternative 5: Battle Axe Road, Rincon Road, Whitlow Ranch Road, Mineral Mtn Road, Reymert Rd, Cottonwood Canyon Rd, Sandman Road and Box Canyon Road; these are the main public land access routes in the Middle Gila Canyons area, and receive high public recreational use for sightseeing and other activities. (the only route listed in the DEIS is Cochran Road, but the others are equally or more heavily used). Short segments of the pipeline corridor would be visible from SR79 in the background viewing distance.		Comment ID: 28449-48 Response: SR33
Murray/BLM	Ch. 3	339	4th Bullet from the top – impact from loss of surface water run-off on Gila River is mentioned (may want to reference the section where this is actually analyzed) but in the context of this section relating to groundwater quantity – is there an impact (or not) to the Gila River from the 10,000 acre-feet of seepage out of the TSF? Also, what's the likelihood that the groundwater mounding could intersect one of the ephemeral washes and discharge to the surface before reaching the Gila?		Comment ID: 28449-49 Response: WT32
Murray/BLM	Ch. 3	356	Well numbers are 23 reported in ADWR database and visited 10 - from Fleming et al 2018. Should also add that only 3 water levels are used to interpolate GW contours.		Comment ID: 28449-50 Response: DOC1
Murray/BLM	Ch. 3	363	Sentence in second bullet on left hand side of page appears to be incomplete. Statement is also not true if you look at the first modeled mixing cell directly below the TSF (DW-1).		Comment ID: 28449-51 Response: DOC1

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Murray/BLM	Ch. 3	363	Background sampling data from recently drilled monitoring wells in the Peg Leg area should be included in the analysis- not only to refine GW level contours and improve background water quality sampling, but also to refine depth to bedrock estimates from HGI.		Comment ID: 28449-52 Response: WT7
Murray/BLM	Ch. 3	410	Should explain why DW-2 cell values are used, when DW-1 is the first cell and shows exceedances in Selenium for the Aquifer Quality Standards near 140 years out.		Comment ID: 28449-53 Response: DOC1
Murray/BLM	Ch. 3	420	Should establish what the cumulative impact analysis area is. Also, climate change is an RFFA – which could lead to reductions in recharge up to 20-30% (Meixner et al 2016) – same source used in M&A Mixing model.		Comment ID: 28449-54 Response: WT4
Murray/BLM	Ch.3	433	Impacts to channel geomorphology (slope) from reductions in flood flows and changes in sediment loads can be estimated from Lane's Balance using equation 1.4 in USDA FS RMRS-GTR-226 (2009). This is a quantitative way to describe if you expect the channels to aggrade or degrade.		Comment ID: 28449-55 Response: WT33
Murray/BLM	Ch.3	444 and Global	Define the temporal and spatial scope of the cumulative impacts i.e. in what area are you looking at for past, present, and RFFA and what time frame. This comment should be applied globally to the document.		Comment ID: 28449-56 Response: NEPA54
D Tersey, BLM	3.8.3.2	452	The description of the wildlife waters in the Special Habitat section does not match the map. Catchment 556 is called Superior #1, not Florence #1, and Cactus Patch is within feet of west alignment of alternative 5.		Comment ID: 28449-57 Response: DOC1
L. Uhr/BLM	Chap 3	458	What does "Establishing tortoise crossings for concentrate and tailings pipeline corridors in areas containing habitat," mean? Are you following some kind of recommended guidelines or is there guidance from the FWS or AZGF? It should be referenced here, and how many of these will be needed? How many tortoises/gila monsters are in the area? Has a survey been done? Is this mentioned in the Concentrate Pipeline Management Plan?		Comment ID: 28449-58 Response: MIT1

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D Tersey, BLM	3.8.4.3	478	Bighorn Sheep Capture may be better to say "AZ G&F is intending…		Comment ID: 28449-59 Response: DOC1
L. Uhr/BLM	Chap 3	480	Under 'Reptile and Sonoran Desert (ESA-CCA Plan (CA-191)', the word *detail*, should be *detailed*.		Comment ID: 28449-60 Response: DOC1
F.Mendoza/ BLM	3.9.3.1	484	Add FLPMA to the legal authorities.		Comment ID: 28449-61 Response: DOC1
F.Mendoza/ BLM	3.9.3.1	484	The legislation that added the Arizona Trail to the National Trails System was the 'Omnibus Public Land Management Act of 2009' P.L. 111-11. There is no such thing as the Arizona National Scenic Trail Act		Comment ID: 28449-62 Response: DOC1
F.Mendoza/ BLM	3.9.3.2	484	Add the BLM 'Middle Gila Canyons' area to the list of 'major recreational attractions'. This area attracts heavy recreational use for OHV riding and other activities. The area consists of the BLM lands north of the Florence-Kelvin Highway, South of US60, between SR78 and SR177		Comment ID: 28449-63 Response: DOC1
F.Mendoza/ BLM	Fig 3.9.3-1	485	The routes depicted as 'Existing Trail' are not existing trails, they are planned trails in the Pinal County Open Space and Trails Plan. Though most of them follow existing routes, they are not designated, managed or maintained as 'trails' on the BLM lands.		Comment ID: 28449-64 Response: DOC1
F.Mendoza/ BLM	3.9.3.2	486	Clarify what a 'reception opportunity' is; definition not found		Comment ID: 28449-65 Response: DOC1
F.Mendoza/ BLM	3.9.3.2	489	BLM Recreation Management: Add: BLM administers commercial, competitive, and organized group recreational uses in accordance with Special Recreation Permits issued under 43CFR2930. There are several permitted commercial recreational uses in the analysis area.		Comment ID: 28449-66 Response: DOC1

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F.Mendoza/ BLM	3.9.3.2	489	Add: An inventory of the recreational setting characteristics on public lands in the analysis area has not been completed. However, the area includes similar settings as found on the BLM lands. Primitive settings are found in the White Canyon Wilderness area, Semi-primitive Non-Motorized are found in the areas away from the roads, and Semi-Primitive Motorized settings along the primitive road network, and Rural settings are found in the developed areas along county roads. Most of the BLM lands in the area are characterized by a Semi-Primitive Motorized classification.		Comment ID: 28449-67 Response: SR16
F.Mendoza/ BLM	3.9.3.2	489	Revise text in the last paragraph; The BLM lands in the analysis area north of the Florence Kelvin Highway are in the Middle Gila Canyons travel management area. A transportation and travel management plan (TMP) was completed in November 2010. The TMP identified the existing network of primitive roads and trails in the area, including the main public land access routes. This area is a popular attraction for OHV riding area, including technical OHV trails used for driving for challenge and skill. This information was previously furnished.		Comment ID: 28449-68 Response: DOC1
F.Mendoza/ BLM	3.9.3.2	489	Hunting section: The last paragraph is incorrect and needs revision. State regulations only prohibit the discharge of weapons (firearms, arrows/bolts, air guns over .35 cal), not hunting.		Comment ID: 28449-69 Response: DOC1
F.Mendoza/ BLM	3.9.3.2	490	Add: The Arizona Trail is administered by National Forest Service. The Forest Service is developing a comprehensive management plan for the Trail, and is proposing a ½ mile trail management corridor (total 1 mile wide corridor). The management corridor is critical to the nature and purpose of the trail, and management plans for lands within the corridor will be developed by the trail management agencies after the Forest Service's comprehensive management plan is completed. The BLM manages approximately 33 miles of the Trail in the analysis area.		Comment ID: 28449-70 Response: SR24

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F.Mendoza/ BLM	3.9.3.2	491	Recommend brief mention of the main public land access routes identified in the BLM Middle Gila Canyons TMP among the 'motorized routes' listed for the Forest Service. This data was previously furnished.		Comment ID: 28449-71 Response: DOC1
F.Mendoza/ BLM	3.9.3.2	493	While the Homestead and Tam O'Shanter climbing areas are depicted on Figure 3.9.3-6, they are not mentioned in the discussion. These two areas should be at least mentioned and briefly described, as they provide climbing opportunities within the analysis area, and may be affected by displaced climbers.		Comment ID: 28449-72 Response: DOC1
F.Mendoza/ BLM	3.9.4.2	496	Include as a potential impact areas opened to vehicle use due to construction of access roads along pipeline corridors		Comment ID: 28449-73 Response: DOC1
F.Mendoza/ BLM	Table 3.9.4-1	497	Note that this table only includes acreage within the National Forest; it does not include acreage on other lands in the analysis area (no recreation setting characteristics inventory was done for this area for this analysis; recommend preparing an inventory for BLM lands following current BLM procedures for this analysis for the Final EIS.		Comment ID: 28449-74 Response: SR16
F.Mendoza/ BLM	3.9.4.2	499	ROS: The assumption made regarding opening BLM land in the Peg Leg tailing storage site for public use post mining may be incorrect; clarify why this assumption was made.		Comment ID: 28449-75 Response: SR16
F.Mendoza/ BLM	3.9.4.6	505	General Setting: correction needed: The BLM lands affected by the pipeline corridor alternatives is heavily used for recreation; not low to moderate as indicated. The BLM lands affected by the Peg Leg disposal site receive moderate recreational use. Portions of the pipeline routes cross a few areas with low recreational use, but overall recreational use on public lands in the analysis area is high.		Comment ID: 28449-76 Response: SR16

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F.Mendoza/ BLM	3.9.4.6	506	The west pipeline corridor crosses popular heavily used routes used for recreational access to BLM lands: Mineral Mountain Rd, Cottonwood Canyon Rd, Sandman Rd, Price Rd, Whitlow Ranch Rd, and Cochran Rd. The east pipeline corridor crosses Battle Axe Road, a popular route heavily used for recreational access, and also crosses the Arizona Trail. New road construction along the pipeline routes would open vehicle access in small areas currently inaccessible to motor vehicle, changing the recreational setting. The west route would cause a significant impacts to the largely natural recreational setting around the historic Reymert Townsite, a popular attraction for viewing historic remnants of the town structures.		Comment ID: 28449-77 Response: TR11
F.Mendoza/ BLM	3.9.4.6	506	Recreation Sites: Correction needed: The Arizona Trail does not cross the Peg Leg tailing storage facility.		Comment ID: 28449-78 Response: DOC1
F.Mendoza/ BLM	3.9.4.6	507	There may not be viable detours for the Arizona Trail that could be used during construction of the east pipeline alternative trail crossing, due to location and conditions in the surrounding area. Therefore, access to this section of the Arizona trail would be disrupted during construction of the pipeline crossing.		Comment ID: 28449-79 Response: DOC1
F.Mendoza/ BLM	3.9.4.6	507	Correction needed on visual impacts discussion: BLM manages lands in the analysis area under VRM classes, including Class I in the White Canyon Wilderness, Class II along state highway corridors, and Class III elsewhere. The visual impact of the pipeline crossing along the Arizona Trail would be noticeable and attract attention, and its visual contrast would exceed VRM Class III objectives. The visual impact of the Peg Leg tailing storage facility would be strong, noticeable and attract attention, and its visual contrast would exceed VRM Class III objectives. The key features under this alternative would not conform with BLM VRM classes. The west pipeline corridor would cross popular recreational access routes, and change the recreational setting, particularly around the Reymert Townsite, and potentially open areas to vehicle access that are presently non-roaded.		Comment ID: 28449-80 Response: SR30

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F.Mendoza/ BLM	3.9.4.6	507	Motorized recreation: Discussion is incorrect and needs revision: The west pipeline route would cause impacts to several popular and heavily travelled recreational access routes to BLM lands: Mineral Mtn Rd, Reymert Rd, Cottonwood Canyon Rd, Sandman Rd, Box Canyon Rd, Whitlow Ranch Rd and Cochran Rd. The tailings storage facility would block the Peg Leg road, an important recreational access to public lands in the area, and a number of unnamed roads. The storage facility would disrupt vehicle access to public lands north of the site, creating a non-motorized area, unless vehicle access is provided through route realignment. The east pipeline route would cross Battle Axe Road, a popular and heavily traveled recreational access route to public lands.		Comment ID: 28449-81 Response: TR11
F.Mendoza/ BLM	3.9.4.7	508	Motorized recreation: Alt 6 tailings storage site does not intersect any BLM roads; where does the 15 mile figure come from?		Comment ID: 28449-82 Response: DOC1
F.Mendoza/ BLM	3.9.4.7	508	Is the new road from US60 to the Skunk Camp site proposed by Resolution Copper as the alternative to Dripping Springs road going to be analyzed in this EIS? It is mentioned in the Executive Summary, but not anywhere else? Since it would be a connected action, recommend analysis in this EIS		Comment ID: 28449-83 Response: SO3
F.Mendoza/ BLM	3.9.4.7	510	The USFS is currently preparing a comprehensive management plan for the Arizona Trail; this plan will identify a ½ mile trail corridor that is critical for the nature and purpose of the trail. This plan should at least be mentioned somewhere in this EIS.		Comment ID: 28449-84 Response: SR24
D Tersey, BLM	3.9.4.8	510	Bighorn Sheep Capture may be better to say "AZ G&F is intending…		Comment ID: 28449-85 Response: DOC1

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F.Mendoza/ BLM	3.9.4.10	514	The most significant irreversible and irretrievable commitment of resources is the loss of land base available for public recreational use due to the tailings storage facility and subsidence area; this is a quantifiable impact that is not specifically stated or disclosed. Even after reclamation, the tailings storage site would not have value for recreation, and may need to be specifically closed to prevent conflict with reclamation efforts.		Comment ID: 28449-86 Response: SR13
F.Mendoza/ BLM	3.10.1.3	532	The Gila River between Dripping Springs and the Ashurst Hayden Dam is also used for small craft river floating activities (kayak, inflatable canoe, tubing), and fishing. River recreational use is highest upstream from Winkelman, and recreational use below Winkelman is low.		Comment ID: 28449-87 Response: DOC1
F.Mendoza/ BLM	3.10.1.4	551	Potential Impacts from Pipelines: Name correction needed: The BLM 'Walnut Canyon ACEC' does not exist; it is called the White Canyon ACEC, though it includes sections of White Canyon and Walnut Canyon.		Comment ID: 28449-88 Response: DOC1
F.Mendoza/ BLM	3.10.1.4	552	Failure of the Skunk Camp tailings storage dam would likely cause water quality impacts on the BLM Gila River Wild and Scenic and Recreational Study River, determined suitable for designation into the National Rivers System. This study river is not identified in the affected environment discussion; please ensure it is incorporated.		Comment ID: 28449-89 Response: DOC1
D Tersey, BLM	3.10.2.3	565	Change Lower Sonoran Field Office RMP to Phoenix District RMP.		Comment ID: 28449-90 Response: DOC1

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F.Mendoza/ BLM	3.11.3.1	589	BLM VRM, add: Relevant authority for managing visual resources on BLM lands is in the FLPMA. BLM VRM classes are established by Resource Management Plan (RMP) decision based on visual resource inventories that identify an area's scenic quality, viewing distance, and visual sensitivity to change in the landscape. A Visual Resource Inventory (VRI) was completed for the Tucson Field Office which identified VRI Classes. The VRI Classes may differ from the VRM Class to project resources or accommodate land use activities. The current VRM Classes for public lands in the analysis area are interim classes, which will be reviewed in the future in a revision of the Tucson Field Office RMP. The BLM VRI identifies a Class II area along the Gila River corridor, and along the Arizona National Scenic Trail, higher visual value than reflected by the current Interim VRM Class.		Comment ID: 28449-91 Response: SR31
F.Mendoza/ BLM	3.11.4.5	612	West Pipeline Corridor: Add discussion on other important public land access routes that would be affected. The west pipeline corridor would be visible from several popular public recreation routes, and would cause impacts on the scenery from those viewing corridors (Mineral Mountain Rd, Reymert Rd, Cottonwood Canyon Rd, Sandman Rd, Box Canyon Rd, Whitlow Ranch Road. The only one mentioned in the DEIS is Cochran Road; add the rest.		Comment ID: 28449-92 Response: SR33
F.Mendoza/ BLM	3.11.4.5	612	East Pipeline Corridor: Add route affected: The east pipeline corridor would be visible from the Battle Axe Road, a popular and heavily traveled sightseeing route. The pipeline crossing of the river and Arizona Trail would be visible in the immediate foreground. This route would also be visible from upland areas in the White Canyon Wilderness.		Comment ID: 28449-93 Response: SR33
F.Mendoza/ BLM	3.11.4.5	612	Viewshed analysis: Include qualitative analysis of the extent of the area with view of the tailings site (acres, distances)		Comment ID: 28449-94 Response: SR32
F.Mendoza/ BLM	Table 3.11.4-8	612	While a KOP would not be necessary, this table should include the other important sightseeing travel routes that would be affected by the Peg Leg tailing storage project.		Comment ID: 28449-95 Response: SR33

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F.Mendoza/ BLM	3.11.4-9	613	Please correct visual contrast conclusion: On all KOPs with view of the Peg Leg tailings facility, the development would have permanent strong visual contrast due to the rectilinear form and relatively flat planes of the dams, including the ridges created at the top of the dams, and the finish surface on top of the tailings, even after successful reclamation. The form of the tailings storage would never have or resemble naturally appearing contours.		Comment ID: 28449-96 Response: SR34
F.Mendoza/ BLM	Table 3.11.4.11	618	(Alt 5): The analysis area includes BLM VRM Class I area in the White Canyon Wilderness Area, and interim VRM Class II along state highway corridors and along the Arizona Trail and Gila River corridor. The Peg Leg storage site is in a VRM Class III area. The tailings storage site would not meet the visual contract objective for VRM Class III. The east pipeline crossing of the Gila River and Arizona Trail would not meet objectives for Class II. The pipeline corridor would not meet VRM Class III objectives in the Reymert Townsite area due to landform and vegetation changes on hill side slopes.		Comment ID: 28449-97 Response: SR30
F.Mendoza/ BLM	2.11.4.8	620	While large scale projects that would have visual impacts, there is really no analysis on the cumulative effects on visual resources from the alternatives. The Peg Leg alternative would contribute to cumulative impacts on visual resources on BLM lands, affecting the scenery along important state highways, county roads, and BLM roads and trails used for viewing the scenery and recreation; the other alternatives would not contribute to cumulative impacts on visual resources on BLM land.		Comment ID: 28449-98 Response: NEPA54

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response	
K. Ryan / BLM	3.12.2.1	623	Statement that "[a]s of June 2019, crews had surveyed the direct analysis areas for cultural resources except for portions of Alternative 6—Skunk Camp and the pipeline routes not within previously surveyed areas" is incorrect. Data on file w/the BLM and presented elsewhere in the DEIS indicates the following levels of cultural resources inventory by alternative: Alternative 2 = 96% (DEIS at pg. 631) Alternative 3 = 96% (DEIS at pg. 632) Alternative 4 = 72% (DESI at pg. 632 and E-15) Alternative 5 = 74-78% (DEIS at E-15; however, BLM data indicate 71%) Alternative 6 = 96% (DEIS at pg. 635 and E-15) The levels of inventory per alternative needs to be accounted for in the analysis in terms of sites per acre per alternative area to perform, and disclose, a valid 1:1 analysis.		Comment ID: 28449-99 Response: CR5
K. Ryan / BLM	3.12.3.2	627	Euro-American cultural history section is scant considering the area under consideration for analysis and potential impacts to non-native cultural values.		Comment ID: 28449-100 Response: CR2
K. Ryan / BLM	3.12.3.2	628	Incomplete or Missing Information should also include the remaining −3,000 acres of the Peg Leg TSF footprint.		Comment ID: 28449-101 Response: CR5
K. Ryan / BLM	3.12.3.2	628	Inventories for the Indirect and Atmospheric Analysis Areas would have only identified properties for which documentation already exists. Considering that the overall analysis area has been subject to very little cultural resources inventory, how is the Forest Service proposing to identify and evaluate other, extant historic properties within the analysis area for which documentation does not currently exist?		Comment ID: 28449-102 Response: CR6

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response	
K. Ryan / BLM	GLOBAL (c.f. 3.12.4.2 and 3.14.2.2)	GLOBAL (c.f., 630, 661, 665)	The citation for the NHPA Section 106 implementing regulations is **36 CFR 800** (*not 38 CFR 800*). Global correct.		**Comment ID:** 28449-103 **Response:** DOC1
K. Ryan / BLM	3.12.4.2	630	The offered lands have been inventoried for cultural resources (among other resources). The EIS should better characterize the type and quantity of cultural (and other) resources that are potentially coming under Federal management for full analysis and disclosure as a component of the land exchange.		**Comment ID:** 28449-104 **Response:** DOC1
K. Ryan / BLM	3.12.4.2	630	Although Resolution Copper can be made financially responsible for treatment/mitigation activities, the development and implementation of treatment plans to resolve adverse effects is incumbent upon the lead Federal agency (in addition to other, jurisdictional Federal agencies) in complying w/Section 106 of the NHPA via 36 CFR 800 and/or the terms and conditions of an executed Programmatic Agreement.		**Comment ID:** 28449-105 **Response:** MIT7
K. Ryan / BLM	CH 3. Cultural Resources		All analyses of indirect and atmospheric impacts to cultural resources should be recalculated to 1) clarify that the DEIS assessment/quantification only accounts for currently documented historic properties w/in the specified 2 or 6 mile buffer areas, and 2) to provide estimates for potential, additional historic properties w/in those analysis areas as based on the calculated density of historic properties per acre as determined by the amount of valid inventory to date.		**Comment ID:** 28449-106 **Response:** CR5
K. Ryan / BLM	3.12.4.3	632	Remove Table 3.12.4-2 as there are no applicable comparative data provided for the other alternatives.		**Comment ID:** 28449-107 **Response:** DOC1

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response	
K. Ryan / BLM	3.12.4.5	632	Alternative 4– Silver King has only been 72% surveyed, which most likely skews the data; summary data comparison is not 1:1. Please obtain the necessary data or restate the information to include these disparities.		**Comment ID:** 28449-108 **Response:** CR5
K. Ryan / BLM	3.12.4.6	633	Alternative 5– Peg Leg TSF location has only been 71% surveyed. This fact is also only disclosed in Appendix E. Again data are most likely skewed and summary data comparison is not 1:1. Please obtain the necessary data or restate the information to include these disparities.		**Comment ID:** 28449-109 **Response:** CR5
K. Ryan / BLM	3.12.4.8 and GLOBAL	636-637 and GLOBAL	All of the Cumulative Effects analysis sections consist of a repetitive list of RFFAs and do not actually analyze the projected impact(s) of the action alternatives on the landscape in addition to the anticipated/previously calculated impacts of the RFFAs. For example, adequate analysis and disclosure should quantify a % increase in the anticipated impact to/destruction of cultural (and other) resources at an appropriate landscape level. Concluding, simply, that the project would contribute to additional impacts is not an adequate cumulative effects analysis.		**Comment ID:** 28449-110 **Response:** NEPA54
K. Ryan / BLM	3.13	640 et seq.	Add data and analyses related to other, potentially affected communities within a 30-mile radius of the mine (i.e., a reasonable commuting distance) including Kearny, Florence, San Tan Valley, Queen Creek, Apache Junction, and Gold Canyon.		**Comment ID:** 28449-111 **Response:** SO10
F.Mendoza/ BLM	3.13.4.2	655	Peg Leg Alt 5: In addition to the activities listed under 'nature based tourism economy', opportunities for 'sightseeing, viewing nature, and viewing historic sites' would be affected in the Middle Gila Canyons area.		**Comment ID:** 28449-112 **Response:** DOC1

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response	
K. Ryan / BLM	3.14.2.2	659	It is important to note that the Hopkins et al. (2015) ethnographic study was limited in scope to the Superstition Wilderness area and immediate vicinity (i.e., it only covered approximately 14% of the tribal resources analysis area depicted in Figure 3.14.2-1). Likewise, no project studies, field assessments, or consultations performed to date have involved all 15 potentially affected tribes.		**Comment ID:** 28449-113 **Response:** CR1
K. Ryan / BLM	3.14.2.2	661	Survey of the Alternative 5-Peg Leg TSF also has not been completed.		**Comment ID:** 28449-114 **Response:** CR5
K. Ryan / BLM	3.14.3.1	664	Re: Plant and Mineral Resources – the BLM is aware that the following plants are present in and around the Peg Leg alternative area that may be considered culturally significant to Native Americans and/or consulting tribes: Giant Saguaro (*Carnegia gigantea*), Broom snakeweed (*Gutierrezia sarothrae*), Bluedicks (*Dichelostemma capitatum*), Buckhorn cholla (*Cylindropuntia acanthocarpa*), wild onion (*Allium spp.*), and Mesquite (*Prosopis velutina*). Potential impacts to these species should be fully analyzed by potential impacts per acre.		**Comment ID:** 28449-115 **Response:** CR15
K. Ryan / BLM	3.14.4.5	667	Because the Alternative 5- Peg Leg TSF area has not been completely inventoried, these numbers are not valid as a 1:1 comparison as presented.		**Comment ID:** 28449-116 **Response:** CR5
K. Ryan / BLM	3.15.3.2	675	Randolph, a historically Black populated place in Pinal County, was established by Black migrants from Oklahoma (aka. Okies) in the 1930s, and it should be included in the in the Environmental Justice analysis (along with any other racially segregated community that was established in the analysis area from the Depression era through the 1960s).		**Comment ID:** 28449-117 **Response:** EJ2

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response	
K. Ryan / BLM	3.15.4.3 et seq.	683 et seq.	Environmental Justice section is repetitive in stating that all action Alternatives "would result in disproportionately high and adverse impacts on cultural resources and tribal values and concerns." Either the entire analysis for this section should be under "Impacts Common to All Action Alternatives" (i.e., there is no measurable difference in potential Environmental Justice impacts- positive or negative –among the action Alternatives) or additional qualitative and quantitative data are needed to actually compare and contrast the action Alternatives.		**Comment ID:** 28449-118 **Response:** DOC1
D Tersey, BLM	Table 3.16.3-5	692	Change column 4 to Authorized AUM's, They are not a recommendations		**Comment ID:** 28449-119 **Response:** LG4
D Tersey, BLM	3.16.3.2	692	The NEPA process for the lease renewal for the LEN allotment is discussed earlier in this document, but not here. The land health evaluations for the LEN, Whitlow and Teacup allotments were all posted to eplanning website at the same time so that information is available to the public and this EIS. The findings of the Land Health Determinations are not a suggestion, they are a determination based on the evaluation of the data collected.		**Comment ID:** 28449-120 **Response:** LG4 **Comment ID:** 28449-121 **Response:** LG4
D Tersey, BLM	Table 3.16.3-5	693	Change column 3 to Authorized AUM's, They are not a recommendations		
D Tersey, BLM	3.16.4.6	698	This alternative sits on top of the Teacup ranch headquarters with residences, barns, corrals, fences and water sources and the total elimination of a ranch headquarters, which is a major impact to ranching operations is not mentioned.		**Comment ID:** 28449-122 **Response:** LG4
D Tersey, BLM	3.16.4.7	699	This alternative sits on top of the Slash S ranch headquarters with residences, barns, corrals, fences and water sources and the total elimination of a ranch headquarters, which is a major impact to ranching operations is not mentioned.		**Comment ID:** 28449-123 **Response:** LG4

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response
F.Mendoza/ BLM	3.17.1.4	704	Address impacts on access, particularly from of new road construction, and improvement of existing routes related to the pipelines.	Comment ID: 28449-124 Response: DOC1
F.Mendoza/ BLM	3.17.1.10	704	Address impacts on recreation opportunities and settings from pipeline construction. The tailings storage facilities would forgo permanently the recreation opportunities the sites presently provide.	Comment ID: 28449-125 Response: DOC1
F.Mendoza/ BLM	3.17.2.4	707	No discussion on impacts of Alt 5. Add discussion on impacts of new road construction related to pipelines in areas where no road exists, and the loss of access in the tailings storage site. There is no mention anywhere about the loss of Peg Leg County road, nor any mitigation identified to continue providing access to the communication sites the road provides access to.	Comment ID: 28449-126 Response: DOC1
F.Mendoza/ BLM	3.17.2.10	708	The most important impact is the loss of land base that provides recreation opportunities due to the mine, and tailings storage site development; this should be mentioned.	Comment ID: 28449-127 Response: DOC1
F.Mendoza/ BLM	3.17.2.22	710	Address the impact of road construction, and improvement of existing routes, related to pipeline construction.	
F.Mendoza/ BLM	3.17.2.28	711	The Alt 5 east pipeline alternative crosses the Arizona Trail, not the west route (need correction). The loss of land base for recreation is a key irreversible impact of the project, along with the changes in the character of the recreational setting; this should be mentioned at least.	Comment ID: 28449-128 Response: DOC1
K. Ryan / BLM	3.17.2.40	714	Strike BLM Safford District Resource Management Plan (1992) and BLM Lower Sonoran and Sonoran Desert National Monument Resource Management Plan (2012) and replace w/ BLM Phoenix Resource Management Plan (1988). Keep BLM Middle Gila Canyons Travel Management Plan (2010) and BLM Safford District Resource Management Plan (1994).	Comment ID: 28449-129 Response: DOC1 Comment ID: 28449-130 Response: DOC1

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response
K. Ryan / BLM	4.9.4	720	The Forest Service also needs to consult with/involve the Town of Florence as a local government entity as that community also could experience potential project impacts (for example, as noted in Sections 3.7.3.3 [pg. 426], 3.10.1.3 [pgs. 527 and 550], 3.14.4.5 [pg. 667], etc.).	Comment ID: 28449-131 Response: NEPA46
L. Uhr/BLM	Appendix A and Appendix B	all	Provide a more descriptive title and introduction to Appendix A so the reader understands why it is presented here.	Comment ID: 28449-132 Response: DOC1
K. Ryan / BLM	Appendix B	B-21, B-27, and B-29	Double-check and revise land jurisdiction maps. Figures B-11, B-14, and B-15 all show the jurisdiction of the offered lands as already being BLM (as opposed to being private).	Comment ID: 28449-133 Response: DOC1
F.Mendoza/ BLM	Lower San Pedro parcel	B-22	This parcel does not have a town park or ball field within it. It does include an OHV track area, a shooting range, and outdoor material storage yards. Need to indicate if the subsurface estate would be conveyed.	Comment ID: 28449-134 Response: DOC1
F.Mendoza/ BLM	Appleton Ranch Parcel	B-25	By definition, private land is generally patented land, unless it was conveyed through a Mexican Land Grant. Correction needed. Need to indicate if the subsurface estate would be conveyed.	Comment ID: 28449-135 Response: DOC1
L. Uhr/BLM	Appendix B	B-26	Awkward sentence: "The Babocomari River is an ephemeral to perennial tributary to the perennial San Pedro River, which flows north and northwest to join the Gila River, eventually flowing westward across Arizona to the Colorado River." It sounds like the Babocomari flows north and northwest.	Comment ID: 28449-136 Response: DOC1
L. Uhr/BLM	Appendix B	B-27	Figure B-14: Suggest adding the boundary of the Las Cienegas National Conservation Area here, to show the addition of the parcels to the Appleton Ranch, which lies inside the NCA, but still on private lands.	Comment ID: 28449-137 Response: DOC1

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response
F.Mendoza/ BLM	Dripping Springs parcel	B-28	Private land is patented land by definition; correction needed. Need to indicate if the subsurface estate would be conveyed.	Comment ID: 28449-138 Response: DOC1
F.Mendoza/ BLM	Dripping Springs parcel	B-30	There are no efforts underway on the part of Arizona State Parks to create a State Park in this area. The idea was considered several years ago during initial scoping with State Parks, but it was dropped from further consideration. Delete this information as it is out of date and no longer true.	Comment ID: 28449-139 Response: DOC1
F.Mendoza/ BLM	Dripping Springs parcel	B-30	Transfer of the Dripping Springs Parcel to the BLM would not require permits for recreational use as described; delete the last sentence entirely. The parcel would be managed according to FLPMA, and authorizations for uses and activities that require authorizations under public land laws would be considered on a case by case basis, as is the case for all public lands. Delete this sentence.	Comment ID: 28449-140 Response: DOC1
D Tersey, BLM	Appendix B Dripping Springs Parcel Biological and Water Resources	B-31	Parcel does not have any potential for occurrence of any of the ESA species listed, not suitable habitat for any of them.	Comment ID: 28449-141 Response: DOC1

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response
K. Ryan / BLM	Appendix E		Table E-1 presents flawed data including: *1A-1 summary indicates no difference in the qualitative assessment of cumulative resource disturbance impact among the alternatives. *1B-3 indicates no difference from Alternative 2 except that "because the TSF would be in a different location, the impacts would vary." The analysis should specify how. *3-2 indicates that the Alternatives 5 and 6 TSFs would not impact any Environmental Justice communities, which is incorrect. Impacts on cultural resources and tribal concerns and values would have a disproportionately adverse impact on Native American communities for those alternatives. *4-3 cultural analysis and summary data are flawed because the data used are not adequate for a 1:1 comparison of the action alternatives. *4-4 cultural analysis for indirect/atmospheric impacts is also flawed due to lack of appropriate data capture and projections (historic properties/acre). *4-7 statements are incorrect. The BLM is aware that Alternative 5 poses impacts to a minimum of 5 sites that are known/likely to have human remains.	Comment ID: 28449-142 Response: DOC1
F.Mendoza/ BLM	App. E	E-57	The key impact is loss of land base for recreation use, in acres, regardless of the ROS classification. Some ROS classified areas would see a change in the character of the area, or a change in the setting, but the most significant impact would be loss of land base available for public use. Needs clarification.	Comment ID: 28449-143 Response: DOC1
F.Mendoza/ BLM	App. E	E-57	Include miles of road construction under the alternatives, not only roads lost.	Comment ID: 28449-144 Response: DOC1
F.Mendoza/ BLM	Scenic	E-60	Include statement that the Peg Leg tailings storage facility would exceed BLM Visual Resource Management objectives. Also, state that the east pipeline crossing of the Gila River/Arizona Trail would exceed VRM objectives.	Comment ID: 28449-145 Response: DOC1

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response
F.Mendoza/ BLM	Transportation / Access	E-61	Peg Leg Alt 5: While transportation impacts directly related to the mine and processing plant may be the same under Alt 5, the impacts are very different under Alt 5 because of the pipeline corridor construction. A number of existing routes would be crossed, some would be improved or upgraded to accommodate construction access, and some new routes would be constructed; Peg Leg Road, a county road that crosses the tailings project site would be fenced off, unless mitigation is identified (which the DEIS does not). Also, existing motorized access routes north of the Peg Leg tailings site would be blocked, and a non-motorized access area would be created, unless mitigation is identified to restore vehicle access, which the DEIS does not. This part of the table needs to be re-written to accurately summarize the impacts, which are not the same as under Alt 2.	
F.Mendoza/ BLM	3.5.4	E-62	Peg Leg Alt would block access to Peg Leg Road, a county road that provides access to an existing communication site, unless mitigation is identified. The pipeline alternative routes would have impacts on a number of primitive roads, and new roads would be constructed. This section need to be rewritten.	
F.Mendoza/ BLM	1.2.3	E-64	Indicate whether subsurface estate is included in the conveyance of the offered parcels to the US	
F.Mendoza/ BLM	Appendix I	I-1	Appendix I appears to have been misnamed; the name suggest information about the impact of the land exchange, but the content is limited to provisions of 36CRF 228	
L. Uhr/BLM	Appendix J	all	Can you explain what the codes like "CA-191" or "FS-222" or RC-208" are besides a unique identifier? Because they are so different in this appendix, it is hard to tell if they are just random, or if there is a method to the madness… did they come from somewhere else???	
K. Ryan / BLM	Appendix J		Statement regarding the GPO HPTP is questionable. With respect to Alternative 5, BLM has authority under FLPMA, ARPA, NHPA, etc. to require and enforce avoidance, minimization, and/or mitigations.	

Comment ID: 28449-146
Response: DOC1

Comment ID: 28449-147
Response: DOC1

Comment ID: 28449-148
Response: DOC1

Comment ID: 28449-149
Response: NEPA52

Comment ID: 28449-150
Response: MIT39

Comment ID: 28449-151
Response: DOC1

Reviewer/ Agency	Chapter/ Section	Page	Comment/Change	ID Team Action/ Response
K. Ryan / BLM	Appendix J	J-2	The Forest Service and Arizona SHPO have no authorities to enforce any laws or agreements on BLM-administered lands (i.e., there are currently no executed agreements and the Forest Service has not engaged the BLM in any HPTP development.	
F.Mendoza/ BLM	RC-212	J-14	Indicate whether the Arizona Trail relocation would be subject to project specific NEPA review, or if the EIS will be sufficient analysis for compliance with the NEPA	
F.Mendoza/ BLM		KOP 23	The tailings storage facility is primarily a change in the landform, though the associated structures may also be visible from some locations. The visual contrast would be caused by the vegetation clearing, and the new landform being created (its rectilinear contours, flat top field, straight lines, smooth surfaces. The Visual Contrast rating is missing the ratings for the landform and vegetation features to support the conclusion. Though the tailings project is considered in the rating as 'structure', it is not technically correct. The conclusion that the project does not meet VRM Class III objectives is correct.	
F.Mendoza/ BLM		KOP 24	The visual contrast rating for this KOP is incomplete; needs ratings for the landform and vegetation which are the key impacts of the tailings storage project. See comments for KOP 23.	
F.Mendoza/ BLM		KOP 25	See comments for KOP 23	
F.Mendoza/ BLM		KOP 26	See comments for KOP 23	
F.Mendoza/ BLM		KOP 27	See comments for KOP 23	
F.Mendoza/ BLM		KOP 28	See comments for KOP 23	

Comment ID: 28449-152
Response: MIT7

Comment ID: 28449-153
Response: MIT4

Comment ID: 28449-154
Response: SR34

Murray/BLM	Reference: 28_Gergory_Bayley_2018_MA_110589.pdf)		Notes on Seepage Transport Modeling (Reference: 28_Gergory_Bayley_2018_MA_110589.pdf) – PegLeg Alternative 5 - How is the single K value computed? (2.11 ft/day) This number is outside of the typical range for stream alluvium and on the extreme low end for upper and lower basin fill (Anderson et al 1992). There's also a wide range for K values in the alluvium presented in Fleming et al 2018 that are taken from the Near West site and could be used. - 25% diffuse recharge split? –Diffuse recharge from Meixner et al (2016) was approximated as zero for the San Pedro Watershed – Other arid systems likely have similar amounts of diffuse recharge (ie none to very little). So characterizing diffuse recharge as 25% and underflow is not correct. - TSF location is directly on top of where the bedrock meets the alluvium where mountain front recharge is likely to occur. Locating the TSF here is likely to reduce the total system recharge. - M&A model uses 2 samples in the Donnelly Wash Sub-basin but EIS only mentions one. - Exploration wells should be used to confirm depths to bedrock and density in HGI survey - Conglomerate composes Northern parts of many of the different mixing cells – not sure why this is included and why parts of Donnelly Wash are excluded in the model boundaries. HGI surveys do not extend into the 5th subdomain but do show a potential thinning of the alluvium in that section (which is opposite of the model subdomain). Should explain why the 5th subdomain is expanded into the conglomerate. - Currently the model is deterministic (ie giving you one outcome), given the uncertainties - a probabilistic model of the system would be better suited to inform decision makers of the likelihood or unlikelihood of contamination of the Gila River. GoldSim is equipped to do this.	

Comment ID: 28449-155
Response: WT81

United States Department of the Interior
OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
333 Bush Street, Suite 515
San Francisco, California, 94104

In Reply Refer To:
19/0354

Filed electronically

Neil Bosworth
Forest Supervisor
2324 East McDowell Road
Phoenix, AZ 85006

Subject: Draft Environmental Impact Statement Resolution Copper Project and Land Exchange, dated August 2019

Dear Mr. Bosworth:

The United States Department of the Interior (Department), through the Bureau of Reclamation (Reclamation) has reviewed the *Draft Environmental Impact Statement, Resolution Copper Project and Land Exchange*, dated August 2019. The Department notes that you are proposing to construct elements of the project in or adjacent to land withdrawn for Reclamation project purposes. The withdrawn land occurs in the Queen Creek area and along the Gila River (see attached withdrawal orders). Alternatives 2-6 of the DEIS propose to construct mine infrastructure in the existing Magma Arizona Railroad Company Corridor. As proposed, this infrastructure would be constructed across Reclamation withdrawn land set aside for the Salt River Project. Additionally, Alternative 5 (East and West options) proposes a tailings transport corridor and holding facility south of the proposed mine, near the Gila River. The proposed tailings holding facility would be located directly adjacent to the southern portion of Reclamation's withdrawn land. The proposed tailings transport corridor would cross this withdrawn land along the Gila River. Please see specific comments and documentation in the attachment and enclosures.

Comment ID: 1121-1

Response: NEPA49

Reclamation requests a meeting with the Forest Service to discuss the proposed action and any potential impacts to withdrawn lands. Please contact Sean Heath with Reclamation at sheath@usbr.gov or at 623-773-6250 if you have questions regarding these comments and to schedule the meeting. Please contact me at janet_whitlock@ios.doi.gov or at (415) 420-0524 with all other questions.

Sincerely,

Janet L. Whitlock
Regional Environmental Officer

Attachment
Enclosures

Cc
Sean Heath, USBR
Lisa Treichel, DOI

Draft Environmental Impact Statement Resolution Copper
Specific Comments from the Bureau of Reclamation, Phoenix Area Office

Cmt #	Chapter	Page	Comment
1.	2	67	Alternative 2 – Near West– Southern portion of the tailings disposal facility would overlap onto lands withdrawn for Reclamation for the Salt River Project. Mine infrastructure within the existing MARRCO corridor also would be constructed over Reclamation withdrawn land.
2.	2	75	Alternative 3 – Near West Ultrathickened – See Comment #1
3.	2	81	Alternative 4 – Silver King – Tailings/MARRCO corridor overlaps Reclamation withdrawn land.
4.	2	88	Alternative 5 – Peg Leg East/West - Tailings conveyance route (Both East and West Tailing Corridor Options) and MARRCO corridor overlaps Reclamation withdrawn land. East and West tailings corridor option to southern tailings holding facility will cross land withdrawn for use by Reclamation for the Buttes Dam and Reservoir project. This withdrawn land was the subject of a letter sent in August 2017 from Reclamation (Phoenix Area Office) to the Forest Supervisor of Tonto National Forest.
5.	2	94	Alternative 6 – Skunk Camp (Preferred Alternative) - Tailings conveyance route (Both East and West Tailing Corridor Options) and MARRCO corridor overlaps Reclamation withdrawn land.

Post Office Box 1449, Santa Fe, N. Mex., 87501.

HARRY R. ANDERSON,
Assistant Secretary of the Interior.

SEPTEMBER 27, 1966.

[F.R. Doc. 66-10649; Filed, Oct. 1, 1966; 8:45 a.m.]

[Public Land Order 3933]
[Nevada 057710]

NEVADA

Partial Revocation of Executive Order No. 7558

By virtue of the authority vested in the President by section 1 of the Act of June 25, 1910 (36 Stat. 847; 43 U.S.C. 141), and pursuant to Executive Order No. 10355 of May 26, 1952 (17 F.R. 4831), it is ordered as follows:

1. Executive Order No. 7558 of February 23, 1937, so far as it withdrew the following-described lands for use of the Soil Conservation Service for erosion control demonstrations, is hereby revoked:

MOUNT DIABLO MERIDIAN

CRYSTAL SPRINGS AREA

T. 4 S., R. 58 E.,
Sec. 35, S½;
Sec. 36, All.

T. 5 S., R. 59 E.,
Sec. 1, All;
Secs. 2 and 11, E½;
Secs. 13 and 18, All;
Sec. 24, E½;
Sec. 25, NE¼;
Sec. 26, NW¼.

T. 4 S., R. 60 E.,
Secs. 31 and 33, All;
Sec. 32, W½.

T. 5 S., R. 60 E.,
Sec. 4, W½;
Secs. 5, 6, 7, 8, All;
Sec. 9, W½;
Sec. 17, NW¼;
Sec. 18, E½, SW¼.

PAHRUMP AREA

T. 18 S., R. 52 E.,
Sec. 26, All.

T. 21 S., R. 52 E.,
Secs. 1 and 12, All.

T. 18 S., R. 53 E.,
Sec. 31, All;
Sec. 32, E½.

T. 21 S., R. 53 E.,
Secs. 2 and 3, E½;
Secs. 4 through 10, inclusive.

Aggregating approximately 18,979.26 acres.

3. At 10 a.m. on November 2, 1966, the lands shall become subject to application, petition, location and selection generally, subject to valid existing rights, the provisions of existing withdrawals, and the requirements of applicable law. All valid applications received at or prior to 10 a.m. on November 2, 1966, shall be considered as simultaneously filed at that time. Those filed thereafter shall be considered in the order of filing.

4. The lands have been open to applications and offers under the mineral leasing laws and to location for metalliferous minerals. They will be open to location under the U.S. mining laws for non-metalliferous minerals after 10 a.m. on November 2, 1966.

Inquiries concerning the lands should be addressed to the Manager, Land Office, Bureau of Land Management, Reno, Nev.

HARRY R. ANDERSON,
Assistant Secretary of the Interior.

SEPTEMBER 27, 1966.

[F.R. Doc. 66-10650; Filed, Oct. 1, 1966; 8:45 a.m.]

[Public Land Order 3934]
[Misc. 060377]

MICHIGAN

Adding Lands to Manistee and Hiawatha National Forests

By virtue of the authority vested in the President by section 24 of the Act of March 3, 1891 (26 Stat. 1103; 16 U.S.C. 471), and section 1 of the Act of June 4, 1897 (30 Stat. 34, 36; 16 U.S.C. 473), and pursuant to Executive Order No. 10355 of May 26, 1952 (17 F.R. 4831), it is ordered as follows:

Subject to valid existing rights, the following described public lands are hereby added to and reserved as parts of the national forest as indicated, and shall hereafter be subject to all laws and regulations applicable thereto:

MICHIGAN MERIDIAN

MANISTEE NATIONAL FOREST

T. 1 N., R. 10 W.,
Sec. 7, islands 1, 2 and 3.
T. 16 N., R. 6 W.,
Sec. 2, lot 2.
T. 2 N., R. 8 E.,
Sec. 3, lot 7;
Sec. 10, lot 4;
Sec. 13, lots 15, 16, 17 and 18.
T. 30 N., R. 20 W.,
Sec. 3, lots 16 and 17.
T. 37 N., R. 11 W.,
Sec. 24, lot 12.
T. 7 N., R. 21 W.,
Sec. 2, lot 1.
T. 16 N., R. 18 W.,
Sec. 2, S½S½SE¼, NE¼NE¼.
T. 20 N., R. 4 W.,
Sec. 33, lot 6;
Sec. 36, lot 5.

HIAWATHA NATIONAL FOREST

T. 40 N., R. 27 W.,
Sec. 13, NW¼NW¼.

The areas described aggregate 170.95 acres.

HARRY R. ANDERSON,
Assistant Secretary of the Interior.

SEPTEMBER 27, 1966.

[F.R. Doc. 66-10651; Filed, Oct. 1, 1966; 8:45 a.m.]

[Public Land Order 3935]
[Arizona 017282]

ARIZONA

Withdrawal for Proposed Buttes Dam and Reservoir, Middle Gila River Project

By virtue of the authority contained in section 3 of the Act of June 17, 1902 (32 Stat. 388; 43 U.S.C. 416), as amended and supplemented, it is ordered as follows:

1. Subject to valid existing rights, the following described public lands which are under the jurisdiction of the Secretary of the Interior, are hereby withdrawn from all forms of appropriation under the public land laws, including the mining laws, but not from leasing under the mineral leasing laws, and reserved for the proposed Buttes Dam and Reservoir, Middle Gila River Project:

GILA AND SALT RIVER MERIDIAN

T. 4 S., R. 10 E.,
Sec. 10, SE¼SE¼;
Sec. 12, SW¼SW¼, S½S½NW¼, S½;
Sec. 14, E½E½W¼, E½S½SW¼, S½NW¼, S½;
Sec. 15, SW¼, NW¼NW¼, S½SE¼.

T. 4 S., R. 11 E.,
Sec. 1, S½S½, S½SW¼;
Sec. 4, S½;
Sec. 5;
Sec. 7, lots 1, 2, 3, 4, E½W¼, S½SE¼;
Secs. 8, 9, 10, 11 and 12;
Sec. 13, E½, E½W½, SW¼SW¼, S½SE¼;
Secs. 14, 15 and 17;
Sec. 20, E½E½SE¼.

T. 3 S., R. 12 E.,
Sec. 33, S½;
Secs. 34 and 35.

T. 4 S., R. 12 E.,
Sec. 1;
Sec. 2, S½;
Secs. 4 and 5;
Sec. 6, lots 1, 2, 3, 4, 5, 6, S½NW¼;
Sec. 7, lots 1, 2, 4, E½;
Secs. 8, 9, and 10;
Sec. 11, S½;
Sec. 12, W½;
Sec. 17;
Sec. 18, lots 1, 2, 3, 4, E½;
Sec. 19, lots 1, 2, 3, 4, E½;
Sec. 20;
Sec. 21, W½;
Secs. 28 and 29;
Sec. 30, lots 1, 2, 3, 4, E½;
Sec. 31, lots 1, 2, E½;
Sec. 32.

T. 5 S., R. 12 E.,
Sec. 4, lots 1, 2, 3, 4, S½N½;
Sec. 5, lots 1, 2, 3, 4, S½N½.

T. 3 S., R. 13 E.,
Sec. 31, lots 3, 4, E½SW¼.

T. 4 S., R. 13 E.,
Sec. 1, lots 3, 5, W½SW¼;
Sec. 2, lots 1, 2;
Sec. 3;
Sec. 4, lots 1, 2, 3, 4, S½N½, N½S½W¼, S½SW¼, N½NE¼SE¼, S½SE¼;
Secs. 5 and 6;
Sec. 7, lots 1 and 2, N½NW¼, NE¼;
Sec. 8, N½;
Sec. 9, lots 1, 2, 3, 4, N½N½, S½NW¼, N½S½, S½SE¼;
Sec. 10, lots 1, 2, 3, 4, N½N½, S½S½;
Sec. 15, lots 1, 2, 3, and part of lots 5, 6, 7, 8, Park N½NW¼. Said are Federal lands: NW¼NW¼.

T. 4 S., R. 14 E.,
Sec. 7, lot 6;
Sec. 8, E½SW¼, SW¼SW¼;
Sec. 13, lots 1, 2, 3, 4, 5, 12, 13;
Sec. 16, W½NE¼;
Sec. 29, SW¼NW¼, SW¼SW¼.

T. 5 S., R. 13 E.,
Sec. 7, E½SW¼;
Sec. 13, lot 6;
Sec. 24, lots 1 and 4, W½SE¼.

T. 5 S., R. 14 E.,
Sec. 3, lots 1 to 5, S½NE¼, N½SE¼, SW¼SE¼;
Sec. 5, lot 1, and unsurveyed portion of SE¼NE¼;
Sec. 7, lot 1, pt. lot 2, N½NE¼, SE¼NE¼, and unsurveyed portion of N½SW¼, SW¼NE¼;
Sec. 8, NW¼NW¼.

The areas described aggregate approximately 25,184.28 acres in Pinal County.

Saturday, October 2, 1965 FEDERAL REGISTER 12043

2. The use and administration of the lands will become subject to the provisions of the reclamation laws (Act of June 17, 1902, supra, as amended and supplemented), including the use of the lands under lease, license or permit, at such time as the Buttes Dam and Reservoir, Middle Gila River Project, is authorized by the Congress.

3. Pending authorization of the project, the withdrawal made by this order does not alter the applicability of the public land laws governing the use of the lands under lease, license, or permit, or the disposal of their mineral or vegetative resources, other than under the mining laws, subject to the condition that such use or disposition will not be inconsistent with the reclamation laws and the purposes for which the lands are withdrawn.

HARRY R. ANDERSON,
Assistant Secretary of the Interior.

SEPTEMBER 27, 1965.

[F.R. Doc. 65-10482; Filed, Oct. 1, 1965; 8:48 a.m.]

[Public Land Order 3856]

[BLM 046793]

ARKANSAS

Transferring Jurisdiction Over Oil and Gas Deposits Underlying Certain Acquired Lands at Fort Chaffee Military Reservation

Whereas, the hereinafter described lands to which title has been acquired by the United States, and which comprise a portion of the Fort Chaffee Military Reservation, are reported to be subject to drainage of their oil and gas deposits by wells on adjacent lands in private ownership; and

Whereas, it is necessary in the public interest that such protective action be taken as will prevent loss to the United States by reason of such drainage or threatened drainage; and

Whereas, in order to facilitate such action, it is considered advisable that jurisdiction over the oil and gas deposits in such acquired lands be transferred from the Department of the Army to the Department of the Interior, in which transfer the Secretary of the Army concurs,

Now, therefore, by virtue of the authority vested in the President, and pursuant to Executive Order No. 10355 of May 26, 1952 (17 F.R. 4831), it is ordered as follows:

1. The jurisdiction over the oil and gas deposits owned by the United States in the following-described lands is hereby transferred from the Department of the Army to the Department of the Interior:

FIFTH PRINCIPAL MERIDIAN

T. 6 N., R. 29 W.,
Secs. 1, 2, 7, 8 and 9;
Sec. 10, NE¼, S½NW¼ and S½;
Sec. 11;
Sec. 13, N½N½ and S½ those portions lying west of Rattlesnake Canyon Road;
Sec. 12, those portions lying west of Rattlesnake Canyon Road;
Secs. 14 and 15;

No. 191——4

Sec. 16, N½, N½S½, SW¼SW¼ and SE¼SE¼;
Secs. 17 and 18;
Sec. 20, N½S½NE¼NW¼ and N½NW¼ NW¼;
Sec. 21, N½NE¼NE¼ and N½S½NE¼ NE¼.
T. 6 N., R. 30 W.,
Sec. 11, S½, less 8 acres in N½NW¼NW¼ SW¼;
Secs. 12, 13 and 14;
Sec. 22, N½NE¼, SE¼NE¼ and NE¼ NW¼;
Sec. 24, N½N½ and SW¼NW¼.
T. 6 N., R. 31 W.,
Secs. 32, 33, 36, 27, 34 and 35 (less approximately 40.98 acres of county-owned lands).

The areas described aggregate 13,394.46 acres of acquired lands.

2. The Secretary of the Interior shall take such action as may be necessary to protect the United States from loss on account of the drainage or threatened drainage of oil and gas from such lands.

3. The jurisdiction of the Department of the Interior over such deposits shall be limited only by the primary jurisdiction of the Department of the Army over the lands for military purposes.

4. The jurisdiction of the Department of the Interior over such deposits of oil and gas shall continue until revocation of this Public Land Order, and no action which may be taken by the Department of the Army to relinquish jurisdiction over the described lands for military purposes or to transfer such jurisdiction out of the Department of the Army shall affect in any way the jurisdiction of the Department of the Interior over the oil and gas deposits.

5. Public Land Order No. 2349 of December 28, 1960, so far as it withdrew the following-described public lands for use of the Department of the Army for military purposes in connection with the Fort Chaffee Military Reservation, is hereby modified to the extent necessary to permit leasing of the said lands for oil and gas under the Act of February 25, 1920 (41 Stat. 437), as amended and supplemented:

FIFTH PRINCIPAL MERIDIAN

T. 6 N., R. 29 W.,
Sec. 10, N½NW¼;
Sec. 12, S½N½.

Containing approximately 240 acres.

HARRY R. ANDERSON,
Assistant Secretary of the Interior.

SEPTEMBER 27, 1965.

[F.R. Doc. 65-10483; Filed, Oct. 1, 1965; 8:48 a.m.]

[Public Land Order 3857]

[Oregon 016416]

OREGON

Withdrawal for Materials Site (Sugarloaf Mountain)

By virtue of the authority vested in the President and pursuant to Executive Order No. 10355 of May 26, 1952 (17 F.R. 4831), it is ordered as follows:

Subject to valid existing rights, the following described lands which are under the jurisdiction of the Secretary of the Interior are hereby withdrawn from all forms of appropriation under the public land laws, including the mining laws (Ch. 2, Title 30 U.S.C.), but not from leasing under the mineral leasing laws, for a Department of the Interior Materials Site:

WILLAMETTE MERIDIAN

SUGARLOAF MOUNTAIN MATERIAL SITE

T. 23 S., R. 12 W.,
Sec. 33, S½ and S½SW¼;
Sec. 34, SW¼SW¼.

The areas described aggregate 440 acres of revested O&C Railroad grant lands and public domain.

HARRY R. ANDERSON,
Assistant Secretary of the Interior.

SEPTEMBER 27, 1965.

[F.R. Doc. 65-10484; Filed, Oct. 1, 1965; 8:48 a.m.]

Title 50—WILDLIFE AND FISHERIES

Chapter I—Bureau of Sport Fisheries and Wildlife, Fish and Wildlife Service, Department of the Interior

PART 32—HUNTING

Noxubee National Wildlife Refuge, Mississippi

The following special regulation is issued and is effective on date of publication in the FEDERAL REGISTER.

§ 32.22 Special regulations; upland game; for individual wildlife refuge areas.

MISSISSIPPI

NOXUBEE NATIONAL WILDLIFE REFUGE

Public hunting of squirrels and rabbits on the Noxubee National Wildlife Refuge, Miss., is permitted only on the area designated by signs as open to hunting. This open area, comprising 42,600 acres, is delineated on a map available at the refuge headquarters, Route 1, Brooksville, Miss., and from the Regional Director, Bureau of Sport Fisheries and Wildlife, 809 Peachtree-Seventh Building, Atlanta, Ga., 30323. Hunting shall be in accordance with all applicable State regulations covering the hunting of squirrels and rabbits subject to the following conditions:

(1) The open season extends from October 16 through October 30, 1965, excluding Sundays.

(2) The use of dogs is not permitted.

The provisions of this special regulation supplement the regulations which govern hunting on wildlife refuge areas generally which are set forth in Title 50, Code of Federal Regulations, Part 32, and are effective through October 30, 1965.

W. L. TOWNS,
Acting Regional Director, Bureau of Sport Fisheries and Wildlife.

[F.R. Doc. 65-10478; Filed, Oct. 1, 1965; 8:45 a.m.]

FIRST FORM WITHDRAWAL ADDRESS ALL COMMUNICATIONS TO COMMISSIONER

DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
WASHINGTON

OFFICE OF THE COMMISSIONER

The Secretary
of the Interior.

Sir:

It is recommended that the following described lands, excepting any tract the title to which has passed out of the United States, be withdrawn from public entry, under the first form of withdrawal, as provided in Sec. 3, Act of June 17, 1902 (32 Stat.,388).

Salt River Project, Arizona.

Gila and Salt River Base and Meridian

T. 1 N. R. 8 E., (unsurveyed), all Secs. 25 and 26; N½ and SE¼ Sec. 35; NE¼ and S½ Sec. 36.

T. 1 S. R. 10 E., SW¼SW¼ Sec. 30; N½NE¼, W½NE¼ and SE¼NE¼ Sec. 31; S½SW¼ and W½SE¼ Sec. 33; S½ Sec. 34; N½S½ Sec. 35.

T. 1 S. R. 11 E., (unsurveyed) S½SE¼ and NE¼SE¼ Sec. 32; S½ Sec. 33; S½ Sec. 34; S½ Sec. 35; SW¼ Sec. 36.

T. 2 S. R. 11 E., (unsurveyed) all Sec. 1; N½ Sec. 2; N½ Sec. 3.

T. 1 S. R. 12 E., (unsurveyed) S½ and NE¼ Sec. 34; N½ and SW¼ Sec. 35.

T. 2 S. R. 12 E., N½NE¼ Sec. 4; S½N½, SW¼ and NE¼NE¼ Sec. 5; S½N½ Sec. 6.

As portions of the above described lands are unsurveyed it is requested that notation be made on the records so as to

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First Form Withdrawal- Salt River Project- Cont.

withdraw the lands after survey is made as well as prior thereto.

Respectfully,

Elwood Mead
Commissioner.

DEPARTMENT OF THE INTERIOR

MAY 23 1925

The lands described are hereby reserved as recommended and the Commissioner of the General Land Office will cause the records of his office and of the local land office to be noted accordingly.

(Sgd) E. C. FINNEY.
First Assistant Secretary.

Copy to U.S.G.S.
" " G.L.O.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

November 1, 2019

Ms. Mary Rasmussen
United States Forest Service, Tonto National Forest
Resolution EIS Comment
Post Office Box 34468
Phoenix, AZ 85067-4468

Subject: Draft Environmental Impact Statement for the Resolution Copper Project and Land Exchange, Pinal County, Arizona (EIS No. 20190189)

Dear Ms. Rasmussen:

The U.S. Environmental Protection Agency has reviewed the above-referenced document pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act. The EPA provided scoping comments on July 18, 2018 and accepted the U.S. Forest Service's invitation to serve as a Cooperating Agency under NEPA on July 28, 2019. As a Cooperating Agency, the EPA has participated in interagency calls, contributed to interagency workgroups developing impact studies, and provided comments on technical documents and preliminary drafts of the subject Draft EIS.

We appreciate the opportunity to review and provide recommendations on earlier draft analyses in support of the EIS and the Clean Water Act Section 404 Permitting process. We also appreciate the interagency workgroup initiated by Resolution Copper, with the EPA, United States Army Corps of Engineers, and USFS, to address the EPA's concerns for the EIS and CWA Section 404(b)(1) alternatives analyses identified in early coordination. We look forward to continued collaboration to address concerns for the Draft EIS analyses outlined in this letter and the enclosed detailed comments.

The Draft EIS evaluates the potential impacts associated with USFS approval of the modified General Plan of Operations for mining of the Resolution Copper Mine deposit and a legislatively mandated land exchange of Federal and private parcels in southeastern Arizona. In addition to analyzing the environmental impacts of the land exchange and mining operations, the Draft EIS analyzes five alternatives for a tailings storage facility (TSF), including "Alternative 6 – Skunk Camp," which is the USFS's preferred alternative and the site of the company's proposed TSF for purposes of Clean Water Act 404 Permitting by the USACE. As proposed, the Skunk Camp TSF would require a facility footprint of 4,000 acres in the Dripping Spring Wash watershed and a total of 16,116 acres disturbance for the north tailings pipeline route option, including the conveyance and storage of an estimated 1.37 billion tons of tailings. According to the Draft EIS, the facility would require fill of 120.0 acres of jurisdictional waters in the watershed, approximately 13 miles upstream of the Gila River. The EPA understands that USACE intends to adopt the EIS for required NEPA compliance for CWA Section 404 permitting, per

the legislatively mandated single environmental analysis for all federal approvals, permitting, and land exchange that are required as a part of the proposed project[1].

Information to Analyze Impacts from the USFS "preferred alternative"

Additional baseline hydrogeologic and water quality information for the preferred alternative is needed to fully analyze and disclose the potential impacts of the proposed mining project and related conveyance and storage of approximately 1.37 billion tons of tailings. This information is critical for informing decisionmakers and the public about the potential environmental impacts of the proposed project. For the analyses in the Draft EIS, the USFS relies on assumptions that are informed by evaluation of other sites, but have not been verified for the preferred alternative. It is the EPA's understanding that much of the site-specific information needed for the preferred alternative is currently being gathered and would be analyzed for the Final EIS. Verification of assumptions presented in the Draft EIS are needed to confirm that estimated impacts are not substantively different, or greater, than currently disclosed in the Draft EIS. Recommendations for verifying and gathering baseline data are included in the enclosed detailed comments.

Comment ID: 524-1
Response: ALT22

Impacts to Jurisdictional Waters of the U.S. and Mitigation

The potential direct, indirect, and cumulative impacts to aquatic resources from mining operations, conveyance, and storage of tailings at the preferred site, "Skunk Camp," as well as plans for how those impacts will be mitigated, are not fully analyzed in the Draft EIS. While USFS has identified that Skunk Camp has the potential to avoid other significant impacts and catastrophic tailings failure risk associated with alternative sites in the Queen Creek watershed, the Skunk Camp site would involve direct fill of 120 acres of jurisdictional waters. Alternative sites in the Queen Creek watershed would not have any direct fill impacts to jurisdictional waters. The Draft EIS does not estimate indirect and cumulative impacts to jurisdictional waters and potential impacts to "special aquatic sites" (40 CFR 230 – Subpart E). A functional assessment of the value of all jurisdictional waters potentially impacted by the project, as well as for the value of mitigation, is needed to show that the mitigation could offset any unavoidable impacts. Further, accurate analysis of potential impacts to water quality, based on site-specific baseline data, is needed to support a decision on a potential CWA Section 404 Permit.

Comment ID: 524-2
Response: MIT27

Impacts common to all action alternatives

Regardless of action alternative selected, according to the Draft EIS, the congressionally mandated land exchange of the Oak Flat Parcel will result in permanent loss of federal protections for the National Registry of Historic Places-listed Historic District Traditional Cultural Property at Oak Flat, *Chi'chil Bildagoteel*, and its NRHP sites and one Traditional Cultural Property. There will also be adverse effects to sacred places, springs, and loss of access to ceremonial areas and an acorn-collecting area.

Underground mining beneath Oak Flat would result in the eventual formation of a subsidence crater approximately 800–1,115 feet deep and approximately 1.8 miles in diameter that would permanently

[1] According to the National Defense Authorization Act authorizing the land exchange, "[p]rior to conveying Federal land under this section, the Secretary shall prepare a single environmental impact statement under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), which shall be used as the basis for all decisions under Federal law related to the proposed mine and the Resolution mine plan of operations and any related major Federal actions significantly affecting the quality of the human environment, including the granting of any permits, rights-of-way, or approvals for the construction of associated power, water, transportation, processing, tailings, waste disposal, or other ancillary facilities."

impact and prevent access to the NHRP District and sacred cultural areas. Significant adverse effects to these resources cannot be fully mitigated. Subsidence will also cause permanent fundamental changes to watersheds and to the underlying geology and deep groundwater regional aquifers. This will impact several groundwater-dependent ecosystems, resulting in an annual average loss of 3.5% of perennial flow at the mouth of Devil's Canyon and in Queen Creek at Whitlow Ranch Dam, as well as reductions in flow to eight springs. Combined with groundwater pumping required for mining, groundwater levels in the region are estimated to be reduced by at least 10 feet over an approximately 50 square-mile area 200 years after mining begins, with further reductions expected after that time. In the enclosed detailed comments we provide recommendations for changes to mitigation triggers in the 2019 "Monitoring and Mitigation Plan for Groundwater Dependent Ecosystems and Water Wells" to improve the effectiveness of mitigation plans in maintaining groundwater-dependent ecosystems.

Specific recommendations to resolve these inadequacies of the document and other concerns or recommended clarifications for the analysis that can be addressed in a Final EIS are included in EPA's Detailed Comments attached as an enclosure. EPA remains available to work with the USFS, the USACE, and the project proponent to resolve the issues that we have identified. We note that effective October 22, 2018, the EPA no longer includes ratings in our comment letters. Information about this change and the EPA's continued roles and responsibilities in the review of federal actions can be found on our website at: https://www.epa.gov/nepa/epa-review-process-under-section-309-clean-air-act. If you have any questions, please contact me at (415) 947-4161, or Hugo Hoffman, the lead reviewer for this project, at 415-972-3929 or hoffman.hugo@epa.gov.

Sincerely,

Connell Dunning

Connell Dunning, Acting Manager
Environmental Review Branch

Enclosures: EPA's Detailed Comments

cc (via email): Neil Bosworth, Forest Supervisor, Tonto National Forest
John Scaggs, Tonto National Forest
Sallie Diebolt, Army Corps of Engineers
Michael Langley, Army Corps of Engineers
Jayme Lopez, Bureau of Land Management
Jeff Humphrey, U.S. Fish and Wildlife Service
Wayne Harrison, Arizona Department of Environmental Quality, Groundwater Protection
Rosi Sherrill, ADEQ, Surface Water Section
Daniel Czecholinski, ADEQ, Air Division
Michael Sundblom, Pinal County Air Quality Control District
Vineetha Kartha, Arizona Department of Water Resources
Lisa Atkins, Arizona State Land Department
Jay Cook, Arizona Game and Fish Department
William Schifferns, Arizona State Mine Inspector

EPA DETAILED COMMENTS ON THE RESOLUTION COPPER PROJECT AND LAND EXCHANGE DRAFT ENVIRONMENTAL IMPACT STATEMENT, PINAL COUNTY, ARIZONA – NOVEMBER 1, 2019

Mandated "Single Environmental Impact Statement" for NEPA, Land Exchange, and Permitting

In December 2014, Congress authorized a land exchange pending completion of the environmental impact statement (EIS), as outlined in Section 3003 of the National Defense Authorization Act (NDAA) for fiscal year 2015. The exchange parcel to be conveyed to Resolution Copper includes not only the Oak Flat Withdrawal Area but also the National USFS lands above the copper deposit. This collective 2,422-acre tract of land is known as the "Oak Flat Federal Parcel." According to the NDAA, "[p]rior to conveying Federal land under this section, the Secretary shall prepare a single environmental impact statement under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), which shall be used as the basis for all decisions under Federal law related to the proposed mine and the Resolution mine plan of operations and any related major Federal actions significantly affecting the quality of the human environment, including the granting of any permits, rights-of-way, or approvals for the construction of associated power, water, transportation, processing, tailings, waste disposal, or other ancillary facilities." The Draft EIS explains that "[b]ecause Congress directed that a single EIS is to support all Federal decisions related to the proposed mine, the USACE is relying on this EIS to support a decision for issuance of a Section 404 permit."

The USFS's "preferred alternative," Alternative 6, would involve direct fill of approximately 120 acres of largely undeveloped and high functioning waters of the U.S. The Draft EIS explains that "[w]hile most of the impacts considered under the USACE process are identical to those considered in this EIS, some impacts considered under the USACE process are specific only to that permitting process, which may have a different scope of analysis than the EIS. Because of these differences, the 404(b)1 alternatives analysis is a document strongly related to the EIS, but also separate. Accordingly, the 404(b)1 alternatives analysis is attached to the EIS as appendix C."

Although Congress directed that a single EIS is to support all Federal decisions related to the proposed mine, the document does not contain a CWA Section 404(b)(1) alternatives analysis to support a USACE's permitting decision, nor does it include an adequate analysis of the full scope of impacts to waters of the U.S., or a compensatory mitigation plan sufficiently detailed to show how impacts to waters of U.S. could be offset. Appendix C is titled a "Practicability Analysis in Support of Clean Water Act 404(b)(1) Alternatives Analysis." A practicability analysis, by itself, is an initial step in a CWA Section 404(b)(1) Alternatives Analysis and not adequate to determine a preliminary *Least Environmentally Damaging Practicable Alternative* as is needed at this stage of the federal environmental analysis for the USFS's preferred alternative.

Recommendation: Since a single EIS must serve as the basis for all federal decision-making on the project, confirm that the EIS includes adequate information to support a decision on a CWA Section 404 Permit, including a complete 404(b)(1) Alternatives Analysis sufficient to demonstrate compliance with EPA's *Guidelines* administered by the USACE. Please also see EPA's November 1, 2019 comments to USACE on Public Notice (PN) 2016-00547-MWL for the proposed Resolution Copper Mine Tailings Storage Facility Project, Resolution Copper Company, Superior, Arizona.

Comment ID: 524-3
Response: MIT27

Inadequate Site Characterization and Water Quality Impact Predictions for the "Preferred Alternative"

The Draft EIS presents predicted impacts to surface water and groundwater quality from tailings storage facility seepage based on the current level of tailings facility design and environmental baseline data; however, essential baseline hydrogeology for Alternative 6 is either substituted with data from the Near West location, inferred from desktop exercises, incomplete, or outdated. This information is needed to accurately analyze potential environmental impacts to water quality for the purposes of NEPA. The EPA understands that this baseline data is being gathered and would be used to inform reclamation and closure plans as well as to refine impact modelling for the Final EIS.

This substitution, along with missing data on potential preferential flow paths for Skunk Camp, could mean that actual impacts to groundwater and surface water quality could be substantially different than currently predicted and could result in exceedances of water quality standards. Given the differences between alternatives in topography and proximity to downstream perennial waters, the USFS concludes that potential impacts to water quality from the Skunk Camp alternative could be more easily controlled; however, this simple ranking of the available alternatives cannot substitute for a full analysis and disclosure of the potential impacts from the "preferred alternative" as these impacts could still be unacceptable and, based on an accurate analysis of impacts, design changes to mitigate impacts may need to be developed, including changes that could require more direct fill of jurisdictional waters than currently estimated.

Recommendations: Obtain site-specific hydrogeologic characterization for the Skunk Camp alternative and update tailings seepage modelling and related predictions for impacts to surface water and groundwater. Summarize site characterization, baseline environmental conditions, and updated site-specific environmental impact analyses and confirm that this information has been used to inform the analysis of impacts. Baseline data needed for accurate water quality impact modelling includes:

- *Hydrogeologic characterization*: major fault locations, underlying rock and soil permeability, potential preferential flowpaths (such as Dripping Spring fault, which would run roughly through the centerline of the facility and appears to extend downstream of the embankment), alluvium thickness, and verification of the assumptions about site hydrogeology in the facility design[3] and seepage estimates,[3] including the size and extent of shallow aquifer units[4] and whether groundwater at the site is connected to the Ray Mine.
- *Geologic Characterization:* lithology and mineralogy of rocks, soils, and alluvial deposits; rock unit distribution; bedrock cementation, type and degree; fracture distribution and characteristics; alteration and mineralization, including vertical and Continued →

[3] Klohn Crippen Berger Ltd. 2018d. *Resolution Copper Project: DEIS Design for Alternative 6 - Skunk Camp*. Doc. # CCC.03-81600-EXREP-00006 - Rev.1. Vancouver, Canada: Klohn Crippen Berger Ltd. August 8.
[3] Klohn Crippen Berger Ltd. 2019c. *Resolution Copper Project: DEIS Design for Alternative 6 Skunk Camp, Appendix IV Seepage Estimate Amendment*. Doc. # CCC.03-81600-EX-REP-0006 Rev.2. Vancouver, Canada: Klohn Crippen Berger Ltd. January 30.
[4] Gregory, C., and T. Bayley 2018d. *TSF Alternative 6 - Skunk Camp: Life of Mine and Post-Closure Seepage Transport Modeling*. Project #: 605.8501. Technical memorandum. Tucson, Arizona: Montgomery and Associates Inc. September 14.

Continued

Comment ID: 524-4

Response: WT7

lateral changes; surface-subsurface relationships; topography and slopes; soil cover (depth and type).

- *Hydrologic characterization:* background surface water hydrology and groundwater hydrogeology in the Dripping Spring Wash watershed, Upper Mineral Creek watershed, and adjacent downstream reaches of the Gila River. Assess the condition of Big Springs and Seger Springs within Dripping Spring Wash, as well as their likely source.
- *Existing water quality:* baseline for surface water and groundwater in Dripping Spring Wash watershed, in surface water in the Gila River at the confluence with Dripping Spring, as well as surface water in the Upper Mineral Creek watershed and through to the confluence with Devil's Canyon. Sampling for water quality baseline conditions need to be recent and spatially representative of reaches and aquifer units that could be affected.

Additional recommendations to improve the water quality impact modelling, and suggested clarifications, are included in the section below on *Water Quality Impact Modelling*.

Inadequate Analysis of Direct and Indirect Impacts to Waters of the U.S.

The Draft EIS does not include a quantitative estimate of the full scope of direct, indirect, and cumulative impacts to jurisdictional waters of the U.S. for each alternative. This is critical because USFS must prepare "a single EIS under the NEPA."[5] Without analysis of the full scope of impacts to aquatic resources and jurisdictional waters, EPA believes that the EIS cannot support USACE decision-making on a CWA Section 404 Permit. A TSF at "Alternative 6 – Skunk Camp" would potentially impact an estimated 120 acres and approximately 395,215 linear feet of jurisdictional waters, but no estimate of indirect impacts is provided. Two tailings pipeline routes are considered for Alternative 6, a "north" and "south" option, but the potential impacts to jurisdictional waters from each option are not included in the Draft EIS.[6] The Draft EIS includes an estimate of 25.4 acres of wetlands potentially impacted along the USFS's preferred north pipeline option based National Wetlands Inventory information, but no discussion of their jurisdictional status or potential to contain "special aquatic sites" (40 CFR 230 – Subpart E). "Alternative 5 – Peg Leg" would have the potential to directly impact 182.5 acres and approximately 759,064 linear feet of jurisdictional waters. Based on the USACE's 2012 and 2015 jurisdictional determinations, Alternatives 2, 3, and 4 would not directly fill any jurisdictional waters. There are no jurisdictional determinations available for Alternatives 5 or 6.

Recommendations: In a Final EIS, or in a complete draft CWA Section 404(b)(1) Alternative Analysis attached as an appendix to the EIS, include the following information missing from the current analysis:

- Analyze and quantify direct, indirect, and cumulative impacts to linear feet and acreage of waters of the U.S., within each class of aquatic resources occuring within the footprint of each alternative, including the conveyance infrastructures. Include information on the type, function/condition of all aquatic resources at the alternative sites. Apply a consistent level of

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[5] Section 3003 of the Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for Fiscal Year 2015
[6] The USACE's Public Notice for the project includes an estimate of 6 acres of direct and "temporary" fill required for what appears to be the "north" pipeline option in the Draft EIS, but it is not clear how this estimate was developed, and no estimate is included for the "south" option. In addition, there is a discrepancy in the estimates of fill for the "Skunk Camp" tailings facility between the Draft EIS and the PN. The PN estimates 124 acres of fill required for the "Skunk Camp" facility itself.

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Comment ID: 524-5

Response: MIT27

analysis across all practicable alternatives to inform whether less environmentally damaging practicable alternatives exist.

- Describe each class of stream within the project watershed area, including information about their functional capacity for supplying, storing, and transporting water, organic matter, sediment, and nutrients. Initial guidance can be found for classification of such systems in a document titled, "Channel Classification Across Arid West Landscapes in Support of OHW Delineation," published by the USACE in Jan 2013.
- Provide a description of the current ecological condition of each class of aquatic resource present at the potential impact sites, using aerial imagery and indicator metrics like those used in the California Rapid Assessment Method (CRAM) adapted for Arizona.
- Include detailed information about "special aquatic sites," (40 CFR 230 – Subpart E) where they are present, surveys used to confirm their absence, their connection to upstream and downstream ecosystems, and their current ecological condition.
- Additional details are in our comments to the USACE on their Public Notice for the project.

Compensatory Mitigation for Impacts to Jurisdictional Waters

Comment ID: 524-6

Response: MIT27

The Draft EIS includes a "Draft Resolution Copper Project Clean Water Act Section 404 Conceptual Compensatory Mitigation Plan" in Appendix B, based on the assumption that the USACE would identify the Skunk Camp TSF alternative as the *Least Environmentally Damaging Practicable Alternative* for purposes of CWA Section 404 Permitting. The plan proposes several mitigation projects at a collection of distinct sites referred to in the draft Plan individually as the GRIC MAR-5 Recharge Project, Lower San Pedro River Wildlife Area (LSPRWA) In-lieu Fee Project, Olberg Road Restoration Site Project, Queen Creek Project, and Arlington Wildlife Area In-lieu Fee Project. These possible projects are each in different phases of planning, pilot-testing and, in the case of In-lieu Fee (ILF) projects, review by the Inter-Agency Review Team (IRT) of which EPA is a member.

To determine compensatory mitigation requirements, and to determine the value of proposed mitigation elements in offsetting the aquatic resource functions lost due to Alternative 6, a scientifically valid functional assessment is needed for potentially impacted jurisdictional waters and proposed mitigation projects. The proposed mitigation in the "Draft Resolution Copper Project Clean Water Act Section 404 Conceptual Compensatory Mitigation Plan" does not provide detail on the values of aquatic resources in the context of a functional assessment that quantifies mitigation credits and debits for all impacts and potential mitigation projects. As currently proposed, ILFs and mitigation projects have not demonstrated that they would be available or could offset unavoidable impacts.

Recommendations: In conjunction with a complete CWA Section 404(b)(1) Alternatives Analysis identifying the *Least Environmentally Damaging Practicable Alternative*, include a revised Draft Clean Water Act Section 404 Conceptual Compensatory Mitigation Plan that demonstrates offsets for unavoidable impacts that remain after all feasible avoidance and minimization strategies are used. The EPA appreciates the commitment in the current Mitigation Plan to utilize the California Rapid Assessment Method (CRAM) to assess the functionality of ephemeral drainages based on relationships between condition and function of those streams. EPA is available to consult with the applicant and the USACE to approve final methodology and application.

Mitigation for Impacts to Groundwater-Dependent Ecosystems

Comment ID: 524-7

Response: MIT1

Resolution Copper's proposed monitoring and mitigation plan for impacts to seeps and springs and other groundwater-dependent ecosystems (GDEs), titled "Monitoring and Mitigation Plan for Groundwater Dependent Ecosystems and Water Wells,"[7] is referenced in the Draft EIS's Appendix J (Draft EIS page J-8). In Section 3 of the Plan, on monitoring, the document briefly describes the intention to deconvolute regional environmental variables such as climate, "other human causes," fires, etc. from impacts due to mining-related groundwater drawdown. EPA acknowledges that there are numerous environmental variables in addition to mining that might decrease discharge at GDEs. It is important to note that these impacts are, by nature, cumulative. For example, impacts to a spring due, in part, to a period of drought cannot be easily separated from the incremental impact on the spring system due to groundwater drawdown. Deconvoluting the mining signal from the different stresses would need to be a highly nuanced analysis requiring much higher resolution monitoring data than currently exists. The proposed methodology would not be effective in identifying and mitigating only the incremental impact due to mining-related groundwater drawdown.

In Section 3.3 on "Mitigation Triggers," the plan states that mitigation thresholds would only be triggered based on multiple lines of evidence that impacts to GDEs are "caused by mine activities." (page 7). All the GDEs covered by the Plan have been selected because multiple lines of evidence already indicate that there is a high likelihood that dewatering will impact them (connection to bedrock source, within the 10-foot drawdown contour, etc.). Barring a sophisticated signal deconvolution methodology, impacts to these GDEs should be assumed to be from mining activities. EPA is concerned that without specific upfront mitigation triggers, needed mitigation may not be initiated. Furthermore, the value of "Level 1" triggers is unclear because they appear to simply require additional monitoring and comparison with reference sites that could also be impacted since they are within the modelled 10-foot drawdown contour.

Recommendations: Develop quantitative trigger thresholds for mitigation actions for each GDE based on available baseline monitoring data for flow, water stage (height), and/or vegetation, as appropriate to each individual GDE. Include specific mitigation goals in reference to baseline monitored conditions and criteria by which mitigation success would be evaluated.

As explained in Appendix J, "the plan specifically notes that it is not intended to address water sources associated with perched shallow groundwater in alluvium or fractures." Conceptually, EPA agrees that it is appropriate to exclude perched shallow groundwater in alluvium; however, we do not agree that GDEs connected to fractures and supported by fracture flow should be excluded from monitoring and mitigation. Fracture flow, especially in the Apache Leap tuff and Whitetail conglomerate, may be the dominant discharge mechanism and some fracture systems may be connected over large geographic areas.

[7] Montgomery and Associates Inc. 2019. *Monitoring and Mitigation Plan for Groundwater Dependent Ecosystems and Water Wells*. Tucson, Arizona: Montgomery and Associates Inc, April 12. – Available at https://www.resolutionmineeis.us/sites/default/files/references/montgomery-monitoring-mitigation-plan-2019.pdf

Recommendation: Provide additional detail about the proposed monitoring and mitigation required for the project for regularly flowing GDEs emanating from fractures.

Water Quality Impact Modelling

Comment ID: 524-8

Response: WT37

The Draft EIS explains that, as modelled, groundwater and surface water quality impact predictions are based on assumptions that "fractured rock in the collapsed block-cave zone does not contact oxygen and chemical weathering does not supply any chemical load to the sump water" (Draft EIS page 350), and that actual water quality constituent concentrations in the sump could be substantially higher than predicted and summarized in the Draft EIS. To illustrate the potential magnitude of difference in water quality, Table 3.7.2-1 in the Draft EIS shows predictions of block-cave sump water quality for assumptions of less oxidation (Eary 2018[8]) and more oxidation (Hatch 2016[9]). The Hatch-predicted concentrations are more than double Eary-predicted concentrations for magnesium, potassium, sulfate, antimony, and thallium; and orders of magnitude greater for aluminum, beryllium, cadmium, chromium, cobalt, copper, iron, lead, manganese, mercury,[10] nickel, selenium, silver, and zinc. While EPA acknowledges that this same magnitude of difference would not be seen in final surface water and groundwater concentrations affected by tailings seepage, if actual conditions result in more oxidation in the block-cave zone and in stockpiled ore than is currently assumed for the Draft EIS, water quality standard exceedances for all action alternatives could be more numerous and significant than currently estimated.

As discussed in Hatch, for the parameters evaluated (i.e. pH, sulfate, copper, and selenium) concentrations of selenium and sulfate are sensitive to oxidation and likely cannot be mitigated by lime amendments, further underscoring the need for an accurate and reasonably conservative assessment of impacts to water quality. Eary's (2018) assumptions for oxidation appear to be based on an idealized mining process schedule that could be delayed for periods over the life of the mine, resulting in greater-than-modelled oxidation. Surface water and groundwater quality impacts are likely underestimated and should be updated with a more conservative assumption about the extent of oxidation of fractured rock in the block-cave zone and in ore stockpiles at the surface.

Recommendation: Clarify the degree of uncertainty in assumptions about oxidation in the block-cave zone and surface ore stockpiles, including a discussion of the most reasonably conservative oxidation conditions likely to occur. Revise water quality predictions for surface water and groundwater using the more reasonably conservative oxidation assumptions for fractured block-cave rock based on Hatch (2016) or another, more realistic period of oxidation.

From a modeling perspective, the Draft EIS incorrectly evaluates flow conditions based on median flow volumes, thereby overlooking the most severe potential impacts to surface water quality as well as the

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[8] Eary 2018. *Block Cave Geochemical Model - 2018 Update on Calculation Approach and Results*. Technical memorandum. Loveland, Colorado: Enchemica, LLC. June 26.
[9] Hatch. 2016. Appendix Q: Final Draft Report: Prediction of Block Cave Water Chemistry. In *General Plan of Operations, Resolution Copper Mining*. Scottsdale, Arizona: Hatch. January 8.
[10] Table 3.7.2.-1 does not report a value for mercury concentrations under Eary conditions, but it is unclear if this was not modelled or omitted for some other reason. The value for mercury under Hatch conditions is not shaded or bolded to show exceedance of the Arizona Aquifer Water Quality Standard as it should since the reported value of 0.018 mg/L is greater than the 0.002 mg/L standard

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importance of downstream ecological resources, specifically, the perennial flow of a stream located in southern Arizona. The continued existence of perennial flow in these stream reaches is based on critical (e.g., low flow) conditions, not median or peak flow conditions. While the EIS analysis cannot substitute for State permitting or water quality certifications which may also use low flow conditions, an evaluation of surface water quality impacts under low flow conditions is necessary in the EIS to capture the full range of significant impacts that could result from the project.

Comment ID: 524-9
Response: WT76

Recommendations: Evaluate impacts to stream water quality based on low-flow, critical periods in addition to the evaluation of median annual. The evaluations should be informed by characterization of existing hydrologic flows regimes and expected flow regimes that would occur from the project.

Limited Geographic Scope of Surface Water Quality Impacts Analysis

The Draft EIS assumes that surface water quality affected by Alternative 6 would first occur at confluence of the Gila River with Dripping Spring Wash due to subsurface seepage that cannot be captured and migrates via shallow aquifers, ultimately contributing to surface water flows in the Gila River. However, we note that the assumption that seepage from Skunk Camp would first affect surface water in the Gila River is not supported due to lack of baseline characterization of the hydrology in Dripping Spring Wash. Preferential flow paths or groundwater-fed flow within the watershed could result in surface water flows affected by tailings seepage. Until a study has been done to determine whether this is an ephemeral wash it would be reasonably conservative to treat it as intermittent for the purposes of impact analyses given the local terrain, vegetation, and estimated surface flows in Lehman 2018[11] referenced in the Draft EIS.

Comment ID: 524-10
Response: WT84

Recommendations: Evaluate the potential for surface water flows in Dripping Spring Wash to be impacted by uncaptured tailings seepage informed by a baseline hydrologic characterization of the watershed. For comparison with surface water quality standards, if surface water quality in Dripping Spring would be impacted by the project, specific designated uses and surface water quality standards are not assigned in EPA-approved Arizona Surface Water Quality Standards;[12] therefore, surface water quality standards for aquatic and wildlife (warm water), fish consumption, and full body contact designated uses from the Gila River immediately downstream would apply.[13] If Dripping Spring proves to be ephemeral, then the standards require it to support the associated aquatic and wildlife and partial body contact uses.

The Draft EIS summarizes modelling of potential impacts to surface water quality in the Queen Creek watershed for Alternatives 2, 3, and 4 at one point location immediately upstream of Whitlow Ranch Dam. The basis for modelling surface water quality in Queen Creek at this initial point appears to be based on an assumption that flows above Whitlow Ranch Dam have no groundwater baseflow component; however, this appears to be inconsistent with other analyses presented in the Draft EIS and

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[11] Lehman, T. 2018. *USGS Regression Equation Computation Updates for Queen Creek, Devil's Canyon, Dripping Springs Wash (Skunk Camp), and Donnelly Wash area (Peg Leg)*. Memorandum. Tempe, Arizona: JE Fuller. August 30
[12] See Arizona Administrative Code, Title 18, Chapter 11, Appendix A. Available at https://www.epa.gov/wqs-tech/water-quality-standards-regulations-arizona#state
[13] Ibid., R18-11-105

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is counter to the conceptualization of the groundwater model that Queen Creek is a groundwater-dependent ecosystem.

Comment ID: 524-11
Response: WT32

Recommendations: In the Final EIS, include a summary of results from modelling surface water quality impacts in Queen Creek in reaches above Whitlow Ranch Dam potentially affected tailings seepage for Alternatives 2, 3, and 4.

Impact analyses for water quality in Queen Creek downstream from Whitlow Ranch Dam are also inappropriately limited because, according to the Draft EIS, the first "perennial surface water locations are the point at which seepage would enter the surface water system and represent the location at which surface water quality is most at risk and any impacts on surface water or aquatic habitat would be greatest" (page 346). However, degradation to surface water quality and designated uses of surface water can persist far beyond where it is first affected. To comprehensively analyze and disclose potential surface water quality impacts related to tailings seepage, modelling should be performed as far downstream as water quality would be degraded from baseline conditions.

Comment ID: 524-12
Response: WT78

Recommendations: Model surface water quality impacts as far as the project may detectably affect water quality. Include in the Final EIS, a summary and discussion of predictions for surface water quality impacts wherever they are expected to be degraded from baseline.

Surface water quality standards for chromium

Multiple tables in the Draft EIS present predictions for water quality concentrations in surface water and groundwater potentially affected by each tailings facility alternative. Predicted concentrations of total chromium are compared to the relevant water quality standards for groundwater; however, total chromium is not compared to applicable surface water quality standards for hexavalent chromium, Cr(VI), and trivalent chromium, Cr(III)[14]. In the absence of additional information about chromium speciation, a conservative approach to comparing chromium concentrations in the environment would be to assume that all chromium exists as the most toxic form, Cr(VI).

Comment ID: 524-13
Response: WT47

Recommendation: Update Tables 3.7.2-9, -11, -14, -16, -18, and -20 comparing predicted stormwater runoff water quality and seepage water quality modeling results with water quality standards to include the applicable water quality standards for hexavalent and trivalent chromium. Compare them to the predictions for total chromium.

Unclear nitrogen mass balance

Based on the information presented in the supporting reference, *Block Cave Geochemical Model - 2018 Update on Calculation Approach and Results* (Eary 2018),[15] a substantial mass of residual nitrogen (existing largely as nitrate) would be introduced to the block-cave zone via blasting. Assumptions for how this would contribute to block-cave zone sump water quality in the block-cave geochemical model are explained, but it is unclear what fate and transport mechanisms were considered for this nitrate throughout the mine processes. Given the large magnitude of nitrate potentially introduced to sump water and ore, greater detail on the mass balance and fate and transport of nitrogen through mine

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[14] The trivalent chromium standards are hardness-mediated.

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processes would be helpful for assessing the reliability of modelled tailings seepage nitrate concentrations.

Comment ID: 524-14
Response: WT46

Recommendation: Clarify the mass balance and fate and transport of nitrogen/nitrate from blasting. If additional pathways for nitrogen species to impact surface water and groundwater are identified as a result of this clarification, update tailings seepage and water quality impact modelling.

Containment of Tailings Contact Stormwater and Upstream Diversions

The Draft EIS does not provide a clear comparison between alternatives for stormwater management, potential differences in impacts to surface water quality, or implications for tailings seepage management. Flood events could result in unplanned discharge of tailings-contact stormwater if precipitation exceeds the capacity of stormwater and tailings seepage management facilities. According to Newell and Garrett (2018d) referenced by the Draft EIS, it appears that different design bases are used for upstream diversions and stormwater management facilities. Permanent upstream diversion at Alternatives 2 and 4 would be designed for the probable maximum flood while downstream seepage collection dams would be designed to the 200-year, 24-hour event. For Alternative 6, it appears that all diversion structures would be designed to contain the peak flow of the 24-hour, 100-year event, but the basis of design for downstream facilities is not clear.

Comment ID: 524-15
Response: MIT17

Recommendations: For all alternatives, clarify the design bases for upstream and downstream facilities needed to divert or manage stormwater and avoid discharge of tailings contact water to the environment. Provide a comparative analysis of implications for tailings seepage management between alternatives, as compared with the most conservative design requirement for upstream diversion. For downstream seepage collection dams, provide a comparison of the possible quantity and water quality of releases between alternatives, as compared with the most conservative flood event used across alternatives.

Details on Closure Plans, Post-Closure Management Requirements and Financial Assurances

Active post-closure management of tailings seepage via pumpback, enhanced evaporation, or treatment before discharge would likely be required for varying periods depending on the alternative. For all alternatives, there is extremely limited detail on closure plans and post-closure management requirements, including potential impacts that could occur from implementing post-closure requirements. For the preferred alternative, the Draft EIS briefly explains that, after up to 20 years of closure involving seepage pump back, an estimated additional 20 years would be needed to manage remaining seepage via "either enhanced evaporation or treatment for release [..] until the ponds could passively evaporate all incoming seepage" (page 417). In the passive management phase, evaporation ponds for each alternative would require periodic cleanup and disposal of sludge containing concentrated metals and salts from evaporation that would likely require disposal as solid or hazardous waste. Improper or poorly executed closure can and has led to severe and irretrievable environmental impacts at other mine sites, including those in the state of Arizona. Although options for post-closure seepage management are briefly discussed, substantial additional detail is warranted given the importance of implementing and maintaining seepage management for protecting water quality.

Comment ID: 524-16
Response: WI26

Recommendations: Add a detailed discussion of the post-closure tailings seepage management periods and strategies for each alternative, including a discussion of the infrastructure required and

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potential impacts from constructing and operating post-closure management facilities. For water treatment options, discuss available treatment technologies that could be used, the water quality that could be achieved, as well as likely AZPDES permit requirements and whether they could be met.

Long-Term Financial Assurances

The Draft EIS explains that, for reclamation, "Resolution Copper would be required to establish and maintain sufficient financial assurance in accordance with requirements from the USFS, ASLD, BLM, the APP program, and the Arizona Mined Land Reclamation Act. The purpose of financial assurance is to ensure that responsible agencies would be able to continue any remaining reclamation activities if Resolution Copper becomes unable to meet reclamation and closure and post-closure obligations under the terms and conditions of the applicable permits and approvals" (page 65). Elsewhere, it is explained that the USACE "requires financial assurance under Section 404 of the CWA where applicable" (page 104) and that, for closure and post-closure activities, "Alternative 6 differs from the other alternatives because the tailings facility would not be located on lands managed by the USFS (as in Alternatives 2, 3, and 4) or BLM (Alternative 5). For Alternative 6, the Federal financial assurance mechanisms would not be applicable" (page 205). Given that Alternative 6 could require up to 40 years of active closure and post-closure management, it is not clear whether or how these activities might be funded or if sufficient funds would be assured by the appropriate financial assurance mechanism. EPA is, therefore, unable to determine the extent to which the project may represent a long-term financial liability.

Comment ID: 524-17
Response: NEPA21

We recommend a more specific discussion of the estimated financial assurance amount and mechanisms be provided, given that long-term water management could be required. This would provide a basis for evaluating whether the reclamation and closure activities would be effective in the event of a bankruptcy or compliance issues.

Recommendations: Clarify the reclamation, closure, post-closure management and other mitigation requirements that could be covered for the USFS preferred alternative and confirm the USACE's authority for requiring financial assurances. Summarize all anticipated post-closure activities and their associated costs and include, in a draft form, a financial assurance cost estimate. Address how financial assurance requirements would be obtained based on future monitoring through State programs if the project proponent were no longer financially viable following the unplanned cessation or planned conclusion of operations.

Post-Closure Flows in Mineral Creek

The current closure plan for Alternative 6 – Skunk Camp[16] involves construction of a spillway through the saddle between Dripping Spring Wash and Mineral Creek basins to convey runoff from the tailings surface north to Walnut Canyon and eventually Mineral Creek. No details are included in the Draft EIS about the source and nature of the Alternative 6 tailings closure material, including geochemical characterization or predictions for runoff water quality. As this water would be conveyed to a tributary that flows into a reach of Mineral Creek that is highly functioning and, according to the Draft EIS, "exhibits perennial flow that supports riparian galleries and aquatic habitat" (page 316), substantial additional detail on the effects to surface water quality and habitat are needed.

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[16] Klohn Crippen Berger Ltd. 2018d. *Resolution Copper Project: DEIS Design for Alternative 6 - Skunk Camp*. Doc. # CCC.03-81600-EXREP-00006 - Rev.1. Vancouver, Canada: Klohn Crippen Berger Ltd. August 8.

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Recommendations: In the Final EIS, discuss the closure plan for Skunk Camp in detail. Analyze potential impacts to water quality, hydrologic regimes, habitat, and species that could be affected by the proposed closure plan, including geochemical characterization of the proposed closure cover and magnitude of expected runoff flows in post-closure. For comparison purposes, consider an option for closure that does not involve hydrologic connection with Mineral Creek.

Comment ID: 524-18
Response: WT92

While this current closure plan has the potential to achieve passive management that could better avoid ponding on the surface of the closed facility, the additional flows that would be diverted to Mineral Creek may poses challenges for operations at the USACE's Big Box Dam and for water management at Ray Mine, through which Mineral Creek runs. Table 3.7.3-4 of the Draft EIS shows that flows in Devil's Creek at the confluence with Mineral Creek are expected to decrease by an annual average of 3.5% due to upstream changes to the watershed from underground mining and subsidence common to all alternatives, but it is unclear what the net flow changes in Mineral Creek above Ray Mine would be after closure of the tailings of Alternative 6.

Recommendation: For Alternative 6, include estimates for total changes in streamflow in Mineral Creek at Big Box dam in operation, closure, and post-closure phases. If net increases in flow would occur in any phase, analyze and disclose the potential effects to Big Box Dam, whether the dam can manage these additional flows, or whether changes to Big Box Dam would be necessary. If additional flows could not be managed by Big Box dam, consider alternative closure plans for Alternative 6.

Comment ID: 524-19
Response: MIT1

Air Quality and General Conformity

The Draft EIS states that a conformity analysis for the area is not warranted, because "ADEQ is petitioning the EPA to have the Hayden PM_{10} area [re]designated Attainment" (page 282). EPA has yet to receive a redesignation request from ADEQ. Even if such a request had been approved, the EPA would redesignate the area to maintenance/attainment, and general conformity remains applicable for maintenance areas [40 CFR 153(b)(2)]. Because construction emissions associated with the East Plant Site and TSF exceed the General Conformity *de minimis* threshold of 100 tons/year for PM_{10}, a conformity determination is necessary.[17]

The Draft EIS notes that some facilities would be located in the West Final PM_{10} Nonattainment Area, and that those emissions are below the de minimis threshold. It does not mention that emissions associated with the East Plant Site are within the Miami PM_{10} Nonattainment Area, and that the emissions exceed the *de minimis* threshold.[18]

For directly emitted pollutants such as PM_{10}, agencies may demonstrate conformity through a dispersion analysis that demonstrates the project will not cause or contribute to any new violation of any air quality standard or increase the frequency or severity of any existing violation [40 CFR 93.158(b)]. While the Draft EIS relied on just such an analysis contained in the Resolution Copper Project NEPA Air Quality Impacts Analyses, we are concerned that it may have underestimated PM_{10}, as well as $PM_{2.5}$ emissions.

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[17] Table 3-12, Resolution Copper Project NEPA Air Quality Impacts Analyses, Air Sciences Inc., February 2019.
[18] Ibid.

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The dispersion analysis used the Arizona Statewide average for silt content of 3.0% in calculations for fugitive emissions from unpaved road and other sources. For unpaved roads, EPA's AP-42, Chapter 13.2.2, outlines that site-specific silt content information should be used when available, but, when they cannot be obtained, the sector-specific averages available in Table 13.2.2-1 should be used. In the absence of site-specific silt content for unpaved road emissions from the project, we recommend the sector-specific averages as the closest analogue and average silt content to use. In either case, it does not appear that modelled air quality concentrations would exceed the PM_{10} or $PM_{2.5}$ NAAQS; however, this should be verified by the USFS.

Comment ID: 524-20
Response: AQ6

We acknowledge the revised dispersion analysis is unlikely to show the preferred alternative will cause or contribute to an increase in the severity or frequency of NAAQS violations; however, 40 CFR 93.159(b) states, "the analyses required under this subpart must be based on the latest and most accurate emission estimation techniques available…" [19]

The EPA's general conformity regulations are at 40 CFR 93.150 to 165. If general conformity is found to be applicable to a federal action, because the emissions of the action exceed the *de minimis* thresholds, the regulations require the conformity determination to be completed "before the action is taken" [40 CFR 93.150(b)]. While general conformity is not required to be part of the NEPA process, because this EIS must support all federal decision-making, a general conformity determination should be included in the USFS's next NEPA document.

Recommendations: Include a conformity demonstration for the proposed alternative in the Final EIS. Verify compliance with the NAAQS using site-specific or mining sector-specific average silt content in EPA's AP-42, Chapter 13.2.2. Summarize air quality impacts specific to the preferred alternative.

Evaluation of a Filtered Tailings Technology Option at Skunk Camp

The EPA encourages a detailed evaluation of a filtered, "dry stack" technology option for tailings at the "Alternative 6 – Skunk Camp" location because a filtered tailings management method could be practicable, could reduce direct fill impacts to waters of the U.S., and could be less environmentally damaging. Direct impacts to groundwater could be reduced by minimizing the need for supplemental process water and the risk of catastrophic failure could be lower as compared with a slurry type facility at the same location. Adverse effects to water quality modelled at "Alternative 4 – Silver King" may be manageable to within applicable standards at Skunk Camp but detailed analysis is needed.

Recommendation: Include site-specific environmental impact analyses based on the design of a practicable filtered tailings option at the Skunk Camp location.

Comment ID: 524-21
Response: ALT1

Analysis of Tailings Safety and Catastrophic Failure Risk

Conclusions in the Draft EIS about the differences in tailings safety appear internally inconsistent. The executive summary concludes that "Alternative 6 is the most resilient, using a centerline embankment" (page ES-6); whereas, the impact analysis explains that the filtered tailings management of Alternative 4

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[19] The general conformity regulations also reference AP-42 at 93.159(b)(2) and Appendix W to 40 CFR Part 51, or Guidelines on Air Quality Models, at 93.159(c).

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is "fundamentally more stable than slurry facilities" (page 548). While Alternative 6 would likely be the most resilient slurry type facility considered, a properly designed and managed filtered tailings facility at any alternative site would have the lowest probability of catastrophic failure compared with any slurry facility.

Recommendation: Clarify conclusions about tailings safety by comparing all tailings management and designs across alternatives. A filtered facility is fundamentally more stable than a slurry facility, has the lowest probability of catastrophic failure and likely poses the least risk.

Comment ID: 524-22
Response: TS10

The EPA appreciates the improvements to the analyses for tailings failure risk and potential effects made by the USFS throughout the EIS process and in response to EPA comments on preliminary versions of the Draft EIS. In the absence of more advanced design needed to perform a detailed Failure Modes and Effects Analysis (FMEA) for each of tailings alternatives, the EPA supports the use of a conservative release scenario based on historical tailings facility releases to compare the potential effects of a failure at each alternative tailings site facility location. We appreciate the commitment in the Draft EIS to perform a detailed FMEA on the USFS "preferred alternative" for the Final EIS; however, the information that could be developed from detailed FMEAs specific to each practicable alternative could be relevant to a USACE decision on the project.

Recommendation: Include results and a summary of a detailed Failure Modes and Effects Analysis for the USFS "preferred alternative" and all alternatives considered practicable by the USACE.

Comment ID: 524-23
Response: TS1

The EPA is encouraged by the use of third-party Independent Technical Review Board (ITRB) reviews made so far in development of the tailings alternatives and design. As the Draft EIS outlines, independent reviews, accountability, and change management are important and shared aspects of industry best practice.

Recommendations: To meet the goals of industry best practices for tailings safety identified in the Draft EIS, EPA recommends that ITRB reviews continue with public transparency through subsequent design, construction, operations, and closure of the selected tailings alternative.

Comment ID: 524-24
Response: MIT1

We note that in summarizing and comparing key requirements of National Dam Safety Program with other guidance the Draft EIS does not include "use of outside review" as an aspect required by the USACE, FEMA, the State of Arizona or other U.S. jurisdictions. If the tailings will require a CWA Section 404 Permit by the USACE, we strongly recommend that the USACE require continued independent review of the tailings dam impoundment as a condition of the permit consistent with 33 CFR § 325.1(d)(6). If the tailings facility is sited on USFS or BLM land, we recommend regular independent review of the dam be required through design, construction, operation, and closure.

Recommendation: Clarify that the USACE has discretion to require independent review of tailings impoundments for CWA Section 404 Permits per 33 CFR Part 325.1(d)(6). Clarify the ability of the USFS to require independent review and include a commitment for continued independent review if a Federal permit or approval is needed for the selected tailings alternative.

Comment ID: 524-25
Response: DOC1

Consultation with U.S. Fish and Wildlife and Impacts to Federally Endangered, Threatened or

Candidate Species

According to the Draft EIS, impacts to the federally endangered Arizona hedgehog cactus (*Echinocereus triglochidiatus* var. *arizonicus*) would occur at the East Plant Site and subsidence area, regardless of alternative. If selected, the preferred alternative and pipeline option could impact up to 5,597 acres of potential habitat for the cactus, including 98 individual Arizona hedgehog cacti identified in surveys, as well as critical habitat for the endangered Gila chub (*Gila intermedia*) along Mineral Creek. Indirect effects to critical and proposed-critical habitat for the endangered Southwestern Willow Flycatcher (*Empidonax traillii extimus*) and threatened Western yellow-billed cuckoo (Distinct Population Segment) (*Coccyzus americanus*) could result from impacts to water quality from tailings seepage. Other alternatives could affect these species or habitat, as well as critical habitat for endangered Acuña cactus (*Echinomastus erectocentrus* var. *acunensis*) at Alternative 5; however, based on the information in the Draft EIS, adverse effects to federally-listed species from the preferred alternative appear to be greater overall than from other available alternatives.

Specific application of mitigation measures to avoid or minimize impacts the federally-listed species do not appear to be discussed in the Draft EIS. Conceptual plans and best management practices that could compensate for or offset impacts are mentioned, but no analysis for how unavoidable impacts could be mitigated is presented. Although the Draft EIS identifies "Alternative 6 – Skunk Camp" as the USFS "preferred alternative" and states that "The Tonto National Forest will begin consultation with the FWS regarding species protected under Section 7 of the ESA once a preferred alternative is identified," (Draft EIS page 713) the Draft EIS does not appear to include any additional details on consultation.

Recommendations: Provide information about formal consultation between USFWS, USFS, and the USACE and identify what additional avoidance, minimization or mitigation measures will be employed to further reduce impacts to the sensitive, threatened or endangered species that may be affected by the "preferred alternative" or other alternatives.

Comment ID: 524-26
Response: MIT35

Status of General Mining Act Mining Claims

Considering the July 2019 court decision on the Rosemont Mine Record of Decision, *Center for Biological Diversity, et al. v. United States Fish and Wildlife Service*, et al., we recommend discussion of the status of proponent's mineral claims, impacts to other unpatented claims, and how this may affect the USFS's and BLM's discretion in decision-making for this project.

Recommendation: Discuss the validity, location, and required areas of unpatented claims on USFS and BLM lands that would be used for mining and mine facilities, making a distinction between lode, placer, and mill site claims.

Comment ID: 524-27
Response: NEPA2

ANDY BIGGS
HOUSE JUDICIARY COMMITTEE

COMMITTEE ON
SCIENCE, SPACE, AND TECHNOLOGY

Congress of the United States
House of Representatives
Washington, DC 20515–0305

October 24, 2019

U.S. Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468

Re: Resolution Copper Draft Environmental Impact Statement Comments

These comments support the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange. This is an important project for my district, which is home to numerous defense contractors, their employees and subcontractors. Those companies must have a reliable source of copper to provide the raw materials for their products so they can continue to support our national security apparatus.

Comment ID: 1079-1
Response: NS1

I appreciate the professional effort by the Forest Service that is reflected in the Draft Environmental Impact Statement, and I applaud the agency for moving through the NEPA process in a transparent manner. The DEIS demonstrates that the agency has engaged in a comprehensive stakeholder process and exhaustively addresses the issues raised. More than 30 alternatives were analyzed for a tailings storage facility and the preferred alternative aligns with public interest and sentiment. The agency, working with Resolution, has identified environmental protection and mitigation measures that will offset any expected environmental impacts.

I encourage rapid completion of the Final Environmental Impact Statement and associated permits. The fiscal impacts of the project are spectacular, generating $1 billion in annual economic benefits over the life of the project, providing thousands of direct and indirect jobs.

Once this mine is in operation, Arizona will resume its role as the leading copper producer in the world. I am pleased at the prospect of our state leading the nation in this industry by utilizing the natural resources available in our own Copper Triangle.

I request that the Final Environmental Impact Statement incorporate a clear statement on the important role the project will play in providing critical minerals to the defense industry.

I will be following the project as it moves through the rest of the process.

Sincerely,

Andy Biggs
Member of Congress

PRINTED ON RECYCLED PAPER

Secretary Perdue
Department of Agriculture
Resolution EIS Comments
PO Box 34468
Phoenix AZ 85067-4468

To Whom It May Concern:

As the representative of Arizona's 4th Congressional District, ranking member of the House Natural Resources Subcommittee on Energy and Mineral Resources and the sponsor of the Southeast Arizona Land Exchange and Conservation Act, I am writing to support timely completion of the land exchange and agency approval of the Resolution Copper Project. The Tonto National Forest (TNF) has presented a thorough and comprehensive analysis of potential environmental impacts in the Draft Environmental Impact Statement (DEIS) and should be prepared to quickly respond to substantive comments and move on to the Final EIS.

Comment ID: 1197-1
Response: NS1

As I have reviewed the Draft EIS and the NEPA process to date, the TNF has gone above and beyond what is typically required, particularly as it relates to the level of public meetings and outreach with other cooperating and consulting agencies, Tribes, local and regional communities, NGO groups and other outside organizations. The analysis is thorough and professional and documents that the environmental impacts can be appropriately managed so that the significant Resolution copper deposit can be developed to provide critical mineral resources. It is also clear that the agency has fulfilled the obligation to take a "Hard Look" at environmental impacts and look at a broad range of alternatives, including alternatives that include facilities not located on National Forest lands. I understand that, in direct response to the requests of stakeholders, the agency was asked to find an alternative tailings location and technology to the original proposal. The selection of the preferred tailings alternative is evidence that the USFS has both listened and responded to public concerns and comments. I strongly support the preferred tailings alternative identified in the DEIS including the north pipeline route. Approval of the preferred alternative, including the pipeline, is clearly in the public interest.

Comment ID: 1197-2
Response: ALT30

I have closely watched this project since I was first elected to Congress in 2010 and have visited Superior and the project site many times. Even in the exploration and planning stages, the project has brought back hundreds of jobs to the Copper Triangle communities in rural Pinal and Gila Counties and spent close to $2 billion to date on a wide range of activities from reclaiming the old Magma Copper mine site, gathering baseline information, engineering studies, exploration drilling and rehabilitating and sinking new underground infrastructure. The project has also spent considerable effort and money training and employing local community members, hiring and building capacity of local contractors and millions of dollars on goods and services, creating a direct and very positive benefit to the local economy.

Comment ID: 1197-3
Response: NS2

The socioeconomic section of the DEIS independently analyzes and confirms the incredible fiscal benefit to the local area with over 3000 direct and indirect jobs with $1 billion annual contribution to Arizona's economy. The Project is one of the largest undeveloped Copper Deposits in the world, and when operating, may provide up to 25% of the Nation's current needs. I applaud the TNF for completing this important analysis. From the start of my involvement, I have been a strong supporter of smart economic growth projects like Resolution Copper, which is currently and will be a major employer and critical base industry for long into Arizona's future. America's energy future depends on minerals and domestic mineral development and failure to permit projects like Resolution in a timely fashion threatens our nation's ability to solicit investment and provide confidence to American investment.

Despite these incredible benefits, the TNF has overlooked or minimized some important aspects of the project, which need to be captured in the Final EIS:

1. Arizona is home to "The Five Cs" which are Cattle, Cotton, Citrus, Climate, and, of course, Copper. Please incorporate the importance of Copper in Arizona's history. It has been a founding economic engine and building block to the state's economy. The area that will be mined has a copper mining tradition that goes back for decades. From an environmental standpoint, it is preferable to restore the copper industry in the Copper Triangle than to develop in areas with no mining history.

Comment ID: 1197-4
Response: NEPA34

2. America's national security is of utmost importance and providing for our nation's common defense is the core responsibility of the federal government. Copper and molybdenum are of critical importance to national defense and security for major military aircraft and marine vessels. The Resolution Copper project will provide a significant and reliable source of copper and molybdenum to supply our national defense needs from within the state. The Final Environmental Impact Statement (FEIS) should include a discussion of the overall strategic value of these commodities and this mine's implications in this source as it relates to national defense.

3. The FEIS should acknowledge that the scope of the Resolution Copper mine and deposit is of significant national economic importance providing substantial and long-term economic benefit to Arizona and the nation. The impressive level of jobs and benefits from taxes, wages, and purchase of goods and services will bring a much needed and long lasting positive economic benefits to the local Copper Triangle communities, multiple counties and the state. These benefits would not result from a smaller project.

Comment ID: 1197-5
Response: SO8

I strongly support the Resolution Copper project and land exchange. Given the strategic national and economic importance of this project, I strongly urge the Tonto National Forest to address comments received during this 90-day period in a timely manner and complete the Final Environmental Impact Statement without delay.

Letter 310 is a duplicate of Letter 1113

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COMMITTEE ON WAYS AND MEANS
JOINT ECONOMIC COMMITTEE

Congress of the United States
House of Representatives
Washington, DC 20515–0306

October 29, 2019

U.S. Forest Service
P.O. Box 34468
Phoenix, AZ 85067-4468
Attn: Resolution DEIS Comments

United States Forest Service:

I am writing to provide comments on the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange (Project), released on August 9, 2019. I commend the Tonto National Forest for a thorough examination of potential environmental and social impacts.

Comment ID: 1113-3
Response: NS1

I also appreciate your efforts to consult with stakeholders, Tribes and Resolution Copper. That consultation has resulted in a better proposed Project, including the preferred alternative for the tailings storage facility, and a comprehensive National Environmental Policy Act (NEPA) document.

I support a timely completion of the land exchange, the Final Environmental Impact Statement (FEIS) and issuance of all federal approvals required for construction and operation of the Project as quickly as possible. I proudly voted for H.R. 3979, the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015. This legislation authorized the land exchange for this Project in Section 3003, Southeast Arizona Land Exchange and Conservation, and I look forward to seeing its implementation.

As documented in the DEIS, the Resolution Project will provide thousands of high paying jobs and important economic benefits to communities in the Copper Triangle, Maricopa County, Pinal County, Gila County, and State of Arizona of approximately $1 billion annually for decades. I am also encouraged by the the ongoing constructive relationship between the Town of Superior and Resolution Copper stakeholders, and I look forward to seeing this continue.

As a co-sponsor of H.R. 2531, the National Strategic and Critical Minerals Production Act, I want to emphasize how important it is that the Project will provide substantial supplies of copper - up to 25% of U.S. copper demand for over 40 years. It will also supply other metals that are necessary for our national defense, economic growth and energy security.

Lastly, please incorporate into the FEIS further detail on the importance of copper as a metal critical to our national defense, economic growth and energy security.

Thank you for the opportunity to provide comments on the Draft Environmental Impact Statement.

Sincerely,

David Schweikert
Member of Congress

I represent Arizona's 8th Congressional District and am pleased to provide comments on the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange.

I support both the NEPA process as it has been conducted by the Forest Service and the EIS document, which provides a thorough, professional and comprehensive description of the project and the expected environmental and socioeconomic impacts The Forest Service has clearly devoted substantial effort to working with the public, Tribes, state and local agencies, Resolution Copper and other stakeholders to identify issues, gather and evaluate environmental data and consider alternative configurations for the major components of the mining project.

Comment ID: 1410-1
Response: NS1

I note that the process has identified a preferred location for the tailings facility off National Forest System Lands. There is wide public support for that alternative location and I also support that decision.

Comment ID: 1410-2
Response: ALT30

The Resolution copper ore deposit is a world class resource. The FEIS should acknowledge that the size and scale of the deposit are important to the strategic and economic importance of the project. The Resolution project will provide significant and long-term economic benefit to Arizona and local communities and a significant and reliable strategic source of copper from our own backyard to supply our national security needs. The economic benefits disclosed in the DEIS are unlike any private investment in the state of Arizona today - thousands of jobs and tens of billions in economic benefits over decades. The impressive level of benefit from taxes, wages, and purchase of goods and services will bring a much needed and long lasting positive economic benefits to the local Copper Triangle communities, Pinal County, Maricopa County and the state.

Comment ID: 1410-3
Response: NS1

Luke Air Force base is in my district. Copper plays a critical role in the materials needed to build military aircraft to protect our nation and the men and women who serve in our armed forces. The Resolution project would provide a copper supply equal to 25% of our nation's annual need. The Final EIS should incorporate a clear statement that describes the critical and strategic role copper plays in our national security.

During my nine years in the Arizona State Legislature, I spent time on site touring the Resolution Copper Project and visiting with employees and contractors. I was impressed with the extremely high level of attention and focus on the health, safety and well-being of the workforce and surrounding communities. The commitment to environmental stewardship by restoring and reclaiming the historic Magma Mine, an impact that pre-dates Resolution Copper's involvement, has been extraordinary. The degree of focus on hiring local and building the capacity of local contractors is impressive and directly benefits the local communities within the Copper Triangle of Arizona.

For all the reasons listed above I proudly support this project and the rapid completion of the Final EIS for the Resolution Copper Project, the land exchange and all other federal permits and approvals needed so that the project can move ahead.

Continued

Unfortunately, these benefits were overshadowed in the DEIS by unsupported claims of negative impacts described in the text that don't necessarily align with the stated impacts in three sections of the DEIS - Transportation and Access and Socioeconomics. Please check these inconsistencies and work to address the following in the FEIS:

Comment ID: 1113-1
Response: TR1

Road Maintenance

The Transportation and Access analysis is based on an analysis of the Level of Service, which is related to congestion and not stress to the roadway, though the DEIS incorrectly assumes that it is caused by an increase in traffic. As noted, "increased volumes of traffic are likely to contribute to earlier and more extensive deterioration of road surfaces, therefore requiring more frequent and higher levels of maintenance." However, the Socioeconomics section already addresses costs related to expected increases in street maintenance and shows that new Town of Superior (Town) revenues will exceed these costs. Addressing street maintenance issues in three separate sections should be consistent otherwise it causes the reader to double or triple count this impact, when in fact the cost has already been estimated and mitigated through tax benefits.

Mine Related Demand for Public Services

The Socioeconomic section lacks a proven methodology for estimating accurate costs and benefits. As a result, the socioeconomic analysis in Section 3.13 is unduly negative in tone. Please address the following:

Comment ID: 1113-2
Response: SO14

- The analysis assumes an increase in costs of 30% for the Town, yet the same report concludes only a 12.5% increase in population. There is a rational expectation that Town costs would be highly correlated with new permanent residents. No evidence was presented that show employees who do not work or live in the Town of Superior would cause Town services to rise so dramatically.
- The DEIS also reports that "Resolution Copper has entered into an agreement with the Town of Superior to provide $1.65 million to support the Town's emergency response services over the period from 2016 to 2021, and other agreements to fund amenities and education." However, the dollar amount is not included in the comparison of costs and benefits. The average annual value of this agreement alone is $330,000 and as such near-term benefits should increase.
- No consideration was given to the fiscal revenue that would be created from new development for either residential or commercial. Yet the report estimates 450 new households over the long term, exceeding the current available housing stock in the Town. Also, previous mine openings have shown that new commercial development will be induced from mine operations, such as commercial suppliers and hospitality.

Additionally, there is no recognition of the complete loss of opportunity and economic benefit in the discussion of the no action alternative. This needs to be included in the FEIS.

Continued

SECTION 2. COMMENTER INDEX TABLES

Table R-4. Index of responses for letters submitted by organizations, agencies, or elected officials

Organization(s)	Letter ID	Last Name(s)	First Name(s)	Response-to-Comment IDs Associated with this Letter
Access Fund	40	Shannon	Curt	ALT22, NEPA53, NS1, WT4
Access Fund	122	Shannon	Curt	NS1, WT24, WT4
Access Fund	1235	Winter	Chris	ALT22, ALT8, AMT1, MIT3, MIT7, NEPA2, NEPA53, NS2, SO6, WT24, WT4, WT6
Access Fund	1454	Shannon	Curt	ALT22, ALT8, AMT1, MIT3, MIT7, NEPA2, NEPA53, NS2, SO6, SR13, SR13_A, SR23, SR24, SR37, WT24, WT25_A, WT4_C
American Exploration & Mining Association	1396	Compton	Mark	AMT1, CR4, EJ2, MIT13, NEPA1, NS1, SO8
AMIGOS	1313	Hay	Sydney	NS1
Ana Anu Arts	1354	Wyssmann	Ana Anu	NS1
Apache Stronghold; San Carlos Apache Tribe	235	Nosie; Rambler	Terry; Wendsler	CR12, CR14, CR21, CR4, MIT11, NEPA15, NEPA30, NEPA4, NS1, NS2, WT30, WT50
Archaeology Southwest	1417	Doelle; Welch	John; William	CR17, CR22, CR8
Arizona Chamber of Commerce and Industry	201	Taylor	Garrick	ALT30, NS1
Arizona Chamber of Commerce and Industry	928	Hamer	Glenn	NEPA34, NS1, SO14
Arizona Department of Environmental Quality - Facilities Emissions Control	278	Mao	Feng	AQ13, AQ15, AQ16, AQ2, AQ9, DOC1
Arizona Game and Fish Department	30075	Ritter	Ginger	ALT30, AQ11, DOC1, MIT1, MIT3, MIT30, MIT33, MIT34, MIT38, MIT6, MIT8, NEPA32, NEPA45, NEPA54, SO3, SR25, SR26, WI15, WI20, WI22, WI3, WT16, WT17, WT44, WT48, WT49, WT57, WT61, WT62, WT7, WT79, WT8, WT82
Arizona House of Representatives	258	Cobb	Regina	MIT1, NS1
Arizona House of Representatives	282	Sierra	Lorenzo	NS1
Arizona House of Representatives	285	Meza	Robert	NS1, SO10
Arizona House of Representatives	296	Biasiucci	Leo	NS1
Arizona House of Representatives	299	Shope	T.J.	ALT30, NS1
Arizona House of Representatives	302	Cook	David	NS1
Arizona House of Representatives	303	Finchem	Mark	NEPA31
Arizona House of Representatives	305	Weninger	Jeff	NS1
Arizona House of Representatives	308	Petersen	Warren	NS1
Arizona House of Representatives	309	Toma	Ben	NS1

Organization(s)	Letter ID	Last Name(s)	First Name(s)	Response-to-Comment IDs Associated with this Letter
Arizona House of Representatives	312	Lawrence	Jay	NS1
Arizona House of Representatives	315	Bowers	Rusty	NS1
Arizona House of Representatives	316	Block	Shawna	NS1
Arizona House of Representatives	571	Campbell	Noel	NS1
Arizona House of Representatives	817	Shope	T.J.	ALT30, NS1
Arizona House of Representatives	852	Fillmore	John	NS1
Arizona House of Representatives	907	Fillmore ; Pierce	John ; Steve	NS1
Arizona House of Representatives	923	Cobb	Regina	MIT1, NS1
Arizona House of Representatives	1281	Hernandez	Alma	NS1, NS2, SO8
Arizona House of Representatives	1387	Payne	Kevin	NS1
Arizona House of Representatives	1427	Carroll	Frank	NS1
Arizona House of Representatives	1494	Hernandez	Daniel	NS1
Arizona House of Representatives	30073	Chavez	Cesar	ALT30, NS1
Arizona House of Representatives	297	Kavanagh	John	NS1
Arizona Mining Industry Gets Our Support (AMIGOS)	191	Tanner	Brett	NS1
Arizona Mining Reform Coalition	24	Featherstone	Roger	ALT22, NEPA2, NEPA35, TS2, WT1
Arizona Mining Reform Coalition	52	Featherstone	Roger	ALT22, WT1, WT4_L
Arizona Mining Reform Coalition	53	Featherstone	Roger	ALT22, GS8, NEPA2
Arizona Mining Reform Coalition	67	Featherstone	Roger	ALT22, TS2, TS20, WT1
Arizona Mining Reform Coalition	104	Featherstone	Roger	GS8, NEPA2, NEPA35, NS1, NS2, SO16
Arizona Mining Reform Coalition	178	Featherstone	Roger	NS1, TS2
Arizona Mining Reform Coalition	230	Featherstone	Roger	NS1, TS2
Arizona Mining Reform Coalition	279	Featherstone	Roger	NEPA25
Arizona Mining Reform Coalition	7958	Featherstone	Roger	CR18

Organization(s)	Letter ID	Last Name(s)	First Name(s)	Response-to-Comment IDs Associated with this Letter
Arizona Mining Reform Coalition et al*	8032	Featherstone et al**	Roger	ALT11, ALT21, ALT22, ALT28, ALT5, AMT1, AMT1_A, AMT1_D, AMT1_G, AMT6, AQ11, AQ17, AQ18, AQ19, AQ20, AQ21, AQ22, AQ23, AQ24, AQ25, AQ3, AQ4, AQ4_A, AQ5, AQ6, CR16, CR17, CR2, CR20, CR22, CR4, CR5, CR6, CR8, DOC1, EJ2, EJ2_A, EJ2_B, EJ3, GS1, GS11, GS11_A, GS2, GS6, GS7, GS8, LG1, MIT1, MIT15, MIT17, MIT21, MIT22, MIT24, MIT27, MIT29, MIT3, MIT33, MIT35, MIT40, MIT5, MIT7, MIT8, NEPA1, NEPA14, NEPA17, NEPA19, NEPA2, NEPA26, NEPA3, NEPA33, NEPA35, NEPA36, NEPA43, NEPA45, NEPA50, NEPA53, NEPA54, NEPA61, NEPA62, NEPA64, NEPA66, NEPA8, NEPA9, NO1, NO3, NO5, NS1, NS2, SO1, SO14, SO19, SO2, SO4, SO5, SO6, SR10, SR13, SR13_A, SR17, SR19, SR23, SR24, SR5, SR7, SR9, TR1, TR13, TR14, TR17, TR18, TR20, TR21, TR6, TR7, TR8, TR9, TS1, TS16, TS19, TS2, TS20, TS20_A, TS22, TS24, TS24_A, TS24_B, TS26, TS29, TS32, WI1, WI10, WI11, WI12, WI13, WI14, WI15, WI16, WI17, WI18, WI19, WI21, WI23, WI24, WI25, WI26, WI6, WT10, WT16, WT2, WT21, WT21_A, WT21_B, WT21_D, WT24, WT28, WT35, WT36, WT37, WT39, WT4, WT4_F, WT4_I, WT41, WT42, WT45_A, WT45_C, WT45_H, WT45_I, WT45_K, WT45_N, WT45_O, WT45_P, WT45_Q, WT45_R, WT45_S, WT45_T, WT52, WT56, WT58, WT59, WT6, WT63, WT7, WT72, WT9, WT91
Arizona Mining Reform Coalition et al*	30140 (Letter 8032 Appendix C - Maest report)	Featherstone et al**	Roger	WT28, WT35, WT36, WT37, WT41
Arizona Mining Reform Coalition et al*	30141 (Letter 8032 Appendix A - Chambers report)	Featherstone et al**	Roger	AMT1, AMT1_A, GS1, GS16, MIT21, TS1
Arizona Mining Reform Coalition et al*	30142 (Letter 8032 Appendix B2 - Emerman report)	Featherstone et al**	Roger	WT6
Arizona Mining Reform Coalition et al*	30143 (Letter 8032 Appendix B3 - Emerman report)	Featherstone et al**	Roger	WT1, WT1_A, WT24, WT6
Arizona Mining Reform Coalition et al*	30144 (Letter 8032 Appendix B4 - Emerman report)	Featherstone et al**	Roger	GS11, NS2
Arizona Mining Reform Coalition et al*	30145 (Letter 8032 Appendix B5 - Emerman report)	Featherstone et al**	Roger	TS1, TS2

Organization(s)	Letter ID	Last Name(s)	First Name(s)	Response-to-Comment IDs Associated with this Letter
Arizona Mining Reform Coalition et al*	30146 (Letter 8032 Appendix E - Prucha report)	Featherstone et al**	Roger	WT45_A, WT45_B, WT45_C, WT45_D, WT45_E, WT45_F, WT45_G, WT45_H, WT45_I, WT45_J, WT45_K, WT45_L, WT45_M, WT45_N, WT45_O
Arizona Mining Reform Coalition et al*	30147 (Letter 8032 Appendix D - Powers report)	Featherstone et al**	Roger	SO2, SO4, WT4, WT6
Arizona Science Policy Network	204	Bercovici	Hannah	NS1
Arizona Science Policy Network	30122	Bercovici	Hannah	NS1
Arizona State Land Department	562	Atkins	Lisa	ALT30, CR5, LG3, MIT1, NEPA20, NEPA42, NS1, SO18, WT23, WT4_G
Arizona State Senate	264	Leach	Vince	NS1
Arizona State Senate	304	Carter	Heather	NS1
Arizona State Senate	318	Allen	Sylvia	NS1
Arizona State Senate	896	Fann	Karen	NS1
Arizona State Senate	1017	Gowan	David	NS1
Arizona State Senate	1018	Kerr	Sine	NS1
Arizona State Senate	1046	Farnsworth	Eddie	NS1
Arizona State Senate	1060	Bradley	David	NS1
Arizona State Senate	1065	Bradley	David	NS1
Arizona State Senate	1148	Gray	Rick	NS1
Arizona State Senate	1312	Pratt	Frank	NS1, SO14
Arizona Trail Association	1311	Gaudet	Fred	ALT30, MIT1, MIT4, NS2, SR11, SR12, SR24, TR13
Arizona Water Company	555	Haas	Andy	ALT1, ALT30, MIT1, MIT29, NEPA47, TS5, WT10, WT19, WT4, WT43, WT55, WT7, WT80
Audubon Arizona	1441	Perillo; Supplee	Sonia; Tice	ALT22, MIT1, MIT3, MIT35, MIT8, NEPA10, NEPA65, WT1
Bureau of Land Management - Tucson Field Office	28449	Moore	Daniel	CR1, CR15, CR2, CR5, CR6, DOC1, EJ2, LG4, MIT1, MIT3, MIT39, MIT4, MIT7, NEPA35, NEPA43, NEPA46, NEPA52, NEPA54, NEPA60, SO10, SO3, SR13, SR16, SR24, SR30, SR31, SR32, SR33, SR34, SR36, TR11, WI7, WT32, WT33, WT4, WT7, WT81
CAID Industries, Inc.	941	Robino	Jeff	NS1
Center for Biological Diversity	74	Miller	Brytnee	CR4, NS1
Center for Biological Diversity	118	Miller	Brytnee	CR4, NS1

Organization(s)	Letter ID	Last Name(s)	First Name(s)	Response-to-Comment IDs Associated with this Letter
Center for Science in Public Participation	1209	Chambers	David	AMT1, AMT1_A, AMT1_F, MIT21, TS1
City of Apache Junction	284	Serdy	Jeff	NS1
City of Globe	518	Gameros	Al	ALT30, NS1, SO9
Concerned Citizens and Retired Miner Coalition	25	Chavez	Roy	NS1
Concerned Citizens and Retired Miner Coalition	68	Chavez	Roy	NS1
Concerned Citizens and Retired Miner Coalition	69	Chavez	Roy	NEPA25
Concerned Citizens and Retired Miner Coalition	105	Chavez	Roy	NS1
Concerned Citizens and Retired Miner Coalition	106	Chavez	Roy	SO21
Concerned Citizens and Retired Miner Coalition	179	Chavez	Roy	NS1
Concerned Citizens and Retired Miner Coalition	180	Chavez	Roy	NEPA30, NS1
Concerned Citizens and Retired Miner Coalition	231	Chavez	Roy	NS1, SO16
County Supervisors Association of Arizona	866	Gallardo; McCloud; Molera; Smith; Sullivan; Whiting	Anthony; Craig; Jason; Rudy; Russell; Steve	DOC1, MIT1, MIT21, MIT3, NEPA33, NS1, NS2, SO14, SO17, TS1
Department of the Interior - Office of Environmental Policy and Compliance	1121	Whitlock	Janet	NEPA49
Earthworks	320	Dronkers	Pete	ALT1, ALT13, AMT1, AMT1_G, AMT1_I
East Valley Back Country Horsemen	300	McClintock	Stephen	ALT30, MIT1
Gila County Board of Supervisors	28824	Cline	Woody	ALT26, MIT1
Gila River Indian Community	321	Thomas	Derald	NS1
Globe-Miami Chamber Regional Chamber of Commerce	1516	Holder	Tianna	NS1, SO9, TR1
Government Springs Ranch, LLC	30081	Hoopes	John	ALT19, ALT27, CR19
Great Old Broads for Wilderness	568	Switzer	Rosalind	ALT5, NS1, TS2
Greater Florence Chamber of Commerce	1152	Biede	Roger	NS1, NS2
Industrial Automation Services	323	Bauman	Terry	NS1, TS1
Innovative Technologies Development Center	1163	Shatz	Robert	NEPA1, NS2
Inter Tribal Association of Arizona	246	Lewis	Shan	NEPA25

Organization(s)	Letter ID	Last Name(s)	First Name(s)	Response-to-Comment IDs Associated with this Letter
Inter Tribal Association of Arizona	8031	Lewis	Shan	ALT8, ALT9, AMT1_E, CR10, CR12_A, CR13, CR16, CR20, CR4, CR5, LG6, MIT1, MIT15, MIT18, MIT27, MIT30, NEPA1, NEPA15, NEPA16, NEPA18, NEPA19, NEPA23, NEPA24, NEPA25, NEPA26, NEPA35, NEPA41, NEPA44, NEPA45, NEPA51, NEPA54, NEPA58, NEPA59, NS1, WI15, WI6, WT1_B, WT10, WT4, WT4_F, WT44, WT45, WT63, WT7, WT8, WT83, WT9, WT90
Landmark Companies	1465	Barney	Jason	NS1
Legends of Superior Trail and Town of Superior; Superior Community Working Group; Superior Recreation User Group	1266	Besich; Duerr	Debra; Mila	MIT1
Legends of Superior Trails	1429	Schenck	James	MIT1, NS1
LeSueur Investments	1204	LeSueur	Ty	ALT30, NS1
Lower San Pedro Watershed Alliance	1188	Else	Peter	ALT12, ALT2, ALT22, ALT23, ALT31, AQ14, DOC1, MIT1, MIT20, MIT27, MIT3, MIT8, NEPA18, NEPA3, NEPA50, NEPA52, NEPA65, NS1, SO18
M3 Engineering & Technology Corporation	1042	Bennett	Alberto	NS1
Magma Dorada LLC; JSS International Consulting	1286	Schenck	James	ALT30, MIT1, MIT3, NS1, SO14
Maricopa Audubon Society	154	Horlings	Mark	WT1
Maricopa Audubon Society	224	Horlings	Mark	WT1
ME Elecmetal	1139	Schick	Greg	NS1
Mesa Chamber of Commerce; Greater Mesa Industry & Defense Council	1111	Harrison	Sally	NS1, SO8
Mesa Chamber of Commerce; Greater Mesa Industry & Defense Council	1112	Harrison	Sally	NEPA34, NS1
Mesa City Council, District 6	267	Thompson	Kevin	NS1, TR8
Miami Town Council	283	Gonzales	Sammy	ALT30, MIT1, MIT3, NS1, SO14, SR26
New Energy Economy	1151	Nanasi	Mariel	NS1, TS12
Oddonetto Construction Inc.	1300	Oddonetto	Kimberly; Michael	ALT30, NS1
Pascua Yaqui Tribe of Arizona	1149	Hoerig	Karl	NS2
Phoenix City Council Member	275	Waring	Jim	NS1
Pinal County	314	Rios	Pete	MIT1, MIT3, SO10, SO14
Pinto Valley Mine	1072	Wickersham	Michael	NS1

Organization(s)	Letter ID	Last Name(s)	First Name(s)	Response-to-Comment IDs Associated with this Letter
Public Land 4 Responsible Recreation	778	Hankins	Jill	NS2
Queen Creek Coalition	270	Keedy	John	MIT1
Queen Valley Golf Association	249	Wright	Percy	NEPA25
Queen Valley Golf Association	268	Wright	Percy	NEPA25, WT59
Saint Holdings	1485	Andersen	Jackob	NS1
San Carlos Apache Tribe	251	Rambler	Terry	CR13_A, CR5, NEPA25
San Carlos Apache Tribe	8030	Rambler	Terry	ALT22, CR13, CR8, MIT27, NS1
San Carlos Apache Tribe	30078	Rambler	Terry	AMT1, AMT1_B, CR12_B, CR16, CR2, CR4, CR7, CR8, DOC1, MIT1, MIT3, NEPA14, NEPA19, NS1, NS2, TS24, WT10, WT19, WT21_C, WT3, WT30, WT4, WT4_A, WT4_H, WT42, WT49, WT54, WT61, WT69, WT7, WT71, WT89
San Carlos Apache Tribe	30079	Rambler	Terry	CR4, NS2, WT4
Showing Up for Racial Justice	1236	Carnine	Berkley	NEPA15
Sierra Club	42	Steuter	Don	NEPA1, NEPA33, WT12
Sierra Club	124	Steuter	Don	NEPA1, NEPA8, NS1, TS20
Sierra Club â€“ Grand Canyon Chapter	182	Bahr	Sandy	NS1, SO21
Sierra Club â€“ Grand Canyon Chapter	1475	Bahr	Sandy	NS1
Signal Fire	1256	Pierce	Ryan	NS1
Signal Fire	1450	Farrell-Smith	Ka'ila	CR4, NS1
Southern Arizona Business Coalition	1457	"Assenmacher	; Grinnell"	"Bill
Southside Presbyterian Church	546			NS1
Southside Presbyterian Church	1205	Lewis	Greg	NEPA39
Sun City Anthem Hiking Club of Florence AZ	1062	WATERMAN	Greg	MIT1
Superior Chamber of Commerce	317	Anderson	Susan	ALT30, MIT1, MIT3, NS1, SO9
Superior Chamber of Commerce	324	Anderson	Susan	MIT1
Superior Community Working Group; Superior Recreation User Group	1389	Duerr	Debra	DOC1, MIT1, MIT21, MIT3, MIT8, NS1, SO1, SO14, SO16, SO19, SO21, SR24, WT4
Superior Retired Miners Coalition	1140	Munoz Sr.	Henry	NEPA48, TS24, WT4
Superior Unified School District	322	Godinez	Arlynn	ALT30, MIT1, MIT3, SO14
Superstition Area Land Trust	319	Goff	Charlie	ALT30, MIT1, MIT3, NS1, SR13

Organization(s)	Letter ID	Last Name(s)	First Name(s)	Response-to-Comment IDs Associated with this Letter
The Nature Conservancy	1137	Hill	NIcole	MIT1, MIT3
The Religion and Human Rights Forum for the Preservation of Native American Sacred Sites and Rights	248	Boyd	Stephen	NEPA25
Tonto Recreation Alliance	1317	Smith	Richard	MIT1
Town of Florence	515	Walter	Tara	ALT30, NS2
Town of Superior	250	Pryor	Todd	SO14
Town of Superior	261	Pryor	Todd	ALT1, ALT30, MIT1, NEPA12, NS1, SO14
U.S. House of Representatives	1079	Biggs	Andy	NS1
U.S. House of Representatives	1197	Gosar	Paul	ALT30, NEPA34, NS1, NS2, SO8
U.S. House of Representatives	1410	Lesko	Debbie	ALT30, NS1
United Steelworkers	266	Conway	Thomas	NS1
University of Arizona, Center for Natural Resource Users	1122	Eisenberg	Jeff	MIT1, MIT3, NS1, SO5
U.S. Army Corps of Engineers	28455	Dielbolt	Sallie	-
US Environmental Protection Agency	524	Dunning	Connell	ALT1, ALT22, AQ6, DOC1, MIT1, MIT17, MIT27, MIT35, NEPA2, NEPA21, TS1, TS10, WI26, WT32, WT37, WT46, WT47, WT7, WT76, WT78, WT84, WT92
US House of Representatives	310	Schweikert	David	NS1, SO14, TR1
US House of Representatives	1113	Schweikert	David	NS1, SO14, TR1
Wild By Nature, Inc.	811	Wild	Kathryn	NS1
WildEarth Guardians	1539	Krupp	Christopher	AMT8, MIT19, MIT3, NEPA2, NEPA55, WT25
Yavapai-Apache Nation	463	Huey	Jon	CR12, MIT3
Yavapai-Apache Nation	30080	Huey	Jon	ALT30, CR12, CR7

* Full organization list: Arizona Inter-Faith Power and Light; Arizona Mining Reform Coalition; Center for Biological Diversity; Community Water Coalition of Southern Arizona; Concerned Citizens and Retired Miner Coalition; Concerned Climbers of Arizona; Earthworks; Maricopa Audubon Society; Natural Allies; Oklahoma Indigenous Theatre Company; Patagonia Area Resource Alliance; Save the Scenic Santa Ritas; Save Tonto National Forest; Sierra Club - Grand Canyon Chapter; Sky Island Alliance; Tucson Audubon Society; Valley Unitarian Universalist Congregation - Green; WildEarth Guardians

** Full list of individuals (last name): Bahr; Bland; Chavez; Dronkers; Featherstone; Grijalva; Hartmann; Hodges; Horlings; Horning; Krieg; Lutz; Misztal; Rangel; Schwartz; Serraglio; Shafer; Whitley

Table R-5. Index of responses for letters submitted by individuals

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
(Blank)	Moa Lim	28543	NS1
.	Anonymous	1530	NS1
Abbott	Cathy	7841	NS1
Abdalla	Abdulla	1508	CR4, LG5, NS1, TR4
Abeling	Barbra	1164	NS1
Ackerman	Frank	5402	NS1
Ackerman	Judith	30070	NS1
Acosta	Chris	29455	NS1
Adams	Constance	27013	NS1
Adams	Jess	1186	NS1
Adams	Tulwen	27733	NS1
Addison	Tom	6494	NS1
Adkins	David	5841	NS1
Aengst	Jennifer	8282	NS1
Aex	Tim	8283	NS1
Ages	Terry	509	ALT5, NEPA3, NS1
Agins	Richard	7766	NS1
Agneessen S	Rosema Ry	7188	NS1
Aguirre	Mackailah	1025	NS1
Aken	Richard Van	5448	MIT21
Akers	Frederick	27184	NS1
Alagamma I	Andrea	7393	NS1
Albert	Iris	1425	NS1
Albert	Shan	27099	NS1
Albert-Black	Cecilia	8147	NS1
Albright	Jon	28265	NS1
Alcock	John	1614	NS1
Alexakos	Irene	27948	NS1
Alexander	Melody	1218	NS1
Alexander	Sean	971	NS1
Alexander	William	29075	NS1
Alger	Rosie	1299	NS1
Aljneibi	Naser	1343	MIT1, MIT4, SR21
Allen	Heidi	5528	NS1
Allen	Karen	6779	NS1
Allen	Phillip	29162	NS1
Allison	Breana	28903	NS1
Alm	Magnus	575	NS1
Alonzo	Luis	7394	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Altherr	Forest	6248	NS1
Altman	Andrew	8180	NS1
Altshuler	John	827	NS1
Alvarado	Fernando	6403	TS24
Al-Yousef	Abdul	1473	MIT35, NS2, SO1
Alzahrani	Rashad	1176	NEPA6
Amrhein	Fred	5771	AMT1
Amsden	Liz	814	MIT21, NS1, NS2
Anaya	Zachary	8092	NS1
Andaya	Stephanie	6142	NS1
Andersen	Jill	475	NS1
Andersen	Kirsten	27121	NS1
Anderson	Alexandra	28477	NS1
Anderson	Andrew	1228	NS1
Anderson	Craig	27950	NS1
Anderson	Glen	28043	NS1
Anderson	Heather	28108	NS1
Anderson	Ivylle	807	NS1
Anderson	Leiann	1229	NS1
Anderson	Mia	28497	WT25
Anderson	Michael	28860	NS1
Anderson	Wendi	1332	NS1
Andersson	Rylan	28930	NS1, WT6_A
Andrew	Eidson	960	NS1
Andrews	Jennifer	26823	NS1
Andujo	Josh	147	NS1
Angell	Robert	6498	NS1
Angeloff	Linda	6811	NS1
Anglin	Paige	1115	NEPA27, TS24, WI9
Angus	Billy	5461	NS1
Anonymous	Commenter1	35	ALT30
Anonymous	Commenter3	101	NEPA35, NS1
Anonymous	Commenter5	228	NS1
Anonymus	Anonymus	30074	CR4, MIT12, NS2
Ansley	Celia	6278	NS1
Anson	April	1367	NS1
Anthony	Kendra	28264	NS1
Apane	Irene	28807	NS1
Apolinar	Aleena	1038	NS1
Appel	Genevieve	27119	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Aramburu	Alfredo	387	NS1
Arbuckle	Nancy	26824	NS1
Arenberg	Meg	1324	CR4, NS1
Armentrout Jr	James	550	NS1, TS1
Armitage	Bruce	929	ALT30, MIT1, MIT3, NEPA12
Armstrong	William	28639	NS1
Arndt	Laura	2052	NEPA40
Arnold	Aimee	1612	NS1
Arnold	William	5549	NS1
Aroneo	Regina	7419	NS1
Arrowsmith	Janet	27749	NS1
Arsenault	Kyle	28909	NS1
Arzabe	Miguel	1352	NS1
Asch	Halee	30126	NS1
Ashby	Lynn	1501	ALT22, TS1, TS2, WT1, WT8
Ashley	Hannah	28232	NS1
Ashouri	Aida	6365	NS1
Ashton	Itzel	1535	EJ2
Assanuvat	Sean	421	NS1
Atkinson	Martha	5475	NS1
Atwood	April	27084	NS1
Auer	Brendan	393	NS1
Auge	Benita	27699	NS1
Austin	Tina	1087	NS1
Av	Isaiah	30103	NS1
Avila	Roman	27783	NS1
Axt	Phyllis	27003	NS1
Azbell	Daniel	8145	NS1
B	Geeta	5504	NS1
B	Jess	1093	CR4, NS1, TS24, WT4
Bachhuber	Mary	1606	NEPA3, NS1
Baden	Byron	1358	AMT1, GS15, GS3, NEPA27, NS1, WT4, WT68
Baden	Eileen	199	AMT1, NEPA1, NEPA25
Baden	Eileen	1106	NEPA25
Baden	Eileen	1360	ALT1, AMT1, AQ11, CR4, GS13, MIT1, MIT3, NEPA1, NEPA24, NEPA27, NEPA28, NEPA35, NS1, SO14, SO21, SO6, WT4
Baden	Eileen	6820	NEPA27
Badinelli	Meghan	1012	NS1
Bagley	Brandon	8256	NS1
Bahti	Yuri	6823	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Bajrami	Arlinda	1090	CR4, NS1, WT4
Baker	Kelly	6827	NS1
Bales	Clarice	27222	NS1
Balfe	Carolyn	27734	NS1
Ball	Justin	5973	NS1
Ball	Katherine	1241	NS1
Ballard	Brian	192	NS1
Ballard	Brian	1284	AQ11, WT1
Ballard	Julia	5400	NS1
Ballard	Rebecca	1318	NS1, NS2, WT4
Balser	Austin	6419	ALT22, WT4_K
Banks	Janice	779	NS1
Baraka	Carmen	29707	NS1
Baranowski	Josh	1920	NS1
Baranowski; Dailey	Eileen; Mark	1068	CR4, NEPA2, NS1, SO7, WT4, WT4_A, WT6
Barbee	Charles	669	NS1, WT4, WT6
Barger	Karin	27856	NS1
Baribeau	Robert	28649	NS1
Barney	Dakotah	5551	NS1
Baron	Kathryn	1192	NEPA13, NS1
Barrett	Giulio	30117	NS1
Barrett	Sylvia	29	ALT16, ALT2, ALT29, EJ4, GS3, MIT21, WT12
Barrett	Sylvia	30	MIT3
Barrett	Sylvia	169	CR4
Barrett	Sylvia	183	NS1, WT25
Barrett	Sylvia	236	GS13, NS1
Barrett	Sylvia	1493	NEPA29
Barrett	Trevor	28505	NS1
Barringer	Thaddeus	237	NS1
Barringer	Thaddeus	5540	NS1
Barron	Anthony	27415	NS1
Barrow	Olivia	28539	NS1
Barry	Chris	28168	NS1
Barry	Wendy	7986	NS1
Bartelt	Jeannette	27165	NS1
Bartlett	Heather	29142	NS1
Barton	Jennifer	28116	NS1
Bastias	Andreas	29349	NS1
Bate	Jo Ellen	27381	NS1
Baucom	Frank	6831	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Bauer	Robert	6051	NS1
Baugher	Travis	7970	NS1
Baus	Robert	26858	NS1
Bauserman	Christine	1143	NS1
Baweja	Jessica	6469	NS1
Beagle	Bryce	1001	NS1
Bean	Jarrett	864	NS1
Bear	Marie	1438	AQ1, AQ25, AQ3, AQ5, AQ8, DOC1, MIT1, MIT24, NEPA1, SO15
Beard	Molly	6300	NS1
Beck	Robin	29712	NS1
Becker	Robert	28044	NS1
Beckius	John	28157	NS1
Beene	Jane	6836	NS1
Begley	Patrick	5637	NS1
Beigel	Lynda	27935	NS1
Beimborn	Curtis	30106	NS1
Bejarano	Nick	604	NS1
Belchamber	Patricia & Frank	259	ALT22, NS2, TS2, WT1
Bell	Jan	6839	NS1
Bell	Janet	5382	NS1
Bell	Janet	26915	NS1
Bellamy	David	27177	NS1
Belland	Tara	27740	NS1
Bello	D	26940	NS1
Belshin	Bryce	8174	NS1
Bender	Angela	561	NS1
Bengtson	Carla	1275	NS1
Bengtson	Nancy	6840	NS1
Benjamin	Austin	618	NS1
Bennett	Austin	6188	NS1
Bennett	Erin	6008	NS1
Bennett	Jonathan	28561	NS1, WT4
Bercaw	John	359	NS1
Berg	Bruce	838	NS1
Bergman	James	925	NS1
Beringer	Steven	6066	NS1
Berkowitz	Henry	5429	NS1
Berry	Michael	957	NS1
Bertelsen	Tiffany	28482	NS1
Berthoin	Paola	27328	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Berzonski	Edward	30120	NS1
Bessler	Mike	1997	NS1
Betancourt	Moises	5519	NS1
Betts	Chloe	6208	NS1
Betz	Catherine	26965	NS1
Beyer	Alexander	6155	NS1
Bia	Johnny	1028	NS1
Bickford	Claire	28184	NS1
Bicknell	Mary	27436	WT43
Biggs	Patricia	27142	NS1
Bighorse	Lian	153	NS1
Bighorse	Lian	214	CR2, NS1
Bighorse	Lian	1460	CR2
Binder	Fred	1272	NS1
Bingham	Brent	1479	NEPA17
Binnie	Al	28037	NEPA2, NS1, NS2
Birdsall	Kristin	28139	NS1
Bishop	Carolyn And Walter	26852	NS1
Bizjak	Julia	5664	NS1
Black	Deborah	28020	NS1
Black	Vania	6845	NS1
Blackman	Jeffrey	6847	NS1
Blackmon	Rachel	29711	NS1
Blackwell	Thomas	28176	NS1
Blair	Curt	7456	NS1
Bland	Doug	6915	NS1
Blank	Cody	28529	NS1
Blindauer	Neil	858	MIT17
Blindauer	Neil	1128	NS2, TS16, TS24, WT4, WT7
Bloom	Diane	1221	NS1
Blossom	Gretchen	6197	NS1
Blow	Elaine	27914	NS1
Bluhm	Erik	27988	NS1
Blumer	Ruth	884	NS2
Bocchicchio	Rocco	28517	NS1
Bockelman	Kathryn	746	NS1
Bodenhamer	Leah	705	NS1
Bodenhamer	Leah	826	NS1
Bodmer	Kacey	6851	NS1
Boemig	Katrina	1364	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Boggess	Laura	5867	NS1
Bogios	Constantine	27754	NS1
Bohanon	Kelsey	6311	NS1
Boice	Ruth	26844	NS1
Bolduc	Daniel	27756	NS1
Bols	Elizabeth	27186	NS1
Bona	James	892	NEPA33, NS1
Boone	Harper	675	NS1
Boone	Jim	27895	NS1
Boonstra	Michael	1297	NEPA39
Booth	John	28085	NS1
Borfes	Elsa	1240	NS1
Born	Alexandra	28536	NS1
Bottachiari	Lia	1033	NS1
Bouchard	Dana	471	NS1
Boudart	Piper	28431	NEPA3, NS1
Bouldin	Bruce	1059	NS1
Boulger	Kelsey	30102	NS1
Bourne	Haley	28867	NS1
Bowers	Megan	6006	NS1
Bowman	Coral	1181	NS1
Box	Ken	788	NS1
Boyer	Richard	26903	NS1
Boyer Jr.	Edward	289	NEPA27, NS1
Boyer Jr.	Edward	290	NS1, WT31, WT4, WT6
Boyle	Dylan	29095	NS1
Brabazon	Holly	28188	NS1
Bracksieck	George	29132	NS1
Bradley	Kathy	8312	NS1
Brady	Cindy	76	MIT3, NS1
Brainard	Mike	6441	NS1
Brand	Jonathan	6644	NS1
Brandt	Benjamin	5537	MIT3
Brannon	Elizabet H	6852	NS1
Brask	Maria	8181	NS1
Brazitis	Peter	27147	MIT21
Bread	Mara	206	NS1
Brensinger	Elizabeth	26841	NS1
Bressan	Steven	6192	NS1
Brewer	Judy	27361	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Brewer	Landon	1024	NS1
Brewer	Laura	6859	NS1
Bridges	Caroline	1912	NS1
Briggs	Jeff	29387	NS1
Brigham	Laura	551	NS1
Brill	Lesley	27879	NS1
Brimberry	Patricia	5437	NS1
Brink	Tom	5456	NS1
Brinke	Cecelia	1102	NS1
Briones	Tom	6860	NS1
Brittain	Laura	5967	NS1
Brock	Martha	28075	NEPA3
Brockhaus	Matthew	28995	NS1
Brockhoff	Jennie	513	NS1
Brodersen	Tom	7473	NS1
Brodsky	Leah	2006	NS1
Broh	Jonah	1519	CR5, NEPA3
Brown	David	28021	NS1
Brown	Imogene	136	NS1
Brown	Jon-Eric	28677	NS1
Brown	Ken	731	NS1
Brown	Kevin	833	NS1
Brown	Kevin	6861	NS1
Brown	Matonth	163	CR4
Brown	Peter	877	NS1
Brown	Roderick And Cynthia	27166	NS1
Brown	Tim	6060	NS1
Brown	Waya	171	NS1
Brownell	Benjamin	6101	NS1
Brown-Lopez	Gouyen	135	NS1
Brugger	Julie	674	NS1
Bruins	Scott	1242	NS1
Bruno	Christina	2043	NS1
Bruno	Steve	7483	NS1
Bryant	Elizabeth	5930	NS1
Bubala	Louis	28033	NS1
Buccigross I	Gwen	7484	NS1
Buchanan	Marlin	696	NS1
Buck	Barbara	7486	NS1
Buck	Sharon	28113	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Buck	Valerie	8279	NS1
Buckingham	Kevin	2122	NS1
Buckner	Jordan	1924	CR4, NS1
Budan	Wanda	28423	NS1
Budner	Brooke	1246	NS1
Bulla	Terry	6322	NS1
Bulla	Terry	29370	NS1
Bundschu	Anton	8133	NS1
Buness	Cynthia	6870	NS1
Burch	Allen	739	NS1
Burdorf	Rachel	1520	CR1, CR12, CR4, NS1
Burgess	K. H.	6872	NS1
Burgess	Martha	1466	NS1
Burgmann	Eric	565	NS1
Burgmeier	Rebecca	1908	NS1
Burk	Taylor	694	NS1
Burks	Mary	28034	NS1
Burnett	Arthur	686	NS1
Burnett	Chad	28701	NS1
Burns	Jeanne	6875	NS1
Burton	Lynnette	27925	NS1
Butler	Bradley	355	NS1
Butler	Carolina And Walker	6880	NS1
Butler	Elizabeth	1489	ALT30, MIT1, MIT8
Butler	Jeff	5952	NS1
Byars	Katrina	7891	NS1
Byczynski	Michael	8184	NS1
Byerly	Steven	819	NS1
Cabanban	Robert	6883	NS1
Cabico	Cailin	1990	NS1
Cabrales	Steven	356	ALT22, NS1, WT4, WT6
Cage	Ray	7492	NS1
Cahall	Rebecca	30135	NS1
Cain	Barbara	1104	NS1
Caldwell	Mary	27739	NS1
Calem	Tenara	1268	NS1
Call	Anson	5892	NS1
Callaghan- Chaffee	Martha	7493	NS1
Callaway	Jeffery	6400	NS1
Cambero	Angel	947	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Cameron	Roderick	27318	NS1
Camp	Sarah	29452	NS1
Campbell	Doug	273	MIT1
Campbell	James	5972	ALT22, NS1
Campbell	Kay	28062	NS1
Campbell	Thomas	8266	NS1
Campion	Nathaniel	2097	NS1
Campos	Juanita	1187	NS1
Campos	Ruben	26	ALT30
Caracciolo	Dana	5599	NS1
Carbone	Flavia	1050	NS1
Carey	Jacqueline	5616	NS1
Carioti	Julia	6884	NS1
Carleton	Susan	7498	NS1
Carlson	Arvid "Jack"	958	ALT30, NS1
Carlson	Skyler	1356	MIT1, MIT3, MIT35, NS1, SO1, WI8
Carnes	Ross	7501	NS1
Caron	Dana	6602	NS1
Carpegna	Allegra Di	27987	NS1
Carpenter	Garrett	1321	MIT1, WT16, WT36, WT4
Carpenter	Grace	5699	ALT22
Carrao	G. S.	6865	NS1
Carroll	Brett	578	NS1
Carroll	Linda	27095	NS1
Carroll	Linda Louise	5399	NS1
Carson	Mark	873	NEPA33, NS1
Carter	David	30131	NS1
Carter	Debbie	1587	MIT21, TS2
Carter	John	336	MIT21, TS2
Carter	Marian	26904	NS1
Carter	Marian	1615	NS1
Carter Dulin	Kathleen	6191	NS1
Casey	Carol	27771	NS1
Casey	Sara	2041	NS1
Casper	Carrie	6660	NS1
Casper	Kathlen	337	NS1
Casper	Peter	301	NS1
Cassadore Sr.	Johnny	146	NS1
Castillo	Fred	9	ALT30
Castillo	Jocelyn	13	ALT30

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Castillo	Weston	977	NS1
Castleberry	Renee	989	NS1
Casto	Greg	5747	ALT22, NS1
Castro	Elia	29709	CR4
Castruita	Ian	5571	NS1
Catanese	Christina	1525	CR4, NS1
Catt	Janice	1333	CR4, TS7, WT2
Cattau	Christopher	28392	NS1
Cencioso	Marilyn N	6888	NS1
Chadwick	A	6889	NS1
Chalepah	Kyle	917	CR4, MIT3
Chamberlin	Ryan	232	NS1
Chao	Dorothy	30066	NS1, TS1, WT4
Chapin	Chris	28607	NS1
Chapin	Radka	6527	NS1
Charles	Nicole	27830	NS1
Chennell	Irene	27726	NS1
Chilcoat	Rose	27352	NS1
Chiropolos	Jim	29005	NS1
Chisholm	Jessica	1463	MIT3, TS31, WT4_D
Choinacky	Thomas	1366	NS1
Choppers-Wife	Sue	836	NS1
Choran	Chasity	615	ALT22, NS1
Christiansen	Eric	466	NS1, NS2
Ciano	Christina	27366	NS1
Ciosici	Stefan	27006	NS1
Ciprian	Esther	28095	NS1
Clagett	Rita	27094	NS1
Clare	Mamie	6646	NS1
Clark	Arlyn	830	ALT30
Clark	Don	288	NS1
Clark	Emory	29010	NS1
Clark	Jackie	27175	NS1
Clark	Lucy	27210	NS1
Clark	Morgan	5403	NS1
Clark	Sharon	906	WT4
Clarke	Veronica	27790	NS1
Clarkson	Jeb	881	ALT30
Clarkson	Russell	28562	NS1
Clinton	Simon	652	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Cloud	Justin	5912	NS1
Coady	Melis	28801	NS1
Coates	Tim	28327	NS1
Cobb	Maria	1142	NS1
Cobban	Ann	6895	NS1
Coburn	Dan	27150	NS1
Cohan	Kathleen	8144	WT4
Cohen	Bradley	1249	NS1
Cohen	David	676	NS1
Cohen	Ethan	1008	NEPA1, NS1
Cole	Cal	798	NS1
Cole	Jess	6393	NS1
Cole	Ramona	29755	NS1
Cole	Ryan	28802	NS1, WT25
Colella	Jacob	28316	NS1
Coleman	David	766	NS1
Coleman	Ed	6903	NS1
Colestock	Kailey	409	NS1
Colter	Cindy	478	NS1
Congdon	Sarah	1383	ALT22, NS1, WT4
Conner	Lisa	8167	NS1
Conner	Spencer	8020	NS1
Conway	Katie	931	NS1
Conway	Pamela	832	NS1
Conway	Ryan	253	NS1
Cook	Driz	5493	NS1
Cook	Stephen	1404	ALT5, MIT1, TS24
Cook	Vicki	902	NS1
Cooper	Micah	1032	NS1
Cooper	Paul	27636	NS1
Coopey	Judith	6905	NS1
Copeland	Amber	28875	NS1
Copenagle	Lily	5422	NS1
Copper	David	5395	NS1
Coppinger	Josh	6225	NS1
Corbett	Danielle	1316	NS1
Corbin	Linda	764	NS1
Corcoran	Tim	1622	NS1
Corcoran-Shannon	Alexandra	1523	NS1, SO19, SO6, SR13, SR13_A, SR14, SR23, SR24
Cordoza	Marjory	27803	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Corley	John	28145	NS1
Corliss	Nan	27618	NS1
Corona	Ann M.	1397	NS1
Corrigan	Joanna	6911	NS1
Cote	Monique	28169	NS1
Coughlin	Rev. J.	26916	NS1
Cowan	Kathy	27760	NS1
Cozine	Jeanne	933	NS1
Crandall	Carol	28014	NS1, WT25
Crawford	Marilyn	7530	NS1
Crawford-Bizzell	Joshua	5558	NS1
Crawley	Johnathon	29183	NS1
Crea	Britt	688	NS1
Crews	Eric	29330	NS1
Cronin	Mikel	29050	NS1
Cronkhite	Nicole	728	NS1
Croom	Catherine	27185	NS1
Crosby	Ann	26820	NEPA37
Crossland	Anita	28105	NS1
Crossman	John	6923	NS1
Crown	Jessie	6925	NS1
Cruz	Arturo	8080	NS1
Cruz	Benjamin	27634	NS1
Culberson	Clint	256	NS1
Cullaz	Chris	691	NS1
Cummings	Jackson	28881	NS1
Cummings	Loretta	27902	NS1
Cummings	Torreya	1357	NS1
Cunningham	Tiffany	415	NS2
Curley	Carrie	75	CR4
Curley	Margie	88	NS1
Curley	Selina	109	NS1
Curtis	Margaret	1320	NS1
Cusack	Patrick	5910	NS1
Cuticello	Jill	1459	NS1
Cutler	Patti	850	NS1
Czachurski	John	26956	NS1
Dacey	Kari	1326	NS1
Dagion	Jillian	613	NS1
Dahlin	Camilla	1451	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Dakouzlian	Marge	29047	NS1
Dalessio	Nicholas	28485	NS1
Daley	Suzann	27986	NS1
Dallari	M.Cecilia	5457	NS1
Dallmann	Allyson	27120	NS1
Dalpes	Bryan	8218	NS1
Dalton-Rabago	Pamela	1392	ALT1, MIT1, NS1
Daluz	Ze	28074	NS1
Dancs	Kris	668	NS1
Dantico	John	1540	ALT5, MIT1, MIT21, MIT27, MIT8, WT14, WT19, WT4, WT7
Danz	Maria	6436	ALT22, NS1
Dargis	Andre	6931	NS1
Davidson	Katy	1288	NS1
Davidson	Scott	7957	NS1
Davies	Caroline	935	NS1
Davies	Michael	6438	NS1
Davis	Chandler	27572	NS1
Davis	Jake	1022	NS1
Davis	Jason	8043	NS1
Davis	Karen	5956	NS1
Davis	Keith	714	NS1
Davis	Mark	223	NS1, NS2
Dawood	Jonathan	8141	NS1
Dawson	Joan	27818	NS1
Dawud	Sumayyah	1094	NS1, WT1
Dazey	Rachel	1377	NS1
Deburlo	Robert	5582	NS1
Deconcini	Dennis	280	NS1
Dedinas	Monique	8192	NS1
Defrain	Isaac	28846	NS1
Delamater	Adair	26819	NS1
Delbecq	Claire	28645	NS1
Delgado	John	1280	AMT1, NS1
Delo	Amy	29241	NS1
Demaio	Teri	26922	NS1
Demian	Dr.	27913	NS1
Deming	Diana	6938	NS1
Denes	Zach	1086	ALT5, AQ11, NS1
Dennis	Margaret	27824	NS1
Denny	Rachael	26943	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Denny Ziesmer	Mary Kate	28164	NS1
Deprez	David	27817	NS1
Derrig	James	6941	NS1
Deshazo	Bridget	28175	NS1
Deshpande	Salil	910	AQ11, MIT17, NS1, NS2, WT1, WT24, WT26
Despain	Cara	1388	NS1, NS2
Devers	Deborah	26909	NS1
Deweerdt	Kyle	8212	NS1
Dewitt	Steven	487	NS1
Deyoung	Lucas	28471	NS1
Dial	Joe	1212	NS1
Dianich	A. Michael	5689	NEPA37
Dibella	Ed	28546	NS1
Dicara	Sue	5410	NS1
Diciccio	Sal	307	MIT1, NS1
Diehl	Dana	1365	NS1
Diehn	Christopher	27181	NS1
Diller	Susan	1202	NS1
Dillon	Joy	27904	NS1
Dimatteo	Nick	29148	NS1
Dischinger	Sarah	5943	NS1
Diss	Marybeth	27759	NS1
Dissel	Scott	505	NS1
Distasi	Krista	6609	NS1
Dixon	Curt	27657	NS1
Dixon	Eva	28439	NS1
Dixon	Marie	27753	NS1
Dobreva	Mariyana	27884	NS1
Dobski	Deborah	27864	NS1
Doery	Marya	1845	NS1
Dolan	Patricia	27837	NS1
Dolecek	Andy	6656	NS1
Donaghy	Howard	2002	NS1
Donald	John	6946	NS1
Donohoe	Colleen	801	NEPA30, NS1
Donohoe	Colleen	6276	NS1
Dormer	Sarah	644	NS1
Dorn	Ryan	8150	NS1
Dotson	Breydan	979	NS1, NS2, WT4
Doub	Eric	5520	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Downing	William	1812	NS1
Dr	(Blank)	6950	NS1, WT4
Drabik	Jennifer	677	NS1
Drakos	Paul	28660	NS1
Drescher	Anushka	27180	NS1
Drubetskaya	Liliya	1219	NS1, WT8
Dublinski	Jim	209	NS1, SO6, WT4
Dublinski	Jim	6181	NS1, TS24_D
Dubois	Jan	6139	NS1
Dubois	Jeffry	27888	NS1
Dudley	Cory	8302	NS1
Duff	Jon	29406	NS1
Dunkle	Doug	1273	NS1
Dunlap	Grace	396	NS1
Dunlap	Lorraine	6953	NS1
Dunn	Christy	27011	NS1
Dunn	Keegan	6482	NS1
Dunn	Valerie	1264	NS1
Duplissis	Eve	5431	NS1
Durfee	Alex	2009	NS1
Dustin	Fw	26971	NS1
Dutchoger	Tanner	693	NS1
Dwyer	Anne	685	NS1
Dyer	Richard	6539	NS1
Dykers	Lawrence	1200	NS1, TS1
Dynarski	Katherine	6005	NS1
Earle	Nathan	28335	NS1
Earls	Gail	6956	NS1
Eason	Jennifer	922	ALT5, NS1
Eckard	Chad	531	NS1
Edelberg	Walter	757	NS1
Eden	Cathy	1910	NS1
Eden	Mary	596	NS1
Edmondson	Teddy	1919	NS1, NS2, WT4
Edwards	Angela	29040	NS1
Edwards	Christian	26988	NS1
Egger	Mark	27808	NS1
Eichelberger	Jonathan	28419	NS1
Eiten	Zach	648	NS1
Ela	Autumn	1051	NEPA36, SR2, SR35, SR36, SR4

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Elder	Joshua	29158	NS1
Elkins	Scot	8232	NS1
Ellauri	Cristian	286	ALT22, NEPA3, NS2, WT1, WT43
Elliot	Jason	6411	NS1
Ellis	Andrew	736	NS1
Ellis	Andrew	737	NS1, WT4
Ellis	Rebekah	1329	ALT5, MIT3, NS2, TS1, WT48
Ellison	Richard	510	NS1
England	Dennis	5856	NS1
England	Stephen	494	SO1
Engle	Carol	7552	NS1
English	Amy	7554	NS1
Engs	Bill	27842	NS1
Enloe	Mark	8323	NS1
Ensign	Lars	658	NS1
Enzi	Hap	28126	NS1
Epley	David Wilmon T	6961	NS1
Erickson	Don	26967	NS1
Escalet	Deborah Escalet	27932	NS1
Espinal	Michelle	647	NS1
Espinosa	Brittany	5907	NS1
Eurich	Sam	570	NS1
Evangelista	Chris	27917	NS1
Evans	Boyd	29060	NS1
Evans	Levi	8239	NS1
Evans	Matthew	28299	NS1
Evatz	Leslie	28242	NS1
Evenson	Lynn	27769	NS1
Eventoff	Franklin	815	NS1
Everett	David	1058	MIT1
Fahmy	Sam	1841	NS1
Falcon	Jennifer	27922	NS1
Faleq	Zakey	29058	NS1
Fallow	David	26958	NS1
Fancherella	Beth	1053	WT1
Fanucchi	Joanne	27876	NS1
Farahat	Sarah	1222	NS1, NS2
Farrell	Courtney	5669	NS1
Faughn	Michael	29140	NS1
Faulk	May	27624	NS1

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Faulkner	Madison	1019	NS1
Feitler	Mary Anna	27662	NS1
Feliciana	Selena	407	NS1
Fellay	Helga	1217	NS1
Fenderson	Ashley	1537	NS1
Fernandez	Edgar	1078	NS1
Ferrando	Elizabet H	6967	NS1
Ferris	Bruce	28866	NS1
Fiala	Ronald	30124	NS1
Fiastro	Fred	1169	CR4, NS1, NS2
Field	Edward	5495	NS1
Fields	Theodore	8028	NS1
Fiflis	Michael	1110	WT4
Filippelli	Steven	527	NS1
Filsinger	Erik	876	MIT1
Finch	Larry	29491	NS1
Fink	Hailey	5757	NS1
Finnegan	Sean	28641	NS1
Finnerty	Margar Et	6973	NS1
Finsness	Paul	26968	NEPA2
Fischer	Hans	630	NS1
Fischer	Katrina	635	NS1
Fischvogt	Ryan	593	NS1
Fisher	Kristina	27848	WT1
Fisher	Stephanie	459	NS1
Fisher	Todd	28592	NS1
Fishman	Jacob	861	MIT1
Fister	Loreli	27591	NS1
Fitchie	Denice	1135	NS1
Fitzgerald	Sean	29237	NS1
Flahart	Pat	293	NS1
Flanagan	Sean	28289	NS1
Flanagan	Todd	6442	NS1
Flaten	Zachary	7950	NS1
Fletcher	Carol	27104	NS1
Flocken	Bruce	6974	NS1
Flood	Jennifer	26815	NS1
Flood	Tim	1361	MIT1, MIT21, MIT30, NEPA35, TS24
Flores	Kimberly	8225	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Flynn	Emmet	29505	NS2
Folsom	David	5447	NS1
Fontana	Melanie	6406	NS1
Ford	Garrett	28615	NS1
Ford	Marcell A	6979	NS1
Ford	Peggy	28032	NS1
Forde	Daniel	1175	NS1
Forde	Meghan	5825	NS1
Foreman	Samuel	28588	NS1
Forest	Amanda	6030	NS1
Fortunato	D'Anna	26955	NS1
Foster	Andrew	7917	NS1
Fox	Lina	30111	NS1
France	Glenn	777	NS1, WT4
Frank	Dave	771	NS1
Frank	Rachel	27971	NS1
Franklin	Constance	28035	NS1
Franz	Derek	6214	NS1
Fraser	David	1328	NS2
Fraser	Kathy	1307	NS1
Frates	Tony	27005	NS1
Frazier	Brent	28572	NS1
Freeman	Beth Jane	5454	NS1
Freeman	Beth Jane	756	NS1
Freeman	Connie	39	NS1
Freeman	Corrine	4	NS1, NS2, TS24
Freeman	Corrine	121	NS1
Freeman	Deborah	1314	NS1
Freeman	Judy	6959	NS1
Freeman	Nancy	22	AQ4, MIT1, NS2
Freeman	Nancy	23	AMT4, NEPA13, NEPA14
Freeman	Nancy	158	ALT6, NEPA1, NEPA13
Freeman	Nancy	162	GS9, NS2
Freeman	Nancy	885	NEPA10, NEPA14, NEPA68
Freeman	Nancy	1201	GS2, GS8, GS9, MIT23
Freeman	Nancy	1469	NS1, TS28, WT60
Freeman	Nancy	1514	NS1
Freer	Elizabet H	6984	NS1, WT4
Freer-Parsons	Christiane	27847	NS1
Freiberg	Harry	28059	NS1

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Frejo	Morgun	93	CR4, NS1
Frejo	Morgun	156	CR4, NS1, NS2
Frejo	Morgun	166	CR4, NS1
Frejo	Morgun	227	GS13, NS1, SR8
French	David	29253	NS1
Frey	Brenda	28025	NS1
Fridena	Richard	1173	NS1
Fridena	Richard	1323	NS1
Friederich	Kurt	1994	NS1
Fritz	Ian	1057	NS1
Frost	Gail	26992	NS1
Frye	Bob And Shelley	1276	ALT30, MIT21, NEPA4, NS1, NS2, SR20, WT43
Fulmer	Kyle	1873	NS1
Futrell	Sherrill	27931	NS1
Gaarder	Kelsey	5922	NS1
Gabel	Nancy	27224	NS1
Gabel	Peter	888	CR4, NS1
Gabrielson	Justin	1453	NS2
Gadbois	Joseph	28405	NS1
Gallagher	David	1214	NS1
Gallego	Vanessa	1497	NS1
Galvan	Martina	1123	NS1
Ganahl	Amy	5492	NS1
Ganmoryn	Croitiene	790	NS1
Gapuz	Michael	5566	NS1
Garai	Lonna	205	ALT1
Garcia	Armando A.	28542	NS1
Garcia	Deangelo	1034	NS1
Garcia	Kimberly	1436	NS1
Garcia	William	28905	ALT22
Garnice	Cheryl	6989	NS1
Garratt	Sharon	27966	NS1
Garrido-Spencer	Sally	1292	NS1
Gartner	Robert	1234	NS1
Gastrich	Justin	453	NS1
Gates	Tyler	634	NS1
Gauba	Blaise	29081	NS1
Gaura	Robin	1619	NS1
Gebhard	Lisa	672	NS1
Gebhart	Cady	352	NS1

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Gehrels	Thomas	28352	NS1
Geis	Tanja	1293	CR4, MIT35, NS2
Gelczis	Lisa	27767	NS1
Genest	Karen	481	NS1, WT4
Gentry	Zoe	856	NS1
George	Rusty	6563	NS1
George	Sarah	608	ALT22
Gerrodett E	Patricia	6995	NS1
Gettens	Michael	50	NS1
Gettens	Michael	66	ALT22, NS1, NS2, WT7
Gettens	Michael	824	NS1, NS2
Getz	Sara	6551	NS1
Giannone	Robert	7599	NS1
Gibbens	Paula	812	MIT21
Gibbons	Brian	5359	NS1
Gibbons	Connie	7601	NS1
Gibson	George	968	NS1
Gibson	Sara	26999	NS1
Gibson	Zachary	28678	NS1
Giesy	Theo	27811	NS1
Gifford	Noah	987	NS1
Gilbard	Alexis	6157	NS1
Gilleran	Kari	725	NS1
Gillespie	Fran	891	NS1
Gillman	Andrew	8311	NS1
Gilmore	Roland	6546	NS1
Giordano	James	6125	NS1
Giordano	Spencer	557	WT4
Gist	Del	28030	NS1
Given	Wendy	1486	NS1
Gladieux	Stephen	5787	NS1
Glass	Leslie	15	ALT22, MIT1, NS1
Glass	Leslie	64	NEPA30, NEPA68, NS2, WT4
Glass	Leslie	65	CR4, MIT3
Glass	Leslie	87	CR4, NS1
Glass	Leslie	213	NEPA30, NEPA37, NS1
Glass	Leslie	242	CR4, NS1, NS2
Glass	Leslie	245	NEPA30
Glass	Leslie	1338	ALT22, ALT5, CR4, EJ5, EJ6, MIT7, NEPA18, NEPA29, NS2, WT4
Glass	Stephen	8015	NS1

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Glassman	Lucille	6268	NS1
Glenn	Lisa	1278	NEPA35, NS1
Godinez	Barbara	1224	NS1
Goldberg	Claire	28284	NS1
Golden	Amber	6998	NS1
Goldenberg	Suzanne	1487	NS1
Gomez	Belinda	7960	NS1
Gomez	Mary	19	ALT25, EJ2, NS2
Gomez	Mary	211	NS1
Gomez Paz	Daniela	1362	NS1
Gonzales	Carlos	193	NS1
Gonzales	Joe	27671	NS1
Gonzalez	Brisa	1248	TS24
Gonzalez	Camille	939	NS1
Gonzalez	Debbie	6988	NS1
Gonzalez	Gabriel	1428	NS1
Goodwin	Laurance	8241	NS1
Gordian	Liana	5644	NS1
Gordin	Lawrence	27852	NS1
Gorman	Joseph	633	NS1, WT4
Gorton	Henry	1439	CR16
Goseyun	Kellieann	157	CR4, NS1
Goss	Randy	247	MIT1
Gottfried	Susan	27672	NS1
Gottworth	Andrew	6564	NS1
Govedich	Penny	7004	NS1
Gow	Alexander	8101	NS1
Gowie	Matt	8264	NS1
Goyette	Roland	27794	NS1
Grace	Ashley	934	NS1
Graetz	Jacqueline	7943	NS1
Graffagnino	Dr.Mary Ann And Mr. Frank	1579	NS1
Graffagnino	Dr.Mary Ann And Mr. Frank	1626	NS1
Graham	Karen	27056	NS1
Graham-Gardner	Rosemary	5373	NS1
Granata	Amelia	1965	NS1
Grant	Andrew	29066	NS1
Grant	Dr Jennifer	28086	NS1
Grant	Eliesha	1049	NS1

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Grant	Vernelda	112	CR4, NS1
Grassel	Lori	7007	NS1
Grassi	Daniel	27617	NS1
Gray	Carolyn	130	NEPA13
Gray	Kathleen	27151	NS1
Gray	Thomas	6542	NS1
Greacen	Clary	28138	NS1
Green	Adonna	451	NS1
Green	Amy	353	NS1
Greenspan	Jesse	27836	NS1
Greenway	Lumina	6231	NS1
Greer	Russel	28564	NS1
Gregorio	Penny	5721	NS1
Gregory	Eric	7012	NS1
Gresham	George	7015	NS1
Gresham	Margo	465	NS1
Griesser	Scott	6036	NS1
Griffin	Sandra And Glenn	27045	ALT16, SO12
Griffith	E Margareta	870	NS1
Griffith	Rosemary	1244	NS1
Grijalva	Genesis	27823	NS1
Grimsley	Alex	628	NS1
Grimsrud	Dee	27602	NS1
Grinnell	Rick	229	NS1
Grisham	Thomas	5924	NS1
Griswold	Gene	1172	NS1
Grman	Mark	29032	NS1
Groslyn	Sharyn	27325	NS1
Gross	Cheryl	27996	NEPA33, TS2, WT25, WT8
Gross	Cheryl A	5474	AMT1, NS1
Grout	Jeffrey	272	NS1
Grover	Wesley	566	NS1
Grow	Ann	27441	NS1
Grow-Garrett	Shannon	5391	NS1
Guerin	Gregory	29152	NS1
Guinn	Chris	750	NS1
Guinn	Erica	7022	NS1
Gunderman	Joan	27417	NS1
Gunn	Ashley	1838	NS1
Gunn	David	5	MIT3, NEPA36

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Gunn	David	521	NEPA25
Gunn	David	1158	ALT1, ALT22, AMT1_C, AQ1, DOC1, GS14, MIT1, MIT12, MIT23, MIT24, MIT3, MIT4, NEPA10, NEPA25, NEPA35, NEPA36, NEPA39, NEPA45, NEPA63, SO14, TR13, WT15, WT20, WT21, WT27, WT7, WT77
Gunter	Jeremy	602	NS1
Gunter	Nic	8245	NS1
Gurney	Hugh	27115	NS1
Gurzi	Conor	5658	NS1
Guthrie	Linda	27666	NS1
Gutierres	Sara	7627	NS1
Guy	Joel	859	NS1
Guyett	Michell E	7628	NS1
G-Williams	Princess	1030	NS1
H	Diana	1461	TR5
Haddox	David	30133	NS1
Haff	Harry	7630	NS1
Hafner	Nancy	27022	NS1
Hahn	Lewis	601	NS1
Hahn	Virginia	1198	NS1
Haldeman	Pat	5776	NS1
Hale	Katelyn	1513	CR12, NS1
Hall	Jacob	612	WT4
Hall	Josephine	27159	NS1
Hall	Linda	1193	NS1
Hall	Rene	27765	NS1
Hall	Ryan	473	NS1
Hall	Shawn	5452	NS1
Hall	Shawn	27111	NS1
Halladay	Jason	6281	NS1
Halligan	Michele	27850	NS1
Halpin	Mitchell	964	NS1
Halsey	Bill	27822	NS1
Ham	Kyle	6038	NS1
Hamashima	Lawrence	2125	NS1
Hamilton	Grant	28653	NS1
Hamilton	James	1907	NS1
Hammer	F	27116	NS1
Hammerle	Jim	2117	NS1
Hamp	Charmaine	5567	NS1
Hampton	Chance	2129	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Handwerg	Joan	1490	NS1
Hanger	Susan	27350	NS1
Hankins	Samantha	6383	NS1
Hannon	Steve	1096	NS1
Hannum	Christine	27376	NS1
Hansen	John	816	ALT30
Hansen	Steven	6124	NS1, SR22
Hansis-O'Neill	Becky	742	ALT22, NS1
Hanson	Cynthia	28000	NS1
Harbison	Zachariah	1015	NS1
Harders	Carl	1081	NS1
Hardesty	Danny	6317	CR4
Hargrove	J	7032	NS1
Harmann	Melanie	1442	NS1
Harmer	Jake	6456	NS1
Harmon	Alison	1870	NS1, NS2
Harmon	Joanna	6152	NS1
Harmon	Lisa	28019	NS1
Harmon	Michael	7034	NS1
Harmon	Zachary	851	NEPA15, NS1
Harper	Dan	6379	NS1
Harpley	Rachel	1335	AQ11, TS24, WT35, WT4
Harpster	Jamie	395	NS1
Harrington	Roxy	7036	NS1
Harris	Carolyn	27132	NS1
Harris	Carolyn	1500	NS1
Harris	Jerald	1382	NS1
Harrison	David	27995	NEPA33, TS2, WT1, WT8
Harrison	Kimberly	30115	NS1
Harrison	Nathaniel	641	NS1
Hart	James	5408	NS1
Hart	Mary M	27862	NS1
Harter	Mitchell	360	NS1
Hartman	George	28057	NS1
Hartman	Julia	27156	NS1
Harts	Dwight	28862	NS1
Hartung	Sean	8215	NS1
Hartzell	Betsy	27667	NS1
Hartzman	Peter	28084	NS1
Harvey	Mark Judy	789	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Harwood	Amy	115	NEPA30, NS1
Harwood	Amy	1480	NS1
Hassler	Andrea	8003	NS1
Hastil	Jahn	28340	NS1
Hastings	Logan	29468	NS1
Hatch	Brad	28794	NS1
Hatcher	William	7639	NS1
Hatter	Erinn	1341	NS1
Hatzai	Christopher	28797	NS1
Hauck	Chad	1000	NS1
Haughney	Sarah	558	NS1
Havrilla	Judith	27706	NS1
Hawes	William	326	NS1
Hawkins	Aaliyah	1029	NS1
Hawkins	Josh	605	NS1
Hawley	Nicholas	28541	NS1
Hayden	Sue	27957	NS1
Haydon	Emily	708	NS1
Hayenga	Beri	8162	NS1
Hayes	Brooke	1021	NS1
Hayes	Sara	28120	NS1
Hayes	Tanner	5517	NS1
Hayes	Tim	1155	ALT5, NEPA2, NS1
Heath	Joshua	28463	MIT23, NEPA54
Hecht	Justine	1132	NS1
Heck	John	997	NS1
Hedden	Chet	27977	NEPA33, NS1
Hefton	Kris	1144	NS1
Heirtzler	Jason	27641	NS1
Heist	Kevin	700	NS1
Hellauer	Tom	28624	NS1
Heller	Carol	1381	TS13, WT4
Heller	Carol	1424	AMT1, NEPA35
Hemingway	Graham	28154	NS1
Hemsoth	Jered	6034	NS1
Henderson	Colin	28919	NS1
Henderson	David	1016	NS1
Hendrickson	Christopher	1875	NS1
Hendrixso N	Del	7046	NS1
Henne	Bill	27008	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Hennessey	Kaitlyn	29035	NS1
Henning	Elisabeth	80	NS1, NS2
Henning	Elisabeth	1369	TR15
Hepting	Lianna	8117	NS1
Heritage	Jason	28964	NS1
Hernandez	Alexia	28466	NS1
Hernandez	Rob	28454	NS1
Hernandez De Peã±A	Carlos	938	NS1
Herrera	David	58	NS1, WT30
Herrmann	Cody	1066	NS1
Heston	Lark	624	WT4
Hettinger	Joseph	376	CR5, NS1, WT25
Hickman	Sarah	28016	NS1
Hidalgo	Gabriela	949	NS1
High	Fred	7895	NS1
Hilbert	Harrison	439	NS1
Hilf	Lawrence	28024	NS1
Hill	Colin	990	NS1
Hill	Donald	28315	NS1
Hill	Melissa	567	NS1, WT6
Hill	Sandy	28611	NS1
Hillner	Jeremy	2058	NS1
Hilton	Charles	27960	NS1
Hing	Michael	155	NS1
Hinojos	Lucinda	216	NS1
Hinton	Rebecca	1084	NS1, NS2, WI1, WT1, WT7
Hipshire	Mark	28433	NS1
Hiser	Katie	431	NS1
Hittner	Hillary	1419	WT1
Hjelmeir	Korey	151	ALT5, NS1, SO21, WT1, WT6
Hjelmeir	Korey	1083	ALT5, NS1, WT4
Hjelmeir	Korey	1468	GS12, MIT35, NS1, NS2, SO6, TS21, WT1, WT4_E, WT6
Hlodnicki	Bruce	5349	NS1
Hobbs	Joan	27748	NS1
Hobson	Mark	7945	NS1
Hodge	Brendan	719	NS1
Hodgkinson	Anne	28049	NS1
Hodgson	Eleanor	27421	NS1
Hoehne	Audrey	27898	NS1
Hoffman	Cranston	77	NS1, WT30

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Hoffman	Jan	7648	NS1
Hoffman	Karen	844	WT43
Hoffman	Norman	765	NS1
Hogan	Morris	29394	NS1
Holiday	Shana	28951	NS1
Holliday	Craig	8289	NS1
Holmgren	Mark	27896	NS1
Holmquist	Steve	1524	GS3, MIT1
Holmstrom	Janet	1233	NS1
Holsen	Jeffrey	1103	NS1
Holtz	Michael	1005	NS1
Honkonen	Jeffrey	540	NS1
Honn	Mel	7057	NS1
Hood	Mary	26836	NS1
Hook	Wendslyn	172	NS1
Hooke	Angel	70	CR4
Hooke	Angel	97	CR4, NS1
Hooley	Dan	2018	NS1
Horn	Nancy	1368	WT43
Horowitz	Ze'Ev	532	NS1
Horton	Derek	437	CR4, NS1, WT4
Horton	Janet	1160	NS1
Horton	William	5569	NEPA3
Hosea	Jeff	6154	NS1
Hough	Kurtis	1225	NS1
Howard	Rachel	28421	NS1
Howe	Rebecca	28015	NS1
Howington	John	28844	NS1
Howitt	Shayna	8002	ALT22
Hoyle	Alyssa	30116	NS1
Hubbard	Chris	5564	NS1
Hubbard	James	27463	NS1
Hubbart	Lori	1580	NS1
Huddleston	Jill	28656	NS1
Hudson	Amanda	5906	NS1
Hughes	Candace	271	NS1
Hughes	Kristen	6408	NS1
Hughes	Michael	27792	NS1
Hughes	Sarah	28067	NS1
Hull	Todd	28748	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Hull- Carlson	Juanita	7059	NS1
Hultberg	Alan	29506	NEPA57, NS1
Humphrey	Paige	26822	NS1
Hunter	Kendra	5433	NS1
Hunter	Mary	1384	NS1
Hurley	Benjamin	28957	NS1
Hurst	David	7061	NS1
Hyatt	Nina	28022	NS1
Hyduke	Michael	7661	NS1
Ialeggio	Anna	1239	NS1
Iezzi	Jeff	585	NS1, NS2
Iglesias	Diana	1182	NS1
Inabinet	Sam	28007	NS1
Inouye	David	27978	WT4
Iranitalab	Roshanak	30121	NS1
Irons	Ellie	1289	CR4
Irving	Melissa	164	CR4, NS1
J	Karen	27947	NS1
Jackson	Carolyn	27926	NS1
Jackson	Helen	26957	NS1
Jackson	Sharon	7066	NS1
Jackson	Valerie	1259	NS1
Jacob	Aaron	1315	NS1
Jacob	Jaime	27741	NS1
Jacobs	Diane	1245	NS1
Jacobs	James	430	NS1
Jacobsen	Barbara	7067	NS1
Jacobson	Charlott E	7666	NS1
Jacobson	Rod	5603	NS1
Jacoby	Jesse	27984	NS1
Jacques	Karen	27397	NS1
Jacques	Yan	474	ALT22
Jaeger	David	7667	NS1
James	Gordon	27937	NS1
James Jr.	Johanssen	374	NS1
Jamison	George	7896	NS1
Jamshedji	Sheriar	29119	NS1
Janke	Susan	794	NS1
Jankowski	Megan	27709	NS1
Jankowski	Rob	7069	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Jans	Peter	786	NS1
Jansen	Scott	347	NS1
Janzen	Gayle	27962	NS1
Jeffrey	Anna	1	NS1
Jeffrey	Anna	3	NEPA19, NS1
Jeffrey	Anna	57	NS1, NS2
Jeffrey	Anna	71	NEPA30, NS1
Jeffrey	Anna	98	CR4, NS1
Jeffrey	Anna	116	NS1
Jeffrey	Anna	188	CR4
Jenkins	Jeff	553	NS1
Jenkins	Jess	577	NS1
Jenkins	Rose	27414	NS1
Jensen	Debora H	7072	NS1
Jensen	Jennifer	1002	NS1, NS2
Jenson	Linda	1161	NS1, WT4
Jesik	Buster	29156	NS1
Jiang	Isaiah	1232	AMT1, NS1
Jimerfield	Jeff	7074	NS1
Johns	Gavin	8320	WT4
Johnson	Adam	8073	NS1
Johnson	Aubrey	128	NS1
Johnson	Audrey	2	NS1
Johnson	Brett	30137	NS1
Johnson	Brody	28610	NS1
Johnson	Chris	5923	NS1
Johnson	Dr. Alan	749	NS1
Johnson	Evan	29171	NS1
Johnson	Iver	27049	NS1
Johnson	Jess	7078	NS1
Johnson	Larry	5416	NS1
Johnson	Margaret	26868	NS1
Johnson	Sarah	751	MIT1
Johnson	Sydney	573	NS1
Johnstone	Kaitlyn	28383	NS1
Jones	Dave	28215	NS1
Jones	Gary	6072	NS1
Jones	Kalen	452	ALT22, NS1, WT4, WT6
Jones	Kathryn	28646	NS1
Jones	Matt	6504	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Jones	Ola Cleon	7081	NS1
Jones	Philip	27762	NS1
Jones	Tristan	823	MIT1
Jordan	Andrea	6283	NS1
Jordan	Charlton	29331	NS1
Jordan	Dorothy	28063	NS1
Jordan	Ellen	609	NS1, WT4
Jorgensen	Janette	5455	NS1
Joseph	Michael	1009	NS1
Jurado	Terilynn	5919	NS1
Jurczewski	Carol	5419	NS1
Jurgens	Denise	880	NS1
Kaczorowski	Florence	28029	NS1
Kadrich	Peter	7089	NS1
Kainrath	Nicholas	706	NS1
Kame	Jaime	493	MIT1, NS1
Kaminski	Mikayla	27831	NS1
Kane	Jolyne	796	NS1
Kane	Sarah	1216	NS1
Kang	Peter	499	NS1
Kaplan	Maya	926	ALT5
Kardiak	Jennifer	791	NS1, NS2
Kasten	Sayles	1296	CR4
Katz, M.D., J.D.	Sandra	1230	NS1
Kearney	Kris	722	NS1
Keedy	John	862	MIT1, NS2
Keenan	Brynn	30129	NS1
Keiper	Erin	27183	NS1
Keith	Kevin	344	NS1
Kelliher	Shannon	649	NS1
Kelly	Barbara	26905	NS1
Kelly	Nickie	741	NS1
Kempke	Ryan	974	NS1, WT4
Kennedy	James	5911	NS1
Kennedy	Randy	6180	NS1
Kennedy	William	940	NS1
Keppeler	Sabine	1986	NS1
Kerins	Mary	28114	NS1
Kerr	Tyler	651	NS1
Kershner	Camille	1267	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Kershner	Camille	7094	NS1
Kessler	Anne	26962	NS1
Kester	Christopher	464	NS1
Keys	Catherine	26937	NS1
Kider	David	29088	NS1
Kiesel	Matt	8093	NS1
Kiffmeyer	Steve	767	NS1
Kiholm	Laura	871	ALT22, WT1
Kilgore-Brown	Thomas	28950	NS1
Kilpatrick	Kathleen	5901	NS1
King	Cloud	27074	NS1
King	Cyrina	7098	NS1
King	Dawn	26978	NS1
King	Mason	6229	NS1
King	Triston	701	NS1
Kingery	Hugh	440	NS1
Kingsford-Smith	Steve	6199	NS1
Kippenberger	Curt	7991	NS1
Kirk	Steve	30134	NS1
Kirkland	Emily	497	ALT5, CR4, NS1
Kirkland	Emily	1088	NS1, NS2, WT1
Kirshbaum	David	29754	NS1
Kiss	Istvan	1301	ALT12, ALT3, ALT4, GS11, MIT1, MIT21, MIT8, NEPA33, SO2, SO7, TS2, TS3, WT1, WT2, WT21, WT24, WT25, WT4, WT6
Kist	Rosema Ry	7100	NS1
Kitchen	Bryan	27915	NS1
Kitcheyan	Geraldine	81	CR4, NS1
Kitrakis	Elyse	6297	NS1
Kitting	Sarah	664	NS1
Kizewski	Kurt	28565	NS1
Kjono	Greg	5514	NS1
Klassen	Glenn	1147	NS1
Klein	James	5414	NS1
Klein	James	28090	NS1
Kleissler	Liz	6099	NS1
Klemm	Edwina	27168	NS1
Klett	Lena	1507	NS1
Klitz	Karen	27359	NS1
Kloeppel	S. Max	28443	NS1
Klug	Madison	29149	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Knauer	Gregor	7103	NS1
Knebel	Kim	7686	NS1
Knight	David	1041	NS1, NS2
Knight	James	28241	NS1
Knight	Jessica	7687	NS1, WT2
Knight-Papaioannou	Khailill	1403	NS1
Knutson	L	760	NS1
Kobasa	Stephen V.	26997	NS1
Kocer	Dianne	7108	NS1
Koeck	Diana	799	NEPA36, NS1
Koeppe	Max	27844	NS1
Koerner	Isaac	2070	NS1
Koerner	Michael	327	NS1
Kohnke	Karen	27832	NS1
Kolodner	Ashley	1054	NS1, WT4
Kolodner	Ashley	1394	NS1
Kolody	Kristin	27975	NS1
Kolvites	Kathy	28026	NS1
Kong	Lilian	886	NEPA18, NEPA35, NS1
Koput	Elliana	358	NS1
Kornecki	Kasia	398	NS1
Korte	Ashley	7689	NS1
Kosa	Kim	758	NS1
Kosmitis	Kim	6159	NS1
Kosowicz	Aleks	27886	NS1
Kosten	Dylan	399	NS1
Kovacs	Michael	738	NS1
Kovacs	Riczi	993	NS1
Kowalik	Jakub	1933	NS1, NS2
Kracen	Laurel	7114	NS1
Kraemer	Darlene	802	NS1
Krause	Maura	1407	ALT32, NS1, WT25
Krause	Randy	1174	NS1
Kreider	Tawn	27380	NS1
Kreitzberg	Bruce	29487	NS1
Kritzman	Ellen	27938	NS1
Krueger	Jon	5469	NS1
Kruger	Damon	5920	NS1
Krywult	Sebastian	840	NS1
Kuehler	Thomas	8149	NS1

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Kuhn	Lukas	1464	CR4, SO16, TS28, WT4
Kuhns	Randall	27797	NS1
Kujawa	David	367	NS1
Kulokoski	Nicholas	5563	NS1
Kuni	Daniel	8200	NS1
Kunitz	Isadora	27973	NS1
Kunnecke	Mike	781	NS1
Kunnie	Julian	7117	NS1
Kurath	Joan	7690	NS1, WT7
Kurick	Linda	1238	NS1
Kurk	Katherine	27337	NS1
Kuskey	Martha A.	28064	NS1
Kuznetcov	Sergei	6484	NS1
Kvaas	Robert	27875	NS1
L.	Rebecca	26853	NS1
Lacey	Barbara	1223	NS1
Lacey	Jim	325	NS1
Lacour	Nicole	6201	NS1
Lacroix	Edward	8272	NS1
Ladderud	Jeffrey	657	NS1
Lagana	Jordan	5942	NS1, WT4
Lague	Matthew	687	NS1
Lainoff	Michael	1476	NS1
Laiti	Jared	27764	NS1
Lakner	Joseph	8001	NS1
Lambert	Erik	28745	NS1
Lambert	Justin	29044	NS1
Lambeth	Larry	27282	NS1
Lambrecht Se	Rudolf	7122	NS1
Landfield	Mike	27755	NS1, WT8
Landreth	Lucas	999	NS1
Laney	Stephen	6561	NS1
Lang	Robbie	6033	NS1
Langarica	Sergio	456	NS1
Langbeen	Maddy	988	NS1
Lange	Karis	834	NS1
Langford	Jean	27391	NS1
Langford	Kaia	972	NS1
Lanskey	Marcus	785	NS1
Lapen	Deanna	574	NS1

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Lara	Martin	839	CR4, NS1, WT43
Lariviere	Ben	28177	NS1
Larkin	Kevin	1602	CR5, TS7, WT1
Larosa	Erin	27859	NS1
Larsen	Josh	28894	NS1
Larsen	Zachary	857	NS1
Larsson	Kimberl Y	7124	NS1
Laub	Jacob	28506	NS1
Laufman	Harry	27793	NS1
Lavallee	Jeff	30139	NS1
Law	Eric	6097	NS1, WT6
Law	Mary	804	NS1
Law	Rimona	492	NS1
Lawrence	Brian	6467	NS1
Lawrence	Stephanie	683	NS1
Lawson	Michael	1035	NS1
Lazarus	Barbi	28094	NS1
Lazzeri	Jon J.	27273	NS1
Lazzeri	Patrizia	28125	NS1
Leahy	Joyce	27897	NS1
Leavell	Chuck	27442	NS1
Lebrun	Tyler	29117	NS1
Lee	Ryan	1185	NS1, WT25
Lee	Virginia	7127	NS1
Leech	John	1207	ALT30, ALT5, NEPA33, NS2
Leff	Billie	8168	NS1
Leger	Ariel	383	NS1
Legrand	Richard	1183	NS1
Legrande	Judith	26939	NS1
Lehkamp	Justin	432	NS1
Lehman	Rebecca	579	ALT22
Leiser	Tzirel	7133	NS1
Leland	Lora	27855	NS1
Lemon	Ka	27732	NS1
Lenchner	Essie	8294	NS1
Leonard	Eric	28549	NS1
Leonard	Karson	28545	NS1
Leonard	Shirley	27021	NS1
Lepage	Albert	5471	NS1
Lerch	Jean	27515	NS1

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Leslie	Darlene	195	NS1
Lettieri	Tammy	27118	NS1
Levi	Elena	1370	NS1
Levine	Lisa	49	MIT7, WT14
Levinson	Charlotte	29708	CR4, NS1
Lewid	Mildred	7135	NS1
Lewis	Jono	28927	NS1
Lewis	Sherry	28055	NS1
Lewkowitz	Micah	28183	NS1
Lichty	Brittany	732	NS1
Lietzke	Aryn	1349	AMT1, MIT9, TS1, TS1_A, WI1, WT1
Lieu	Charlene	743	NS1
Lihou	Christopher	27014	NS1
Lincoln	Cameron	1327	NS1
Lincoln	Jacob	1393	NS1
Link	Kristin	1527	NS1
Linsenberg	Richard	7138	NS1
Lipson	Rachel	8074	NS1, WT4
Lipstreu	David	26970	NS1
Lisboa	Gabriela	6222	NS1
Lish	Christopher	1322	ALT15, ALT22, AMT1, NEPA2, NEPA33, NS1, NS2, TS2, WT1, WT8
Litchfield	Mary	1456	NS1
Litchfield	Robert	1462	NS1
Litwin	Iris	6026	NS1
Livingston	Debc	1445	NS1
Livingston	Ken And Jan	27490	NS1
Lizama	Julia	29299	NS1
Lloyd	David	6587	NS1
Loba	Suntara	29713	NS1
Loberger	Troy	595	WT4
Lockridge	Ross	27126	NS1
Lockwood	Victoroa	7143	NS1
Loessberg	Casilia	8197	NS1
Loewen	Theresa	28659	NS1
Logan	Anthony	72	CR4, NS2
Logan	Anthony	127	NS1
Lonergan	Darragh	1003	NS1, SO19, SO6
Long	Richard	27908	NS1
Longman	Beth	1199	NS1
Looijen	Autumn	28036	NS1

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Lopez	Chris	616	NS1
Lopez	Esteban	133	NS1
Lopez	Esteban	200	NS1
Lopez	Isabel	137	NS1
Lopez	John	911	NS1, SR20
Lopez	Lozen	161	CR4, NS1
Lopez	Maria	27964	NS1
Lopez	Oscar	1495	NS1
Lopez	Sinetta	168	CR4, NS1
Lopiccolo	Barbara	1337	NS1
Lorentson	Harold	29333	NS1
Lorenzetti	Ole	28394	NS1
Loughay	Bryab	462	NS1
Louie	Avery	28731	NS1
Louie	Tina	56	NS1, NS2, WT43
Loveall	Jeremiah	1534	AQ4, MIT17, WI5
Lovelace	Kristen	28570	NS1
Lowe	Bryan	6399	NS1
Lowe	Latherine	2012	NS1
Lowe	Melissa	29025	NS1
Lowther	Carolyn	869	NS1
Luciani	Jacob	435	NS1
Ludden	Brett	26897	NS1
Luke	Barbara	30127	NS1
Lull	Mark	5468	NS1
Luna	Greg	1253	NS1
Lundeen	William	28508	NS1
Lundquist	Charles	5939	NS1
Luneau	Taylor	29157	WT25
Lunson	Tina	28048	NS1
Lurie	Ben	6452	NS1
Lusk	Joanne	1099	NS1
Lyles	Thomas	27899	NS1
Lynch	Joshua	528	NS1
Lyons	Jim	28226	NS1
Lyons	Mary	27106	NS1
M	Ejay	7147	NS1
Macarthur	William	5678	NS1
Macdonnell	Jo Ann	27277	NS1
Macdougall	Galen	5966	NS1

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Macias	Michael	51	NS1, TS14
Macias	Michael	90	NS1, NS2, TS24
Mack	Tim	29496	NS1
Macomson	Lena	29448	NS1
Macphail	Elizabeth	6490	NS1
Macpherson	Alexis	28065	NS1
Maddock	Brad	548	NS1, SO6
Madeson	Frances	1063	NS1
Madigan	Nathan	29345	NS1
Madole	Gary	27826	NS1
Magee	Chris	28261	NS1
Maher	Mary Ann	7151	NS1
Mahmoud	Marwa	2016	NS1
Maiers	Joan	27901	NS1
Maini	Rj	6439	NS1
Maki	Tamara	7152	NS1
Mallea	Erin	1531	CR12, CR4, NEPA54, NS1, NS2
Mallory	Brenda	1262	NS1
Maloney	Patrick	26946	NS1
Malven	Tania	5462	NS1
Malven	Tania	27773	NS1
Malven	Tania	7154	NS1
Maly	Suzanne	1505	NEPA29, NS1
Mancini	Barbara	27360	NS1
Manes	Sharin	7156	NS1
Manning	Brandon	28555	NS1
Manning	Paul F	842	NS1
Manthey	Danelle	1386	NS1
Manuel-Navarrete	David	1350	CR8
Marco	Preston	1047	NS1
Mare	Renelle	27939	NS1
Mare	Renelle	27940	NS1
Marino	Matthew	29258	NS1
Marks	Diane	311	CR4, NEPA4, NS2
Markus	Jesse	1376	NS1
Marne	Marielle	7158	NS1
Marshall	Allysun	715	NS1
Marshall	Brenda	625	NS1
Martell	Angela	28601	NS1
Martin	Aaron	6505	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Martin	Carol And Richard	27392	NS1
Martin	James	905	NS1
Martin	Janet	843	NS1
Martin	Jeff	1070	NS1
Martin	Joy	27167	NS1
Martin	Kirsten	588	NS1
Martin	Marilyn	27336	NS1
Martin	Paul	28096	NS1
Martin	Taylor	995	NS1
Martinez	Andrew	1006	NS1
Martinez	Joe	27763	NS1
Martinez	Priscilla	5434	NS1
Martinez	Susan	1260	NS1
Mary	David	28579	NS1
Mason	Charlotte	29169	NS1
Massey	Linda	5404	NS1
Masters	Bruv	1156	NS1
Masters	Kerry	27669	NS1
Matejcek	Patricia	26942	NS1
Matisse	Loralei	703	NS1
Matousek	Tomas	448	NS1
Matson	Erin	638	NS1
Matsuda-Dunn	Pamela	6164	NS1
Matter	Margaret	1203	NS1
Mattison	Priscilla	27129	NS1
Maue	Sarah	6550	NS1
Maul	Myoshi	8153	NS1
Maurer	Dorothy	27044	NS1
Maust	Gregory	1884	NS1
Mavilia	Tom	29290	NS1
Maxwell	Ben	443	NS1
May	M	780	MIT21
May	Michele	879	NS1
Mayer	David Mayer	27026	NS1
Mayer	Paul	26842	NS1
Mayer	Susan	26941	NS1
Mayhew	Eric	28498	NS1
Maynard	Ben	38	NEPA27, TR3, WT58
Maynard	Ben	417	NO6, NS1, TR3, WT4
Maynard	Bill	1538	AMT1_K, GS1, NS1, TR3, WT4

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Maynard	Bill	1542	SO7
Maze	Amanda	7962	NS1
Maze	Amanda	28199	NS1
Mazel	Molly	6480	NS1
Mcallister	Cheryl	901	NS1, NS2
Mcanulty	Rick	774	NS1
Mcatlin	Barbara	12	NEPA48, NS2
Mcbee	Nicholas	8081	NS1
Mcblane	Michael A	1269	NS1
Mccaffery	Chris	2001	NS1
Mccaffrey	Emily	6029	NS1
Mccaleb	Mac	29110	NS1
Mccall	Kevin	5521	NS1
Mccallum	Hannah	28397	NS1
Mccarthy	Keri-Lynn	28975	NS1
Mccarthy	William	670	NS1
Mcclatchie	Michelle	28850	NS1
Mcclay	Samantha	29401	NS1
Mccleester	Heather	1857	NS1
Mcclintock	Gloria	5446	NS1
Mccloskey	Ryan	28943	NS1
Mccormick	Carroll	1097	ALT1, AMT7, GS4, MIT23, NEPA10, NEPA11, NS2, SO16, SO21, SO6, SR13, TS1, TS26
Mccormick	Gene	134	NS1
Mccracken	Bill	6424	NS1
Mccreary	Elizabeth	1947	NS1
Mccreary	Stephanie	411	CR12
Mccune	Letitia	1310	CR4, NS1, WT4
Mccurry	Gordon	27745	NS1
Mcdermott	Ann	872	NS1
Mcdonald	Holly	5432	NS1
Mcdonald	Holly	27989	NS1
Mcgowan	Don	1363	NS1
Mcgranaghan	Allie	1308	ALT1, AQ11, MIT3, NS1
Mcgraw	Patrick	6224	NS1
Mcguire	James	8251	NS1
Mcguire	Timothy	29312	NS1
Mcintosh	Mac	6455	NS1
Mckean	Joe	793	NS1
Mckee	Matt	28413	NS1
Mckee	Sarah	5423	NEPA38

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Mckee	Sarah	27356	NS1
Mcknight	Scott	354	NS1
Mcknight	Stanley	6315	NS1
Mclane	Karen	1189	WT4
Mclane	Karen	1491	NS1
Mclaughlin	Diane	26849	NS1
Mclaughlin	Kristin	29139	NS1
Mclaughlin	Win	28714	NS1
Mclean	Brian	2051	NS1
Mclean	Powell	2105	NS1
Mcmahan	Rick	29338	NS1
Mcmahon	Alisa	1117	NS1, WT4
Mcmahon	Steve	7168	NS1
Mcnair	Linda	27161	NS1
Mcneil	Janene	26812	NS1
Mcswain	Susan	27743	NS1
Mcwilliams	Cynthia	27619	NS1
Mdanat	Morgan	631	NS1
Medina	Kelly	501	NS1
Medina	Laura	212	NS1
Medlin	Zach	733	NS1
Meeks Springan	Autumn	7748	NS1
Meersand	Kenneth	27105	NS1
Mehall	Luke	6202	NS1
Mehta	Naren	610	NS1
Meier	Lorraine	1261	NS1
Meier	Lorraine	7174	NS1
Meikle	Barry	7749	NS1
Meisner	Alexander	965	AMT1, SR27
Mendez	Laura	26977	NS1
Mentzer	Wayne & Jerri	254	MIT8
Mentzer	Wayne & Jerri	867	MIT8
Merendino	Caleb	263	NEPA2, NEPA33, NS1, NS2, TS1, TS2, WT1
Merkelbach	Joseph	27154	NS1
Merritt	Joyce	7920	NS1
Mesecher	Alyssa	620	NS1
Metcalf	Francesca	29273	NS1
Metzger	Dwight	126	NEPA33, NEPA6
Metzger	Dwight	1532	CR4, NS1
Meyer	Douglas	5421	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Meyer	John	7178	NS1
Meza	Jordyn	1039	NS1
Michael	Sandy	27887	NS1
Michaels	Brenda	30132	NS1
Michaels	Mitchell	20	MIT1, NS1
Michaels	Mitchell	21	MIT1, NS1
Michaels	Mitchell	91	MIT1, NS2
Michaels	Mitchell	92	MIT1
Michalides	Joseph	1265	NS2
Mick	David	28935	NS1
Mickelson	Kevin	829	ALT30, NS1
Mickowski	Patrice	5440	NS1
Miess	Daniel	1449	NS1
Mignella	Anthony	28172	NS1
Mihaly	Anna	6218	NS1
Milich	Lenard	27137	NS1
Miller	Aaron	7182	NS1
Miller	Elaine	7758	NS1
Miller	Leah	8151	NS1
Miller	Randy	7181	NS1
Miller	Robert	27993	NS1, WT1
Miller	Vicky	27928	NS1
Millier	Jennifer	680	NS1
Mills	Damon	26845	NS1
Mills	Donna	1282	NS1
Mills	Linda	7185	NS1
Millsap	Curtis	29154	NS1
Milton	Kathy	29231	NS1
Minto	Robert	8305	SO2
Miramon	Federico	8	ALT30, MIT23
Miramon	Fred	148	MIT23
Miramon	Fred	149	MIT1, MIT23
Miritescu	Adriana	27802	NS1
Mirkina	Olga	5497	NS1
Misch	Margaret	27725	ALT22, NS1
Mischke	Erica	1976	NS1
Mitchell	Cheryl	27280	NS1
Mitchell	David	28288	NS1
Mitchell	Janis	7761	NS1
Mitchell	Phillip	1208	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Mitchell	Skye	1287	CR4
Mitchell	Vera	7760	NS1
Mittelmei Er	Telsa	7762	NS1
Mittelsteadt	Scott	1342	AMT1, NEPA33, TS1, WT12, WT36
Mkrtschjan	Jason	5589	NS1
Mo	T	5535	NS1
Moehlman	Bruce	7764	NS1
Mogull	Richard	5727	NS1, WT4
Mohr- Felsen	Ariane	7397	NS1
Mohr-Almeida	Kathy	210	AQ4_B, NS1
Molnar	Daniela	1295	NEPA33, NS1
Mondrago N	Norma	7398	NS1
Monks	Gerald	748	NS1, SO6
Monroi	Joseph	85	TS24
Monroy	Joseph	84	NS1
Monroy	Robert	103	NS1, WT7
Montano	Raul	1120	MIT1
Montano	Ysidro	1157	WT7
Montgomery	Erica	8249	NS1
Montgomery	Hihn	1177	NS1, WT10
Montgomery	John	46	WT10
Montiel	Churak	342	NS1
Moody	Kelly	1347	NS1
Mooney	Fjaere	800	NS1
Moore	Chris	534	NS1
Moore	James	889	AMT4
Moore	Jim	150	AMT4
Moore	Rick	1406	NS1, WT25
Moore	Sherrie	27923	NS1
Moran	Lauren	1353	CR1, CR4
Moran	Mary	1074	NS1, WT25
Moreland	Karren	1504	NS1, NS2, TS27
Moreno	Cecilia	837	NS1, WT43
Moreno	Paul	6784	NS1
Morgan	Gareth	1941	NS2
Morgan	Nj	27642	NS1
Morris	Alexis	28112	NS1
Morrison	Michael	28080	NS1
Morrissey	Sandra	6786	NS1
Morta	Dan	1048	DOC1, MIT28, NEPA9, SR22

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Morton	Dennis	27668	NS1
Moses	Annie	6573	NS1
Moses	Kimberly	27117	NS1
Moskowitz	Brad	28553	NS1
Moss	Eric	6203	NS1
Moss	Gilbert	28605	WT6
Mott	Titus	490	NS1
Mount	Patricia	1166	NS1, WT2
Mousset-Jones	Pierre	918	AMT1_H, AQ26
Mowers	Laralyn	1885	MIT3, NS1, NS2
Moyles	Christopher	572	NS2
Muckle	Stephen	27205	NS1
Mueller	Inge	418	NS1
Mugasis	Cathy	1254	NS1
Muirhead	Fraser	27149	NS1
Mulcahy	Laurie	7193	NS1
Muller	Brian	29361	NS1
Muller	Steve	6088	NS1
Mullin	Brian	8009	NS1
Mulvihill	Alex	8224	NS1
Munn	Ralph	28456	NS1
Munoz Sr.	Henry	10	AMT1, NEPA48
Munoz Sr.	Henry	44	NEPA48, WT4
Munoz Sr.	Henry	59	AMT1, NEPA48, WT4, WT4_G
Munoz Sr.	Henry	82	AMT1, GS10, NEPA48, WT4, WT43
Munoz Sr.	Henry	83	WT4_B, WT4_G
Munson	K	27804	NS1
Murillo	Eve	7198	NS1
Murmi	Adam	784	NS1
Murphy	Charlott E	7200	NS1
Murphy	Dareian	5594	NS1
Murphy	Donna	27197	NS1
Murphy	Pat	1165	NS1
Murray	Shayle	29109	NS1
Murrell	Susan	1345	NS1
Musgrove	Jeanne	5378	NS1
Mussallem	Keith	554	NS1
Myers	David Russell	27227	NS1
Myers	Mary	1171	NS1
Myers	Mary	7203	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Mysak	Tara	27658	NS1
N.	Elisabeth	27791	NS1
Nabb	Sophia	6275	NS1
Nagy	Karen	27924	NS1
Nanney	Addison	662	NS1
Naples	Jean	5398	NS1
Naples	Jean	28100	NS1
Necas	Al	7206	NS1
Nedeff	Liz	753	NS1
Nedialkov	Tzenko	586	NS1
Neel	Margaret	26966	NS1
Neitzke	Adam	6478	NS1
Nelson	Adrian	5505	NS1
Nelson	Blake	7210	NS1
Nelson	Bryce	5631	NS1
Nelson	Deana	6173	NS1
Nelson	Jonathan	996	NS1
Nelson	Margar Et	7211	NS1
Nelson	Michael	835	NS1
Nelson	Peter	28961	ALT22, NS1
Nelson	Scott	30128	NS1
Nelson	Zoey	734	NS1
Nessel	Laurie	1448	AMT4, NEPA3, TS2, TS7, WT1, WT28, WT35, WT36
Nevin	Ben	6200	NS1
Newark	David	6788	NS1
Newkirk	Staci	1521	CR4, NS1
Nguyen	Ann	8084	NS1
Nicholas	Ann	26827	NS1
Nicholes	K.G.H.	776	AMT1
Nichols	Beverly	1226	CR4, NEPA35, NS1
Nickum	John	6793	NS1
Nicosia	Marcella	8022	NS1
Nieland	Thomas	5464	NS1
Nielsen	Keeley	569	NS1
Niver	Amanda	1503	NS1
Noble	John	29390	NS1
Noedel	Sally	244	NS1
Noel	Chelsey	584	NS1
Nomann	Carmen	5377	NS1
Norland	Diane	26994	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Norman	Jesse	141	NS1
Norris	Josie	6282	NS1
Nosie	Aleigha	17	NS1
Nosie	Theresa	184	CR4
Nosie	Theresa	29655	NS1
Nosie	Vanessa	111	NS1
Nosie	Vanessa	185	NS1
Nosie	Vanessa	218	NS1
Nosie	Vanessa	240	NS1
Nosie	Vansler	170	NS1
Nosie	Wendsler	33	CR14, NS1, TS24
Nosie	Wendsler	34	NS1
Nosie	Wendsler	113	NS1
Nosie	Wendsler	114	NS1
Nosie	Wendsler	186	CR4, NEPA30, NS1
Nosie	Wendsler	187	NS1
Nosie	Wendsler	241	CR4, NS1
Novotny	Samantha	822	MIT1
Nunn	Stephen	7216	NS1
Nye	Christopher	27788	NS1
Obrien	Ellen	1247	NS1
O'Brien	Elizabeth	5601	NS1
O'Connor	Jacqueline	26918	NS1
O'Connor-Masse	Kate	27912	NS1
Oddonetto	Kimberly	86	NS2
Oder	Stephen	7998	NS1
Oeleis	Jenny	7976	NS1
Ogasian	Jason	5574	NS1
Ohl	Jim	60	MIT1, MIT3, SO1, TS24
Ohl	Jim	61	GS2
Ojo	David	1304	NS1
O'Kane	Connor	5655	NS1
O'Keeffe	Sean	775	NS1
O'Laughlin	Kirk	1194	NEPA21, NEPA22, NS1
Oliver	Eric	5550	NS2
Olsen	Carly	921	ALT5
Olsen	Rhesa	7221	NS1
Olson	Carla	7779	NS1
Olson	Erik	679	NS1
Olson	Marie	1305	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
O'Neil	Leslie	28052	NS1
Opahle	Mikii	27955	NS1, WT8
Opel	Markus	28042	NS1
Ord	Katherin E	7223	NS1
O'Reilly	Patricia	27097	NS1
Orlebeke	Michael	626	NS1
Orndorff	John	460	NS1
Ornstein	Edward	1116	NS1
Orr	Lou	26913	NS1
Ortega	Dutch	849	NS1
Ortega	Shayna	1150	ALT5, CR16, NEPA13, NEPA67, NS2, WT4
Ortinau	Nora	8148	NS1
Ortiz	Erlina	1484	NS1
Osheil	Jeffrey	937	NS1
Oslund	Janet	27936	NS1
Ostler	Joesef	28135	NS1
Ostlie	Nancy	27798	NS1
Ostrer	Allison	27162	NS1
Ostrowski	Jack	7227	NS1
Oswald	Fred	7228	NS1
Otlowski	Steven	27109	NS1
Overstreet	Cynthia	959	NS1
Overton	Katherine	8094	NS1
Owens	Christina	1257	NS1
Page	Cali	6520	NS1
Page	Edward	29499	NS1
Paine	Bob	8326	NS1
Paine	Jonthan	436	NS1
Palma	Marina La	27845	NS1
Palmer	Kaden	5742	NS1
Palmer	Kirk	5990	SO6
Palmer	Lynne	1014	NS1
Palomino	Henry	970	NS1
Panek	Jeanna	28406	NS1
Paney	Christiane	6198	NS1
Pang	Selena	30138	NS1, WT4
Panter	Rich	5442	NS1
Paraniuk	John	27715	NS1
Parham	Felix	29126	NS1
Parham	Felix	29127	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Parham	Mary	27787	NS1
Parisoe	Mary	26839	NS1
Park	Lea	28017	NS1
Parke-Hoffman	Will	29309	NS1
Parker	Catharine	1010	NS1
Parker	Greg	5936	NS1
Parkison	Peggy	882	ALT30, NS1
Parks	Jennifer	29102	NS1
Parrish	Robert	5760	ALT22, WI25, WT1
Parry	Cameron	30123	NS1
Parsons	Alicia	142	NS1
Parsons	Laak'Os	144	NS1
Parsons	Orlando	145	NS1
Parsons	Sage	143	NS1
Pasqua	John	5396	NS1
Patch	Joan	30065	CR5, NS1, WT1, WT26
Patterson	Carol	27916	NS1, WT1
Pauk	George	1471	CR4, NS1
Paul	Joann Baker	1544	ALT22, ALT33, AMT1, AQ11, CR5, MIT1, MIT21, MIT9, NEPA18, NEPA41, TS29, WT12, WT24, WT26, WT4, WT8
Pautman	Mike	1957	NS2
Pavey	Steven	217	NS1
Paxton	Harold	287	NS1
Payne	Dustin	8169	NS1
Payne	Jared	6095	NS1
Peacock	Pete	7977	NS1
Peacock	Randall	5844	NS1
Peck	Roger	592	NS1
Peel	Roberta	27092	NS1
Peet	Roger	1378	NS1
Pellerito	Elizabeth	1124	NS1
Pemberton	Curtis	131	CR4, NS1
Perez	Andrea	6062	NS1
Perez	Yolanda	7234	NS1
Perini	Julie	1355	NS1
Perlman	Janine	27976	NS1
Perry	Lisa	1011	NS1
Petach	Helen	28839	NS1
Pete	Sierra	747	ALT22, NS1, WT4
Petefish	Ashley	854	ALT29, NS1
Peters	Loretta	1319	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Peters	Sarah	1379	NS1, NS2, WT4_B
Petersen	Katherine	5845	NS1
Peterson	Brenda	27383	NS1
Peterson	Elisabeth	5445	NS1
Peterson	Katherine	152	NS1
Peterson	Katherine	1477	ALT5, CR4, NEPA30, NEPA54, TR22
Peterson	Katie	260	NEPA30
Peterson	Susan	27906	NS1
Petrowski	Michael	410	WT4
Petterson	Carl	684	NS1
Pfaender	Carmela	28195	NS1
Pfaff	Paul	954	NS1
Pharo	Patrick	8029	NS1
Philipee	Anna	752	NS1
Philipps-Moses	David	384	NS1
Phillips	Elaine	27929	NS1
Phillips	Jared	944	NS1
Phillips	Robert	1211	NS1
Phillips	Stan	8304	NS1
Phillips	Weslie	754	NS1
Picard	Jason	28871	NS1
Picard	June	5472	NS1
Piccolo	Scott	28965	NS1
Piering	Amanda	6581	NS1
Pike	Baase	73	CR4, NS1
Pike	Baase	117	NS1
Pike	Baase	129	CR4, NS1
Pike	Baase	189	NS1
Pike	Naelyn	94	NS1
Pike	Naelyn	29710	NS1
Pike	Nizhoni	100	CR4, NS1
Pikula	Sam	893	NS1
Pinckney	Kelsey	1077	NS1
Pinkett	Jc	28642	NS1
Pino	Manuel	219	CR16
Pirmohamed	Nurbegum	27208	NS1
Pitkapaasi	Daniel	598	NS1
Pitman	Tera	450	NS1
Planet	Captain	1082	NS1
Platt	Christopher	912	NS1

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Pledger	Andrew	580	NS1
Plenk	Bruce	1565	NEPA2, NS1, WT24_A
Plummer	Jared	2022	NS1
Po Box 4338	Laura	847	NS1
Poel	James Vander	28003	NS1
Pogue	Alexandra	6195	NS1
Pohl	Ryan	29009	NS1
Point	Thomas La	27841	NS1
Polach	Scott	1298	NS1
Polefka	Shiva	27000	NS1
Ponce	Lydia	27169	NS1
Poole	Gina	27511	NS1
Pooler	Carole	1258	NS1
Pope	Keenan	29096	NS1
Porter	Christopher	27872	NS1
Porter	Dr Rin	1237	CR7, NS1, WT43
Porter- Solberg	Mary	7805	NS1
Posey	Ariel	8226	NS1
Post	Dianne	7806	NS1
Potteiger	Gregory	28948	NS1
Potteiger	Wyatt	8227	NS1
Pottle	Judith	7807	NS1
Potts	Randall	27508	NS1
Potvin	Emilie	26857	NS1
Powell	Edward	6413	NS1
Powell	Robert	7810	NS1
Power	Devin	919	NS1
Powers	Christin A	7238	NS1
Powers	John	813	NS1
Powledge	Damien	726	NS1
Praderio Lynn	Laura	28507	NS1
Pravica	Sean	502	NS1
Price	Chara	6638	NS1
Price	Dylan	1975	NS1
Price	Mark	28837	NS1
Price	Paula	1167	NS1
Primatic	Kim	27031	NS1
Prince	Allan	7244	NS1
Pristelski	Jeff	992	NS1
Proctor	Robert	458	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Proczka	John-Jozef	8010	NS1
Pucci	Stephen	29179	NS1
Pugsley	Debra S	7247	NS1
Puhara	Jeff	890	NS1, NS2, SO21
Puliselic	Christine	1213	NS1
Punches	Vinnie	425	NS1
Punt	Leon	1073	NS1
Purcell	Stacey	6350	NS1
Purdy	Jeff	678	NS1
Pursley	Allison	6622	NS1
Quale	Nick	6119	NS1
Quick	Alec	8273	NS1
Quinn	Charles And Mrs. Diana	5370	NS1
Quinn	Neely	787	NS1
Rafkin	Tamara	1325	NS1
Ragan	Carolyn	1562	NS1
Rager	Brendon	6166	NS1
Raines	M.1.	7251	NS1
Raitt	Jacob R.	27422	NS1
Ralley	Phyllis	1067	NS1
Ramaker	Julianne	27934	NS1
Rambler	Sandra	28	CR12, NS1
Rambler	Sandra	54	NS1
Rambler	Sandra	55	CR4, CR5, NS1, NS2, TS24
Rambler	Sandra	107	AMT1, CR4, NEPA37, NS1, NS2, WT4
Rambler	Sandra	108	CR12, CR4, NS1, TS23
Rambler	Sandra	176	NS1
Rambler	Sandra	181	NS1
Rambler	Sandra	233	CR4, CR7, WT4
Ramirez	Arianna	7964	NS1
Ramirez	Brianna	1040	NS1
Ramirez	Steven	1309	AMT1, AQ4, CR4, TS24_C
Ramos	Miguel	1037	NS1
Randall	D.	5476	NS1
Randall	Maryrose	27663	NS1
Randall	Philip	28865	NS1
Randolph	Adam	1274	CR4, NS1
Rangel	Manuel	220	NS1
Rangel	Manuel	874	NS1
Rank	Robert	1190	NS1

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Ransom	Cat	6302	NS1
Rasmussen	Linda	713	NS1
Raster	Amanda	27140	NS1
Reading	Toni	5417	NS1
Reading	Toni	5418	NS1
Reda	Clare	29091	NS1
Redding	Ariane	495	CR4, SO6
Redfield	Robert S.	27571	NS1
Redmond	Eden	1395	NS1
Redwine	Harriet	27194	NS1
Reed	Sally	1942	NS1
Rees	Sandra	1470	NS1
Reese	Michele	875	NS1
Reese	Will	930	NS1
Regan	Marc	5518	NS1
Reilly	Joe	932	NS1
Reilly	Susan Barbara	27920	NS1
Reily	Brian	1481	NEPA35
Reina	Bradley	6464	NS1
Reis	Ashley	1391	NS1
Reiter	Margaret	809	NS1, NS2
Remer	Seth	29194	NS1
Renwick	Vanessa	1512	NS1
Resendiz	Christian	28221	NS1
Reveles	Roberto	295	NS1, TS1
Reynolds	Jason Carl	1179	NS1
Reynolds	Jon	526	NS1
Reynolds	June	1178	NS1
Reynolds	Rebecca	27539	NS1
Reynolds	Waid	27416	NS1
Rhodes	Renee	1373	NS1
Ribble	Nathan	8321	NS1
Rice	Adena	27853	NS1
Rice	Edward	1420	WT1
Richards	Christopher	27100	NS1
Richardso N	Rebecca	7256	NS1
Richardson	Bruce	1195	NS1
Richardson	Daniel	292	NS1
Richardson	June	27716	NS1
Richmond	Lonna	5465	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Richt	Crystal	7258	NS1
Rickards	Tom	7898	NS1
Riegle	Coleman	1952	NS1
Riffle	David	28401	NS1
Rigney	Jane	1220	AMT1_G, NS1
Ring	Milly	27588	NS1
Ringgold	Bryan	420	NS1
Ritchie	Robert	5484	NS1
Rivera	Ryan	994	NS1
Rivers	Karma	853	NS1
Roach	Matthe W	7263	NS1
Roati	Richard	7264	NS1
Roberts	Jenny	7833	NS1
Roberts	Kathryn	720	NS1
Roberts	Michael	446	NS1
Roberts	Sarah	29654	NS1
Roberts	Sarah	30064	ALT5, WT4
Roberts	William	762	NS1
Robertson	Annette	27340	NS1
Robertson	Justin	622	NS1
Robertson	Myles	27860	NS1
Robertson	Nolan	645	NS1
Robinett	Joseph	7268	NS1
Robinson	Larry	1210	NS1, WT25
Robles	Damien	976	NS1
Rockwell	Christopher	29475	NS1
Rodabaugh	Owen	28963	NS1
Roder	Marc	1401	NS1
Rodman	Emily	6341	NS1
Rodning	Rael	28945	NS1
Rodriguez	Danny	29503	NS1
Rodriguez	Michael	7270	NS1
Rodriguez	Rebeca	28877	NS1
Rodriguez	Ruthanne	243	NS1
Rodriguez	Susan	7269	NS1
Roeder	Dorothy	7272	NS1
Roemer	Bert Von	27874	NS1
Rogers	Arthur	7846	NS1
Rogers	Jeremy	28738	NS1
Rogers	Jim And Connie	27278	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Rogers	Renee	7274	NS1
Rogers	Roz	26990	NS1
Romano	Will	6435	NS1
Romero	Duke	43	MIT30, NEPA37, NS2
Romero	Duke	125	NEPA27, NS1
Romero	Duke	198	NS1, TS24
Rondon	Anna	1134	NS1
Root	Margaret	30114	NS1
Rosa	Yvette De La	27919	NS1
Rose	Becky	27705	NS1
Rose	Casarez	1348	NS1
Rose	Kathryn	27621	NS1
Rose	Susan	28098	NS1
Rosen	Jerry	26986	NS1
Rosen	Mike & Sally	7281	NS1
Ross	Audrey	1255	NS1
Ross	Jane	28115	NS1
Rothenbery	Howard	371	ALT30, NS1
Roush	Elizabeth	952	NS1
Rowe	Carolyn	281	WT51
Rowe; Rowe	Carolyn; Carolyn	1231	WT51
Rowell	Patricia	28103	NS1
Rowell	Patricia	878	NS1
Rowen	James	27945	NS1
Royall	Naomi	29144	NS1
Royce	Jim	6172	NS1
Rubenstein	Adrienne	29188	NS1
Ruck	S	1118	TS1
Rudisille	Mary	7969	NS1
Ruiz	Gloria	291	ALT30, SO10, SO16, WT4
Ruiz	Gloria	30097	ALT30, NS1
Ruiz	Marcella	18	LG2, NS1
Runneals	David	538	NS1
Ruopp	Kathy	5450	NS1
Ruopp	Kathy	28053	NS1
Russell	Suzette	1390	NS1
Russo	Linda	27681	CR4, NS1, WT8
Ryan	Anne	30108	NS1
Ryan	Nancy	27893	NS1
Sadowski	Alyssa	963	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Sadowski	Ryan	961	NS1
Saint-Croix	Catharine	29383	NS1
Salaam	Shalom	1963	NS1
Salcido	Michael	865	NS1
Saldana	Manuel	221	NS1
Saldana	Manuel	222	NS1
Salmony	Blake	603	NS1
Sampson	Laura	894	NS1, NS2, WT4
Sanchez	Michael	639	NS1, WT4
Sand	Luke	5618	NS1
Sandeen	Mimi	27048	NS1
Sanderson	Melissa	7839	NS1
Sandler	Michael	6501	NS1
Sandok	Florence	768	NS1
Sands	Preston	1564	NS1
Santana	Kyra	978	NS1
Santella	Janice	7804	NS1
Savlove	John	28107	NS1
Sawaya	Brianna	1036	NS1
Sawyer	Bobby	5974	NS1
Sawyer	Janis	27428	NS1
Sayler	Becky	1548	NS1
Scaltrito	Marietta	27093	NS1
Scanlon	Peter	973	NS1
Scarabin	James	769	NS1
Schadel	Suzanne	1263	DOC1
Schafer	Andrea	6557	NS1
Schafer	Carol	1095	CR4, NS1
Schafer	Lindsey	28795	NS1
Schaffer	Gregory	6131	NS1
Schalk	Kathleen	27319	NS1
Scharf	Stuart	26838	NS1
Schedler	Karen	7283	NS1
Scheel	Kurt	7867	NS1
Schelble	Payton	1031	NS1
Schenk	Kim	14	ALT1, MIT1, NS1
Schepers	Danette	1344	ALT5, NO2, NS1, WT1
Schildt	Brenda	196	NS1
Schlossnagle	Trevor	28942	NS1
Schmidler	Susan	27843	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Schmidt	Jacob	28718	NS1
Schmierer	Kyle	7869	NS1
Schmoller	Ron	7870	NS1
Schneider	Aliza	951	ALT5
Schneider	Carie	1458	CR4
Schnell	Paul	277	NS1
Schnell	Paul	1055	NS1
Schonberg	Lisa	1488	NS1
Schorr	Robert	29433	NS1
Schramm	Douglas	27007	NS1
Schroeder	Sheryl	759	NS1
Schumacher	Mary	30072	NS1
Schutjer	Cliff	7285	NS1
Schwab	Mark	549	NS1
Scott	Jonathan	8314	NS1
Scott	Myron	1455	ALT5, NEPA25, NS1, NS2, WT1
Scotten	Joseph	914	NS1
Scroggins	Krisyy	1290	NS1
Searer	Dustin	346	NS1
Sears	Kyle	666	NS1
Sebastian	Ted	6068	NS1
Seeley	Megan	29397	NS1
Segal	Adrien	1509	NS1
Selna	Bryan	1474	ALT22, NS1, TS1
Seltzer	Elizabeth	797	NS1
Seubert	Joyce	27110	NS1
Sevilla-Bazan	Todayah	860	NS1
Shabbott	Mary	763	NS1
Shaffer	Tria	27427	NS1
Shaheen	William	927	MIT21
Shane	Thomas	28236	NS1
Shank	Ritch	1138	NS1
Shanto	Joshua	422	NS1
Shapic	Alec	416	MIT3, NS2
Shapiro	Dean	820	NS1
Shapiro	Howard	26980	NS1
Shapiro	Tobiahs	498	NS1
Shaplin	Adriano	1302	NS1
Shaw	Benjamin	28013	NS1
Shea	Erin	1517	NS2

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Shellenberger	Jessica	1100	CR4, NS1
Shepard	David	6161	NS1
Shepherd	Phil	7290	NS1
Sherman	Mike And Kathy	27288	NS1
Shiefman	Joe	28891	NS1
Shields	Jedidiah	5769	NS1
Shilko	Sandra	5380	NS1
Shimeall	Nancy	5882	NS1
Shimek	Carol	27153	NS1
Shipley	Fernando	95	ALT30, NS2
Shockey	Gwen	1374	WT4
Shoemaker	Bradley	29164	NS1
Sholette	Professor Gregory	1372	NS1
Short	Brad	30125	ALT22
Shoultz	Tim	5818	NS1
Shouse	Antonia	27894	NS1
Siebert	Danielle	28320	NS1
Siegel	Nona & Michael	6673	NS1
Siepka	Gene	969	NS1
Sier	Rachel	8087	NS1
Silbaugh	Kaitlin	28532	NS1
Sillcox	James	770	NS1
Sills-Trausch	Mike	1091	ALT22, ALT5, NS1
Sills-Trausch	Patti	1092	ALT22, NS1, WT1
Sills-Travich	Michael	504	ALT22, ALT5, NS1
Silva	Jim	1075	ALT30, NEPA31, NS1, TS1
Silver	L	7298	NS1
Silver	Victoria	27779	NS1
Simanski	Cliff	29344	NS1
Simcox	Paul	27770	NS1
Simmons	Eve	27942	NS1
Simms	Christopher	1056	NS1
Simon	Todd	543	NS1
Simons	Judith	900	ALT33, AQ11, NS1, WT4
Simonton	Jonathan	1616	NS1
Simpson	Rachel	6186	NS1
Singer	Michael	6675	NS1
Singh	Jaret	542	NS1
Singler	Robert	6676	NS1
Sirota	Joyce	27354	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Sjulstad	William	643	NS1
Skelton	Theresa & Paul	7301	NS1
Skidmore	Sue	27239	NS1
Skinner	Tiffany	29337	NS1
Skrzynski	Skz	6680	NS1
Slay	Mark	6102	NS1
Sloane	Gregory	30119	NS1
Slosky	Daniel	597	NS1
Slouka	Syd	5863	NS1
Slovak	John	26846	NS1
Sluski	Garrett	1252	NS1
Sluyter	John	868	NS1
Small	Sue	1126	NS1
Smerlis	Judith	1162	NS1
Smiley	Janelle	29492	NS1
Smith	Alexandria	665	NS1
Smith	Cameron	512	NS1
Smith	Jaye	28559	NS1
Smith	Joanne	6686	NS1
Smith	John	899	SO1, SO3, TS1, TS24_A, WT4
Smith	Kathleen	1482	NS1
Smith	Kathy	1536	NS1
Smith	Kira	1227	NS1
Smith	Kurt	6443	NS1
Smith	Kyle	28970	NS1
Smith	Matilda	614	WT4
Smith	Megan	653	NS1
Smith	Patricia (Patty)	897	SO1, SO3, TS1, TS24, WT4
Smith	Penelop E	6685	NS1
Smith	Ryan	6535	NS1
Smith	Seth	909	NS1
Smith	Steve	5556	NS1
Smith	William	667	NS1
Smith- Hansen	Mary	7303	NS1
Smotrich	Benjamin	1518	CR4, NS1
Smrz	Penelope	8083	NS1
Smuts	Barbara	27738	NS1
Sneezy	Patricia	167	NS1
Snyder	Brad	28097	NS1
Snyder	Charles	472	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Sodergren	Bennett	29056	NS1
Sohocki	Dennis	913	NEPA1, NS1
Sohocki	Dennis	1595	MIT35, NEPA1
Sokolov	Krum	724	NS1
Solamito	Marilyn	1180	NS1, NS2, WT43
Solamito	Paul	177	NS1
Solomentsev	Michael	6586	NS1
Soltow	Sarah	1351	CR4, NS1
Souchuns	Charles	8040	NS1
Soukup	Jim	29261	NS1
Sparks	Rob	655	NS1
Speck	Jared	7983	NS1
Spenger	Constance	27335	NS1
Spenser	Tim	6545	NS1
Spidle	Chris	119	NEPA29, NS1
Spidle	Chris	120	NEPA29
Spidle	Chris	175	NEPA29
Spidle	Chris	194	NEPA29, NS1
Spidle	Chris	262	NEPA29
Spidle	Chris	265	NEPA29, NS1
Spidle	Chris	274	NEPA28
Spielman	Michael	28560	NS1
Spillane	Elizabeth	27510	NS1
Spiro	Donald	28159	NS1
Spitzer	Max	5777	NS1
Spiwak-Wallin	Sandra	27866	NS1
Spung	Sandra	27176	NS1
Spurgeon	William	6434	NS1
St Angelo	Lynne	1069	NS1
St. Jean	James	28982	NS1
Stabile	Michael	1611	NS1
Stachecki	Julie	27292	NS1
Staehli	Richard	5975	CR4, NS1
Stanfield	Lee	28106	NS1, TS2, WT1, WT8
Stangle	Jeanne	27145	NS1
Stanley	Jody	1125	NS1
Stansfield	Jack	5460	NS1
Stansfield	Jack	600	NS1
Starinsky	Bob	508	NS1
Stark	Jonathon	28200	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Stasik	Daniel	659	NS1
States	Marcia	5401	NS1
Steadley	Ryan	8134	NS1
Stearnes	Chase	438	NS1
Steck	Lee	28501	NS1
Steckman	Laura	6696	NS1
Steele	Donna Lee	6697	NS1
Steffen	Matthew	6235	NS1, NS2
Stehr	Tyler	1452	MIT21, TS1
Stein	Cletus	27345	NS1
Stein	Janie	138	NS1
Steitz	Jim	28046	CR4, NS1
Steitz	Jim	28093	NEPA35, NEPA37, NS1, WT1, WT8
Steitz	Jim	298	NEPA2, NEPA37, NS1, WT1
Stencel	Chelsea	8235	NS1
Stephan	Sarah	7941	NS2
Steuter	Don	7308	NEPA33
Steven	Erin	28956	NS1
Stevens	Carolyn	27661	NS1
Stevens	Dorothea	887	CR4, NS1
Stevens	Lisa	27078	NS1
Stevens	Raven	27869	CR12
Stewart	Caroline	28671	NS1
Stewart	Kathleen	26973	NS1
Stewart	Margar Et	6699	NS1
Stewart	Tyee	8105	NS1
Stitt	David	1159	NS1, NS2
Stockburger	Paul	1170	NS1
Stocker	Andrew	855	NS1
Stockinger	Chris	27255	NS1
Stockwell	Douglas	7313	NS1
Stoecker	Evan	661	NS1
Stollings	Luke	6387	NS1
Stolp-Smith	Mike	269	NS1
Stonas	Walter	514	NS1
Stradiotto	Becky	1969	NS1
Stradiotto	Ronald	28618	NS1
Stram	Veda	26817	NS1
Stramler	Kirstie	27905	NS1
Strauss	Susan	27250	NS1

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Strawman	Tom	27187	NS1
Streer Seidler	Kathryn	1168	NS1
Stridinger	Jennifer	26944	NS1
Strieby	Collette	1271	NS1
Strods	Ray	28851	NS1
Stroh	Charles	6704	NS1
Stroud-Settles	Geoffrey	30118	NS1
Stryker	Donald	27131	NS1
Stuart	Todd	366	WT4_B
Stuhr	Joanne	7300	NS1
Stumpff	Linda	27223	NS1
Suarez	Gabriels	915	NS1
Suen	Eric	591	NS1
Sugden	John	5608	NS1
Sullivan	Joan Paul And Pj	26914	NS1
Sullivan	Mike	29286	NS1
Sundareshan; Truebe	Brian; Priya	1499	NEPA3, NEPA45, NEPA6, WT4_J
Suorsa-Johnson	Kristina	28675	NS1
Sussman	Max	1089	TS24
Sutherland	Catherine	27598	NS1
Sutinen	Matt	5598	NS1
Sutter	Gavin	6559	SO6
Sutton	Charles	27192	NS1
Sutton	Russ	6707	NS1
Svyrydenko	Vladyslav	1250	NS1
Swain	Neal	6022	NS1
Swain	Todd	28590	NS1
Swartz	Deborah	26843	NS1
Sweet	Connie	27954	NS1
Sweet	Samuel	26871	NS1
Switlik	Mary Margaret	792	NS1
Szablewski	Conrad	27387	NS1
Szumel	Leo	6567	NS1
Taber	Rebecca	1196	NS1, TS30, WT2
Tackett	Hannah	7997	NS1
Taenzer	Deanne	27758	NS1
Taishoff	Lewis	761	NS1
Takush	Kathie	533	NS1, WT4
Talbot	Thomas	26935	NS1
Tall	Beverly	27878	NS1

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Tallon	Marian	916	NS1
Tanzi	Anthony	28173	NS1
Tapiawala	Pia	1380	MIT24
Tarango	Andrew	96	NS1
Tarr	Ben	27994	NS1
Tarver	Kelsie	8247	NS1
Tate	Alan	28946	NS1
Tatoovich	Thomas	1130	MIT1, NS1
Taub	Audrey	27974	NS1
Taylor	Aaron	6496	NS1
Taylor	Dana	348	NS1
Taylor	Gigi	26831	NS1
Taylor	Matt	29046	NS1
Taylor	Peter	5897	NS1
Tchida	Celina	1080	NS1
Tekola	Sarra	1359	NS1, NS2, WT4
Tenijieth	Roseanna	1131	NS1
Terry	Susan	28101	NS1
Terwilliger	Susan	5453	NS1
Testerman	Dolores	1145	NS1
Tetro	Barbara	476	NS1
Thezan	Marcie	28111	NS1
Thias	Nancy	99	NS2, TS20, TS7
Thomas	Jerry	139	NS1
Thomas	Linda	160	CR4
Thomas	Lyn	313	NS1, TS1
Thompson	Brett	8237	WT7
Thompson	Christen	1995	NS1
Thompson	Hallie	1043	TS26, WT43
Thompson	Karissa	803	NS1
Thompson-Glaser	Nancy	27358	NS1
Thomsen	Arina	29125	NS1
Thomson	Barbara	27943	NS1
Thorpe	James	1215	NS1
Thrasher	Ron	27833	NS1
Tickle	Brian	470	NS1
Tintle	Bob	28002	NEPA33, NS1
Tipper	Ben	576	NS2
Tirado	Madeline	6056	NS1
To	Pre	981	NS1

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Tobias	Thomas	1385	NS1
Todd	Charlene	920	NS1
Todd	Susan	27587	NS1
Toledo	Yovonna	173	NS1
Toole	Thomas	525	NS1
Tooley	Elise	26984	NS1
Tooley	Helen	28061	NS1
Tooley	Kristin	27891	NS1
Torii	Tomoyuki	5393	NS1
Torrey	Wanda	6713	NS1
Trammell	Gail	6003	NS1
Tran	Thanhvan	1921	ALT5
Trappman	Suzanne	7334	NS1
Travis	Debbie	6718	NS1
Trent	Steven	5885	NS1, WT6
Trezise	Megan	255	ALT22, NS2, TS2, WT1
Triana	Richard	7335	NS1
Trinity	Kathleen	28066	NS1
Troll	Laura	26862	NS1
Trump	KathleeN	6721	NS1
Trussell	Steve	234	NS1
Trussell	Steve	541	CR12, MIT33, MIT7, NS1
Tsoi	Michael	735	NS1
Tuck	Judith	6723	NS1
Tucker	James	6515	NS1
Tucker	William	27675	NS1
Tuell	Cyndi	6726	NS1
Tumbusch	Andrew	457	NS1
Turner	Erin	132	CR4, NEPA37, NS1, NS2, WT4
Turner	MargarEt	6728	NS1
Turner	Terry	1045	NS1
Twyman	Matthew	6091	NS1
Uhler	Brenda	27209	NS1
Uhls	Marshal	991	NS1
Underwood	Asher	1346	NS1
Underwood	Joseph	27892	NS1
Ursitti	Kimberly	392	SO16, WT4
Vaaler	Jim	37	DOC1
Vaaler	Jim	203	SR18
Valdez	Jennifer	6733	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Valdivia	Susan	883	ALT5, NS1, NS2
Valenta	Jamison	29444	NS1, WT6
Valentine	Jennifer	808	NS1
Valentine	Shane	5877	NS1
Vallieres	Jessica	6451	NS1
Van Der Kraan	Luca	6244	NS1
Van Dussen	Dan	962	NS1
Van Engel	Emily	1492	CR4, NS1
Van Exel	Les	2124	NS1
Van Gorp	Sandra	1107	AMT1_J, AMT4, MIT3, NS1, NS2, TS24, WT8_A
Van Sciver	Hannah	1270	NS1
Vann	Glen	1184	NS1
Varela	Jolie	29380	NS1
Vasquez	Luis	16	ALT30, AMT1_L
Vasvary	Kathlee N	6738	NS1
Vazquez Gomez	Patricia	1330	NEPA4, NS1
Vela	Teri	1013	NS1
Venezia	Justin	28840	NS1
Ventimiglia	Nick	6025	NS1
Vento	Jillian	1285	NS1
Vernon	Barbara C. Holladay	5451	NS1
Versari	Lara	1136	MIT3
Vershay	Anton	727	NS1
Victor Chatlin	Leopha	159	CR4, NS1
Vierthaler	Heidi J	27782	NS1
Villalobos	Blanca	1331	NS1
Villegas	Joe	62	CR4, GS2, GS4, NS2
Villegas	Joe	63	WT43
Villodas	Abigail	6743	NS1
Vink	Ryan	7894	NS1
Vitols	Inesis	6745	NS1
Voeltz	Laurie	1283	NS1
Volz	Dale	123	MIT3
Von Ancken	Sean-Paul	821	NS1
Von Doersten	Greg	461	WT4_B
Von Magdenko	Nadia	29054	NS1
Votto	Nicholas	349	NS1
Voysey	Helen	2115	NS1
W	L	8097	NS1
W	M	1101	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Wachtel	Jonathan	522	NS1
Wagers	Nick	704	NS1
Wagliardo	Nathan	5633	NS1
Wagman	Nicole	27838	NS1
Wagner	Betty	190	NS1
Wagner	Norman And Dee	27737	NS1
Wagner	Tom	943	MIT3, NS1, WT4
Wainwright	Joel	8082	NS1
Walbridge	John	28583	NS1
Walden	Luke	6519	NS1
Walker	Barbara	1206	CR4, NEPA33, NS1, TS30, WT25
Walker	Genie	6751	NS1
Walker	Linda	6752	NS1
Walker	Ryan	2044	NS1
Walker	William	29269	NS1
Wall	Debbie	27660	NS1
Wallace	Liz	1064	NS1
Wallen	Rachel	782	NS1
Walling	Robert	6753	NS1
Walsh	Gary	6804	NS1
Walsh	James	202	NEPA35
Walters	Kaylin	27164	NS1
Wang	Barb	6807	NS1
Wang	Hannah	469	NS1
Wannie	Evelyn	6754	NS1
Ward	Benjamyn	8000	NS1, WT6
Warfel	Eavan	946	NS1
Warme	Jeanne	28257	NS1
Warner	Benjamin	444	NS1
Warner	Michael	27768	NS1
Warren	Kevin	26818	NS1
Wasker	Laura	341	NS1
Wasp	Stephen	506	WT4
Waters	Jerry	11	MIT1, TS7
Waters	Osrville	863	GS1_A, TS17
Watkins	Carol	27101	NS1
Watkins	Tani	27630	NS1
Watson	Ben	1621	MIT3
Webb	Parker	1938	NS1
Weber	Michael	419	NS1

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Webster	Betsy	5405	NS1
Webster	Jeremy	45	ALT1, TS29
Webster	Samuel	956	NS1
Wehr	Rachel	7972	NS1
Weigel	Kate	29351	NS1
Weiner	Jeremy	663	NS1
Weisser- Lee	Melinda	6760	ALT22, NS1
Weisser-Lee	Melinda	339	ALT5, CR4
Wellington	Mary	6663	NS1
Weltner	Lucy	26887	MIT35
Wende	Anthony	845	NS1
Wernette	Tim	7354	NS1
Werre	Silvia & Merlin	294	MIT8
Wertz	Gina	390	NS1
Wesley	Susan	27073	NS1
West	Bret	7356	NS1
Westerdale	John	1279	AMT1, GS13, TS1, TS15, TS24
Wetherby	Aelwen	30101	NS1
Whaley	James	841	NS1
Wheatley	William	5925	NS1, SO6
Whitaker	Gene	27795	NS1
Whitaker	Tristan	1004	NS1
White	Anne	27694	NS1
White	Rich	1243	NS1
White	Rose	717	NS1
Whitney	Ellen	6764	NS1
Whittington	Ashlee	1020	NS1
Wight	Timothy	238	MIT1, NS1
Wilburn	Andrew	6401	NS1
Wilcox	Kenneth	27679	NS1
Wildenhaus	James	7948	NS1
Wildflowe R	Ivory Lynn	6766	NS1
Wiley	Charles	41	AMT1
Wiley	Christopher	560	NS1
Wiley	Dennis	78	AMT1
Wilkin	Donovan	27742	NS1
Willard	Mitchell	1339	CR4
Willard	Stephanie	1303	NS1
Williams	Karen	28926	NS1
Williams	Kathleen	26996	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Williams	Wendy	27921	NS1
Williamso N	Kelli	6769	NS1
Williamson	Alex	29116	ALT22
Williamson	Kathleen	27664	NS1
Williamson	Kathleen	1108	NS1
Williamson	Kathleen	1109	NS1
Willis	Fred	773	NS1
Willliams	Ann	27580	NS1
Wilson	Ben	6771	NS1
Wilson	Christopher	904	MIT1
Wilson	Darrell	1483	NS1
Wilson	Jonny	1820	NS1
Wilson	Julien	276	NS1
Wilson	Robert	7370	NS1
Wimberly	Stuart	547	NS1
Windauer	Debora H	7372	NS1
Windauer	Debora H	29753	NS2
Wineman	Marian	27204	NS1
Winner	Barbara	28087	NS1
Winner	Thomas	27200	NS1
Winslow	Lee	5420	NS1
Wintz	Jason	447	NS1
Wisniewski	Brian	1440	NS1
Witesman	Owen	581	NS1
Wofsy	Sheila	27190	NS1
Wofsy	Sheila	27191	NS1
Wolf	Ann	828	NS1
Wolf	Miranda	564	NS1
Wolff	Pat	5458	NS1
Wolfswinkel	Penny	1191	NS1
Wolterman	Jimmy	1007	NS1
Wong	Kris	28440	NS1
Wong	Travis	636	NS1
Wood	Jordan	6304	NS1
Wood	Lee	712	NS1
Woodall	Sandra	26814	NS1
Woodbury	Michael	1478	NS1
Woodson	Sarah	5743	NS1
Worden	Susan	26954	NS1
Workman	Brandon	29155	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Worthington	E.K.	27334	NS1
Wright	Paul	6415	NS1
Wright	Tom	31	NEPA25
Wright	Tom	32	CR23, NEPA27
Wright	Tom	110	NEPA25, NS1
Wright	Tom	239	NS1
Wright	Tom	1422	CR2, MIT7, NEPA3, NEPA56, NS1
Wurton	Gordon	529	WT4
Wyciskalla	Nicholas	28391	NS1
Yahne	Ron	454	NS1
Yancey	Robert	772	NS1
Yankee	Michaela	599	NS1
Yantzer	Robert	6776	NS1
Yarbrough	Leonard	28347	NS1
Yazzie	Chili	30069	NS1
Yazzie	Lyle	1502	NS1
Yensen	Roger	7901	NS1
Yersak	Tom	6190	NS1
Yip	Jessica	5783	NS1
Young	Alex	7295	NS1
Yox	Lawrence	27972	NS1
Yubeta-Smith	Matilda	306	NS1
Yve	Min	226	NS1
Zache	Zach	6777	NS1
Zadravecz	Frank	8201	WT4_B
Zak	Casey	28131	NS1
Zamora	Julie	744	NS1
Zampieri	Janet	7383	NS1
Zamudio	Barbara	671	NS1
Zane	Jeremy	8124	NS1
Zaneski	Eddie	29494	NS1
Zazueta	Andrew	1027	NS1
Zeller	Thomas	28752	NS1
Zeller-Av	Peyton	6497	NS1
Zerr	Laura	27179	NS1
Zevian	Shannin	27807	NS1
Zhang	Wenjing	29163	NS1
Zieber	Thomas	1371	AMT1
Ziegler	Ann	389	NS1
Zingg	Elizabeth	28382	NS1

Last Name(s)	First Name(s)	Letter ID	Response-to-Comment IDs Associated with this Letter
Zink	Jacqueline	27809	NS1
Zinn	Kai	6513	NS1
Zitzow	Kim	1251	NS1
Zobel	Don	6	NS1
Zobel	Don	7	ALT14
Zobel	Don	79	AMT1
Zobel	Don	89	ALT14, NS1
Zobel	Don	257	AMT1
Zsebenyi	Eric	5937	NS1
Zurcher	Naomi	5390	NS1
Zweig	Daniel	28966	NS1
Zwicker	Marie Louise Morandi Long	5428	NS1

Table R-6. Full text of form letters submitted and index to responses

Form Letter ID	Full Text of Form Letter	Response-to-Comment IDs Associated with this Letter
F1	I am strongly opposed to the proposed Resolution Copper Project and Land Exchange and ask that the Forest Service not allow it to proceed as it is clearly not in the public interest. It will harm land and resources of significant spiritual and cultural value to the Apache people, severing important connections to the land and harming traditional religious practices. In addition to the fact that this proposal would destroy these religious and spiritual values and is not in the public interest, the Draft Environmental Impact Statement (DEIS) is insufficient, incomplete, and does not reflect current conditions. The analysis of the tailings dump locations is incomplete and does not provide enough information for me to know if any of the proposed locations would be adequate for a tailings dump of such magnitude, capable of accommodating more than a billion tons of toxic waste. Several of the proposed sites were recently added and so have not had proper surveys. No cultural surveys have been completed at the Skunk Camp tailings site location, for example. Furthermore, a recent District Court ruling on the Rosemont Mine calls into question whether the Forest Service can allow tailings dumps and other facilities on public lands under the 1872 Mining Law. It is also not clear that the proposed tailings designs in the DEIS would be legal under the U.S. Army Corps of Engineers rules. These types of tailings designs have been banned in other countries where they''ve failed, causing destruction and loss of life. A much more detailed and careful analysis is needed to address the disposal of billions of tons of toxic waste. The DEIS significantly underestimates the amount of water this project would use, much less than other Arizona copper mines. It indicates it would use about 10% the amount of water other mines use, but why and how? I cannot find that information in the DEIS. Why didn''t the Forest Service use a more accurate figure of 50,000-acre feet of water the mine would consume annually. The DEIS also underestimates the dewatering at Oak Flat. The DEIS did not accurately survey, assess, and mitigate the harm to endangered and threatened species, including the Arizona hedgehog cactus, yellow-billed cuckoo, and narrow-headed garter snake. The Forest Service must withdraw the DEIS and rewrite it to comply with the recent court decision and to provide a fuller and more accurate picture of the impacts, including the cumulative impacts. Finally, I would like to see the Forest Service seriously consider the no action alternative, as this proposed mine is not in the public interest, will destroy a traditional cultural property and import recreational area.	ALT22, ALT5, NEPA2, NS1, TS2, WT1
F2	"I do not support this land swap and this mining operation for a multitude of reasons. Mining uses obscene amounts of water, not to mention the poisoning effect that the mining process will have on this important and sacred resource. Arizona has been experiencing a long-term drought over the last twenty-one years. More desertification brings salinization, overexploitation, and loss of biodiversity. Should we actually be dewatering the desert? Should we not be more interested in a long-term approach to land and resource management policies in an age where climate change has already modified large social patterns and mass migrations?" "My concern lies on the destruction of the environment and the contamination of not only the groundwater and aquifers, but of the air, due to the tailings facility. It lies on the loss of biodiversity, culture, and the sacred, all of which are undeniably interconnected. It lies on providing a clean space and environment for people and distinct cultures to flourish for many more generations. We should look seven generations behind us, learn from the mistakes, and consider seven generations ahead of us, to protect the future of our relatives. This mine will be in operation for around forty years, and the future that it will leave will be marred forever." "Oak Flat is about water in a region of intense drought, its about contamination of land and water, its about biodiversity in a desert where populations of plant and animal life will dwindle, its about corruption, its about blatant lies, its about political subversion and coercion, its about disrespect of Indigenous people, its about a language (words and songs) that comes directly from these hills and these canyons, its about cultures who have participated in a traditional life since time immemorial, its about spirituality, its about medicine, its about origin, its about community, its about reclamation, its about conservation, its about the ephemeral as a perspective, and its about life."	ALT22, NEPA2, NS1, TS2, WT1

Form Letter ID	Full Text of Form Letter	Response-to-Comment IDs Associated with this Letter
	"The DEIS is not complete and does not reflect current conditions. The DEIS does not include information allowing me to know if any of the alternative tailings dump locations are even acceptable for the dumping of more than a billion tons of toxic waste. Cultural surveys have not been done at the Skunk Camp tailings site location. And, a recent District Court ruling on the Rosemont mine project calls into question Forest Service decisions on the use of federal public land for mining facilities. Therefore, I ask you to rewrite the DEIS to correct these deficiencies and submit it for a new comment period." "I'm concerned this project would destroy sacred land and damage public lands that are very valuable and important to all Americans. The DEIS confirms that this project would destroy the religion of Native Americans and would destroy land and waters religions depend on. This is not acceptable." "The DEIS underestimates the amount of water this project would use. The document says that Rio Tinto would use only 10% of the water other mines in Arizona use without outlining any new methods to achieve this unrealistic goal. I would like to know why the Forest Service did not use a more accurate figure of 50,000-acre feet of water the mine would consume annually. The DEISs modeling of dewatering at Oak Flat itself is inaccurate. The DEIS fails to prevent harm to neighboring towns and landowners." "The DEIS did not accurately survey the harm to endangered and threatened species. Arizona hedgehog cactus, yellow-billed cuckoo, and narrow-headed garter snake surveys need to be (re)done." "All tailings dump locations listed in the DEIS are illegal in countries such as Brazil and Chile and also could not be approved by either the Arizona Department of Environmental Quality or the US Army Corps of Engineers. The DEIS needs to be withdrawn and rewritten when the US Forest Service can show that a tailings dam site could be approved under US law."	
F3	We the People of the United States of America write to you today on behalf of Oak Flat, known as the sacred place Chichil Bildagoteel to the Apache people, as a site of great spiritual and ecological importance under threat from the foreign mining company Rio Tinto. The destruction of Oak Flat is a threat not only to the Apache, and to all Native people within this country, but also to the people of the United States of America as a whole. Oak Flat is located in the Tonto National Forest in Arizona, about an hour east of Phoenix and about 45 minutes from the San Carlos Apache Reservation line. Although it used to be part of the reservation, the land was taken and put under the jurisdiction of the U.S. Forest Service during five separate reductions of the tribal land base. As part of the ancestral Apache territory, it continues to have significant religious, cultural, historical, and archaeological value to the San Carlos Apache Tribe and to other tribes in the region. Oak Flat was traded to Resolution Copper Mining, a subsidiary of the foreign mining company Rio Tinto, through the addition of a last-minute rider to the National Defense Authorization Act in December 2014. The bill, which set the nations defense policy, was a must-pass item before the 113th session of Congress could close. Although attempts at the land exchange had been made before, using normal congressional procedures, they had been denied 13 separate times over the course of a decade. However, on page 1,103 of the approximately 1,700-page NDAA bill, Arizona state representatives added a provision exchanging over 2,400 acres of federal land, including Oak Flat, for around 5,300 acres of private land owned by Resolution Copper. The rider was revealed only minutes before midnight, in a manner that a New York Times op-ed referred to as sneakily anti-democratic even by congressional standards (Millet 2015). By being tacked onto the NDAA bill and sent to the Senate in a form that didnt allow for amending, the land exchange rider passed Congress on December 12th and was signed into law by President Obama on December 19th, 2014. This land exchange is an example of a small portion of government overriding the desires of the masses and exploiting legislative procedures to promote their own agenda. Damage to or removal from these lands amounts to government interference in religion, an action that bothviolates the freedom of religion guaranteed by the First Amendment, and infringes on the American Indian Religious Freedom Act. Allowing the government to interfere with any religion sets a dangerous precedent. As Wendsler Nosie, former Chairman of the San Carlos Apache Tribe and spokesperson for Apache Stronghold, a nonprofit dedicated to the protection of sacred sites like Oak Flat, says, This is our church. They declared war on our religionThis is no different than being a Christian. How can anyone destroy a religious place that has significant meaning?	NS1

Form Letter ID	Full Text of Form Letter	Response-to-Comment IDs Associated with this Letter
	Because Oak Flat is located on U.S Forest Service land, which belongs to the American public, its transferal to a foreign corporation is not just a loss to the Apache people, but a theft from all citizens of the United States. It also disregards the will of previous Presidents, as the Tonto National Forest, including Oak Flat, was protected from mining by special order of both President Eisenhower and President Nixon, due to its cultural and environmental value. Aside from the sacred Apache ceremonies that are conducted there, Oak Flat is also a popular location for camping, rock climbing, and other recreational activities. Finally, Oak Flat is as environmentally important to the human and ecological communities of Arizona as it is spiritually important to the Apache. As one of the only sites of year-round groundwater in the surrounding Sonoran Desert ecosystem, Oak Flat serves as a haven for a diverse array of species. However, the copper mine would turn this beautiful place into an industrialized mining wasteland. RCM states that it will use a method known as block cave mining to access the copper, a highly destructive and water intensive technique that involves digging underneath the ore and causing the earth to collapse under its own weight, creating a subsidence zone directly above and in the vicinity of the mine. Such a practice is projected to leave an enormous crater 2 miles wide and over 1,000 ft deep, generating up to 1.7 billion tons of waste in the process. Currently, RCM plans to dump this waste on nearby Forest Service land. The RCM General Plan of Operations states that RCM plans to put tailings behind an upstream tailings dam, the same type of dam that recently collapsed in Brazil, killing over 300 people. Water contamination remains an issue long after copper mines have shut down. The mine would pose a threat both to water quality and to the availability of both surface and groundwater. Resolution Copper estimates that its operations would require approximately 20,000 acre-feet of water per year. Already, the amount of groundwater pumping required to drill shafts has dewatered springs in the surrounding area, springs that are vital for both local ecology and Apache ceremonies. Although RCM has promised that the economic benefits of the mine will outweigh the costs, similar promises of minings economic benefits have not been fulfilled in nearby mining towns like Superior, which has a lower median income than many of Arizonas other cities, and where nearly a fifth of the residents live in poverty. In 2014, Carlos Apache Chairman Terry Rambler stated that Apache people have lived, prayed, and died in the Oak Flat Area since time immemorial. We are saddened that Congress, through an 11th hour rider, has ignored the will of the people. We are concerned for our children who may never see or practice their religion in their rightful place of worship. We are worried for the children of southeast Arizona who may have to find new places to live to drink clean water. And we are gravely concerned for the American voter whose voice continues to be ignored. However, the Apache people will not remain silent. We are committed to shining light on the Land Exchange and the proposed mine until we have no breath. The Save Oak Flat act has been introduced into the House of Representatives as H.R.665, and into the Senate as S.173. We ask that, regardless of partisanship or political affiliation, you take a stand on this issue and support the preservation of Oak Flat for generations yet to come.	
F4	Dear Supervisor Bosworth, I am submitting comments on the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange. Thank you for the opportunity to provide public comments. The DEIS is not complete and does not reflect current conditions. The DEIS does not include information allowing me to know if any of the alternative tailings dump locations are even acceptable for the dumping of more than a billion tons of toxic waste. Cultural surveys have not been done at the Skunk Camp tailings site location. And, a recent District Court ruling on the Rosemont mine project calls into question Forest Service decisions on the use of federal public land for mining facilities. Therefore, I ask you to rewrite the DEIS to correct these deficiencies and submit it for a new comment period. I'm concerned this project would destroy sacred land and damage public lands that are very valuable and important to all Americans. The DEIS confirms that this project would destroy the religion of Native Americans and would destroy land and waters religions	ALT22, NEPA2, NS1, TS2, WT1

Form Letter ID	Full Text of Form Letter	Response-to-Comment IDs Associated with this Letter
	depend on. This is not acceptable. The DEIS underestimates the amount of water this project would use. The document says that Rio Tinto would use only 10% of the water other mines in Arizona use without outlining any new methods to achieve this unrealistic goal. I would like to know why the Forest Service did not use a more accurate figure of 50,000-acre feet of water the mine would consume annually. The DEISs modeling of dewatering at Oak Flat itself is inaccurate. The DEIS fails to prevent harm to neighboring towns and landowners. The DEIS did not accurately survey the harm to endangered and threatened species. Arizona hedgehog cactus, yellow-billed cuckoo, and narrow-headed garter snake surveys need to be (re)done. All tailings dump locations listed in the DEIS are illegal in countries such as Brazil and Chile and also could not be approved by either the Arizona Department of Environmental Quality or the US Army Corps of Engineers. The DEIS needs to be withdrawn and rewritten when the US Forest Service can show that a tailings dam site could be approved under US law. Please add me to your mailing list and keep me informed about all actions regarding this action. Sincerely,	
F5	Under the National Environmental Policy Act, the Forest Service must analyze the impacts of a mining project and, if ultimately approved, to select the least damaging method to achieve the purpose and need of a proposed project. But in the case of the Resolution Copper Draft Environmental Impact Statement (DEIS), the Forest Service is prioritizing one of the most damaging ways to mine. The Proposed Alternative uses panel caving mining, which will destroy most of Oak Flat, hundreds of archeological sites sacred to the Apache people, and some of the best rock climbing and bouldering in Arizona. But it doesnt have to be this way. The DEIS already makes it clear that other mining methods which would preserve the surface of Oak Flat are possible. Thats why the DEIS should have included an alternative that protects Oak Flat. Instead, the DEIS dismissed all other mining methods entirely, using basic analysis to suggest that any other method would be prohibitively expensive. Not only is this analysis lacking in its scope and short on details unique to Resolution Copper, but its also attempting to make a decision on whats in the best financial interest of Resolution Copper and its parent company Rio Tinto one of the largest mining companies in the world. The Forest Service should be protecting public lands to the extent possible, not making decisions consistent with the companys bottom line of maximizing profits. With a different underground mining technique that uses tailing backfilling, Oak Flat will be saved, far less water will be consumed, and the size of the tailings impoundment necessary will be a fraction of the size. All of these environmental savings and benefits can be achieved via a slightly different mining technique, yet the Forest Service has already dismissed these possibilities.	AMT1

Form Letter ID	Full Text of Form Letter	Response-to-Comment IDs Associated with this Letter
	Im asking you to include in the Final Environmental Impact Statement a preferred alternative that protects the surface of Oak Flat for current and future generations, reduces water consumption, and minimizes the size of the tailings impoundment needed. Thank you, Sincerely,	
F6	Thank you for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange. I'm deeply concerned about the unacceptable damage this project would do to public lands and Apache sacred sites. I urge the Tonto National Forest to reject this proposal to destroy thousands of acres with a vast block cave mine. The proposed land exchange involves trading away a very popular recreation area that was specifically withdrawn from mining to protect the surpassing cultural and recreational values of Oak Flat. The DEIS fails to either adequately assess the value of the lands to be traded away or weigh the possibility that the proposal could facilitate severe damage to other important nearby lands, such as Apache Leap. Allowing these places to be taken out of public hands and destroyed in exchange for scattered land parcels of marginal value is a bad deal for the U.S. taxpayer. The DEIS also fails to adequately analyze the alternatives for disposing the billions of tons of toxic waste rock that will be excavated from the mine. New alternatives have recently been added to the mix that have not been thoroughly vetted in terms of their suitability as tailings sites, impacts to cultural resources, or the related damage that will be done to public and/or state lands. Absent a more thorough analysis of this critically important aspect of the mine proposal, the issuance of the DEIS is premature and fatally flawed. Moreover, it's not clear that the proposed tailings designs would even be legal under rules administered by the U.S. Army Corps of Engineers and Arizona Department of Environmental Quality. These types of tailings designs have already been banned in other countries where they've dramatically failed, causing catastrophic destruction and loss of life. Much more careful analysis is needed to address the issue of tailings and none of the tailings alternatives should be approved as proposed. The DEIS also falls short in its analysis of water use and hydrology. Estimates of the mine's water use by the mining company are vastly understated, yet accepted as fact without independent analysis. The assertion that this mine would use only 10 percent of the water that other Arizona copper mines use simply defies belief. The company's hydrological analysis has been proven to be filled with grave errors and false assumptions to this point, which destroys the credibility of their estimates and undermines the analysis of water issues in the DEIS. Dewatering the mine at Oak Flat is quite likely to cause undue harm to the regional aquifer and nearby Ga'an Canyon, another sacred site and a critically important resource for the area's wildlife. Water taken from other locations for use by the mine is likely to harm the regional aquifer and local communities and landowners who depend on it. More work needs to be done to assess impacts to wildlife and protected species in the area, including but not limited to the Arizona hedgehog cactus, yellow-billed cuckoo and narrow-headed garter snake. The potential dewatering of Ga'an Canyon in particular could have a devastating impact on the area's web of life. Lastly, as the recent federal district court ruling against the proposed Rosemont Mine clearly establishes, for decades the U.S. Forest Service has been "misinterpreting" the General Mining Law of 1872 and "misleading the public" about the rights it conveys upon mining interests operating on public lands. It's not a given that the Tonto National Forest has no right to reject to this mine on public lands, as the Service has claimed for so many years. It's time to begin looking at such mining proposals through a new lens, which includes elevating the value and protection of public lands and sacred sites above the imperative of company profits. Thank you again for the opportunity to comment, and please add me to the Resolution Copper EIS contact list. Thank you for the opportunity to comment on the Resolution Copper Project and Land Exchange DEIS. I'm deeply concerned about the unacceptable damage this project would do to Apache sacred sites and public lands. I urge the Tonto NF to reject this proposal. The proposed land exchange would trade away Apache sacred sites and a very popular recreation area that were specifically withdrawn from mining to protect their surpassing cultural and recreational values.	ALT22, NEPA2, NEPA33, NS1, TS2, WT1, WT8

Form Letter ID	Full Text of Form Letter	Response-to-Comment IDs Associated with this Letter
	The DEIS also fails to adequately analyze the tailings alternatives, some of which have only recently been added and not thoroughly vetted for suitability, impacts to cultural resources, or potential damage to public and/or state lands. Much more careful analysis is needed to address the disposal of billions of tons of toxic waste none of the tailings alternatives should be approved as proposed. Resolution Copper's estimates of the mine's water use are likely vastly understated, yet accepted as fact without independent analysis, despite grave errors and false assumptions evident in the company's previous hydrological analysis. It defies belief that this mine would use only 10 percent of the water that other Arizona copper mines use. Dewatering the mine at Oak Flat is likely to harm the regional aquifer and nearby Ga'an Canyon, another sacred site and a critically important resource for wildlife. Water imported to the mine is likely to harm the regional aquifer and the local communities and landowners who depend on it. The Tonto NF should conduct a comprehensive, independent analysis of the mine's water use and potential hydrological impacts to ground and surface water in all affected areas. A federal court ruled recently that the U.S. Forest Service has been "misinterpreting" the General Mining Law of 1872 and "misleading the public" about the rights it conveys re: mining on forest lands. The Tonto NF should consider this mining proposal through a new lens, which includes elevating the value and protection of public lands and sacred sites above the imperative of company profits. Please add me to the Resolution Copper EIS contact list. Sincerely,	
F7	Dear Supervisor Boswmth, I am submitting comments on the Draft Environmental Impact Statement (DEIS) for the Resolution Copper Project and Land Exchange. Thank you for the opportunity to provide public comments. The DEIS is flawed and incomplete. The section that discusses Tribal Values and Concerns demonstrates a failure of the U.S. Forest Service to do adequate consultation with affected Tribes. The proposed mine would directly, adversely, and permanently affect numerous cultural artifacts; sacred seeps and springs; traditional ceremonial areas; resource gathering localities; burial locations; and other places and experiences of high spiritual and other value to tribal members. The DEIS fails to address the impact to current religious practice. It fails to address the extent of the environmental devastation and the irreparable generational harm that will be caused to not only current but to future generations. The mine would cause permanent loss of a place with enormous religious and cultural reverence. The lack of reference in the DEIS to the archeological and cultural records held by the San Carlos Apache Tribe, Yavapai people, Aravaipa, and other Indigenous peoples of these ties in the DEIS is inadequate. Native Americans and others who hold the land as sacred and use the area for spiritual, traditional, and religious uses will be irreparably harmed and spiritually traumatized. This is not acceptable, and it is discriminatory. I support the Tribes and congressional Leaders, Rep. Raul Grijalva, Senator Bernie Sanders and all cosponsors in requesting a hearing be held by the appropriate Congressional committees to hear this evidence of the impact to a Holy and Sacred site before the land transfer is able to move forward. Sincerely, Please add me to your mailing list and keep me informed about all actions regarding this action.	CR1, CR4, NS1

Form Letter ID	Full Text of Form Letter	Response-to-Comment IDs Associated with this Letter
F8	Tonto National Forest, I stand with the San Carlos Apache tribe in pledging support for Oak Flat. Oak Flat in central Arizona is sacred land to the San Carlos Apache Tribe, but Congress traded it away to facilitate a huge copper mine for international mining giant Rio Tinto. The mine will destroy Oak Flat, leave behind a massive crater, and wipe out streams, springs, and wildlife. What's happening at Oak Flat is part of a history of cultural and spiritual abuses against native people. It needs to end now. I support bills introduced by Representative Raul Grijalva (H.R. 665) and Senator Bernie Sanders (S. 173) to repeal the provision that gave away Oak Flat. This land needs to be protected from mining and returned to the sacred site ifs been for thousands of years. Signed,	NS1
F9	TO WHOM IT MAY CONCERN: This letter serves as my opposition to the Southeastern Arizona Land Exchange which allows a foreign mining company BHP-Rio Tinto-Resolution Copper Company to destroy and desecrate holy and sacred ceremonial sites at Chi'Chil'Bilda'Goteel (Oak Flat) to build a mine that will also destroy our water and cause cancerous pollution. I am a member of the San Carlos Apache Tribe. We humbly ask that Section 3003 of the National Defense Authorization Act now P.L. 113-291 be rescinded immediately. Respectfully,	NS1
F10	Dear Neil Bosworth, This mining plan calls for the largest destruction of recreational climbing resources in the history of American's public lands. It is impossible to mitigate this loss and the impacts to the local economy and health and well-being of local residents who recreate at Oak Flat.This mining plan calls for the largest destruction of recreational climbing resources in the history of American's public lands. It is impossible to mitigate this loss and the impacts to the local economy and health and well-being of local residents who recreate at Oak Flat.This proposed mine will destroy the Chi'chil Bildagoteel Historic District at Oak Flat, which was placed on the National Register of Historic Places for its cultural and religious significance to the San Carlos Apache tribe.The massive consumption of water needed to run this proposed mine will cripple local communities and agricultural businesses who are already suffering a severe drought perioda"with more Colorado River water restrictions coming soon. The widespread dewatering this mine will cause, due to groundwater pumping in Pinal County, is unacceptable.This draft EIS is incomplete. The USFS has not conducted a geotechnical study or cultural resource survey for the tailings site that is the USFS's preferred alternative.This draft EIS is based on incorrect information. The hydrology study done by Resolution Copper was flawed, as it failed to identify the large source of 180 F water that stopped construction. The USFS should have completed an independent study in order to properly understand the hydrology in the Oak Flat area. Thank you, Additional comments to F10: • additionally the massive consumption of water needed to run this proposed mine will cripple local communities and agricultural businesses who are already suffering a severe drought periodawith more colorado river water restrictions coming soon. • additionally this draft eis is based on incorrect information. • additionally this mining plan calls for the largest destruction of recreational climbing resources in the history of americans public lands.	ALT22, NS1, WT4, WT6

Form Letter ID	Full Text of Form Letter	Response-to-Comment IDs Associated with this Letter
	• additionally this proposed mine will destroy the chichil bildagoteel historic district at oak flat which was placed on the national register of historic places for its cultural and religious significance to the san carlos apache tribe. • also the massive consumption of water needed to run this proposed mine will cripple local communities and agricultural businesses who are already suffering a severe drought periodawith more colorado river water restrictions coming soon. • also this proposed mine will destroy the chichil bildagoteel historic district at oak flat which was placed on the national register of historic places for its cultural and religious significance to the san carlos apache tribe. • finally this draft eis is incomplete. • finally this mining plan calls for the largest destruction of recreational climbing resources in the history of americans public lands. • furthermore the massive consumption of water needed to run this proposed mine will cripple local communities and agricultural businesses who are already suffering a severe drought periodawith more colorado river water restrictions coming soon. • furthermore this draft eis is based on incorrect information. • furthermore this draft eis is incomplete. • furthermore this mining plan calls for the largest destruction of recreational climbing resources in the history of americans public lands. • furthermore this proposed mine will destroy the chichil bildagoteel historic district at oak flat which was placed on the national register of historic places for its cultural and religious significance to the san carlos apache tribe. • in addition the massive consumption of water needed to run this proposed mine will cripple local communities and agricultural businesses who are already suffering a severe drought periodawith more colorado river water restrictions coming soon. • in addition this proposed mine will destroy the chichil bildagoteel historic district at oak flat which was placed on the national register of historic places for its cultural and religious significance to the san carlos apache tribe. • it is impossible to mitigate this loss and the impacts to the local economy and health and weibeing of local residents who recreate at oak flat. • please reconsider. • thank you. • thank you for your consideration. • thank you for your time. • the draft eis is incomplete. • the massive consumption of water needed to run this proposed mine will cripple local communities and agricultural businesses who are already suffering a severe drought perioda with more colorado river water restrictions coming soon. • the massive consumption of water needed to run this proposed mine will cripple local communities and agricultural businesses who are already suffering a severe drought periodilwith more colorado river water restrictions coming soon. • the usfs has not conducted a geotechnica study or cultural resource survey for the tailings site that is the usfss preferred alternative. • this draft eis is incomplete and based on incorrect information. • this mining plan also calls for the largest destruction of recreational climbing resources in the history of americans public lands. • this proposed mine will also destroy the chichil bildagoteel historic district at oak flat which was placed on the national register of historic places for its cultural and religious significance to the san carlos apache tribe. • this proposed mine will destroy the chichil bildagotee historic district at oak flat which was placed on the national register of historic places for its cultural and religious significance to the san carlos apache tribe.	

SECTION 3. RESPONSES TO COMMENTS

Comment response: ALT1 Application of filtered tailings to all alternatives; movement of filter plant	Page 1 of 2

Responsive to these comments:
1097-12, 1158-11, 1158-17, 1308-4, 1360-7, 1392-7, 14-2, 205-1, 261-14, 320-8, 45-2, 524-21, 555-29

These comments ask that alternative components presented for one alternative in the DEIS be applied to other alternatives as well. The comments focus primarily on including filtered tailings in the Skunk Camp alternative (or in all alternatives) and ask that the filter plant be located either near Superior or away from the San Tan Valley in the Skunk Camp alternative.

NEPA regulations require that an EIS develop a reasonable range of alternatives that sharply define the issues and provide a clear basis for the decisionmaker's choice among available options (40 CFR 1502.14). 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)). In making a decision under NEPA, the responsible official shall consider the alternatives analyzed in environmental documents; and then render a decision within the range of alternatives analyzed in the environmental documents (36 CFR 220.4(c)).

In addition to the required no action alternative, the DEIS presented 5 action alternatives. Alternative 2 is the proposed action and consists of the GPO that was submitted to the Forest Service by the proponent. Action alternative components, including use of filtered tailings (Alternative 4) and the relocated filter plant (Alternative 4), were identified to define or respond to specific issues. The reasons for developing each action alternative are described in the DEIS (p. 75, 81, 88, and 94).

In making the final decision, the Forest Service responsible official may mix and match components or elements of alternatives from the FEIS so long as the modifications are "encompassed within the range of alternatives analyzed" in the FEIS. Thus, the decision documented in the ROD can pick and choose between actions, activities and facilities presented in the actions alternatives in forming a Selected Action and the filtered tailings technology could be applied to alternative tailings sites.

As part of permitting under Section 404 of the Clean Water Act, the feasibility of applying filtered tailings to Alternative 6 was investigated (KCB Consultants Ltd. 2020f). Information was also developed concerning the movement of the filter plant to the West Plant Site (Peacey 2020a).

Comment response: ALT1 Application of filtered tailings to all alternatives; movement of filter plant	Page 2 of 2

Responsive to these comments:
1097-12, 1158-11, 1158-17, 1308-4, 1360-7, 1392-7, 14-2, 205-1, 261-14, 320-8, 45-2, 524-21, 555-29

Since most of these comments focused on the Skunk Camp alternative (preferred alternative), it is important to note that, if Skunk Camp is ultimately picked to be the Selected Action, only those actions, activities and facilities located on NFS lands will be authorized by the ROD. The tailings facilities and plant site locations are on state and/or private lands. As stated in the DEIS, "Selection of this alternative by the Forest Supervisor would not automatically approve this alternative, since the other areas are not Federal land. Obtaining access to use ASLD-administered trust land and private land is the responsibility of the applicant" (DEIS, p. 94). The Forest Service ROD would authorize activities on NFS lands that are consistent with the Skunk Camp alternative as presented in the ROD, and the EIS analysis of various tailings methods would be available for consideration by the proponent and appropriate regulatory authorities in the permitting process.

Further assessment of whether the DEIS analysis would support application of filtered tailings to other alternatives is contained in Newell and Garrett (2018d), "Process Memorandum to File Water Resource Analysis: Assumptions, Methodology Used, Relevant Regulations, Laws, and Guidance, and Key Documents."

Comment response: ALT2 Reasons for choosing Skunk Camp	Page 1 of 1

Responsive to these comments:
1188-3, 29-1

This comment questions why Alternative 6 – Skunk Camp was chosen as the Preferred Alternative. The primary purpose of the DEIS is to disclose impacts anticipated from all alternatives. Identifying a Preferred Alternative in the DEIS is desirable in order to give the public as much clarity as possible into the decision the Forest Service is inclined to make. However, identifying the Preferred Alternative is not required in the DEIS, and does not represent a decision by the Forest Supervisor.

The actual decision by the Forest Supervisor is known as the Selected Alternative and will be identified in the ROD. The ROD will contain the rationale for why the Selected Alternative was chosen, with the Forest Supervisor weighing the advantages and disadvantages.

Comment response: ALT3 Other alternatives to consider	Page 1 of 1

Responsive to these comments:
1301-23

Alternative mining methods were fully evaluated as part of the alternatives analysis, and as part of responding to comments (DEIS, p. 29, and appendix F, pp. F1–F4). See also response AMT1.

Alternatives with substantially different water use were evaluated in the DEIS, with Alternative 4 using 30 percent of the water required for Alternative 2 (DEIS, p. 31, p. 336, appendix H).

Alternative tailings locations were evaluated, with four separate physical locations considered among the action alternatives (Near West, Silver King, Peg Leg, Skunk Camp). Development of the Peg Leg and Skunk Camp alternatives were driven, in part, by the desire to minimize the population near the tailings storage facility (DEIS, pp. 88, 94).

Comment response: ALT4 Variations of land exchange	Page 1 of 1

Responsive to these comments:
1301-25

This comment questions the amount of land included in the land exchange at Oak Flat (the Federal parcel) and suggests a modified acreage. The proposed land exchange, including the specific selected and offered lands, was mandated by Congress in PL 113-291 (called the NDAA in the DEIS). The Forest Service is analyzing the impacts resulting from the land exchange as required in PL 113-291. However, the Forest Supervisor has no discretion or decision authority regarding the implementation of the land exchange (DEIS, pp. 13–14). Also see response NEPA35.

Comment response: ALT5 Selection of No Action Alternative	Page 1 of 1

Responsive to these comments:
1083-2, 1086-4, 1091-4, 1150-4, 1155-3, 1207-3, 1329-2, 1329-6, 1338-1, 1344-1, 1404-1, 1455-7, 1477-5, 151-1, 1540-12, 1921-1, 30064-1, 339-1, 497-4, 504-3, 509-3, 568-2, 8032-25, 883-3, 921-1, 922-2, 926-1, 951-1, F1-10

These comments question whether the no action alternative was considered in the DEIS.

The no action alternative is required under NEPA (40 CFR 1502.14). The no action alternative forms a benchmark against which action alternatives are compared. The no action alternative was appropriately included throughout the DEIS. Components of the no action alternative are described in chapter 2 (DEIS, pp. 65–66). Impacts resulting from the no action alternative are disclosed in each resource section of chapter 3.

A separate question is whether the Forest Service has the authority to select the no action alternative. The answer to this question may vary by alternative and the regulations under which mine-related actions are approved. We have added further discussion to chapter 1 of the FEIS. See response NEPA18 for more details.

Comment response: ALT6 Dewatering impacts	Page 1 of 1
Responsive to these comments: 158-3	
The impacts resulting from the dewatering required to construct and operate the mine are fully disclosed in section 3.7.1 (DEIS, pp. 295–345).	

Comment response: ALT8 Truncated NEPA process	Page 1 of 1
Responsive to these comments: 1235-1, 1454-1, 8031-3, 8031-5	
These comments express concern that the NEPA process related to the land exchange is truncated by the time frames included by Congress in PL 113-291, including foregoing the objection process, the objection resolution process, and the ROD. PL 113-291 specifies that "Not later than 60 days after the date of publication of the final environmental impact statement, the Secretary shall convey all right, title, and interest of the United States in and to the Federal land to Resolution Copper." The statutory language supersedes Forest Service regulations and policies with respect to the land exchange. The Forest Service is undertaking the analysis of the impacts resulting from the land exchange as required in PL 113-291, but the Forest Supervisor has no discretion or decision authority regarding the implementation of the land exchange (DEIS, pp. 13–14). Also see response NEPA35. Components of the ROD apart from the land exchange will processed under applicable Forest Service regulations, including a draft ROD and opportunity for objection.	

Comment response: ALT9 Inadequate disclosure of alternatives	Page 1 of 1
Responsive to these comments: 8031-23	
This comment identifies perceived inadequacies in the development and analysis of alternatives. The comment indicates that reasons for elimination of alternatives from detailed study was not disclosed. This is an incorrect statement. Appendix F of the DEIS contains substantial information on alternatives considered but eliminated from detailed study. Further information related to the alternatives development process is found in the Alternatives Evaluation Report (SWCA Environmental Consultants 2017a). The comment indicates that alternatives were not considered in detail so that reviewers may evaluate their comparative merits. This is an incorrect statement. In addition to the disclosure of impacts in each resource section in chapter 3, the comparison of all alternatives, organized by issues and sub-issues, is consolidated in appendix E of the DEIS. The comment indicates that reasonable alternatives not within the jurisdiction of the lead agency were not considered. This is an incorrect statement. Alternatives considered within the DEIS that are not within the jurisdiction of the Forest Service include Alternative 5 (Peg Leg location, involving BLM land and Arizona State Trust land), and Alternative 6 (Skunk Camp location, involving private land and Arizona State Trust land). Further alternatives not within the jurisdiction of the Forest Service that were considered but eliminated from detailed analysis include disposal of tailings in privately owned mine pits and brownfield locations, and alternative mining techniques. The comment indicates that the no action alternative was "dismissed nearly outright in the DEIS." This is an incorrect statement. The no action was considered thoroughly for all resources. See response NEPA18. The comment indicates that discussion of mitigation measures is inadequate. Mitigation measures were included in appendix J of the DEIS and analyzed for effectiveness under each resource in chapter 3 of the DEIS. Development of mitigation measures has continued in response to public comments and ongoing regulatory requirements. The full suite of mitigation measures is included in the FEIS (appendix J).	

Comment response: ALT11 Mining at other locations	Page 1 of 1
Responsive to these comments: 8032-7	
This comment indicates that the DEIS should have examined reopening the San Manuel mine instead of mining the Resolution ore deposit as proposed. Alternatives developed must respond to the "underlying purpose and need to which the agency is responding" (40 CFR 1502.13). The purpose and need is disclosed in chapter 1 (DEIS, pp. 6–8). The Forest Service is responding to a proposed mine plan for mining the Resolution ore deposit and to Federal legislation directing completion of a land exchange for specific lands. Mining a different deposit, in a different location, owned by a different entity, does not meet the purpose of and need for this project. We added discussion of this alternative to appendix F of the FEIS.	

Comment response: ALT12 Backfill of old pits	Page 1 of 1
Responsive to these comments: 1188-27, 1301-26	
This comment suggests alternatives placing tailings in old mine pits, as well as moving the tailings to unpopulated areas. The Forest Service considered placing tailings in old mine pits as well as other brownfields sites in the alternatives analysis but eliminated this idea from detailed analysis in the DEIS (DEIS, appendix F, pp. F4–F6). Alternative tailings locations also were evaluated, with four separate physical locations considered among the action alternatives (Near West, Silver King, Peg Leg, Skunk Camp). Development of the Peg Leg and Skunk Camp alternatives were driven in part by the desire to minimize locating the tailings storage facility near populated areas (DEIS, pp. 88, 94).	

Comment response: ALT13 Backfill of old pits combined with dry-stack tailings	Page 1 of 1
Responsive to these comments: 320-9	
This comment suggests alternatives placing tailings in old mine pits and suggests that this possibility could be revisited with dry-stack tailings. The Forest Service considered placing tailings in old mine pits as well as other brownfields sites in the alternatives analysis but eliminated this idea from detailed analysis in the DEIS (DEIS, appendix F, pp. F4–F6). The Forest Service also considered dry-stack tailings in the alternatives analysis and carried this consideration forward as part of Alternative 4 – Silver King. See response ALT1 for discussion of dry-stack tailings and the potential application to other alternatives. The suggestion to revisit mine pits or brownfields, using dry-stack tailings is valid. However, it appears that the use of dry-stack tailings would not overcome the reasons for which old mine pits were dismissed. As discussed in the Alternatives Evaluation Report (SWCA Environmental Consultants 2017a), several sites (Ajo, Green Valley) were considered unreasonable because of distance; this factor would not change considering filtered tailings. Several sites (Copper Queen, Pinto Valley, Ray, Twin Buttes, Johnson Camp) were unavailable because of ongoing operations; this factor would not change considering filtered tailings. One group of sites (Miami) was unavailable because it is part of the Pinal Creek Water Quality Assurance Revolving Fund [state Superfund]; this factor would not change considering filtered tailings. Four locations were found to have inadequate capacity (Casa Grande, Copperstone, Tohono Cyprus, and United Verde). The tonnage of tailings material—1.37 billion tons—does not change with dry-stack tailings (DEIS, p. 48). The volume would differ somewhat when transported and placed due to the change in water content (DEIS, p. 50). After placement, water partially drains from tailings with filtered and slurry tailings become more similar over time. Regardless of variations related to water content, the combined volume of all four mine pits mentioned (167 million cubic yards) represents less than 13 percent of the volume of tailings to be disposed (1.3 billion cubic yards) (SWCA Environmental Consultants 2017a). Capacity limitations would not change substantially considering filtered tailings instead of slurry tailings. Two locations were found to have concerns with water quality (Carlota, San Manuel). DEIS analysis has identified that filtered tailings have substantial water quality concerns (DEIS, pp. 402–403). Water quality concerns at the Carlota and San Manuel locations would not change substantially considering filtered tailings instead of slurry tailings.	

Comment response: ALT14 Backfill of subsidence crater	Page 1 of 1
Responsive to these comments: 7-1, 89-1	
These comments suggest the placement of tailings in the subsidence crater that will occur on Oak Flat. This alternative was considered during the alternatives development process and dismissed, as disclosed in the DEIS (DEIS, appendix F, p. F-4).	

Comment response: ALT15 Alternative mining and disposal techniques	Page 1 of 1

Responsive to these comments:
1322-10

During scoping, many comments were received indicating that selection of an alternative mining method would prevent the subsidence crater and protect the surface of Oak Flat, as suggested by the comment. Alternative mining methods were fully evaluated as part of the alternatives analysis and as part of responding to comments (DEIS, p. 29 and appendix F, pp. F1–F4). Ultimately, these techniques were considered but dismissed from detailed analysis for multiple reasons. See also response AMT1.

Alternatives with substantially different water use also were evaluated in the DEIS, as suggested by the comment, with Alternative 4 using 30 percent of the water required for Alternative 2 (DEIS, p. 31, p. 336, appendix H).

Multiple tailings disposal techniques, facility types, and tailings disposal locations were evaluated in the DEIS, resulting in a range in the acreage of the tailings impoundment, as suggested by the comment. Alternatives 2 and 3 require only 40 percent of the acreage of Alternative 5. This is based on the acreage within the fence line and includes pipeline corridors.

Comment response: ALT16 Lining and water treatment	Page 1 of 1

Responsive to these comments:
27045-1, 29-2

These comments are related to the use of liners and water treatment for the tailings storage facilities. The concept of lining the tailings storage facility was raised during scoping and played a role throughout the alternatives development process (SWCA Environmental Consultants 2017a). During this time, the concept expanded from artificial geomembrane liners to incorporate other types of low-permeability layers that would have identical functions. For the alternatives that appear in the DEIS, a wide variety of seepage-control techniques are used, including the use of artificial geomembrane liners. Details are described for each alternative in chapter 2 (DEIS, pp. 47–98) and in section 3.7.2 (DEIS, pp. 381–419). More discussion on the evolution of the liner concept is contained in Newell and Garrett (2018d).

The comment notes that Alternative 4 –Silver King should be lined. Alternative 4 – Silver King is the sole alternative that does not incorporate some manner of low-permeability layer in the design. Lining Alternative 4 was specifically considered but was not feasible (see Newell and Garrett (2018d) and Klohn Crippen Berger Ltd. (2019b)).

One comment suggests the recovery of pregnant leach solution from the tailings for a duration of 100 years. This is an incorrect concept. The seepage from the tailings storage facility is not pregnant leach solution, as might be collected from a heap leach pad.

Collection of seepage does occur as long as needed to be acceptable for release to the environment without treatment, during both operations and closure; this time frame differs by alternative, as described in section 3.7.2 (DEIS, pp. 381–419).

Comment response: ALT19 Pipeline relocation	Page 1 of 1

Responsive to these comments:
30081-10

The Forest Service considered multiple tailings slurry pipeline alternatives in the DEIS for Alternatives 5 and 6. These pipeline routes have been modified in several ways between DEIS and FEIS.

First, the Alternative 5 West and Alternative 6 South pipeline options were both dropped from consideration in the FEIS. This choice was made after review of public comments and identification of which routes appeared to have greater resource impacts. A discussion of this change was added to chapter 2 of the FEIS.

Second, the Alternative 6 – North pipeline route was modified, in part based on the issues raised in this comment. The rerouted pipeline considered in the FEIS now substantially avoids perennial water and critical habitat along Mineral Creek entirely, except for a trenchless underground crossing upstream of Government Springs Ranch. The modified pipeline now crosses Devil's Canyon at a non-perennial location using an overhead span and reduces the amount of the pipeline corridor that occurs on Arizona state trust land. A discussion of this change was added to chapter 2 of the FEIS.

Comment response: ALT21 Power-related alternatives	Page 1 of 1

Responsive to these comments:
8032-302, 8032-65

Power for the proposed project is to be supplied by the Salt River Project. These comments, as well as comments received during scoping, suggest that alternative methods of energy production should have been considered as alternatives in the NEPA process.

The Resolution Copper project falls within the electric service area of the Salt River Project utility company. Under Arizona law, electric service within a service area is provided by a single entity; other service providers cannot readily enter into that area (ARS 9-516A). For this reason, the Tonto National Forest considers changes to power supply to be beyond the scope of this analysis.

However, the Tonto National Forest did assess power generation as part of the NEPA process. In response to public comments, the Tonto National Forest evaluated the overall power demands of the project to ensure proper disclosure of power demands (DEIS, p. 56; see also Garrett (2019c), "Process Memorandum to File Power Requirements"). This disclosure was updated in chapter 2 of the FEIS based on additional analysis conducted by SRP (1898 and Company 2020). See response WT24 for more detail.

As for reducing power use or using renewable energy, the Tonto National Forest pursued this as possible mitigation. An additional mitigation measure from Resolution Copper committing to use of renewable energy is discussed in appendix J of the FEIS (measure RC-AQ-01).

Comment response: ALT22 Skunk Camp information	Page 1 of 3

Responsive to these comments:
1091-2, 1092-1, 1158-24, 1188-2, 1235-9, 1322-3, 1338-7, 1383-2, 1441-10, 1441-4, 1441-9, 1454-15, 1474-3, 1501-2, 15-1, 1544-11, 24-1, 255-3, 259-1, 27725-3, 286-2, 28905-1, 28961-1, 29116-1, 30125-1, 356-4, 40-2, 452-3, 474-1, 504-2, 52-1, 524-1, 53-2, 5699-1, 5747-1, 5760-3, 579-1, 5972-2, 608-1, 615-2, 6419-1, 6436-1, 66-2, 67-1, 6760-2, 742-1, 747-2, 8002-1, 8030-12, 8030-13, 8030-9, 8032-11, 8032-246, 8032-247, 871-1, F10-3, F1-3, F2-2, F4-1, F6-3

Numerous comments indicate that key information was missing from the DEIS for the Preferred Alternative (Alternative 6 – Skunk Camp). Many comments point specifically to the lack of geotechnical information and cultural resource information.

It is incorrect that cultural resource information was not available for the Preferred Alternative. The DEIS notes that while written cultural resource reports were not yet completed for Alternatives 5 and 6, preliminary survey data for the completed areas were available and formed the basis for the DEIS analysis (DEIS, p. 627). Ninety-six percent of the Skunk Camp alternative area was surveyed for cultural resources (DEIS, p. 635). Note that any remaining acreage slated for ground disturbance or land sale will be inventoried in accordance with the Programmatic Agreement.

Similarly, the same level of geotechnical information was available for Alternative 6 as for Alternatives 4 and 5. Alternatives 2 and 3 are located at the Near West location, which was the subject of intense investigation by Resolution Copper under an earlier, separate plan of operation. Therefore, additional geotechnical information was available for these locations.

CEQ regulations address the need for additional data collection under 40 CFR 1502.22. The ability to collect additional information needs to be addressed when "the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives." In this case, while detailed geotechnical information is critical to the eventual building of a tailings storage facility, it is not a key factor in making a reasoned choice among alternatives. In each case, sufficient geotechnical information was available to provide an initial design for the tailings storage facility (Golder Associates Inc. 2018a; Klohn Crippen Berger Ltd. 2018a, 2018b, 2018c, 2018d). The information in hand and disclosed in the DEIS was sufficient to understand the distinctions between the facilities. The effect of this potential uncertainty on decision making is directly discussed for one of the analyses most crucial for differentiating among alternatives, the seepage modeling (DEIS, pp. 354–357).

Other comments identify the lack of information on seeps and springs for the Preferred Alternative. This is an incorrect statement. This information was known (see Fleming, Shelley, et al. (2018)) and referenced in section 3.7.1 (DEIS, p. 339).

Comment response: ALT22 Skunk Camp information	Page 2 of 3

Responsive to these comments:
1091-2, 1092-1, 1158-24, 1188-2, 1235-9, 1322-3, 1338-7, 1383-2, 1441-10, 1441-4, 1441-9, 1454-15, 1474-3, 1501-2, 15-1, 1544-11, 24-1, 255-3, 259-1, 27725-3, 286-2, 28905-1, 28961-1, 29116-1, 30125-1, 356-4, 40-2, 452-3, 474-1, 504-2, 52-1, 524-1, 53-2, 5699-1, 5747-1, 5760-3, 579-1, 5972-2, 608-1, 615-2, 6419-1, 6436-1, 66-2, 67-1, 6760-2, 742-1, 747-2, 8002-1, 8030-12, 8030-13, 8030-9, 8032-11, 8032-246, 8032-247, 871-1, F10-3, F1-3, F2-2, F4-1, F6-3

Comments identify the lack of seismic information for the Preferred Alternative. This is an incorrect statement. Regional seismic activity was fully analyzed in the section 3.2 (DEIS, pp. 144–145). The presence of faults within the footprint of the tailings storage facility was known (see Fleming, Shelley, et al. (2018:3 and figure 3)), and was referenced in the DEIS as part of foundation considerations (DEIS, p. 144).

We identified the Skunk Camp location as the Preferred Alternative and required a number of mitigation measures in the DEIS to ensure that additional information was collected prior to the FEIS to inform site-specific reclamation and closure plans (required as mitigation measure FS-226, DEIS appendix J, p. J-7), and a site-specific Failure Modes and Effects Analysis and refined breach analysis (required as mitigation measures FS-227 and FS-229, DEIS appendix J, p. J-19). Additional studies were conducted for the Skunk Camp location and incorporated into the FEIS, including:

- Site-specific soil surveys and soil testing (required as mitigation measures FS-223 and FS-224, DEIS appendix J, p. J-5). This information was incorporated into section 3.3 of the FEIS.

- Site-specific vegetation surveys (required as mitigation measure FS-225, DEIS appendix J, p. J-6). This information was incorporated into section 3.3 of the FEIS.

- Updated seismic hazard analysis specific to the Skunk Camp location (Wong et al. 2020b), and specific investigations into whether the faults within the footprint of the Skunk Camp tailings storage facility are active (Hartleb 2020; KCB Consultants Ltd. 2020e; Zellman and Cook 2020a). This information was incorporated into section 3.2 of the FEIS.

- A detailed site investigation report for the Skunk Camp location, including information on field mapping, geotechnical drilling (13 boreholes), borehole geophysical logs, hydrogeologic drilling (12 boreholes/wells), hydraulic tests, geophysics, test pits (6 total), and laboratory testing for geotechnical properties. Aquifer tests also were conducted on the wells (KCB Consultants Ltd. 2019; Montgomery and Associates Inc. 2019a, 2020g). This information was incorporated into several sections of the FEIS, including 3.2, 3.7.1, 3.7.2, and 3.10.1.

- An updated seep and spring inventory was compiled (WestLand Resources Inc. and Montgomery and Associates Inc. 2020). This information was incorporated into section 3.7.1 of the FEIS.

Comment response: ALT22 Skunk Camp information	Page 3 of 3

Responsive to these comments:
1091-2, 1092-1, 1158-24, 1188-2, 1235-9, 1322-3, 1338-7, 1383-2, 1441-10, 1441-4, 1441-9, 1454-15, 1474-3, 1501-2, 15-1, 1544-11, 24-1, 255-3, 259-1, 27725-3, 286-2, 28905-1, 28961-1, 29116-1, 30125-1, 356-4, 40-2, 452-3, 474-1, 504-2, 52-1, 524-1, 53-2, 5699-1, 5747-1, 5760-3, 579-1, 5972-2, 608-1, 615-2, 6419-1, 6436-1, 66-2, 67-1, 6760-2, 742-1, 747-2, 8002-1, 8030-12, 8030-13, 8030-9, 8032-11, 8032-246, 8032-247, 871-1, F10-3, F1-3, F2-2, F4-1, F6-3

- Refined seepage and water quality modeling was also conducted to incorporate the new information collected (KCB Consultants Ltd. 2020d; Montgomery and Associates Inc. 2020a, 2020c). This refined analysis was incorporated into section 3.7.2 of the FEIS.

- The site-specific reclamation and closure plans required under mitigation measure FS-226 (KCB Consultants Ltd. 2020c; Tetra Tech Inc. 2020). This information was incorporated into section 3.3 of the FEIS.

- The site-specific FMEA (Gannett Fleming 2020) and breach analysis (KCB Consultants Ltd. 2020b) required under mitigation measures FS-227 and FS-229. This information was incorporated into section 3.10.1 of the FEIS.

Comment response: ALT23 Dismissal of Skunk Camp alternative	Page 1 of 1
Responsive to these comments: 1188-25	
A comment stating the Skunk Camp alternative was eliminated from detailed consideration, then later selected as the Preferred Alternative, is incorrect. The Alternative 6 – Skunk Camp tailings storage facility location was added for consideration in March 2018 following a suggestion by the BLM. The alternative was further developed from that point but at no time was eliminated. The evolution of the Skunk Camp location is described in the project record in "Process Memorandum to File – Evolution of Range of Alternatives Considered in Detail in DEIS, after Publication of the Alternatives Evaluation Report (Nov 2017)" (Garrett 2018c).	

Comment response: ALT25 Oak Flat importance	Page 1 of 1
Responsive to these comments: 19-1	
The cultural importance of Oak Flat, its nomination to the NRHP as a Traditional Cultural Property, and potential impacts are described in section 3.14 (DEIS, pp. 662–665). Note that section 3.14 was rewritten in the FEIS in response to public comments to better communicate impacts to Oak Flat. See response CR4 for more details.	

Comment response: ALT26 Dripping Spring Wash residents	Page 1 of 1
Responsive to these comments: 28824-3	
Potential impacts to Gila County residents located along Dripping Springs Road were analyzed in the DEIS. These included the potential for noise impacts (DEIS, pp. 233–240), traffic impacts (DEIS, pp. 266, 269), air quality impacts (DEIS, pp. 284–288; see also Newell et al. (2018) and Air Sciences (2019b) for tables and figures specific to Alternative 6), water quality impacts (DEIS, pp. 411–417), reductions in stormwater runoff (DEIS, pp. 443–444), recreation impacts (DEIS, pp. 507–509), and public safety impacts (DEIS, pp. 551–553).	

Comment response: ALT27 Government Springs Ranch	Page 1 of 1
Responsive to these comments: 30081-1, 30081-2, 30081-3, 30081-4, 30081-5, 30081-6, 30081-7, 30081-8	
These comments largely concern impacts to Government Springs Ranch, which lies on Mineral Creek along the DEIS Alternative 6 – North alternative pipeline route. The Tonto National Forest modified the Alternative 6 – North pipeline route based, in part, on issues raised in comments. A discussion of this change was added to chapter 2 of the FEIS. The rerouted pipeline considered in the FEIS now: - substantially avoids perennial water and critical habitat along Mineral Creek entirely, except for a trenchless underground crossing upstream of Government Springs Ranch; - crosses Devil's Canyon at a non-perennial location using an overhead span; and - reduces the amount of pipeline corridor located on Arizona State Trust land. Government Springs Ranch lies within the Government Springs grazing allotment. Impacts to this allotment are described in section 3.16 (DEIS, pp. 699–700) and include anticipated reductions in animal unit months due to acreage loss and loss of water sources. Burial of the pipeline is not projected to impair ranch personnel, livestock movement, or runoff to water tanks. A discussion of this potential impact was added to section 3.16 of the FEIS.	

Comment response: ALT28 Seismic activity at Skunk Camp	Page 1 of 1
Responsive to these comments: 8032-250	
The structural geological framework and potential for seismic activity for the Skunk Camp tailings storage facility location were fully investigated. See response ALT22 for more detailed information.	

Comment response: ALT29 Geophysical analysis of tailings sites	Page 1 of 1
Responsive to these comments: 29-4, 854-1	
Section 3.2 (DEIS, pp. 141–144) outlines specific foundation concerns related to each of the tailings storage facility sites. Analysis of regional seismic hazard also is found in this section (DEIS, pp. 144–145). For each alternative, sufficient geotechnical information was available to provide an initial design for the tailings storage facility (Golder Associates Inc. 2018a; Klohn Crippen Berger Ltd. 2018a, 2018b, 2018c, 2018d). See response ALT22 for more details on additional investigation undertaken for the Skunk Camp tailings storage facility location and included in the FEIS.	

Comment response: ALT30 Statements of support for specific alternatives	Page 1 of 1
Responsive to these comments: 8-1, 9-1, 1075-3, 1197-2, 1204-2, 1207-2, 1276-7, 1286-4, 1300-2, 13-1, 1311-1, 1311-15, 1311-4, 1410-2, 1489-2, 16-1, 201-2, 26-1, 261-2, 283-1, 283-5, 291-4, 299-2, 300-1, 30073-2, 30075-11, 30080-3, 30097-2, 317-2, 319-2, 322-7, 35-1, 371-2, 515-3, 518-4, 555-12, 555-2, 555-3, 555-9, 562-3, 816-1, 817-2, 829-2, 830-1, 881-1, 882-1, 929-1, 95-1, 958-1	
These comments express general support for specific alternatives. The Forest Supervisor's decision, referred to as the Selected Alternative, will be identified in the ROD. The ROD will explain why the Selected Alternative was chosen, including a weighing by the Forest Supervisor of the advantages and disadvantages.	

Comment response: ALT31 Elimination of Upper Dripping Spring Wash tailings alternative	Page 1 of 1

Responsive to these comments:
1188-5

This comment notes that "BLM identified the Upper Dripping Springs Wash as a tailings disposal site that had been eliminated from consideration. However, no reason was given in the DEIS for its elimination as required by NEPA. Subsequently, the Tonto National Forest approved evaluation of this site in the DEIS and it became the Preferred Alternative under a new name: Skunk Camp. The only apparent difference between the Upper Dripping Springs Wash site and the Skunk Camp site is that the Skunk Camp site no longer occurs on the 69 acres of Bureau of Land Management lands." The comment notes that this is arbitrary and capricious.

The DEIS describes the Upper Dripping Spring Wash site (appendix F, p. F-14). A more detailed discussion of the specific evolution of this alternative is found in Garrett (2018c), "Process Memorandum to File – Evolution of Range of Alternatives Considered in Detail in DEIS, after Publication of the Alternatives Evaluation Report (Nov 2017)." This memo contains updated information on the alternatives development process that occurred after publication of the Alternatives Evaluation Report, including the Upper Dripping Spring Wash parcel.

The comment is correct in that the Upper Dripping Spring Wash and Skunk Camp are at the same location. The conceptual footprint proposed by BLM was eliminated from detailed consideration. This footprint was refined and modified based on an actual tailings storage facility design and was carried forward in the DEIS. However, the location essentially remains the same, at the upper end of Dripping Spring Wash.

We have modified the language in appendix F of the FEIS to more accurately reflect that Skunk Camp is an evolution of the Upper Dripping Spring Wash alternative. We also noted that the location itself was not eliminated from detailed study, only the specific footprint proposed by BLM.

Comment response: ALT32 Tailings storage locations	Page 1 of 1

Responsive to these comments:
1407-2

The tailings storage location varies by alternative. These were described in detail in chapter 2 and can be seen all at once in figure ES-12 of the executive summary (DEIS, p. ES-11).

Comment response: ALT33 Renewable energy	Page 1 of 1

Responsive to these comments:
1544-16, 900-4

These comments ask: "How much of the power that Resolution Copper would need would come from renewable energy sources? Is Rio Tinto planning on building any renewable energy facilities to power their project?"

Renewable energy facilities could be incorporated into the project in one of three ways:

1) As part one of the project components, described in chapter 2. No renewable energy facilities were proposed as part of the mine plan.
2) As applicant-committed environmental protection measures, described in each resource section in chapter 3. These are considered integral to the project and have a commitment from Resolution Copper. At the time of the DEIS, Resolution Copper had not brought forward or committed to any renewable energy measures.
3) As mitigation, described in each resource section of chapter 3 and compiled into one location in appendix J. Mitigation measures are developed through the NEPA process and may be required or voluntary. At the time of the DEIS, no mitigation measures related to renewable energy were developed or included in appendix J.

Appendix J in the FEIS was updated to incorporate all mitigation developed between the DEIS and FEIS. This includes voluntary measures on behalf of Resolution Copper and mitigation measures required under the jurisdiction of the Forest Service or other agency. Resolution Copper voluntarily brought forward one renewable energy mitigation measure that was added to appendix J in the FEIS (measure RC-AQ-01).

Comment response: AMT1 Alternative mining techniques	Page 1 of 6

Responsive to these comments:
10-2, 107-4, 107-6, 107-7, 1209-2, 1209-3, 1232-1, 1235-2, 1279-4, 1280-2, 1309-3, 1322-8, 1342-1, 1349-3, 1358-2, 1360-6, 1360-8, 1371-1, 1371-2, 1371-3, 1371-4, 1396-6, 1424-2, 1454-2, 1544-2, 199-1, 257-1, 30078-38, 30141-1, 30141-2, 30141-3, 320-1, 320-10, 320-3, 320-4, 320-6, 320-7, 41-1, 5474-2, 5771-1, 59-2, 776-1, 78-1, 79-1, 8032-261, 8032-6, 8032-8, 82-4, 965-2, F5-1

Background on evaluation of alternative mining techniques

Numerous public comments were received that express the belief that the Forest Service should require Resolution Copper to use an alternative mining technique, other than block caving, to mine the ore deposit. As this issue was raised during scoping, it was fully evaluated during the alternatives development process. This evaluation is described in the "Alternatives Considered but Eliminated from Detailed Study" appendix to the DEIS (DEIS, appendix F, pp. F1–F4).

The premise that impacts could be avoided by different mining techniques is not incorrect. This is acknowledged in appendix F: "The proposed panel caving mining method is seen as having two major drawbacks. First, panel caving results in the creation of a subsidence area at the surface, which impacts a variety of resources. Second, because panel caving does not leave any opening or cavity belowground, there is no opportunity to backfill tailings as a potential disposal alternative. The U.S. Department of Agriculture Forest Service (Forest Service) agreed that if an alternative mining method were found to be reasonable, it could reduce certain resource impacts, and the agency undertook an investigation into the technical and economic feasibility of using alternative mining techniques" (DEIS, appendix F, pp. F-1).

The question that we explored was not of the theoretical benefits, which were granted, but whether an alternative mining technique is at all reasonable. The most commonly cited alternative mining technique is cut-and-fill, which was used at the Magma Mine, would not create surface subsidence, and would potentially allow for underground backfill of tailings.

The first evaluation of this topic was evaluated in the November 2017 Alternatives Evaluation Report (SWCA Environmental Consultants 2017a), which has similar conclusions to those in appendix F of the DEIS.

Comment response: AMT1 Alternative mining techniques	Page 2 of 6

Responsive to these comments:
10-2, 107-4, 107-6, 107-7, 1209-2, 1209-3, 1232-1, 1235-2, 1279-4, 1280-2, 1309-3, 1322-8, 1342-1, 1349-3, 1358-2, 1360-6, 1360-8, 1371-1, 1371-2, 1371-3, 1371-4, 1396-6, 1424-2, 1454-2, 1544-2, 199-1, 257-1, 30078-38, 30141-1, 30141-2, 30141-3, 320-1, 320-10, 320-3, 320-4, 320-6, 320-7, 41-1, 5474-2, 5771-1, 59-2, 776-1, 78-1, 79-1, 8032-261, 8032-6, 8032-8, 82-4, 965-2, F5-1

Our evaluation found the following:

- block caving is a standard mining technique that is often applied to ore deposits with similar characteristics as the Resolution ore deposit;
- the ore and host rock characteristics typically favorable for alternative techniques like cut-and-fill differ from the characteristics of the Resolution ore deposit and it is unlikely that any of these techniques would be chosen as a reasonable technique for a similar deposit, and
- using such techniques require higher grades of ore to be feasible. An increase in the cutoff grade from 1 percent to 2 percent removes an estimated 80 percent of the tonnage of the deposit from consideration for development. Accepting this level of reduction to accommodate an alternative mining technique is not economically feasible and would not be reasonable.

We reviewed additional information purporting to demonstrate that cut-and-fill mining was economically feasible that was submitted to us in December 2018 (Garrett 2019a). We concluded that the submittal contained erroneous or inappropriate assumptions, and it was not considered further.

Most comments focus on profitability, and incorrectly state that the Forest Service is elevating the profitability of Resolution Copper over protection of environmental resources. Our evaluation of alternative mining techniques does not calculate Resolution Copper's profit, nor does it use profitability in the analysis. This was summarized in the project record:

> "The analysis provided to the Forest Service attempts to answer the question: is a different mining technique financially feasible? This is fundamentally the wrong question to be asked, and the resulting answer is not pertinent to the decision space the Forest Supervisor has for the Resolution Copper project.
>
> The Forest Supervisor has the authority to require changes to the mine plan of operation in order to minimize effects on National Forest System surface resources, but this authority is not absolute. When assessing how far this authority can be extended to modify a plan of operation, Forest Service mineral regulations do not rely on financial criteria. Rather than dollars or profit, the bar set for the Forest Supervisor is one of reasonableness." (Garrett (2019a:2))

The reason that cut-and-fill is not pursued as a valid mining technique is not because Resolution Copper might make less money using that technique. The reason cut-and-fill is not pursued as a valid mining technique is because block caving is more appropriate to this type of ore deposit and because potentially foregoing 80 percent of the ore deposit to pursue cut-and-fill mining does not pass the test for reasonableness that the Forest Service must apply.

In light of the interest in this topic, we have included a more detailed discussion in chapter 2 of the FEIS.

Comment response: AMT1 Alternative mining techniques	Page 3 of 6

Responsive to these comments:
10-2, 107-4, 107-6, 107-7, 1209-2, 1209-3, 1232-1, 1235-2, 1279-4, 1280-2, 1309-3, 1322-8, 1342-1, 1349-3, 1358-2, 1360-6, 1360-8, 1371-1, 1371-2, 1371-3, 1371-4, 1396-6, 1424-2, 1454-2, 1544-2, 199-1, 257-1, 30078-38, 30141-1, 30141-2, 30141-3, 320-1, 320-10, 320-3, 320-4, 320-6, 320-7, 41-1, 5474-2, 5771-1, 59-2, 776-1, 78-1, 79-1, 8032-261, 8032-6, 8032-8, 82-4, 965-2, F5-1

DEIS comments on alternative mining techniques

We received many comments regarding the application of alternative mining techniques. Several were generic in nature; the most detailed were submitted with comment letter #8032 in the form of a report by Dr. D. Chambers (Appendix A to letter #8032).

The Chambers comments state, "Underground mining alternatives to block caving were eliminated from further consideration in the DEIS. These methods were eliminated from detailed consideration in the DEIS based largely on two factors, the cost of mining and the feasibility of large-scale tailings backfill."

This is an incorrect statement. The feasibility of large-scale tailings backfill was not a consideration in our evaluation of alternative mining techniques, nor is it listed as a reason these techniques were eliminated from detailed analysis in the November 2017 Alternatives Evaluation Report (SWCA Environmental Consultants 2017a) and appendix F of the DEIS. Cost of mining was considered as part of the assessment of reasonableness, in the form of the cut-off-grade that would need to be targeted to employ a technique like cut-and-fill.

With respect to the cost of mining, there were three fundamental comments made about the Forest Service evaluation:

- Data were not available and were insufficient for the NEPA team to evaluate this issue
- Inappropriate or outdated mining references were used
- Incorrect ore grade terminology was used

Our evaluation of these comments is documented in the project record (Garrett 2020i), and responses to each issue are summarized below.

Comment response: AMT1 Alternative mining techniques	Page 4 of 6

Responsive to these comments:
10-2, 107-4, 107-6, 107-7, 1209-2, 1209-3, 1232-1, 1235-2, 1279-4, 1280-2, 1309-3, 1322-8, 1342-1, 1349-3, 1358-2, 1360-6, 1360-8, 1371-1, 1371-2, 1371-3, 1371-4, 1396-6, 1424-2, 1454-2, 1544-2, 199-1, 257-1, 30078-38, 30141-1, 30141-2, 30141-3, 320-1, 320-10, 320-3, 320-4, 320-6, 320-7, 41-1, 5474-2, 5771-1, 59-2, 776-1, 78-1, 79-1, 8032-261, 8032-6, 8032-8, 82-4, 965-2, F5-1

Availability of Data

The Chambers comments note, "Dr Kliche had to work without any data support from Resolution Copper." This is an incorrect statement. Dr. Kliche was provided adequate data to make a reasonable estimate of the relationship between grade and tonnage, which was the key aspect of the evaluation of reasonableness. This information, in the form of horizontal slices at 100-foot intervals from bottom to top through the Resolution Copper block model showing grade classes of the blocks, was provided when requested from Resolution Copper in March 2017 (Hart 2017). It is true that information access was not unlimited; for instance, securities regulations limits how some proprietary information is released to the public. However, Dr. Kliche found the information provided to be sufficient for the analysis needed.

The comments also note that a specific report was unavailable ("Geologic and Mineral Resource Model – Suitability for Declaration of Mineral Resources and Support for Mine Plans to Develop a Block or Panel Cave Mine," Harry M. Parker, Amec Foster Wheeler E&C Services Inc., March 14, 2017) (Parker 2017). This document is part of the project record, along with other supporting material for the NEPA analysis. It was not referenced in the DEIS and so was not posted to the website, but it is not proprietary and could be provided upon request; to our knowledge, these supporting materials were never requested.

Mining References

The reconvened Geology and Subsidence Workgroup compiled additional pertinent references with respect to mining techniques, in order to respond to comments that the references used by Dr. Kliche were outdated (Garrett 2020i; Garza-Cruz and Pierce 2020a). This literature review was conducted to identify classical references for mining method selection.

Itasca reviewed six classic mining references. Their conclusion is that "all of the mining method techniques arrived at similar conclusions, with block caving as the preferred mining method" (Garza-Cruz and Pierce 2020a). While block caving was identified as the clear preferred method, several other methods were identified as pertinent: top slicing, sub-level caving, and square set stoping. Top slicing and sub-level caving are both caving techniques; therefore, their use would not prevent subsidence or the impacts from subsidence.

Square set stoping is not a caving method and would allow for backfill and therefore could offset the impacts of subsidence. Dr. Kliche evaluated this technique in the November 2017 Alternatives Evaluation Report and noted several of the downsides (SWCA Environmental Consultants (2017a:appendix C, p. 5)):

Comment response: AMT1 Alternative mining techniques	Page 5 of 6

Responsive to these comments:
10-2, 107-4, 107-6, 107-7, 1209-2, 1209-3, 1232-1, 1235-2, 1279-4, 1280-2, 1309-3, 1322-8, 1342-1, 1349-3, 1358-2, 1360-6, 1360-8, 1371-1, 1371-2, 1371-3, 1371-4, 1396-6, 1424-2, 1454-2, 1544-2, 199-1, 257-1, 30078-38, 30141-1, 30141-2, 30141-3, 320-1, 320-10, 320-3, 320-4, 320-6, 320-7, 41-1, 5474-2, 5771-1, 59-2, 776-1, 78-1, 79-1, 8032-261, 8032-6, 8032-8, 82-4, 965-2, F5-1

- Too deep may have serious ground pressure issues
- Very expensive; high-grade ore a necessity. Need a ready source of timber. Labor intensive.

In other words, this technique is similar to other cut-and-fill techniques evaluated. It requires a higher cut-off grade of ore and therefore substantially reduces the volume of the ore deposit beyond a level considered reasonable (an 80 percent reduction in ore volume, for a shift from 1 percent to 2 percent cut-off grade).

Dr. Kliche also reviewed the per-ton mining costs in light of the comments and compiled more updated information. The Alternatives Evaluation Report cited a cost of $9.10/ton for block caving, compared with $68.03/ton for cut-and-fill (SWCA Environmental Consultants (2017a:appendix C, p. 8). The updated information compiled by Dr. Kliche indicates that block caving can run from $7.99/ton to $10.68/ton, depending on production rate and adit versus shaft entry. This is compared with cut-and-fill mining, which can run from $62.68/ton to $140.09/ton. Dr. Kliche also compiled information from 11 currently operating mines that use stoping or cut-and-fill techniques (not block caving) and found that actual per-ton costs range from $57.51/ton to $303.97/ton.

In all cases, review of additional references only confirms the basic conclusions of the alternatives evaluation. First, that based on industry-standard literature and approaches, block caving is the most likely technique to be selected based on the characteristics of the deposit, and cut-and-fill techniques likely would not be selected. Second, that the costs of cut-and-fill are at a minimum five times the cost of block caving. This is important not for reasons of profitability but because techniques with higher operational costs require higher grade ore, or cut-off grade. As demonstrated with data specific to the Resolution ore deposit, even a 1 percent increase in cut-off grade (from 1 percent to 2 percent) results in the loss of at least 80 percent of the deposit. This fundamental tradeoff does not meet the standard for reasonableness that the Forest Service must consider.

An additional comment notes that the above assumption of an increase from 1 percent to 2 percent is not substantiated because specific cut-off grades were not calculated for individual mining techniques. We acknowledge that the numbers used represent estimates of cut-off grade for different techniques, not economic calculations. These estimates are not arbitrary, however, but are informed by specific per-ton mining costs described above, and the basic understanding that higher per-ton mining costs require higher cut-off grades is not in question.

Comment response: AMT1 Alternative mining techniques	Page 6 of 6

Responsive to these comments:
10-2, 107-4, 107-6, 107-7, 1209-2, 1209-3, 1232-1, 1235-2, 1279-4, 1280-2, 1309-3, 1322-8, 1342-1, 1349-3, 1358-2, 1360-6, 1360-8, 1371-1, 1371-2, 1371-3, 1371-4, 1396-6, 1424-2, 1454-2, 1544-2, 199-1, 257-1, 30078-38, 30141-1, 30141-2, 30141-3, 320-1, 320-10, 320-3, 320-4, 320-6, 320-7, 41-1, 5474-2, 5771-1, 59-2, 776-1, 78-1, 79-1, 8032-261, 8032-6, 8032-8, 82-4, 965-2, F5-1

The comments also note: "It should be the goal of DEIS to understand the ore body holistically, so that if alternative mining techniques were hypothetically mandated, it would be possible to understand the economics behind them." Indeed, this is what we endeavored to do. Per-ton mining costs and cut-off grade were only one part of the analysis. The ore deposit was also evaluated against industry-standard practices for evaluating mining techniques, regardless of cost, and block caving was clearly the mining approach that would be considered most reasonable for the specific characteristics of the Resolution ore deposit.

Ore Grade Terminology

The Chambers comments quote several statements and claim they are inconsistent with reference to the ore deposit as "high-grade" or "low-grade." This terminology is not inconsistent, but a matter of context.

Dr. Kliche refers to the Resolution Copper deposit as a "relatively low grade . . . resource" (SWCA Environmental Consultants (2017a:appendix C, p. 1). This is a correct statement when made in the context of porphyry copper deposits, which are considered low grade (~1 percent), compared with a copper-sulfide vein deposit like that mined at the Magma Mine (up to 8 percent copper).

The Chambers comments note that Dr. Kliche's use of this terminology differs from Resolution Copper's reference to the Resolution Copper deposit as "high grade." In this case, the use of the term "high grade" is in context of a comparison with other porphyry copper deposits. Most of these deposits have less than 1 percent copper, whereas the Resolution Copper deposit has 1.54 percent copper.

More importantly, the use of terminology has no bearing on the analysis itself. These terms do not supersede the quantitative estimates of grade/tonnage that Dr. Kliche relied upon for the analysis of reasonableness of cut-and-fill mining.

Comment response: AMT1_A Alternative mining techniques; with addition for specific comment 8032-260; 30141-4; 1209-4	Page 1 of 1

Responsive to these comments:
1209-4, 30141-4, 8032-260

See response AMT1 for response to the general topic of alternative mining techniques.

These additional comments discuss the potential for portions of the ore body nearer to Apache Leap to be mined using underground mining techniques rather than block-caving techniques.

It is correct that certain portions of the ore deposit would not be accessed under the current block caving operation. For instance, the panel caving as planned avoids the Oak Flat Withdrawal Area, and does not extend as far west as it could, specifically in order to avoid impacts to Apache Leap.

It is not correct to assume that underground mining techniques could access these areas. As noted in the alternatives evaluation, cut-and-fill mining techniques require higher cut-off grades to be feasible. The portion of the deposit specifically near to Apache Leap may not be of high enough grade to mine in this way.

Comment response: AMT1_B Alternative mining techniques; with addition for specific comment 30078-28	Page 1 of 1
Responsive to these comments: 30078-28	
See response AMT1 for response to the general topic of alternative mining techniques. This comment states, "The Apache Leap Tuff Aquifer is a critical source of water for springs and creeks, many of them sacred. This permanent impact would not occur if alternative underground mining methods were employed." This is not necessarily correct. Regardless of the mining technique used, the mine infrastructure would need to be dewatered. Without block caving, the Apache Leap Tuff would not fracture and subside, thus opening a hydraulic connection between the Apache Leap Tuff aquifer and the deep groundwater system. Access to the ore body would still need to occur, and the nature of that access could result in the need to dewater Apache Leap Tuff as well. Conversely, vertical shafts could potentially be isolated from the Apache Leap Tuff aquifer. Neither outcome can be assumed without specific mine plans.	

Comment response: AMT1_C Alternative mining techniques; with addition for specific comment 1158-6	Page 1 of 1
Responsive to these comments: 1158-6	
See response AMT1 for response to the general topic of alternative mining techniques. These comments question the basis for the "reasonableness" determination used to determine the ability to use alternative mining techniques. This discussion is contained in Garrett (2019a:2): "The basic standard when considering whether an alternative mining technique could be required by the Forest Service can be generally summarized as follows: • The requirement cannot endanger or materially interfere with mining operations; • The requirement must be reasonable; • The requirement may not result in operations being so unreasonably circumscribed as to amount to a prohibition; • The requirement may not impermissibly encroach on legitimate uses incident to mining."	

Comment response: AMT1_D Alternative mining techniques; with addition for specific comment 8032-206	Page 1 of 1
Responsive to these comments: 8032-206	
See response AMT1 for response to the general topic of alternative mining techniques. This comment raises a number of recreation impacts. These comments reiterate impacts that are disclosed in section 3.9 (DEIS, pp. 495–509).	

Comment response: AMT1_E Alternative mining techniques; with addition for specific comment 8031-38	Page 1 of 1

Responsive to these comments:
8031-38

See response AMT1 for response to the general topic of alternative mining techniques.

This comment states, "The DEIS merely states in conclusory fashion with no discussion or elaboration: 'The Forest Service assessed alternative mining techniques in an effort to prevent subsidence, but alternative methods were considered unreasonable' (p. ES-3). The DEIS further admits that alternative mining techniques were not even considered in detail and were 'dismissed from detailed analysis' (DEIS, p. 29). This is not sufficient under NEPA to support the dismissal of credible alternative mining technics that have been presented to the TNF."

CEQ regulations indicate that not all information available has to appear in the EIS itself: "Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment" (40 CFR 1502.21).

The full analysis of alternative mining techniques occurs elsewhere in the DEIS references (SWCA Environmental Consultants 2017a), not in the DEIS itself. However, given the interest in this topic, we have added further discussion of this topic to chapter 2 of the FEIS.

Comment response: AMT1_F Alternative mining techniques; with addition for specific comment 1209-1	Page 1 of 1

Responsive to these comments:
1209-1

See response AMT1 for response to the general topic of alternative mining techniques.

This comment raises the issue of the land exchange and whether it changes the approach to alternative mining techniques.

The Forest Service approached the alternatives analysis as required under NEPA, with full evaluation of alternatives, regardless of whether the land exchange would occur or not. The fact that the land exchange might occur did not factor into the technical evaluation of alternative mining techniques.

Comment response: AMT1_G Alternative mining techniques; with addition for specific comment 8032-229; 320-2; 1220-5	Page 1 of 1

Responsive to these comments:
1220-5, 320-2, 8032-229

See response AMT1 for response to the general topic of alternative mining techniques.

These comments state, "In all materials, Dr. Kliche and the Forest Service also acknowledge that alternative mining techniques are technically feasible."

This only partially relates what is stated in the DEIS. The full quote from the DEIS is as follows: "While several underground stoping techniques could physically and technically be applied to the deposit, the ore and host rock characteristics typically favorable for these techniques differ from the characteristics of the Resolution Copper Mine deposit. While physically feasible, it is unlikely that any of these techniques would be chosen as a reasonable technique for a similar deposit" (DEIS, appendix F, p. F3).

The distinction being drawn is that physical ability to build underground mine workings to access ore does not mean that doing so is a method that would be used by a reasonable individual.

Comment response: AMT1_H Alternative mining techniques; with addition for specific comment 918-1	Page 1 of 1

Responsive to these comments:
918-1

See response AMT1 for response to the general topic of alternative mining techniques.

This comment specifically mentions sub-level stoping. Sub-level stoping was one of the alternative mining techniques specifically evaluated by the Forest Service (SWCA Environmental Consultants (2017a:appendix C, p. 3). It was also specifically evaluated after receipt of public comments on the DEIS by the Geology and Subsidence Workgroup (Garza-Cruz and Pierce 2020a). This review looked at six industry-standard mining references and applied the techniques contained therein to selection of a mining method. Sub-level stoping was not found to be appropriate by any of the six references.

Comment response: AMT1_I Alternative mining techniques; with addition for specific comment 320-5	Page 1 of 1

Responsive to these comments:
320-5

See response AMT1 for response to the general topic of alternative mining techniques.

This comment questions where information on the Resolution Copper ore deposit was obtained for a specific table (table 1) in the evaluation of alternative mining techniques (SWCA Environmental Consultants (2017a:appendix C).

It is not clear what version of the document the commenter is referring to. The version of the November 2017 Alternatives Evaluation Report in the project record (SWCA Environmental Consultants 2017a), as well as the standalone version of appendix C (Kliche (2017)), both contain a clear reference to footnote 6, which is present at the bottom of the page: "6 Taken from "Resolution Copper Mining, LLC - Mine Plan of Operations and Land Exchange - Follow-up Alternatives Information;" August 14, 2017; Ms. Vicky Peacey to Ms. Mary Rasmussen. Project Record #0001734 (Resolution Copper 2017a)."

Comment response: AMT1_J Alternative mining techniques; with addition for specific comment 1107-1	Page 1 of 1

Responsive to these comments:
1107-1

See response AMT1 for response to the general topic of alternative mining techniques.

This comment makes reference to backfill by paste tailings. This method is only feasible when underground cavities are left open after mining, as with a cut-and-fill technique. With block caving, there is no void left underground into which tailings could be placed.

Comment response: AMT1_K Alternative mining techniques; with addition for specific comment 1538-5	Page 1 of 1

Responsive to these comments:
1538-5

See response AMT1 for response to the general topic of alternative mining techniques.

This comment notes the subsidence crater would reach a depth of 1,500 feet. This is incorrect. The DEIS states, "The primary difference in results among all the sensitivity model runs is the ultimate depth of the subsidence crater. Under the base case model, an ultimate depth of about 800 feet is anticipated. Under other sensitivity runs, the depth of the subsidence crater can vary between 800 and 1,115 feet" (DEIS, p. 151).

Comment response: AMT1_L Alternative mining techniques; with addition for specific comment 16-2	Page 1 of 1

Responsive to these comments:
16-2

See response AMT1 for response to the general topic of alternative mining techniques.

This comment references the Magma Mine and suggests that the same mining techniques (cut-and-fill) should be applied to the Resolution ore deposit. This particular statement has been raised many times during scoping and public comment meetings.

The Magma Mine accessed a fundamentally different ore deposit. The Magma Mine targeted veins of material that ranged from roughly 4 to 8 percent copper. By contrast, the average grade of the Resolution ore deposit is about 1.5 percent copper.

The Magma Mine is actually a concrete example of the analysis of alternative mining techniques conducted by the Forest Service. The Forest Service concluded that alternative mining techniques like cut-and-fill could only be done at higher cut-off grades. The fact that the Magma Mine was able to use cut-and-fill with a 4 to 8 percent ore grade demonstrates this point. However, the spatial proximity of the Magma Mine to the Resolution ore deposit should not be used to conflate the properties of the ore deposits. They are fundamentally different in nature, grade, and distribution.

Comment response: AMT4 In-situ leaching	Page 1 of 1

Responsive to these comments:
1107-6, 1448-1, 150-1, 150-2, 23-3, 889-1

These comments identify in-situ leaching as a preferable mining method for the Resolution ore deposit.

In-situ leaching was considered early in the alternatives development process and was not carried forward. Additional information was compiled by the Geology and Subsidence Workgroup after receipt of public comments (M3 Engineering and Technology Corporation 2020).

There are substantial concerns with technical feasibility of leaching at the depth of the Resolution ore deposit under the geothermal conditions encountered there. While technical challenges can potentially be overcome, this reportedly would be deeper than the deepest in-situ mining currently being done and precedent setting. The hydraulic properties of the deep groundwater system are not conducive to injection and recovery, though this could potentially be overcome with a massive hydraulic fracturing operation.

However, these technical concerns are not the fundamental issue that makes in-situ leaching unsuitable. The fundamental issue is that the mineralogy of the Resolution ore deposit is not suited to leaching. The Resolution deposit largely consists of chalcopyrite and bornite, and not copper oxide ore, which is readily leachable. The estimated recovery of copper from the Resolution ore deposit would be 15 percent (M3 Engineering and Technology Corporation 2020).

In-situ leaching falls into a similar category of other alternative mining techniques reviewed; the tradeoff with copper recovery simply does not meet the “reasonableness” standard.

Comment response: AMT6 Independent assessment of ore reserves	Page 1 of 2

Responsive to these comments:
8032-231

This comment repeats scoping comments that indicate that the Forest Service has a responsibility to independently evaluate the ore reserves and the mining plan.

This type of assessment is not required under Forest Service mineral regulations 36 CFR 228 Subpart A. See response NEPA16 for discussion of the level of validation of claims and ore deposits that is required. Although the agency is authorized to determine claim validity at any time until a patent is issued, the agency is under no legal obligation to determine mining claim or mill site validity before approving a proposed plan of operations to explore for or develop minerals on lands open to the use under the mining law.

Although the ore deposit need not be evaluated, the Forest Service does have a responsibility to independently evaluate aspects of the mining plan within the context of the NEPA process. This was done. Three key parts of the mining plan were independently assessed by the Forest Service.

The first key part of the mine plan independently reviewed was the evaluation of alternative mining techniques to determine whether any of these techniques could be reasonably applied and prevent impacts to Oak Flat. This evaluation was undertaken, reaching the conclusion that other alternative mining techniques like cut-and-fill were not appropriate for the Resolution ore deposit, nor would applying them be reasonable (DEIS, appendix F, pp. F1–F4). In response to comments we have added further discussion of the evaluation of alternative mining techniques to chapter 2 of the FEIS.

The second key part of the mine plan independently reviewed was the largest driver of impacts—the tailings storage facility. The Forest Service assessed a wide range of tailings storage alternatives, including different types of tailings embankments, seepage control, tailings locations, and tailings dewatering. These variations in tailings storage techniques largely drove the development of the action alternatives evaluated in the DEIS.

Changing the basic processing of the ore taking place at the West Plant Site would generally not yield any environmental benefits because regardless of processing technology, tailings would still be produced and would still require management and disposal. Even so, the Forest Service also looked at a third, lesser aspect of the processing during the alternatives development process. Resolution Copper proposes to create two separate waste streams (NPAG and PAG), concentrating the pyrite minerals in the PAG waste stream. The NEPA analysis team briefly considered whole tailings during the alternatives process but found no benefit, and the approach was not carried forward.

Comment response: AMT6 Independent assessment of ore reserves	Page 2 of 2

Responsive to these comments:
8032-231

This comment also hypothesizes problems that might occur with the block-cave operation. These concerns are speculative. However, while evaluating alternative mining techniques, the Forest Service also evaluated whether the proposed block-caving operation was an appropriate choice for this specific ore body. All industry guidance reviewed indicates that block caving is the most appropriate technique. See response AMT1 for more details.

Technical issues may indeed arise during implementation of the block-caving technique. These are part of any mine development. See response GS8 for more discussion of real-world problems that could occur during mining.

Comment response: AMT7 Use of filtered tailings to backfill subsidence crater	Page 1 of 1

Responsive to these comments:

1097-13

This comment raises an issue specifically evaluated during alternatives development, which is the use of the subsidence crater for disposal using filtered tailings.

The rationale for dismissal of this alternative is clearly stated in appendix F of the DEIS: "The feasibility of placement of tailings in the subsidence area, either as slurry or filtered tailings, was considered during alternatives development. In this scenario, the tailings would be placed initially on undisturbed land above the mining panels in the area that would gradually become a subsidence pit. The subsidence area would then be filled with tailings as it expanded over time. This option was dismissed for safety concerns, both aboveground and belowground. In panel caving, it is paramount to control the rate of panel caving and prevent air gaps from developing above the caved zone, which can lead to potentially catastrophic air blasts. Loading of tailings above the panel cave operation could change the rock dynamics in unexpected and unknown ways. If it involves slurry, the added aspect of drainage from above further complicates mining operations. Safety hazards exist for personnel placing tailings aboveground as well, given the active subsidence and earth movement. Overall, it was determined that this option represented unreasonable safety hazards and did not conform to industry norms." (DEIS, appendix F, p. F6).

The comment characterizes this rationale as arbitrary and based on a single meeting. This is not a correct characterization. The alternatives development process took place over several years and involved professionals with experience in mining and tailings management, not just associated with Resolution Copper, but working directly for the Forest Service as part of the NEPA team. The dismissal of this alternative was made only after being carefully considered. The documentation in the project record that specifically speaks to the issue of brownfields tailings disposal is listed in the November 2017 Alternatives Evaluation Report (SWCA Environmental Consultants (2017a:25).

Comment response: AMT8 Requirement to evaluate alternatives under NEPA	Page 1 of 1

Responsive to these comments:

1539-2

This comment references CEQ regulations and guidance for implementing the NEPA process and indicates that alternative mining techniques should have been included as action alternatives.

The fundamental issue raised in this comment comes down to the assessment of "reasonable" by the Forest Service. As noted in other comment responses (see response AMT1, for example), the assessment by the Forest Service of alternative mining techniques was not based on profitability, but on reasonableness. The alternatives evaluation found that alternative mining techniques were not reasonable for this ore deposit. This assessment was based in part on industry standards and in part on the tradeoff between an alternative mining technique and recovery of ore.

All of the industry-standard references reviewed identify block caving as a preferred method for an ore deposit with the characteristics of the Resolution deposit, whereas almost no alternative techniques like cut-and-fill would be selected. See response AMT1 for more details.

Regardless of this, the Forest Service also evaluated what it would mean if an alternative mining technique like cut-and-fill were used for the Resolution ore deposit. The result is a tradeoff in the amount of ore able to be recovered. This is because higher cost mining methods require higher grade ore to be feasible. The Forest Service estimated that targeting higher-grade ore (a change from the 1 percent shell to the 2 percent shell) would reduce the volume of ore by 80 percent. The Forest Service did not consider this reasonable.

How did the Forest Service define "reasonable"? This discussion is contained in Garrett (2019a:2):
"The basic standard when considering whether an alternative mining technique could be required by the Forest Service can be generally summarized as follows:

- The requirement cannot endanger or materially interfere with mining operations;
- The requirement must be reasonable;
- The requirement may not result in operations being so unreasonably circumscribed as to amount to a prohibition;
- The requirement may not impermissibly encroach on legitimate uses incident to mining."

The Forest Service has multiple mandates it must meet. The criteria above are extracted not just from mineral regulations but from multiple guidance and regulations that the Forest Service must operate under. See Garrett (2019a:attachment 3) for more details.

Under this definition, loss of 80 percent of the ore deposit was not considered reasonable.

Comment response: AQ1 Air quality standards and regulatory framework	Page 1 of 1

Responsive to these comments:

1158-15, 1438-6

Section 3.6 describes the ambient air quality standards that are enforced in order to protect public health. The section also outlines the dispersion modeling analysis used to evaluate air quality impacts at the mine sites and the tailings storage facilities (DEIS, pp. 282–292). The modeling assessment includes the effect of controls, including: the enclosure of the ore stockpile at the concentrator; control of fugitive dust emissions through applying stabilizers and water sprays; and the control effectiveness of specific devices such as filters and baghouses (DEIS, pp. 283–284).

Comments note that the highest impacts are at receptors near the facility boundaries. The disclosed modeling results demonstrate that the alternatives all show compliance with applicable standards at all receptors outside of the plant boundary or exclusion areas (DEIS, p. 285 [only Alternative 2 shown], Newell et al. (2018 [all alternatives]). The DEIS only included results for Alternative 2, since all results were highly similar. However, we added results for all alternatives to section 3.6 in the FEIS.

Also see response AQ17 for details on modeling analyses and those impacts. See Response TS24 regarding effects on human health and risk assessment. Specifically, see "Potential impacts to mine employees" for how health impacts to employees was handled. We also added new discussion to section 3.6 with respect to potential health impacts.

These comments also note that the ore stockpile should be enclosed, not covered, as stated in the DEIS (p. 283). The ore stockpile will, in fact, be enclosed. Modeling analysis used an enclosed structure as part of estimating emissions. We revised the text in section 3.6 of the FEIS to clarify this.

Comment response: AQ2 Air quality modeling background concentrations	Page 1 of 1

Responsive to these comments:

278-5

This comment questions the effect that 2017 monitoring data would have on the air quality modeling.

In support of evaluating air quality impacts, the dispersion modeling effort used standard modeling protocols for incorporating background concentrations. Two years of on-site data were used in developing that analysis, where only 1 year of on-site representative data is required based on EPA modeling protocols. The original modeling effort was completed prior to the finalization of the 2017 air quality data. Therefore, these data were not included.

A separate detailed review of the 2017 meteorological and air quality data (Randall and Hampton 2020a), including a recalculation of background PM_{10} and $PM_{2.5}$ levels, demonstrated that inclusion of those data would not lead to a material difference in air quality impacts analysis. The modeling effort, if extended through 2017, would have generated impacts in compliance with the ambient air quality standards.

Comment response: AQ3 Lead analysis	Page 1 of 1

Responsive to these comments:

1438-3, 8032-159

Lead emissions were below a screening level analysis and therefore were not included in the original analysis (DEIS, p. 277; Newell et al. (2018)). In response to this comment, we included a formal analysis of lead emissions and impacts, compared with the national ambient air quality standards, in section 3.6 of the FEIS.

To do this analysis, we used a conservative approach to estimate the ambient lead concentrations to compare to the standard (0.15 µg/m^3 on a 3-month average basis), which is described in Randall (2020b). Randall (2020b) provided us a conservative estimate for the concentration of lead and other trace metals in the ore body. Lead in the ore body is 42.72 parts per million by weight (ppmw). Using a multiple of four times the projected maximum annual impact (7 µg/m^3) and the ratio of lead content, the resulting maximum impact is 0.002 µg/m^3, and added to an estimated background concentration (0.04 µg/m^3), the calculated maximum 3-month lead concentration is 0.042 µg/m^3, which is 28 percent of the ambient standard at the highest impact receptor. Impacts at other receptors would all be less than this maximum value.

Comments also note the presence of lead in soils from previous mining activities. Resolution Copper has completed cleanup and removal of impacted soils at the West Plant Site in alignment with ADEQ and EPA cleanup recommendations. Historic soil contamination is not expected to contribute to ambient levels of metals associated with the project.

Comment response: AQ4 Dust storms and extreme weather events	Page 1 of 1
Responsive to these comments: 1309-1, 1534-1, 22-2, 8032-232	
These comments concern the air quality analysis, wind speeds used, and potential impacts from dust. We collected hourly wind speed along with PM_{10} and $PM_{2.5}$ air quality data at three monitoring locations at the proposed site(s). We used recorded maximum wind speeds in modeling results to estimate impacts from these periods and included "paired in time" analyses for individual days with high winds and background concentrations in accordance with EPA modeling guidelines; in accordance with this guidance, the modeling excluded several days with high background concentrations as "exceptional events." A formal dispersion modeling effort focused on $PM_{2.5}$, and it showed compliance with the $PM_{2.5}$ standards. Elevated PM levels during documented dust storms are captured in background PM_{10}. Higher wind conditions (associated with dust storms) are accounted for in fugitive dust emission estimates and meteorological data used to disperse the emissions in the model. The analysis incorporates carefully designed and engineered features to reduce emissions (including windblown dust) and impacts to air quality (DEIS, pp. 283–284). These emission reduction features comply with applicable state and local air district regulations. Estimated impacts to air quality due to emissions from all examined alternatives are demonstrated in the analysis to be below the applicable air quality standards (including the NAAQS) that were established to protect human health. Also see response AQ17 for details on modeling analyses and those impacts. See Response TS24 regarding effects on human health and risk assessment. We added discussion of reclamation activities and ramifications for dust control and air quality to section 3.3 of the FEIS.	

Comment response: AQ4_A Dust storms and extreme weather events; with addition for specific comment 8032-169	Page 1 of 1
Responsive to these comments: 8032-169	
See response AQ4, which addresses the general topic of dust storms. This comment also states that the analysis did not consider the impacts of toxic substances, the issue of aerosols, and radioactivity. See response TS24 for how impacts to human health were analyzed, including inhalation, deposition, and radioactive materials.	

Comment response: AQ4_B Dust storms and extreme weather events; with addition for specific comment 210-3	Page 1 of 1
Responsive to these comments: 210-3	
See response AQ4, which addresses the general topic of dust storms. This comment further discusses water scarcity. See response WT4 for more discussion of this topic.	

Comment response: AQ5 Monitoring and response requirements under air permit	Page 1 of 1

Responsive to these comments:

1438-9, 8032-163

Resolution Copper submitted Applicant Committed Environmental Protection Measures (DEIS, pp. 283–284) that demonstrate ongoing compliance with environmental standards. These measures would be enforceable by a final ROD based on the FEIS and may be included in an air quality permit to construct the facility.

The ADEQ will issue a permit. However, the permit had not been issued prior to publication of the FEIS. Permit approval will contain assurances, through monitoring or other compliance measures, that emissions from the approved project will meet the ambient air quality standards based on agency rules and evaluations. If the approved air permit and existing regulations require a reporting of any event and corrective actions necessary to correct malfunctions or exceedances, those permit requirements must be followed as stipulated.

The FEIS properly discloses impacts based on the proposed action and the environmental protection measures or mitigation that have occurred. However, the NEPA process does not require mitigation or monitoring for all impacts. Any future permitting requirements are not pertinent for the disclosure of impacts in the FEIS.

Comment response: AQ6 Conformity analysis	Page 1 of 2

Responsive to these comments:

524-20, 8032-153

We concur with the comment that the conformity analysis contained in the DEIS was insufficient. We included a revised conformity analysis in section 3.6 of the FEIS.

The East Plant Site and the Preferred Alternative 6 tailings storage facility are wholly located within the Hayden PM10 Nonattainment Area. Major Federal actions that have direct and indirect emissions greater than the 100 ton/year threshold specified in 40 CFR 93 Part B 153(B)(1) require a conformity analysis. For these two sites, direct emissions include point and fugitive sources that contribute PM_{10}. As provided in Air Sciences (2019:appendix A), the total PM_{10} controlled emissions are 79.0 tons/year for the East Plant and 238 tons/year for the Alternative 6 tailings storage facility. The combined total exceeds the 100-ton/year threshold; thus, a conformity analysis is required.

Total potential PM_{10} emissions from the filter plant and loadout facility are less than 100 tons/year. Thus, the West Pinal PM10 Nonattainment Area does not require a conformity analysis.

There are two compliance options to demonstrate conformity: (1) the issuance of a permit under the Federal New Source Review Program, which is implemented by PCAQCD or ADEQ and addresses the emission units in the proposed action or the Preferred Alternative; and (2) dispersion modeling that demonstrates the proposed action or Preferred Alternative will not cause or contribute to an exceedance of the ambient air quality standard.

The cumulative dispersion modeling analysis (Hampton et al. 2020) used representative meteorological and background air quality data and demonstrated that the PM_{10} impacts will comply with the ambient air quality standards at all receptors within the Hayden non-attainment area. This modeling suffices to demonstrate conformity for these facilities.

For the purposes of the NEPA analysis, we have not relied on the future New Source Review Permitting requirement to demonstrate conformity. However, this permitting process will allow a formal conformity review to be accepted at an appropriate time.

Part of the comment specifically addresses the silt content used in the modeling. Silt content has a direct effect on the emission of particulate matter from roadways and exposed surfaces that will handle ore or tailings storage.

A review of the silt content data showed that Randall and Hampton (2020b) provided the general silt content level, relying on a state-wide factor for road silt content (3 percent) and an ore-body analysis of 20 samples that led to an average silt content of 1.79 percent. Three percent was used throughout the fugitive dust calculations for both tailings storage facility and roadway surfaces. The comment questions the appropriateness of this 3 percent silt content, noting that EPA guidance indicates site-specific silt content should be used where available, and that if it is not available, a sector-specific silt content (found in table 13.2.2-1 of EPA's Emission Factors for Stationary Sources (AP-42)) should be used.

Comment response: AQ6 Conformity analysis	Page 2 of 2
Responsive to these comments: 524-20, 8032-153	
We conducted a conservative screening process to determine the impact that silt content values other than 3 percent would have on emissions and the modeling. We used a silt content value of 17 percent for roadways (a sector-specific silt content taken from AP-42) and a silt content of 2 percent for ore/tailings silt content (a site-specific silt content obtained directly from crushed ore samples). We estimate that the hourly emission rates for PM_{10} (lb/hour) would decrease from 145.2 lb/hour used for the DEIS modeling, to 116.8 lb/hour for the East Plant Site and the Alternative 6 tailings storage facility, using the revised silt content values. Based on the comparison of these emission rates, the DEIS air quality modeling analysis demonstrates conformity with the air quality standards.	

Comment response: AQ8 Class I Areas	Page 1 of 1
Responsive to these comments: 1438-4	
The impacts on Class I Areas within 100 km of the project sites were evaluated in accord with FLAG 2010 guidance regarding impacts on air quality related values, including visibility, regional haze, and deposition on soils and vegetation (U.S. Forest Service et al. 2010). Results for each Class I area are provided in the DEIS in section 3.6.4.2, including air quality (table 3.6.4-2), deposition (table 3.6.4-3), plume blight (table 3.6.4-4 and figure 3.6.4-3), and regional haze (table 3.6.4-5). All impacts are disclosed and are compared with significance thresholds or standards. This comment references the maximum PM_{10} and SO_2 concentrations at the Superstition Wilderness area. This is an incorrect reference based on the impacts on Class II receptors in table 3.6.4-1. Impacts on Class I receptors are provided in table 3.6.4-2 and show, for example, that the maximum impact at the Superstition Wilderness Area is 4.26 $\mu g/m^3$, which is below the PSD increment of 8 $\mu g/m^3$.	

Comment response: AQ9 Use of CALPUFF	Page 1 of 1
Responsive to these comments: 278-2	
This comment questions the use of the CALPUFF model. CALPUFF modeling evaluates impacts on air quality related values (visibility, deposition) in accordance with guidance issued by FLAG (U.S. Forest Service et al. 2010) (see response AQ8). We evaluated impacts on air quality concentrations in Class I areas using AERMOD modeled impacts within the 50-km grid for receptors closer than 50 km; impacts were evaluated at Class I areas beyond 50 km as the highest concentration at any 50-km receptor in the direction of the Class I Area. This approach conforms to EPA guidance for assessing impacts at those receptors.	

Comment response: AQ11 Climate change/greenhouse gas analysis	Page 1 of 1

Responsive to these comments:

1086-2, 1284-2, 1308-5, 1335-4, 1335-5, 1360-10, 1544-4, 30075-9, 8032-308, 8032-64, 8032-66, 900-2, 910-6

These comments concern the impacts of climate change and calculations of the project contribution to greenhouse gas emissions.

The Issues Report describes the approach for climate change in the DEIS (SWCA Environmental Consultants 2017b):

- Issue 8, Factors for Alternative Comparison #3: "Quantitative assessment of total mine … Include tabulation of greenhouse gas emissions of CO2, CH4, and N2O." These were included in section 3.6 (DEIS, p. 279).
- Issue 8, Factors for Alternative Comparison #8: "Assessment using best available science of long-term trends in precipitation and temperature that may affect resources." This assessment is contained in resource sections where it was pertinent to ongoing trends that are part of the Affected Environment. To facilitate this, we compiled a consistent climatic trend scenario for use by all resource specialists. This compilation made use of the best available literature and analyses for anticipated climate change (Dugan 2018). Specific resource discussions of climate impacts are in sections 3.6 (Air Quality, DEIS, p. 279), 3.7.1 (Groundwater Quantity, DEIS, p. 311), and 3.7.3 (Surface Water Quantity, DEIS, pp. 426–427).

We expanded the discussion of climate change and greenhouse gas emissions in the FEIS. In addition to sections 3.6, 3.7.1, and 3.7.3, we added discussion of anticipated climate change effects to sections 3.3 and 3.10.2. Also, we added a comprehensive discussion of climate change to chapter 4 of the FEIS to incorporate all of the different resources in one location.

We expanded the calculations of greenhouse gas emissions to incorporate project emissions, as well as two associated types of greenhouse gas emissions: shipping of concentrate and power generation. Note that analysis of these actions is not feasible for other resources due to the specific location and type of generation, and because the specific routes of travel and processing location for concentrate are unknown and speculative. The analyses and comparisons with other sources of greenhouse gas emissions conform to the latest guidance issued by the CEQ. Because climate change is a global phenomenon, the exact locations are not pertinent to the overall greenhouse gas emissions. We made reasonable estimates of these emissions and included them in section 3.6 of the FEIS.

Comment response: AQ13 Modeling approach for wind speed	Page 1 of 1

Responsive to these comments:

278-8

It has been a common approach to use the Wyoming-derived data on a wide range of sites. A technical memorandum (Randall and Hampton 2020a) that references Lewis and Hampson (2015) provides documentation of other studies and original research that supports using this factor at sites where the countryside is undulating but slopes are not steep.

A 90 percent control effectiveness for fugitive emissions is commonly applied to water applications and surface stabilization. This control effectiveness is supported in general by EPA guidance (U.S. Environmental Protection Agency 2006).

Comment response: AQ14 Effects of land exchange on air quality	Page 1 of 1

Responsive to these comments:

1188-13

See response NEPA50 for more discussion of the post-land exchange management of offered lands.

With regard to air quality, fundamental to the assessment of resource impacts in chapter 3 is the acknowledgment that specific management of the offered lands was not directed by Congress in Section 3003 of PL 113-291. The offered lands would be subject to management under whatever land and resource management plans are in place for BLM, Coconino National Forest, or Tonto National Forest.

Section 3.1 (DEIS, p. 189) states that a reasonably foreseeable action is one that is likely to occur in the future and does not include those that are speculative. The use of off-road vehicles on the Lower San Pedro Parcel is speculative and therefore not reasonably foreseeable. Therefore evaluation of the impacts on air quality from the Federal acquisition of the Lower San Pedro Parcel would be speculative.

For example, this comment notes specifically the use of off-road vehicles on this parcel. Management direction for the San Pedro National Wildlife Conservation Area specifically puts restrictions on off-road vehicle use. Similar restrictions could be placed on the Lower San Pedro Parcel (Bureau of Land Management 2019c). BLM would make this management decision after the land exchange.

Comment response: AQ15 AERMOD version	Page 1 of 1

Responsive to these comments:

278-1

Randall (2020a) reevaluated the effect of AERMOD changes from Version 16216 vs. Version 18081 and concluded that the use of the later version had no substantive effect on the determination of maximum impacts on air quality receptors. Air Sciences also conducted a test run of AERMOD Version 19191 with AERMET Version 19191 meteorological data (19191 Test Model). The test run included all alternatives at the maximum impact locations as determined by the DEIS model run. The maximum impacts from the DEIS model and the 19191 Test Model were identical.

The NEPA modeling plan was published in June 2018. Version 18081 was released in March 2018, and the DEIS was published for public comment on August 9, 2019, all before EPA's release of the updated AERMOD/AERMET 2019 version (August 21, 2019).

Comment response: AQ16 Calculation of background concentrations	Page 1 of 1

Responsive to these comments:

278-7

We concur with this comment on background CO levels. Randall and Hampton (2020a) explored and modified this issue. We revised section 3.6 of the FEIS to incorporate this change.

Calculating the hourly NO_2 background concentration is a detailed concept/process and generally left for the reader to review in the referenced documents (Air Sciences Inc. 2018b). We added clarification to the FEIS text about the background NO_2 calculations.

Comment response: AQ17 Concerns raised about AERMOD and CALPUFF application	Page 1 of 1

Responsive to these comments:

8032-162

CALPUFF modeling was used in accordance with the EPA guidelines to assess impacts on Air Quality Related Values in Class I areas. See response AQ9 for more discussion of CALPUFF. See response AQ22 for more discussion of ozone modeling.

The associated air quality impact analysis draws on years of baseline data collected in accordance with Federal and state monitoring guidelines and a monitoring plan approved by the PCAQCD. The modeling approach is consistent with Federal and state modeling guidance and a modeling approach that was reviewed and approved by multiple agencies with expertise in this area (PCAQCD, ADEQ, and Forest Service). The modeling analyses presented in the DEIS are a statistically robust and conservative demonstration that ambient air quality standards are not expected to be exceeded due to emissions from the project. Impacts from urban area are accounted for in background concentrations that are added to estimated impacts at receptors in the modeling domain.

The modeling domain is appropriate for AERMOD and the size of study area is adequate (as impacts at the edge of modeling domain demonstrate). The analysis incorporates carefully designed and engineered features to reduce emissions (including windblown dust) and impacts to air quality. These emission reduction features comply with applicable state and local air district regulations. The analysis demonstrated that estimated impacts to air quality due to emissions from all examined alternatives were below the applicable air quality standards (including the NAAQS) established for the protection of human health. These features are included in the emission inventory and the DEIS as applicant-committed environmental protection measures (DEIS, pp. 283–284).

Comment response: AQ18 Ultra-fine particle matter	Page 1 of 1

Responsive to these comments:

8032-55

Ultra-fine particulate matter is included and directly referenced as $PM_{2.5}$. The dispersion modeling effort demonstrates compliance with ambient air quality standards, which protect human health.

We added further analysis of health risks from trace metals (as well as other pollutants) to section 3.6 of the FEIS. See response TS24 for more detail.

Comment response: AQ19 Cumulative air analysis	Page 1 of 1

Responsive to these comments:

8032-151, 8032-152, 8032-171

With regard to air quality, the revised cumulative effects analysis is approached in a quantitative fashion. First, additional modeling was conducted to incorporate reasonably foreseeable emissions with enough detail to model. The DEIS included all direct and indirect emissions and impacts from the proposed action and Preferred Alternative. A formal cumulative air quality impact analysis was prepared (Hampton et al. 2020) that includes emissions and impacts from these reasonably foreseeable actions. Analysis results do not substantively change the effect on ambient air quality standards.

Second, there are still reasonably foreseeable actions, as identified by the Forest Service in the revised cumulative effects analysis, that were not part of this modeling effort. To quantify the cumulative effects from these projects, we estimated and compared emissions with the total emissions in the cumulative effects analysis area. Chapter 4 of the FEIS describes these approaches.

Some sources noted in comments already were incorporated into the baseline modeling as part of background concentrations, if those emissions (including those from nearby urban areas) are ongoing. The AERMOD modeling analysis relies on meteorological data and background air quality data from on-site stations and evaluates impacts at a set of receptors that includes Superior, Queen Valley, and Superstition Wilderness Area. Meteorological data include winds from all directions and a wide variety of wind speeds. The size of the AERMOD modeling domain was determined in accordance with applicable state and Federal modeling guidance. It includes receptors in communities and extends 50 km from the project. Modeled impacts to air quality due to emissions from the project, plus representative background concentrations, are below the applicable ambient air quality standards.

Comment response: AQ20 Background data from other sites	Page 1 of 1

Responsive to these comments:

8032-158

Resolution Copper conducted multiple years of baseline ambient monitoring at multiple stations across the project area. Monitoring was conducted in accordance with Quality Assurance Project Plans approved by the PCAQCD. Appropriate data quality assurance/quality control (QA/QC) procedures were applied during the monitoring program, as required in the approved Quality Assurance Project Plans. QA/QC procedures included comparison of monitored on-site data with air quality data from stations operated by other jurisdictions. PCAQCD reviewed and accepted quarterly annual reports of the baseline data. The use of other background data to represent existing conditions at distant receptors is not warranted or required under EPA guideline modeling protocols.

Comment response: AQ21 Tailings pile emissions	Page 1 of 1

Responsive to these comments:

8032-164

With regard to implementation of dust control measures, section 3.6 (DEIS, pp. 283–284) identified applicant-committed environmental protection measures (including emission controls). The Forest Service ROD must ensure that the applicant-committed environmental protection measures listed in the FEIS, and used to evaluate impacts, are adequately specified as compliance requirements. This will include any monitoring effort that is deemed necessary to demonstrate compliance. Additionally, during construction, operation and closure, Resolution Copper will have an air quality permit and associated Dust Control Plan issued by PCAQCD with compliance requirements for operations to ensure that the facility meets all applicable air quality standards.

Comment response: AQ22 Ozone analysis	Page 1 of 1
Responsive to these comments: 8032-160, 8032-161	
Section 3.6.4.2 (DEIS, p. 288) briefly discussed photochemical formation of ozone and formation of secondary $PM_{2.5}$ in the atmosphere. Reference analysis (Air Sciences Inc. (2019b:section 3.1.13)) addresses these concerns using a Tier 1 threshold analysis for significant impact levels using the EPA-approved screening techniques. Results from this screening show that the VOC, NO_x, and SO_2 emissions from the proposed project would generate impacts below the significance levels. Therefore, the analysis determined that ozone and secondary $PM_{2.5}$ impacts are not significant for the proposed action, and a formal modeling of $PM_{2.5}$ and ozone is not required. These comments also note impacts on human health. See response TS24 for more discussion of this concern.	

Comment response: AQ23 Impacts to Superstition Wilderness	Page 1 of 1
Responsive to these comments: 8032-157	
Air quality impacts in the Superstition Wilderness Area, including impacts on vegetation and other air quality related values, are documented in section 3.6 (DEIS, p. 289, table 3.6.4-2 showing criteria pollutant concentrations at the Wilderness area; table 3.6.4-3 showing nitrogen and sulfur deposition at the Wilderness area; discussion on pp. 290–291 showing haze and visibility impacts at sites within the Wilderness area). Follow-on monitoring of air quality conditions generally is unwarranted for predicted impacts that are well below the ambient standards. The modeled impacts in the Superstition Wilderness Area are well below the standards. The Forest Service and other Federal agencies provide monitoring for air quality conditions in Class I areas where warranted.	

Comment response: AQ24 Modeling missing for tailings facility	Page 1 of 1
Responsive to these comments: 8032-170	
This comment notes that modeling is missing for alternative tailings facilities. This is incorrect, though the DEIS did not specifically summarize this information. We conducted detailed air quality analyses for all alternative tailing storage facilities. Results presented in the DEIS indicated the impacts for Alternative 2, but these impacts were representative of all sites. “Air quality impacts were modeled for each alternative, but the results are largely the same. Maximum impacts for other alternatives would be very similar to those shown in table 3.6.4-1. Detail of the results of other alternative air quality modeling are contained in Newell et al. (2018)” (DEIS, p. 284). In the Newell et al. (2018) reference document, see table 3. We added this table to section 3.6 of the FEIS. With regard to the Skunk Camp location, data for the Skunk Camp were provided in Air Sciences Inc. (2019b:table 3-17); results are slightly higher than for Alternative 2 (1 percent for 1-hour NO_2, and smaller percentages for other pollutants). We prepared a cumulative impact analysis that includes reasonably foreseeable actions for all alternatives and all criteria air pollutants. The exception was the ozone, which was separately determined to be below significance levels (Hampton et al. 2020). We included this impact analysis in chapter 4 of the FEIS and also summarized it in section 3.6 of the FEIS.	

Comment response: AQ25 Monsoon effects	Page 1 of 1
Responsive to these comments: 1438-10, 8032-63	
Changes in rainfall patterns associated with climate change likely would not affect air quality conditions, since this region historically has experienced wide ranges of daily and seasonal extremes of precipitation. Also see response AQ4 for discussion of extreme wind events and dust storms.	

Comment response: AQ26 Shaft exhaust noise and emissions	Page 1 of 1
Responsive to these comments: 918-2	
This comment questions whether the impacts of the air emissions from the shafts at the East Plant Site were analyzed, in terms of air quality and noise from fans. Modeling, used to disclose impacts in the DEIS, already incorporated noise and air quality from these emissions. The mine shaft ventilation exhaust emissions are formally addressed in the modeling report (Air Sciences Inc. (2019b:appendix A). In that formulation, combined emissions of underground operations and sources are tabulated. The data shown in appendix A for "EP Underground Sub Total" refers to the potential controlled emissions from the mine shaft. It includes underground fugitive emissions, as well as process and combustion source emissions. Noise modeling also included these sources: "The primary noise sources for the EPS include ventilation exhaust fans, transformers, condenser cooling towers, refrigeration plant, bulk air cooler, hoist houses, and batch plants" (Tetra Tech Inc. (2019:23)). We have added discussion of visual impacts from possible fog plumes caused by the emission of hot air from the ventilation shafts to section 3.11 of the FEIS (see Comment Response SR5).	

Comment response: CR1 Identified specific information missing from analysis	Page 1 of 1
Responsive to these comments: 1353-2, 1520-3, 28449-113, F7-2	
These comments indicate that specific information was missing from the analysis of cultural resources or tribal concerns in the DEIS. The Forest Service included all relevant data provided by the tribes in the DEIS at the time of its writing (roughly July 2019). Since that time, we have reviewed and included additional relevant information provided by tribes in section 3.14 of the FEIS. In accordance with 40 CFR 1501.2(d)(2) and 36 CFR 800.2(c)(2), tribal input through consultation was sought early and at every step of the NEPA and Section 106 processes. Since the DEIS was published, a plethora of new information was provided to the Forest Service through tribal consultation and Tribal Monitor reports provided to the tribes for determination of eligibility for the NRHP. Consultation is described fully in appendix S of the FEIS. The FEIS discusses and analyzes these data, summarizing information as appropriate in accordance with CEQ guidance. Data include additional traditional cultural places and places of religious and cultural importance to tribes, along with modern religious use of Oak Flat. Section 3.14 of the FEIS includes further detail and discussion of the overall religious significance of the project area to tribes. See response CR4 for more discussion of this topic. A specific comment is that "the lack of reference in the DEIS to the archeological and cultural records held by the San Carlos Apache Tribe, Yavapai people, Aravaipa, and other Indigenous peoples of these ties in the DEIS is inadequate." The Forest Service relied upon tribes to provide information through consultation or other means. We are unaware which specific records were not provided by tribes.	

Comment response: CR2 Information missing from analysis – cultural history	Page 1 of 1

Responsive to these comments:

1422-4, 1460-1, 214-2, 28449-100, 30078-2, 30078-4, 8032-131, 8032-132

These comments indicate that cultural history information is missing from the analysis.

CEQ regulations indicate that not all available information must appear in the EIS: "Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment" (40 CFR 1502.21).

We incorporated detailed background on cultural history by reference (DEIS, p. 625) and included brief summaries. We applied the same approach in the FEIS.

However, in addition to the cultural history from an academic perspective, we also received comments on the lack of a cultural history from the tribal perspective. We have added detail about this in section 3.14 of the FEIS. See response CR4 for more discussion of this topic.

Comment response: CR4 Personal statements and details of the tribal importance of Oak Flat, and impacts to tribes from the project	Page 1 of 1

Responsive to these comments:

100-1, 100-2, 1068-5, 107-8, 108-3, 1090-3, 1093-4, 1095-2, 1100-2, 112-1, 1169-1, 118-1, 1206-6, 1226-2, 1274-1, 1287-1, 1289-1, 129-2, 1293-1, 1296-1, 1309-4, 1309-5, 1310-2, 1310-3, 131-2, 132-3, 1324-1, 1333-3, 1338-4, 1339-1, 1339-2, 1339-3, 1351-1, 1353-1, 1360-3, 1396-4, 1450-1, 1450-2, 1458-1, 1464-4, 1471-2, 1477-1, 1492-1, 1508-1, 1518-2, 1520-2, 1521-1, 1525-1, 1531-3, 1532-1, 1532-2, 156-3, 157-1, 157-2, 159-1, 160-1, 161-1, 163-1, 164-2, 166-1, 168-2, 169-1, 184-1, 184-2, 186-2, 188-1, 188-2, 1924-3, 233-2, 235-1, 235-11, 235-12, 235-13, 235-14, 235-19, 235-2, 235-3, 235-4, 235-5, 235-8, 235-9, 241-1, 242-1, 27681-1, 28046-1, 29708-2, 29709-1, 30074-1, 30078-3, 30078-6, 30078-7, 30079-2, 30079-5, 311-2, 339-2, 437-2, 495-1, 497-2, 55-4, 5975-2, 62-3, 6317-1, 65-2, 70-1, 72-2, 73-2, 74-1, 75-1, 8031-44, 8032-133, 8032-134, 8032-136, 8032-139, 8032-147, 8032-148, 8032-203, 81-1, 81-2, 81-3, 839-1, 87-1, 887-1, 888-1, 917-2, 93-2, 97-2, 97-3, 98-1, 98-2, F7-1, F7-3

The DEIS was written with the information available at the time. However, since its publication, the Forest Service has received important additional information about the role of the project area and proposed tailings storage locations in current-day Apache religion and culture, as well as similar information from other tribes, through the Tribal Monitor surveys, government-to-government consultation, tribal elders' and representatives' visits, and DEIS comments.

For the FEIS, we have revised section 3.14 to acknowledge and document the following:

- That the affected tribes are the original owners and continuing stewards of the land involved with the proposed mine and land exchange, disclosing that the land and mineral wealth proposed for transfer to Resolution Copper belonged to the affected tribes 150 years ago, and that these resources were taken by force and with the loss of many ancestors.
- A full depiction of the boundaries of aboriginal territories of the affected tribes as determined by the U.S. Indian Claims Commission. These boundaries, when overlaid with the area of potential effect for the proposed project, clearly indicate the potential for direct, indirect, and cumulative impacts on aboriginal lands of Arizona's Apache, Yavapai, and Pima-O'odham tribes and nations.
- That Apache tribal leaders have testified before Congress over the years, consistently identifying the sacredness and sanctity of Oak Flat.
- A description of traditional Apache religious thought and practice.
- Inclusion of personal statements that describe the current religious significance and the value given to Oak Flat by the Apache people.

Comment response: CR5 Lack of cultural resource surveys or reports	Page 1 of 1

Responsive to these comments:

1519-1, 1544-3, 1602-2, 251-4, 28449-101, 28449-106, 28449-108, 28449-109, 28449-114, 28449-116, 28449-24, 28449-6, 28449-99, 30065-2, 376-3, 55-6, 562-11, 8031-43, 8032-135

Consistent with 36 CFR 800.4, the Forest Service has taken the steps necessary to complete a reasonable and good faith effort to identify the historic properties within the area of potential effects (APE). Our efforts have included background research, consultations, sample field investigation, and pedestrian field surveys.

Our intent has been to complete pedestrian field surveys across all areas subject to project-related ground disturbing activities (i.e., physical APE). To that end, the Forest Service directed the completion of pedestrian surveys to cover the portions of the physical APE that include the Oak Flat Federal Parcel, GPO project components (East Plant Site, West Plant Site, MARRCO corridor, and filter plant and loadout facility), and the proposed tailings locations for Alternatives 2, 3, 4, 5, and 6.

A large proportion of the necessary surveys were conducted prior to the publication of the DEIS, as described in section 3.12 (DEIS, pp. 627–628). including

- 96 percent of Alternatives 2 and 3 (DEIS, p. 631);
- 72 percent of Alternative 4 (DEIS, p. 632);
- 74 to 78 percent of Alternative 5 (depending on which pipeline route) had been surveyed (DEIS, p. 633); and
- 96 percent of the Skunk Camp alternative and both pipeline routes (DEIS, p. 635).

We have updated section 3.12 of the FEIS to reflect the additional historic properties identified within the physical APE that were completed after publication of the DEIS.

Comment response: CR6 Anglo, Hispanic history lacking; built environment lacking	Page 1 of 1

Responsive to these comments:

28449-102, 28449-9, 8032-130, 8032-137

See response CR2 for discussion of the lack of cultural history discussion in the DEIS.

Additional work was completed on the built environment (Tremblay 2020), and we added this discussion to FEIS section 3.12.

Comment response: CR7 Monitoring and mitigation framework	Page 1 of 2

Responsive to these comments:

1237-2, 233-1, 30078-5, 30080-2

We are developing mitigations for impacts to cultural and tribal resources under two regulatory frameworks: PL 113-291, in which Congress authorized the Southeast Arizona land exchange; and the National Historic Preservation Act (NHPA).

The Forest Service, Resolution Copper, consulting tribes, the SHPO, and the ACHP collectively developed mitigations under both acts. BLM, Arizona State Land Department, and U.S. Army Corps of Engineers provided additional input.

Regarding the land exchange, PL 113-291, Section 3003(c)(9)(C))ii), requires that the EIS "identify measures that may be taken, to extent practicable, to minimize potential adverse impacts on [cultural and archaeological] resources."

The NHPA puts forth a process that identifies, assesses, and resolves adverse effects on cultural resources. Section 106 of the NHPA, along with Forest Service regulations at 36 CFR 800.6, requires the Forest Service to avoid, minimize, or mitigate adverse effects on historic properties for this entire project.

To identify historic properties, the Forest Service required pedestrian surveys of the project area for archaeological and built environment resources, completed tribal monitor surveys for resources important to tribes, and gathered information from tribal representatives during meetings and government-to-government consultation, including review of determinations for eligibility for the NRHP.

The Forest Service developed a Programmatic Agreement (PA) that outlines the procedures for resolving adverse effects on historic properties identified by the above measures and defines roles and responsibilities for those participating in the agreement. Under the PA, mitigation strategies include data recovery, archaeological monitoring, funding for the continuation of a tribal monitoring program, an Emory oak tree restoration project, and the establishment of heritage funds for tribal and local community projects. The PA sets up the following strategies to resolve adverse effects:

- SHPO and tribes reviewed and approved a Historic Properties Treatment Plan (HPTP) for the Oak Flat Federal Parcel that details data recovery of historic properties. In accordance with Stipulation IX.B.1 of the PA, the Forest Service will initiate implementation of the Oak Flat HPTP within 1 month of the PA's execution.

Comment response: CR7 Monitoring and mitigation framework	Page 2 of 2

Responsive to these comments:
1237-2, 233-1, 30078-5, 30080-2

- In accordance with Stipulation IX.B. of the PA, we will ensure that a research design is prepared for all of the project components as described in the GPO, including the selected tailings alternative. Under the umbrella of the research design, treatment plans for data recovery and other mitigations will then be prepared for each project component. Implementation of the research design and treatment plans will occur after issuance of the ROD in accordance with Stipulation IX.D of the PA.
- In accordance with Stipulation IX.C of the PA, the Forest Service shall ensure that Resolution Copper sets up multiple funding sources to fund programs for local communities and tribes to resolve adverse effects on historic properties. These funds are set aside to partially resolve adverse effects on properties identified as being important by tribal monitors and tribal representatives. The Forest Service recognizes that the Tribes assert that the adverse effects on these properties are not able to be mitigated.
- In accordance with Stipulation IX.B.3 of the PA, we will prepare and implement plans to resolve adverse visual, atmospheric, auditory, and/or cumulative effects if needed.
- In accordance with Stipulation IX.H of the PA, after we issue the ROD we will ensure that a monitoring and discovery plan is prepared and followed during construction and operation of the project.
- In accordance with Stipulation IX.I of the PA, we will develop a Native American Graves Protection and Repatriation Act Plan of Action for Federal lands. We also will develop an Arizona State Museum burial plan for State and private lands.

In the Southeast Arizona Land Exchange and Conservation Act (PL 113-291, Section 3003(c)(3)(b)), Congress directed us to work with Resolution Copper to find mutually acceptable measures to address the concerns of affected tribes and minimize the adverse effects on affected tribes resulting from mining and related activities on the Federal land conveyed to Resolution Copper. We cannot fully mitigate these types of impacts through the typical activities specified in the HPTPs. Development of these separate mitigations was a collaborative effort that took place during development of the DEIS and FEIS.

Appendix J of the FEIS incorporates mitigation measures. The effectiveness of these mitigation measures for reducing impacts can be found in the “Mitigation Effectiveness” sections within FEIS sections 3.12 and 3.14. Note that we may not be privy to some private mitigation agreements developed directly between Resolution Copper and Tribes. If these agreements exist, they were not incorporated into the FEIS.

Comment response: CR8 Comments contain criticism or questions on the 106 process	Page 1 of 3

Responsive to these comments:

1350-1, 1417-1, 1417-4, 1417-5, 30078-9, 8030-3, 8032-123, 8032-124, 8032-125, 8032-127

Section 106 of the NHPA requires Federal agencies to consider the effects of an undertaking on historic properties. As defined by its implementing regulations (36 CFR 800), historic properties are any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP. An undertaking is a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license, or approval.

Title 36 CFR 800 sets forth the procedures to be followed during the Section 106 process: initiation of the Section 106 process, identification of historic properties, assessment of adverse effects, and resolution of adverse effects. The following summarizes each step in the process and what we have done to fulfill our responsibilities as lead Federal agency for the undertaking.

During the initiation of the Section 106 process (36 CFR 800.3), the Federal agency establishes that there is an undertaking and determines that it has the potential to affect historic properties. The agency then ascertains whether other State or Federal agencies are involved, identifies the appropriate SHPO and/or THPO, identifies appropriate tribes and others consulting parties, and makes a plan for involving the public in the process.

We initiated consultation with the SHPO on March 31, 2017, with the ACHP on December 7, 2017. Initial consultation began with 11 tribes on the prefeasibility exploration plan for the Resolution Copper Project via a letter dated June 6, 2008; via a letter dated August 4, 2015, after the land exchange in 2015 was signed; and with four additional tribes on December 3, 2018, as alternative tailings locations on BLM-managed lands were identified.

During the identification of historic properties (36 CFR 800.4), the Federal agency determines the APE in consultation with the SHPO/THPO, Tribes, and other consulting parties, identifies resources that may be historic properties within the APE to the appropriate level of effort in consultation with the SHPO/THPO, Tribes, and other consulting parties, and evaluates the historic significance of each resource through application of the National Register criteria and determining whether a resource is eligible for the NRHP in consultation with the SHPO/THPO, Tribes, and other consulting parties.

We have continuously consulted with the SHPO, Tribes, and consulting parties regarding the APE. The APE has changed and been shaped by the input of these parties over time. The overall APE is a 6-mile buffer around the project components, except where it has been extended to the east and south up to 9 miles from the project components, as well as noncontiguous portions around the historic districts of Globe and Miami. We assert that this APE is expansive enough to account for direct, indirect, and cumulative effects of the project.

Comment response: CR8 Comments contain criticism or questions on the 106 process	Page 2 of 3

Responsive to these comments:

1350-1, 1417-1, 1417-4, 1417-5, 30078-9, 8030-3, 8032-123, 8032-124, 8032-125, 8032-127

For the APE for physical effects, we directed the completion of pedestrian surveys across all portions of the physical APE where project-related ground-disturbing activities might occur. Areas surveyed include the Oak Flat Federal Parcel, GPO project components (East Plant Site, West Plant Site, MARRCO corridor, and filter plant and loadout facility), and the proposed tailings locations for Alternatives 2, 3, 4, 5, and 6. Results from these cultural resource inventories have been compiled into three reports and shared with the SHPO, relevant land managing agencies, and consulting Tribes.

For the APE for auditory effects and the APE for visual effects, a Class I records search for archaeological sites and built environment resources was conducted of the entire APE. Targeted reconnaissance and windshield surveys were conducted. We sought information on places of traditional and cultural importance to tribes through three measures: tribal consultations, compilation of an ethnographic and ethnohistoric report, and pedestrian surveys of the APE for physical effects by tribal monitors. Along with agency determinations on eligibility, survey results have been or will be shared with SHPO, land managing agencies, and consulting tribes. Please note that some reports contain sensitive information provided by the tribes and therefore were shared in a summarized form as part of consultation.

During the assessment of adverse effects (36 CFR 800.5), the Federal agency, in consultation with the SHPO/THPO, Tribes, and other consulting parties, applies the criteria of adverse effects on the historic properties in the APE and determines whether the undertaking will result in an adverse effect on historic properties. If no adverse effects are found, then the undertaking may be implemented and the agency's Section 106 responsibilities have been fulfilled. If adverse effects on historic properties are found, the agency must consult with SHPO, Tribes, and other consulting parties to resolve the adverse effects.

In consultation with SHPO, ACHP, Tribes, and other consulting parties, we have determined that the project will have an adverse effect on historic properties. However, because of the complexity of the project, all of the effects would not be known prior to implementation of the project.

Resolution of adverse effects (36 CFR 800.6) involves the agency consulting with SHPO, Tribes, and other consulting parties to develop strategies to avoid, minimize, or mitigate adverse effects on historic properties. This is done through the development and implementation of an agreement between the Federal agency, the ACHP, SHPO, and Tribes and other consulting parties. Development shall also include the public.

Comment response: CR8 Comments contain criticism or questions on the 106 process	Page 3 of 3

Responsive to these comments:

1350-1, 1417-1, 1417-4, 1417-5, 30078-9, 8030-3, 8032-123, 8032-124, 8032-125, 8032-127

Considering the complexity of the project, we developed a PA to resolve adverse effects of the project in consultation with SHPO, ACHP, tribes, and other consulting parties. The PA outlines the roles and responsibilities of parties, the procedure for identification and evaluation of historic properties, assessment for effects, and each party's responsibilities for resolving adverse effects from the project. Several versions of the PA were sent out for review and comment to the consulting parties, including the Tribes. Comments were received and incorporated into each new draft of the PA. In addition, the Forest Service held meetings with the tribes to discuss the PA on October 28 and 29, 2019. The final version of the PA circulated for signature is included as appendix O of the FEIS.

We also have intentionally relied on a NEPA public participation strategy to assist the Federal agencies in satisfying the public involvement requirements under Section 106, pursuant to 36 CFR 800.2(d)(3). This strategy included involving interested parties in the NEPA process, providing project information to the public, giving them opportunities to comment on the project, including Section 106 issues, through five public scoping meetings held on March 31, April 4, 5, and 6, and June 9, 2016; two alternatives workshops held on March 21 and 22, 2017; and DEIS public meetings on September 10, 12, 17, and 19 and October 8 and 10, 2019. Specific workshops to hear public comments and concerns about Section 106 compliance and the PA were held on June 13, 14, and 15, 2018. A workshop for consulting parties to discuss the PA occurred on December 11, 2019. Additionally, we received public comments through the NEPA process on the PA as presented in the DEIS.

Comment response: CR10 Failure to comply with Forest Service regulations	Page 1 of 1

Responsive to these comments:

8031-47

This comment indicates that we failed to comply with appropriate regulations concerning historic preservation, including data collection, consultation, and mitigation.

Title 36 CFR 800.8(a)(3), "Inclusion of Historic Preservation Issues," states, "Agency officials should ensure that preparation of an environmental assessment (EA) and finding of no significant impact (FONSI) or an EIS and record of decision (ROD) includes appropriate scoping, identification, of historic properties, assessment of effects upon them, and consultation leading to resolution of adverse effects."

As stated, we must do what is "appropriate," which does not necessarily mean a full survey. In the case of the Resolution Copper Project, we have gone beyond the normal standards for information collected to inform the NEPA analysis. Most large-scale projects requiring an EIS-level analysis only gather Class I (records search) data for all alternatives. In contrast, we have gathered full Class III pedestrian survey data for all alternatives for this project.

Title 36 CFR 800.8(c) concerns use of the NEPA process for Section 106 consultation. The section concerning inventory efforts is 36 CFR 800(c)(1)(ii), which states, "Identify historic properties and assess the effects of the undertaking in such properties in a manner consistent which the standards and criteria §§ 800.4 through 800.5, provided that the scope and timing of these steps may be phased to reflect the agency official's consideration of project alternatives in the NEPA process and the effort is commensurate with the assessment of other environmental factors."

These identification efforts do not need to be completed all at once, as they can be phased. There is no requirement that 100 percent of this information be in hand for the DEIS.

The intent is for the DEIS to contain an analysis complete enough to draw comparisons between alternatives. However, the DEIS is a living document, intended to garner feedback on the methodologies, supporting data, and conclusions of our analysis. We assert that all survey data sufficient to support a reasonable analysis and informed decision are available for the FEIS/Draft ROD.

Title 36 CFR 800.8(c)(1)(v) states that the agency must "develop in consultation with identified consulting parties alternatives and proposed measures that might avoid, minimize or mitigate any adverse effects of the undertaking on historic properties and describe them in the EA or DEIS." The level of information specific to the DEIS are "proposed measures," with no expectation that these would be finalized until later in the process. Consultation and development of mitigations are laid out in the PA Stipulation I.A, Stipulation V., and Stipulation IX (see appendix O).

Comment response: CR12 Comments contain criticism or questions on the tribal consultation process	Page 1 of 1

Responsive to these comments:

108-2, 1513-1, 1520-1, 1531-1, 1531-4, 235-15, 27869-1, 28-2, 30080-1, 411-1, 463-2, 541-1

We have engaged in a robust program of tribal consultation throughout the NEPA process. Several laws, regulations, and policies mandate that we consult with Tribes on projects that may be important to them. These governing documents include NEPA and Section 106 of the NHPA, NAGPRA, ARFA, AIRFA, EO 13007, "Indian Sacred Sites," and EO 13175, "Consultation and Coordination with Indian Tribal Governments." In addition, Section 3003(c)(3) of PL 113-291 requires that the Secretary of Agriculture, through the Forest Service, engage in government-to-government consultation with affected Tribes about their concerns of the land exchange. It also requires us to consult with Resolution Copper to find measures to address the concerns of tribes and minimize adverse effects.

We initiated consultation with 11 tribes on the prefeasibility exploration plan for the Resolution Copper Project via a letter dated June 6, 2008; for the land exchange in 2015 via a letter dated August 4, 2015; and with four additional tribes on December 3, 2018 (due to the inclusion of the Peg Leg alternative). We continue to consult with tribes, as evident by over 90 letters, 63 meetings, and 13 field visits. See the discussion of consultation history contained in chapter 5 of the FEIS and the full list of consultation process steps in appendix S.

Comment response: CR12_A Comments contain criticism or questions on the tribal consultation process; with addition for specific comment 8031-4	Page 1 of 1
Responsive to these comments: 8031-4	
See Response CR12 for response to criticisms of the tribal consultation process. As noted by the comment, there are additional consultation responsibilities identified in Section 3003 of PL 113-291. The comment notes: "Whether or not the TNF has fully complied with this specific and supplemental consultation requirement is not discussed in the DEIS and there is no evidence that TNF has met this statutory requirement. To the extent that the draft Programmatic Agreement is intended to address the obligations under §3003(c)(3), ITAA does not concur that consultation obligations have been met, nor are the attempts to minimize adverse effects "mutually acceptable" as required by law." This comment is incorrect. Additional consultation specific to developing the mitigations required under PL 113-291 has occurred. These meetings are included in the consultation history described in chapter 5 and appendix S of the FEIS. The outcomes of these discussions include some of the remedies and mitigations included in the PA, but note that there are other mitigations that were developed confidentially between the Forest Service, Resolution Copper, and Tribes. These confidential discussions appropriately are not included in the FEIS.	

Comment response: CR12_B Comments contain criticism or questions on the tribal consultation process; with addition for specific comment 30078-8; 30078-10	Page 1 of 1
Responsive to these comments: 30078-10, 30078-8	
See Response CR12 for response to criticisms of the tribal consultation process. This comment indicates that the Forest Service has inappropriately intermingled three separate types of consultation: government-to-government tribal consultation, consultation required under Section 106 of the NHPA, and consultation with tribes required under Section 3003 of PL 113-291. We agree that these are separate consultation tracks. While interrelated, they still need to be separate in order to comply with laws. Appendix S in the FEIS identifies the full list of specific meetings and correspondence that resulted from these three consultation tracks.	

Comment response: CR13 Comments contain criticism or questions on the tribal consultation process, but specific to 404/Army Corps	Page 1 of 1

Responsive to these comments:

8030-4, 8031-12, 8031-13

We have engaged in a robust tribal consultation program throughout the NEPA process. Several laws, regulations, and policies mandate that we consult with Tribes on projects that may be important to them. These governing documents include NEPA and Section 106 of the NHPA, NAGPRA, ARFA, AIRFA, EO 13007, "Indian Sacred Sites," and EO 13175, "Consultation and Coordination with Indian Tribal Governments." In addition, Section 3003(c)(3) of PL 113-291 requires that the Secretary of Agriculture through the Forest Service, engage in government-to-government consultation with affected tribes about their concerns of the land exchange and to consult with Resolution Copper to find measures to address tribal concerns and minimize adverse effects.

We are the lead agency for the NEPA process, under PL 113-291, Section 3003(c)(9)(B). For project alternatives where a Section 404 of the Clean Water Act permit is needed, the USACE recognizes that the Forest Service is the lead Federal agency for the Section 106 process and consultation under 36 CFR 800 2(a)(2) and has agreed that the Forest Service acts on its behalf using the Section 106 process set up by the Forest Service per the PA. This includes Section 106 tribal consultation. We will manage tribal consultation on the Section 404 permit, along with any compensatory mitigation areas, in conjunction with the USACE.

Comment response: CR13_A Criticism or questions on the tribal consultation process, but specific to the U.S. Army Corps of Engineers and Section 404 Permit; with addition for specific comment 251-2	Page 1 of 1

Responsive to these comments:

251-2

See Response CR13 for response to criticisms of the tribal consultation process related to the U.S. Army Corp of Engineers.

This comment requests "all cultural resource information TNF has given to the Corps, all consultation materials between TNF and any tribes and for any other information in TNF's possession regarding cultural resources within the area of potential effects ("APE") for the Skunk Camp TSF."

Tribes were supplied with the same information as the USACE. The Skunk Camp tailings alternative survey report was not complete when the DEIS was written, though the preliminary data were available and are referenced in section 3.12 (DEIS, pp. 635–636). When it was ready, the report was provided to the Tribes, and SHPO on December 24, 2020. Any additional information provided to the USACE also was provided to Tribes. Additionally, Tribes received a copy of the Tribal Monitor survey report, which details significant resources as discovered and described by tribal monitors, and the tribes were asked to designate any resources that constitute TCPs.

We also provided opportunities for representatives of all affected tribes to visit the Skunk Camp tailings alternative. Invitations for a 2-day visit on May 6 and 7, 2019, were sent via official letter on March 11, 2019, to the 11 tribes. The May 6 and 7 meetings were attended by representatives on one or both days from the Gila River Indian Community, Mescalero Apache Tribe, Pueblo of Zuni, San Carlos Apache Tribe, Tonto Apache Tribe, White Mountain Apache Tribe, and Yavapai-Apache Tribe. A trip was also planned for March 2020; however, it has been postponed due to the pandemic.

Comment response: CR14 Criticism or questions on the Tribal Monitor Program	Page 1 of 1

Responsive to these comments:

235-17, 33-2

The Forest Service's Tribal Monitor program was developed because consulting tribes asked for tribal members to participate in the archaeological survey effort to identify important cultural resources. Tribal Monitors are not tribal staff and cannot conduct consultation on behalf of their tribes. Resolution Copper agreed to fund the Tribal Monitor Program to address the concerns of Tribes in compliance with PL 113-291. The reports they produce are shared with Tribes as an additional source of data to consider, and tribally designated staff are asked to determine NRHP eligibility and to designate whether any of the resources are TCPs.

Reports also assist the Forest Service to determine whether there are adverse effects on historic properties as mandated by Section 106, as well as adverse impacts under NEPA for resources that are not historic properties under 36 CFR 800.

Comment response: CR15 Vegetation species of cultural importance	Page 1 of 1

Responsive to these comments:

28449-115

The DEIS disclosed that 49 types of plants are of special interest but only listed nine of the 49 in section 3.14.3. A comprehensive list, including those mentioned in the comments, was added to section 3.14 of the FEIS.

The tribal monitors have subsequently conducted surveys to identify plant species of special interest to tribes and to record GPS locations for plants in specific areas; other plants that are plentiful in each survey area were not point-located. Any newly identified plant species have also been added to section 3.14 of the FEIS.

Comment response: CR16 Comments on indigenous rights, religious freedom, and international standards	Page 1 of 1

Responsive to these comments:

1150-2, 1439-1, 219-1, 30078-11, 30078-12, 8031-33, 8032-146

These comments question whether or how the Forest Service has complied with a number of laws and international standards concerning indigenous rights and religious freedoms, including AIRFA and the Religious Freedom Restoration Act.

With respect to compliance with these two specific acts, see response NEPA4.

Also see response NEPA15 with respect to comments on the United Nations Declaration on the Rights of Indigenous Peoples. Other international standards raised in these comments, such as International Covenant on Civil and Political Rights, are similar to the issues raised in response NEPA15.

These international standards are statements of goals and objectives for signatory states and are non-binding on member states. In the United States, Federal agencies are obligated to adhere to U.S. laws, regulations, and policies that protect cultural resources and the rights of Native Americans, such as the National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.); Archaeological and Historic Preservation Act of 1974 (16 U.S.C. 469); American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996–1996a); and Native American Graves Protection and Repatriation Act of 1990 (23 U.S.C. 3001 et seq.); as well as other applicable laws, regulations, and policies. It is through these laws, regulations, and policies that progress is made toward achieving the goals and objectives in international standards to which the United States adheres.

In response to concerns that the DEIS did not adequately address tribal religious impacts, section 3.14 of the FEIS was modified to more thoroughly explore these issues. See comment response CR4 for further detail.

Comment response: CR17 Sufficiency of cultural resource information disclosed in DEIS	Page 1 of 2

Responsive to these comments:

1417-2, 8032-122

The purpose of an EIS is to summarize and analyze information on significant issues in order to inform the public and allow agency officials to make decisions regarding a proposed project. Data are to be presented in a concise manner and in such a way that is easily comparable across alternatives. Under CEQ regulations on the implementation of NEPA procedural provisions (40 CFR 1500), Federal agencies are directed that EISs shall be analytic rather than encyclopedic when preparing an EIS (40 CFR 1502.2(a) and 40 CFR 1500.4(b)). EISs shall be concise and no longer than absolutely necessary to comply with NEPA and related regulations (40 CFR 1502.2(c)). To this end, the DEIS presented sufficient detail available at the time on the number and types of archaeological resources potentially impacted by each alternative of the proposed project for the agency official to make decisions regarding that project and for public information, in accordance with 40 CFR 1500.1 and 40 CFR 1500.2(b).

Furthermore, Section 304 of the NHPA allows Federal agencies to "withhold from disclosure to the public, information about the location, character, or ownership of a historic property if the Secretary and the Agency determine that the disclosure may –

(1) cause a significant invasion of privacy;

(2) risk harm to the historic property; or

(3) impede the use of a traditional religious site by practitioners."

Additionally, Section 9 of the Archaeological Resources Protection Act (16 USC 470hh) states that: (a) Information concerning the nature and location of any archaeological resource for which the excavation or removal requires a permit or other permission under this chapter or under any other provisions of Federal law may not be made available to the public under subchapter II of chapter 5 of title 5 or under any other provision of law unless the Federal land manager concerned determines that such disclosure would:

(1) further the purposes of this chapter of the Act of June 27, 1960 (16 USC 469-469c);

(2) not create a risk of harm to such resources or to the site at which such resources are located.

In general, locational information and other identifying characteristics of archaeological resources cannot be shared with the public if its release might endanger the resource. Section 9 of the ARPA applies to archaeological resources on Federal lands. If it applies, then the agency is required to withhold information if the ARPA criteria for potential harm to resources are met. Section 304 of the NHPA allows agencies to decide whether information should be withheld to protect the resource, regardless of land ownership. For the current project, the majority of the sites are on Federal land and meet the Section 9 criteria. Therefore, law dictates that we must withhold sensitive information about those sites from the public.

Comment response: CR17 Sufficiency of cultural resource information disclosed in DEIS	Page 2 of 2

Responsive to these comments:

1417-2, 8032-122

In addition, many of the archaeological sites are important resources to tribes and therefore, are subject to prohibitions on disclosure, in accordance with 25 U.S.C. 3056. Graphics depicting the location of archaeological sites and detailed descriptions of sites should not be found in an EIS. These data have been shared with the staff designated by each Tribe.

In addition, agencies are limited in the amount of information they can release in a DEIS regarding the nature and characteristics of archaeological resources, which results in the use of quantified data rather than qualitative data to discuss impacts to resources.

Comment response: CR18 Region 3 Programmatic Agreement	Page 1 of 2

Responsive to these comments:

7958-4

In accordance with WHEREAS Clause 39 of the U.S. Forest Service Region 3 Programmatic Agreement (Region 3 PA), "the FS shall seek and consider the views of the public in a manner that reflects the nature and complexity of each undertaking and its potential effects on historic properties and the likely interest of the public in the effects on historic properties. The FS shall use its procedures for public involvement under the National Environmental Policy Act (NEPA) to solicit information and concerns about historic properties from members of the public. The FS will ensure that an appropriate level of public involvement is provided, in accordance with 36 CFR 800.2(d)(3)."

In following Region 3 PA guidance, we used and coordinated the NEPA public participation efforts to assist Federal agencies in satisfying public involvement requirements under Section 106 pursuant to 36 CFR 800.2(d)(3) by involving interested parties in the NEPA process, providing project information to the public, and giving them opportunities to comment on the project, including Section 106 issues, through:

- five public scoping meetings held on March 31, April 4, 5, and 6, and June 9, 2016,
- two alternatives workshops held on March 21 and 22, 2017,
- DEIS public meetings on September 10, 12, 17, and 19 and October 8 and 10, 2019,
- workshops to hear public comments and concerns about Section 106 compliance and the project PA on June 13, 14, and 15, 2018, and
- workshops for consulting parties to discuss the PA on December 11, 2019.

Through these avenues, the Tonto National Forest received comments through the NEPA process on the PA as presented in the DEIS.

Stipulation II. A. of the Region 3 PA states, "The FS will ensure that environmental documents include information on historic properties that will be affected by the proposed action and alternatives, consistent with Section 304 of NHPA and Section 9 of the Archaeological Resources Protection Act (ARPA)."

Stipulation II. B. of the Region 3 PA states, "The FS shall ensure public access to findings made pursuant to this Agreement, consistent with Section 304 of NHPA and Section 9 of ARPA, and will consider comments or objections by members of the public in a timely manner."

Comment response: CR18 Region 3 Programmatic Agreement	Page 2 of 2

Responsive to these comments:

7958-4

Section 304 of the NHPA and Section 9 of the ARPA deal with the confidentiality of information about historic properties and/or archaeological resources. Section 9 of the ARPA applies to archaeological resources on Federal lands. If it applies, the agency is required to withhold information if the ARPA criteria are met. Section 304 of the NHPA allows agencies to decide whether information should be withheld to protect the resource, regardless of land ownership. For the current project, the majority of the sites are on Federal land and meet the Section 9 criteria.

Therefore, law dictates that we must withhold sensitive information about those sites from the public. See response CR17 for more discussion of these restrictions.

Comment response: CR19 Cultural resources along Mineral Creek	Page 1 of 1
Responsive to these comments: 30081-9	
These comments concern impacts to cultural resources along Mineral Creek, which, in the DEIS, would be impacted by the pipeline and power line to the Alternative 6 tailings storage facility. The Alternative 6 – North pipeline route was modified, in part, based on the issues raised in these comments. The rerouted pipeline considered in the FEIS now substantially avoids perennial water and critical habitat along Mineral Creek, except for a trenchless underground crossing upstream of Government Springs Ranch, crosses Devil's Canyon at a non-perennial location using an overhead span, and reduces the amount of the pipeline corridor that occurs on Arizona State Trust land. A discussion of this change was added to chapter 2 of the FEIS. This rerouted pipeline avoids the cultural resources referred to in this comment.	

Comment response: CR20 Bald and Golden Eagles	Page 1 of 1
Responsive to these comments: 8031-45, 8031-66, 8032-186	
Bald and Golden Eagles specifically are identified as being included in the special status species analyzed in section 3.8 (DEIS, p. 454). The status of golden eagles with respect to project components is shown in table 3.8.4-2 (DEIS, p. 466) and bald eagles are discussed on p. 468 (DEIS, p. 468). Impacts to these birds are described along with other migratory birds (DEIS, pp. 461–462). Further detail is included in the project record (Newell 2018j). Impacts to these two species are identified in section 3.8 in the FEIS.	

Comment response: CR21 Comments contain criticism or questions on Area of Potential Effect	Page 1 of 1
Responsive to these comments: 235-20	
We developed the APE in consultation with SHPO, tribes, and other consulting parties. The APE for the undertaking consists of a 6-mile buffer around the Oak Flat Federal Parcel, the GPO project areas, and tailings alternatives, except where it has been extended outward to include Top-of-the-World, as well as the historic districts in Globe and Miami and any Section 404 of the Clean Water Act mitigation areas outside the 6-mile buffer. This APE captures direct, indirect, and cumulative effects of the project. The APE is broken up into "zones" to guide identification efforts and the evaluation of potential direct, indirect, and cumulative effects. The mine components footprints were buffered by 250 feet; generally, physical effects are expected to occur within the project areas and buffer. The APE for physical effects includes all areas likely to be affected by construction, operations, and reclamation activities. Auditory effects may occur within 2 miles of the combined project footprint and include effects from noise and vibration. Visual/atmospheric effects may occur within 6 miles of the project area or where it has been extended around Top-of-the-World and the two noncontiguous areas around the historic districts in Globe and Miami. The 6-mile buffer plus the extension around Top-of-the-World and the noncontiguous areas around the historic district in Globe and Miami will also serve as the APE for cumulative effects. The cumulative APE encompasses most of what is known as the "Copper Triangle." APE development was an ongoing process with feedback from consultation with the SHPO and the ACHP, as well as the Tribes and other consulting parties. The APE was expanded several times to include new potential effects and new project areas. We are confident that the APE reflects the concerns of all the consulting parties, including Tribes.	

Comment response: CR22 Programmatic Agreement	Page 1 of 1
Responsive to these comments: 1417-3, 8032-128	
These comments are specific to the PA included as appendix O of the DEIS. The version of the PA in the DEIS was the latest draft at the time of publication. The PA continued to evolve through consultation with required signatories. The final version of the PA circulated for signature is the version included in appendix O of the FEIS. Among the signatories are the Advisory Council on Historic Preservation, the Arizona State Historic Preservation Officer, the Tonto National Forest, and Resolution Copper.	

Comment response: CR23 Scoping comments on Programmatic Agreement	Page 1 of 2
Responsive to these comments: 32-1	
This comment indicates the PA is insufficient and refers specifically to a number of scoping comments submitted. The version of the PA in the DEIS was the latest draft at the time of publication. The PA continued to evolve through consultation with required signatories. The final version of the PA circulated for signature is included in appendix O of the FEIS. Among the signatories are the Advisory Council on Historic Preservation, the Arizona State Historic Preservation Officer, the Tonto National Forest, and Resolution Copper. We are aware of the specific scoping comment, in the form of 13 questions, submitted by this commenter. During the NEPA process, there is no requirement that scoping comments be addressed explicitly in the DEIS. Scoping comments generate a suite of issues that then guide the analysis in the DEIS. Those issues are contained in the report titled "Final Summary of Issues Identified Through Scoping Process, November 2017" (SWCA Environmental Consultants 2017b). Any scoping comment is traceable to the issue statements that encompass it, through the report titled "Public Concern Statements, May 2017" (U.S. Forest Service 2017h). The scoping comment in question is #26631, and the individual comments were numbered 2626 through 2638. For example, comment 2626 from scoping comment letter #26631 was: "Question 1: Once the EIS is completed, the land swap has been consummated, all the permits have been issued, and mining starts in earnest - what regulatory body or bodies will ensure that any necessary mitigation, monitoring, and other NEPA-related conditions will actually be carried out?" This was assigned to Public Concern Statement MIT-4.1 (U.S. Forest Service (2017h:A-34). Regardless of the scoping process, the commenter's specific questions largely were answered in the DEIS. These are summarized below: Question 1 asked what agencies would oversee mitigation and monitoring. This varies by alternative, and the question is answered for each mitigation/monitoring measure in appendix J. See the "Authority to Require" section for each measure. Question 2 asked whether any mitigation/monitoring would be charged to taxpayers. No; the mine bears the financial burden for mitigation/monitoring activities. We added language to appendix J of the FEIS to make this clear to the public. Questions 3 and 4 asked what occurs in the case of bankruptcy. Chapter 2 addresses financial assurances (DEIS, p. 104).	

Comment response: CR23 Scoping comments on Programmatic Agreement	Page 2 of 2
Responsive to these comments: 32-1	
Question 5 asked whether a cost/benefit analysis would be conducted. No; conducting a cost/benefit analysis is not a requirement under NEPA or Forest Service regulations. Question 6 asked who will manage mined land long term. This varies by alternative. Facilities on Federal land are managed long term by the appropriate Federal agency. Facilities on private land are managed by private landowners. We added language to chapter 1 of the FEIS to make the regulatory jurisdictions for each alternative and each mine component clear to the public. Question 7 asked the range of conditions that would be analyzed in the EIS. We have strived to show a range of conditions, particularly with extreme events. For instance, section 3.7.3 in the FEIS looks at effects of the project on a variety of flood conditions. Section 3.7.1 in the FEIS looks at 87 different groundwater models under a range of conditions. Section 3.2 in the FEIS looks at subsidence under a range of conditions. Section 3.10.1 looks at potential tailings failures under a range of conditions, including saturated failure and unsaturated failure. Questions 8 and 9 asked for details on how cumulative effects and "secondary" effects would be defined. There is no single answer to this question, as each resource is different. The overall approach is described in chapter 3 (DEIS, pp. 127–129) and varies resource-by-resource. Each resource section in chapter 3 describes the analysis area considered for direct and indirect effects. The cumulative effect analysis areas were described in SWCA Environmental Consultants (2018a) for the DEIS, but now are described and shown graphically in chapter 4 of the FEIS. Question 10 asked about boom/bust cycles. Section 3.13 addresses this subject (DEIS, p. 653). Question 11 asked where the labor pool would be derived. Section 3.13 addresses this subject (DEIS, pp. 648–650). Question 12 asked about adverse effects on tourism, recreation, and scenic resources (among other things). Section 3.13 addresses effects on the "nature-based tourism economy" (DEIS, p. 653). Section 3.9 addresses effects on recreation (DEIS, pp. 495–509). Section 3.11 addresses effects on scenic resources (DEIS, pp. 594–618). Question 13 asked "what effects will the proposed action have on the good faith of Arizona citizens who willingly engaged in an open, federally defined process that gave them a voice and a chance, but then had the rug pulled out from under their feet?" This comment was considered non-actionable during scoping. We are responsible for ensuring that the NEPA process is conducted properly, including appropriate public outreach. This public involvement effort was conducted as required and has included public meetings and comments during scoping, during alternatives development, and after release of the DEIS.	

Comment response: DOC1 Specific wording or technical edit to be considered	Page 1 of 1
Responsive to these comments: 1048-1, 1048-3, 1158-10, 1158-23, 1158-44, 1158-45, 1188-12, 1188-8, 1263-1, 1389-10, 1389-11, 1389-12, 1389-5, 1389-6, 1438-7, 278-3, 278-4, 278-6, 28449-103, 28449-104, 28449-107, 28449-112, 28449-118, 28449-124, 28449-125, 28449-126, 28449-127, 28449-128, 28449-129, 28449-13, 28449-130, 28449-132, 28449-133, 28449-134, 28449-135, 28449-136, 28449-137, 28449-138, 28449-139, 28449-14, 28449-140, 28449-141, 28449-142, 28449-143, 28449-144, 28449-145, 28449-146, 28449-147, 28449-148, 28449-15, 28449-151, 28449-16, 28449-18, 28449-19, 28449-21, 28449-25, 28449-26, 28449-27, 28449-3, 28449-32, 28449-34, 28449-35, 28449-36, 28449-37, 28449-38, 28449-39, 28449-4, 28449-40, 28449-41, 28449-42, 28449-43, 28449-44, 28449-45, 28449-46, 28449-47, 28449-5, 28449-50, 28449-51, 28449-53, 28449-57, 28449-59, 28449-60, 28449-61, 28449-62, 28449-63, 28449-64, 28449-65, 28449-66, 28449-68, 28449-69, 28449-7, 28449-71, 28449-72, 28449-73, 28449-78, 28449-79, 28449-82, 28449-85, 28449-87, 28449-88, 28449-89, 28449-90, 30075-100, 30075-101, 30075-130, 30075-131, 30075-132, 30075-27, 30075-28, 30075-34, 30075-37, 30075-4, 30075-51, 30075-54, 30075-55, 30075-58, 30075-59, 30075-6, 30075-60, 30075-63, 30075-64, 30075-65, 30075-67, 30075-72, 30075-74, 30075-79, 30075-87, 30075-90, 30078-37, 37-1, 524-25, 8032-338, 866-14	
We considered all suggestions for specific edits to the EIS, including punctuation, spelling, grammar, and formatting of tables and figures and made corrections or revisions where appropriate.	

Comment response: EJ2 Overall criticisms of environmental justice analysis	Page 1 of 3

Responsive to these comments:

1396-5, 1535-1, 19-5, 28449-117, 8032-140, 8032-141

As indicated in section 3.15 in the DEIS, EO 12898 requires Federal agencies to address high and disproportionate environmental impacts on minority and low-income populations (DEIS, p. 672). Environmental justice (EJ) impacts would result if potentially significant and adverse impacts attributable to the proposed project fall disproportionately on these populations.

Criteria for identifying and assessing potential impacts to EJ populations are found in the following policy and guidance documents and are also described in section 3.15 of the FEIS:

- Council on Environmental Justice: Environmental Justice: Guidance Under the National Environmental Policy Act
- Grinspoon et al. (2014): Striving for Inclusion: Addressing Environmental Justice for Forest Service NEPA
- U.S. Department of Agriculture: Environmental Justice Directive 5600-002
- U.S. Environmental Protection Agency: Technical Guidance for Assessing Environmental Justice in Regulatory Analysis
- U.S. Environmental Protection Agency: Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples

Section 3.15 of the DEIS (DEIS, p. 674) describes the methodology for identifying EJ populations and assessing potential impacts. Information was refined in the FEIS to further clarify the analysis area and geographic extent of impacts. Impacts to EJ populations are summarized by resource in table 3.15.4-1 of the DEIS (pp. 680–682) and clarified in the FEIS.

EJ analysis identifies the geographic extent of potential high and adverse impacts that could occur for each resource analyzed in the EIS (see sections 3.2 through 3.16 of the DEIS). If those areas overlap with potential EJ populations, high and adverse impacts to EJ populations could occur. Table 3.15.4-1 in the FEIS identifies disproportionate, high and adverse impacts to EJ populations within the analysis area.

Comment response: EJ2 Overall criticisms of environmental justice analysis	Page 2 of 3

Responsive to these comments:

1396-5, 1535-1, 19-5, 28449-117, 8032-140, 8032-141

Section 3.15 of the FEIS clarifies the analysis area and geographic extent of impacts. Gila County's Town of Hayden, Town of Miami, and City of Globe along with Pinal County's Town of Winkelman and community of Randolph would not experience disproportionally high and adverse impacts to environmental justice populations by the proposed mining facilities. As stated in the DEIS, "Other environmental justice communities (with the exception of Native American communities) would not experience adverse impacts as a result of the proposed project because they would be located outside the geographic area of influence for most resources. The town of Superior would experience disproportionately high and adverse impacts under all alternatives primarily because the West Plant Site and associated facilities would be located directly north of and adjacent to the town" (DEIS, p. 679).

Comments regarding assessment of disproportionate high and adverse impacts to environmental justice populations were addressed in section 3.15 and summarized in table 3.15.4-1 of the DEIS. The summary outlines the following:

Tribal Values and Cultural Resources

The following EPA reference was used as an internal agency policy document. Many of its identified principles were used to inform and integrate the meaningful involvement of affected tribes.

- U.S. Environmental Protection Agency: Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples

Sections 3.12 and 3.14 describe potential impacts to cultural resources and tribal values and concerns. High and adverse impacts would occur to tribal values and cultural resources and would disproportionately affect the Native American EJ population in the area of analysis, as described in table 3.15.4-1 of the DEIS (p. 682).

Additionally, we continue to engage in government-to-government consultation with affected tribes. See response CR8 for more discussion.

Air Quality

Section 3.6 of the DEIS describes potential impacts to air quality resulting from proposed mine facilities. Potential impacts to EJ populations are summarized in DEIS table 3.15.4-1 (p. 682). Effects on air quality due to emissions from the proposed project, in conjunction with nearby source emissions, are expected to result in predicted concentrations at the facility boundary and in Class I and II areas. Predicted concentrations are in compliance with the NAAQS limits and would not constitute high and adverse impacts to environmental justice communities.

Comment response: EJ2 Overall criticisms of environmental justice analysis	Page 3 of 3

Responsive to these comments:

1396-5, 1535-1, 19-5, 28449-117, 8032-140, 8032-141

Groundwater Quality and Quantity

Section 3.7.2 of the DEIS describes potential impacts to groundwater quality resulting from proposed mine facilities. Potential impacts to EJ populations are summarized in DEIS table 3.15.4-1 (p. 682). Section 3.7.2 describes potential impacts to groundwater quality primarily when compared with water quality standards as an impact threshold. Potential impacts to groundwater quality primarily would result from tailings facilities losing seepage with poor water quality to the environment. Impacts associated with the tailings storage facilities for Alternatives 2, 3, and 4 could disproportionately affect EJ populations in the town of Superior. Groundwater supplies in Superior could be impacted by groundwater drawdown associated with proposed mining operations but would be replaced through mitigation.

Soils and Vegetation

Section 3.3 of the DEIS describes potential impacts to Soil and Vegetation resources resulting from proposed mine facilities. Potential impacts to EJ populations are summarized in DEIS table 3.15.4-1 (p. 681). As described in section 3.15 of the DEIS, impacts to soil and vegetation resources are not anticipated to disproportionately affect EJ populations.

Socioeconomics

Section 3.13 of the DEIS describes socioeconomic effects (including effects on housing, municipal infrastructure, such as roads, schools, and medical facilities). As described in section 3.15 of the DEIS and summarized in table 3.15.4-1 (p. 680), housing shortages, pressure on municipal services and schools, and price increases could disproportionately and adversely affect EJ populations in Superior. Appendix J of the DEIS discusses mitigation of adverse socioeconomic effects and includes agreements between Resolution Copper and the Town of Superior that would offset potential impacts to the quality of life, education, and emergency services.

Scenic Resources

Section 3.11 of the DEIS describes effects on scenic resources, including methodology and analysis. DEIS table 3.15.4-1 states, “Residents of the town of Superior would experience adverse changes to visual quality of the area as a result of the West Plant Site and auxiliary facilities. As the town of Superior would be the only community that would experience adverse impacts on scenic resources as a result of the West Plant Site and auxiliary facilities and has been identified as an environmental justice community, impacts on scenic resources would be disproportionately adverse” (DEIS, p. 680).

Comment response: EJ2_A Overall criticisms of environmental justice analysis; with addition for specific comment 8032-145	Page 1 of 1

Responsive to these comments:

8032-145

See Response EJ2 for response to criticisms of the environmental justice analysis.

This comment raises issues related to tribal consultation, indigenous rights, and religious freedoms. See responses CR8, NEPA4, NEPA15, and CR16 for more discussion of these issues.

Comment response: EJ2_B Overall criticisms of environmental justice analysis; with addition for specific comment 8032-138	Page 1 of 1

Responsive to these comments:

8032-138

See Response EJ2 for response to criticisms of the environmental justice analysis.

This comment includes the following statement: “These comments on the DEIS acknowledge and incorporate by reference those comments of October 25, 2019, relating to failure of the DEIS to address EJCs submitted by Professor Steven Boyd (EJ-EX-01).”

Note that these comments were not submitted to the Forest Service. The investigation into these missing comments is described in Garrett (2020l).

Comment response: EJ3 Overall criticisms of environmental justice analysis, specific to public health	Page 1 of 1

Responsive to these comments:

8032-142, 8032-57

Section 3.15 of the FEIS was revised to include identification of vulnerable populations within the town of Superior that could be at greater risk to adverse effects associated with social determinants of health outcomes. Additionally, a public health analysis was conducted to assess potential health outcomes related to proposed mining facilities (see section 3.6 of the FEIS and also see response to comment TS24). Analysis results indicate that emissions from the project and deposition of metals are not anticipated to exceed any thresholds that would indicate excessive cancer or non-cancer health risks.

See response to comment EJ2 regarding environmental justice analysis methodology and impact analysis.

Additionally, for specific resource impacts associated with the proposed mine facilities see the following DEIS sections:

- Section 3.3 for plants and vegetation
- Section 3.5 for transportation
- Sections 3.7.1, 3.7.2, and 3.7.3 for waters
- Section 3.8 for general biology and wildlife
- Section 3.9 for recreation
- Section 3.12 for cultural resources
- Section 3.13 for economy, employment and housing
- Section 3.14 for ancestral lands or TCP of Native American populations

Comment response: EJ4 Question on pipeline impacts to Superior	Page 1 of 1

Responsive to these comments:

29-3

Section 3.10.1 of the DEIS analyzes the potential impacts from pipeline ruptures (pp. 546–553). This includes potential impacts resulting from ruptures of tailings slurry pipelines associated with tailings facilities (including Silver King, which is mentioned specifically), as well as concentrate pipelines that would be in the MARRCO corridor.

As stated in the DEIS (see p. 546), “In the event of a potential rupture, spill, or failure of either the concentrate pipeline or the tailings pipeline, the effects would be similar to those of a tailings storage facility failure with respect to direct damage to vegetation and potential for contamination. However, because of the ability to monitor and shut down the pipeline immediately upon identifying a problem, the impact would be much more localized, involve much smaller volumes, and would be of a shorter duration. . . . Potential for impact on groundwater quality would be relatively low, given limited release volumes and limited groundwater present in these ephemeral drainages.”

Comment response: EJ5 Missing/Murdered women	Page 1 of 1

Responsive to these comments:

1338-2

Additional analysis was added to section 3.15 of the FEIS to discuss potential adverse impacts associated with an increase in workers associated with construction and operation of proposed mine facilities. The analysis includes potential safety risks to indigenous women and girls. This analysis also includes risks associated with drug and alcohol-related offences, sexual offences, domestic violence, and gang violence, associated with rural communities and the development of resource extraction industries.

Comment response: EJ6 Quality of life	Page 1 of 1

Responsive to these comments:

1338-3

Additional analysis was added to section 3.15 of the FEIS to summarize potential adverse impacts to the quality of life of environmental justice populations within the town of Superior. Impacts to quality of life indicators, including baseline descriptions of the affected environment and potential impacts associated with the construction and operation of proposed mining facilities, are described in the following sections of the DEIS:

- Section 3.4 for noise impacts
- Section 3.5 for transportation
- Section 3.6 for air quality
- Sections 3.7.1, 3.7.2, and 3.7.3 for waters
- Section 3.9 for recreation
- Section 3.11 for scenic and dark sky
- Section 3.13 for socioeconomic and municipal services

Comment response: GS1 Pipeline failure risks, with specific reference to seismic hazards	Page 1 of 2

Responsive to these comments:

1538-7, 30141-7, 8032-244

These comments raise concerns over the risk and consequences of pipeline failures, and the seismic analysis pertinent to the pipelines.

Analysis of the potential for pipeline failures and the consequences for pipeline failures are analyzed in section 3.10.1 (DEIS, pp. 535–554).

Studies that have been completed that are pertinent to the pipeline design and protection, including seismic hazards, include the following:

- The site-specific seismic hazard analyses for the mine site and Alternative 6 tailings storage facilities (Wong 2020)
- The pipeline management plans available before the DEIS, which includes specific analysis of potential failure modes, including geohazards and storm events (AMEC Foster Wheeler Americas Limited 2019; M3 Engineering and Technology Corporation 2019)
- A pipeline protection and integrity plan prepared in response to comments, which includes specific analysis of potential failure modes, including geohazards such as slope instability, seismic hazards, scour, and geologic subsidence (Golder Associates Inc. 2020); this plan includes specific mitigation methods to respond to these geohazards

The pipeline protection and integrity plan prepared in response to comments also includes analysis of potential failure modes other than geohazards, including mechanical failure, corrosion and erosion, operational failures, and human-caused failures. This plan includes specific mitigation methods to respond to these potential failure modes.

Comment response: GS1 Pipeline failure risks, with specific reference to seismic hazards	Page 2 of 2
Responsive to these comments: 1538-7, 30141-7, 8032-244	
Specific to seismic hazards, the pipeline protection and integrity plan looked at specific hazards such as ground movement, liquefaction, and active surface fault ruptures. No specific hazards were found to be of concern. The plan notes: "Seismic events are typically not direct integrity threats to the pipelines, provided that the pipeline does not cross active faults. No records or signs of active faults have been identified along the selected pipeline alignment in the two seismic hazard evaluations completed for the area covering the pipeline and additionally, no active faults have been identified during field geotechnical investigations. If signs of active fault zones are identified during construction of the pipeline, the following mitigation measures may be implemented depending upon the site conditions: • heavy wall pipe to increase the capacity to accommodate additional stresses caused by differential movement in active fault zones • increased trench width in combination with low density fill materials to minimize the additional stresses • reduced depth of cover to minimize the additional stresses • specially designed aboveground fault crossings, if necessary" (Golder Associates Inc. (2020:14))	

Comment response: GS1_A Pipeline failure risks, with specific reference to seismic hazards; with addition for specific comment 863-1	Page 1 of 1
Responsive to these comments: 863-1	
See response GS1 for response to the general topic of pipeline failures due to seismic activity. This comment notes the design earthquake for the project is the 5,000-year return period. This is incorrect. See response TS2 for more detail.	

Comment response: GS2 Vulcanism and seismic data sources	Page 1 of 1

Responsive to these comments:

1201-3, 61-1, 62-5, 8032-243

These comments concern seismic activity and vulcanism.

There is no credible evidence that active volcanos or fumaroles are present at the mine site or any of the tailings storage facilities, nor is active vulcanism a general concern for this area. According to the USGS Volcano Hazards Program, the nearest volcanic fields are about 140 miles away, either to the northeast (the Red Hill-Quemado volcanic field in western New Mexico) or to the northwest (the San Francisco volcanic field around Flagstaff, Arizona). This issue is therefore not analyzed as part of the NEPA process.

With respect to seismic activity, additional investigation and updated data sources have been received since the DEIS. These include the following:

- Site-specific seismic hazard assessment for the Skunk Camp location (Wong et al. 2020b) and NEPA team review of this assessment (Zellman and Cook 2020c)
- NEPA team review of three seismic reports for the mine site (Zellman and Cook 2020b)
- NEPA team review specifically of the potential for active surface faulting at the Skunk Camp tailings storage facility (Zellman and Cook 2020a)
- Specific responses to issues raised in two reports submitted with comment letter #8032, including a report by Dr. S. Emerman (Appendix B-5 to the letter) and Dr. D. Chambers (Appendix A to the letter) (KCB Consultants Ltd. 2020g)

The comments from the Chambers report questions the data sources used for the seismic analysis, noting 2014 data from the USGS that would have postdated a 2013 seismic report. As noted in the list above, the seismic hazard studies conducted for the Skunk Camp tailings storage facility all postdate the 2014 data, and the data sources are either consistent with or more updated and recent than the sources cited in the comment.

The comments from the Chambers report also note that the EIS “must disclose the location and magnitude of the maximum credible earthquake used for the design earthquake for the tailings dam.” There are two basic approaches for calculating ground motions from seismic events: a probabilistic seismic hazard assessment (PSHA), and a deterministic seismic hazard assessment (DSHA). Both methods were conducted in the 2013 report that Dr. Chambers reviewed, as well as the more recent 2020 site-specific seismic hazard assessment for the Skunk Camp tailings location. A DHSA analyzes a specific magnitude earthquake at a specific fault. A PSHA analyzes a hypothetical seismic event of a given magnitude at a given distance. In both cases, the ground motion at the location of interest (in this case the tailings storage facility) is analyzed. The PSHA approach resulted in higher ground motion than the DSHA, and therefore the PSHA was used for the design of the tailings storage facility. Regardless of the results, the faults used for the analysis are clearly disclosed in the seismic reports.

Comment response: GS3 Safety of climbing routes; induced seismicity	Page 1 of 1

Responsive to these comments:

1358-3, 1524-4, 29-8

The DEIS discusses the potential for the block-caving operations to induce small seismic events in section 3.2 (DEIS, pp. 145–146, 155). These comments express concern that the results are not given sufficient weight, considering climbing routes in the area and the uncertainty in the analysis.

The DEIS concludes, "While mine-induced seismicity is possible, based on 100 years of worldwide observations, events greater than magnitude 5 are rare, and events of magnitude 3 or less are more common. This is observed in the most recent mine-related earthquakes in Arizona, which ranged from magnitude 2.9 to 3.1" (DEIS, p. 155).

The general effects of earthquakes of magnitude 3 (on the Richter scale) can be put into other terms, such as the Modified Mercalli scale described in section 3.2 (DEIS, p. 145). An earthquake of magnitude 3 on the Richter scale generally corresponds to a magnitude II or III on the Modified Mercalli scale. As noted in the DEIS, the effects of a magnitude III earthquake are: "weak. Many people do not recognize it as an earthquake, standing vehicles may rock slightly, and vibrations are similar to the passing of a truck."

As with all climbing areas, the formations in the vicinity of the project have hazards present from balanced rocks, and fractured and unstable features. Rockfalls associated with these hazards happen naturally, responding to the effects of background vibrations, wind, water, and freeze/thaw cycles. Induced seismicity triggered by block caving—if it happens—appears no more likely than these natural factors to trigger specific hazards to climbers.

We have added further discussion to section 3.2 of the FEIS to put the potential hazards of induced seismicity into context.

Another comment notes that damage could occur to buildings in Superior from induced seismicity. This was analyzed in section 3.2: "Induced mine seismicity is possible, but unlikely to be of sufficient magnitude to cause structural damage" (DEIS, p. 155).

Another comment notes the horizontal and vertical displacement associated with subsidence would increase hazards, as well. See response GS14 for more detail on this issue.

Comment response: GS4 Uncertain information with respect to fault lines	Page 1 of 1

Responsive to these comments:

1097-9, 62-1

These comments raise concerns over uncertain information about the location and nature of the fault lines that exist in the area, and that the DEIS does not specifically note that the "uncertainty is much greater in the area near Apache Leap [Special Management Area]."

The document referenced in the comment (BGC Engineering USA Inc. 2018a) does note that the geological characterization is the most detailed near the ore body: "Therefore, the Workgroup concludes that geologic data outside of the mineralized zone, as well as for the Camp and Gant faults, is not as well represented as in the mineralized zone" (BGC Engineering USA Inc. (2018a:54)). The Gant Fault is indeed located on the west side of the ore body, near the Apache Leap Special Management Area. In this sense, the comment is correct that uncertainty is greater in the area near the Apache Leap Special Management Area.

However, this uncertainty was not ignored in the DEIS analysis. The text continues, "However, conservative modeling assumptions and sensitivity analyses have been used to account for sparse data in these areas" (BGC Engineering USA Inc. (2018a:54)). The results of the sensitivity analyses are discussed in section 3.2 of the DEIS:

> "The Geology and Subsidence Workgroup requested a number of sensitivity model runs as part of the evaluation of the subsidence model (BGC Engineering USA Inc. 2018a; Garza-Cruz and Pierce 2018). These model runs assess what would change if various input parameters or assumptions in the model were different, including rock mass strength, in-situ strength, fault strength, and bulked rock porosity. The size of the fracture limit under these different sensitivity runs does not differ substantially from the base case model, and while at least one sensitivity run brings it closer to the boundary of the Apache Leap SMA, it remains outside that boundary. Similarly, under all scenarios the first breakthrough of subsidence occurs in year 6 or 7 of mining, and subsidence ends very soon after ore extraction ends." (DEIS, p. 151)

In other words, the NEPA team was cognizant of the potential for uncertainties related to faults to affect the outcomes of the model, and particularly the potential impacts to Apache Leap, and devised an approach meant specifically to quantify those uncertainties. The outcome of this approach demonstrates that subsidence is not anticipated to impact the Apache Leap Special Management Area, even considering uncertain model inputs.

Comment response: GS6 Uncertain information	Page 1 of 1

Responsive to these comments:

8032-36

This comment states, "The DEIS Report Notes that 'There are several areas of uncertainty and some areas of sparse or low confidence data…' (Ch 3, 3.2.2.2, para. 5, bullet #4). Where are these uncertain data detailed?"

These areas of uncertain information are detailed in DEIS reference BGC Engineering USA Inc. (2018a). This memorandum documents the opinions of the Geology and Subsidence Workgroup convened by the Forest Service to assess the subsidence modeling. Much of this workgroup memorandum is devoted to identifying areas of uncertainty with the modeling. These are summarized in Section 7.0 ,"Conclusions," and specifically in table 6. "Key input parameters impacting surface subsidence and the quality of the associated data" (BGC Engineering USA Inc. (2018a:52)).

Comment response: GS7 Environmental protection measures employed for Alternative 6	Page 1 of 2

Responsive to these comments:

8032-37

This comment asks, "Exactly what environmental protection measures and mitigation efforts would be employed?" for Alternative 6 – Skunk Camp.

There are two categories of environmental protection measures considered in the DEIS. Within each resource section in chapter 3, specific "Applicant-Committed Environmental Protection Measures" are detailed. As described in chapter 2, "Applicant-committed environmental design measures are features incorporated into the design of the project by Resolution Copper to reduce potential impacts on resources. These measures would be non-discretionary as they are included in the project design, and their effects are accounted for in the analysis of environmental consequences disclosed in each resource section of chapter 3" (DEIS, p. 103). Readers should expect that any applicant-committed environmental protection measures listed in chapter 3 would be employed as described.

The second category of environmental protection measures are those identified as "mitigation." As described in chapter 3, "As described in chapter 2, the Forest Service is in the process of developing a comprehensive set of mitigation measures that, where practical and technically feasible to implement, would serve to avoid, minimize, rectify, reduce, or compensate for resource impacts identified during effects analyses conducted for this EIS" (DEIS, p. 129).

Unlike applicant-committed environmental protection measures, mitigation measures are not brought forward by the applicant as an integral part of the project; rather, they emerge during the NEPA process as part of the analysis.

Because mitigation measures are not an integral part of the project, the effectiveness of proposed mitigation is analyzed separately from the environmental consequences analysis for each resource assessed in chapter 3. The usefulness of the proposed mitigation is assessed separately in the "Mitigation Effectiveness" section for each resource.

All of the mitigation measures—regardless of the resource they affect—are compiled in one location in appendix J of the DEIS. Each item in appendix J clearly identifies whether that item can be required by the Forest Service, or has been agreed to occur voluntarily by Resolution Copper. This distinction is important, because for voluntary measures, "The Forest Service and regulatory agencies have no authority, obligation, or expertise to determine or enforce compliance of the measures included in this category. They are presented here to facilitate disclosure of currently known mitigation and monitoring and their consideration in impacts analyses" (DEIS, appendix J, p. J3).

Comment response: GS7 Environmental protection measures employed for Alternative 6	Page 2 of 2

Responsive to these comments:

8032-37

Because different alternatives have different land jurisdictions, the authority to require mitigation differs between alternatives. The Alternative 6 tailings storage facility, as noted by the comment, occurs on private land and therefore the Forest Service may have limited jurisdiction to require mitigation. The alternatives for which each mitigation measure is applicable are clearly identified in appendix J. For example, mitigation measure "FS-01: Satellite Monitoring of Tailings Storage Facility" is shown to be applicable only to Alternatives 2, 3, 4, and 5, but: "Alternative 6: As facility would ultimately be located on private land, Forest Service would not have authority to require long-term monitoring of the tailings storage facility" (DEIS, appendix J, p. J-17).

Comment response: GS8 Comments regarding Oyu Tolgoi mine	Page 1 of 1

Responsive to these comments:

104-3, 1201-1, 53-3, 8032-265

These comments discuss a mine in Mongolia: "Rio Tinto is a primary partner in Oyu Tolgoi, LLC, the operator of the Oyu Tolgoi mine being developed in southern Mongolia. Underground mine operations at Oyu Tolgoi are being planned as a block cave mine. An announcement during the first half of 2019 of 'ground instability problems' at the Oyu Tolgoi site encountered during construction of the underground mine. . . . As Resolution is proposed as a block cave mine, an analysis of the implications of the Oyu Tolgoi ground instability problem should be incorporated into a revised or supplemental DEIS and FEIS for the Resolution project."

The available facts regarding the Oyu Tolgoi mine were compiled and assessed by the NEPA team (Newell 2020). This analysis concluded the following:

> "There are no specific parallels between the Oyu Tolgoi experience and Resolution Copper. No evidence has been found through this research that the adverse geotechnical conditions that occurred at Oyu Tolgoi would repeat themselves at Resolution Copper. Nor is there any indication that such conditions if they occurred are not already considered and incorporated into the Resolution Copper development and engineering plans. Geology and geotechnical conditions are site-specific. What was experienced geologically at Oyu Tolgoi has no bearing on what would be experienced geologically at Resolution Copper."

In addition, geotechnical challenges encountered during development of Oyu Tolgoi underground mine are related to local rock mass condition surrounding the underground development. This has no impact on predicted subsidence on ground surface, which is a function of mainly depth and shape of the orebody and the geological structures.

The analysis continues:

> "The applicability of Oyu Tolgoi to Resolution Copper is as an example of the challenges that can occur during mine development. There is no reason to anticipate that Resolution Copper would experience the exact same challenges, but it is indeed reasonable to anticipate that Resolution Copper could experience other unspecified challenges. These could be difficulties in material or equipment supply, unanticipated geologic conditions, difficulties with ventilation, difficulties with dewatering, or an unlimited number of other challenges. Oyu Tolgoi is an example of how unanticipated real-world challenges can be met. Meeting these challenges may result in project delays, project overruns, or both. These represent business challenges and decisions for the mining company, but they have no bearing on the Forest Service decision. No part of the Forest Service decision takes Resolution Copper's profitability into account." (Newell 2020)

Comment response: GS9 Porous nature of Apache Leap Tuff	Page 1 of 1

Responsive to these comments:

1201-2, 162-1

These comments refer to the porous nature of the Apache Leap Tuff. This does not represent new information. Characterization of the Apache Leap Tuff as a permeable and productive aquifer is fundamental to the analysis in the DEIS and the long-term predictions of impacts to groundwater levels from dewatering of the aquifer once block caving begins (DEIS, pp. 139, 305).

Comment response: GS10 Stated ore reserves	Page 1 of 1

Responsive to these comments:

82-1

This comment questions the amount of ore reserves stated by Resolution Copper. It is not clear whether the intent of the comment is to suggest that inadequate ore reserves exist, or that the stated lifespan of the mine may be longer than anticipated.

Regardless, quantification, documentation, and disclosure of ore amounts is highly regulated, particularly under Canadian regulations. There are specific standards of evidence, specific definitions and terminology, and standards for responsible professionals to assess the ore body. Resolution Copper has adhered to these standards for disclosures of ore amounts.

There is no expectation that these numbers remain the same over time, or that the understanding of the ore body would not evolve. Ore amounts change not just with further exploration and information gathered during operations, but with improved technologies and the ability to profitably mine ore not previously feasible.

Comment response: GS11 Subsidence modeling, supporting information, and uncertainties	Page 1 of 3

Responsive to these comments:

1301-18, 30144-2 (Emerman3), 30144-3 (Emerman3), 8032-262, 8032-263

These comments are specific to the modeling of the subsidence resulting from the block-caving operation, the supporting information for that modeling analysis, and the uncertainties from the analysis. Many of these comments are based on a report submitted with comment letter #8032, written by Dr. S. Emerman (Appendix B4 to letter #8032). Overall, these comments contain numerous incorrect statements and unsupportable analysis. Specific issues raised in the comments include the following:

- Lack of disclosure of supporting information
- Unreported faults
- Concerns with the subsidence monitoring plan
- Calculations of uncertainty of subsidence modeling analysis

Comments on lack of disclosure of supporting information

These comments state: “The actual data that were used in the subsidence modeling are not presented in any documents that have been provided by Rio Tinto.”

This is an incorrect statement. The Forest Service convened a Geology and Subsidence Workgroup to review the subsidence modeling and supporting information, starting with the basic geological data collected at the Resolution Copper site, the interpretation of that data, and the incorporation of that information into a numerical subsidence model. The amount of information provided to the Forest Service by Resolution Copper is substantial and is detailed in the workgroup conclusion memorandum (BGC Engineering USA Inc. (2018a); see in particular the literature cited and appendix A. A primary underlying cause for these comments appears to be that many of these comments were written in March 2019, prior to release of the DEIS and any supporting materials, and prior to disclosure of the work done by the Geology and Subsidence Workgroup. Many of the comments appear to rely strictly on Resolution Copper’s 2014 GPO. In fact, the subsidence analysis put forth in the 2014 GPO differs greatly in methodology from the analysis conducted to support the NEPA analysis, which was the analysis directed and reviewed by the Geology and Subsidence Workgroup.

In order to review public comments, the Geology and Subsidence Workgroup was reconvened in January 2020, and the results of this workgroup were updated. We have included a revised discussion in section 3.2 of the FEIS.

Comments on unreported faults

The Emerman comments identify two lineaments observable on aerial photographs and conclude that these represent faults not properly considered in the subsidence analysis. Comparison with the data used to develop the subsidence monitoring plan shows that these correspond to the West Boundary and Gant West Faults, both of which were known and properly considered in the subsidence modeling (Resolution Copper 2020c).

Comment response: GS11 Subsidence modeling, supporting information, and uncertainties	Page 2 of 3
Responsive to these comments: 1301-18, 30144-2 (Emerman3), 30144-3 (Emerman3), 8032-262, 8032-263	

Comments on subsidence monitoring plan

These comments also state concerns about the subsidence monitoring plan, referring specifically to the subsidence monitoring plan contained in the 2014 GPO. These comments also appear to have been written prior to review of the DEIS, as this subsidence monitoring plan was not the plan disclosed as an applicant-committed environmental protection measure in section 3.2 (DEIS, p. 150). The more recent version contained substantially more detailed information than the GPO (Tshisens 2018a).

Despite the review of outdated information, the Forest Service shared some of the same concerns about the monitoring plan. This is reflected in mitigation measure FS-222 (DEIS, p. 159; appendix J, p. J-4), which states, "The subsidence monitoring plan proposed by Resolution Copper has been included in the EIS as an Applicant-Committed Environmental Protection Measure, however, as subsidence has the potential to impact Tonto National Forest surface resources, the Forest Service will require that a final subsidence monitoring plan be completed and approved by the Forest Service prior to signing a decision."

After discussion as part of the reconvened Geology and Subsidence Workgroup, including review of the Emerman comments, a revised subsidence monitoring plan was submitted by Resolution Copper (Davies 2020b). The Forest Service provided additional comments and a second revised subsidence monitoring plan was submitted (Davies 2020a). This subsidence monitoring plan has been included as a required mitigation measure in appendix J of the FEIS (measure FS-GS-01).

As part of the criticism of the subsidence monitoring plan, Emerman comments, "A comprehensive database of subsidence caused by block caving reported that unanticipated subsidence has occurred in 20 percent of block caving projects with most of the anomalies being related to geological faults." This information was reviewed by the Geology and Subsidence Workgroup and found that "the database compiles subsidence from underground hard rock mines in general and is not specific to block cave operations. Out of 36 subsidence cases reported in the database, there were 8 reported unexpected failures of which only 2 cases were related to sublevel caving operation and none from block cave or panel cave operations" (Karami and Henderson 2020:22–23).

Comment response: GS11 Subsidence modeling, supporting information, and uncertainties	Page 3 of 3

Responsive to these comments:

1301-18, 30144-2 (Emerman3), 30144-3 (Emerman3), 8032-262, 8032-263

The Emerman comments also refer to several case histories of chimney failure above mining areas or collapse of the overlying rock mass above the cave. A review of those cases revealed that the main causes of those failures were local ground conditions (weak rock masses), the presence of highly altered and intensely fractured faults zones (generally absent at the Resolution property), and poor mining practices. The absence of a surface monitoring program to monitor ground settlement and surface cracking further exacerbated the situation at those cases (Karami and Henderson 2020). The NEPA team further evaluated examples of successful monitoring for block-caving operations and noted that lateral expansion of subsidence is primarily driven by the panels being mined and that all predictive subsidence model results for Resolution represent the caving when it is fully expanded to the ultimate footprint. Rapid progression within that footprint may take place but would not affect the ultimate footprint.

Calculations of subsidence uncertainty

The Emerman report makes a series of calculations attempting to describe the bounds of uncertainty of the subsidence analysis. Again, this appears to have been based solely on the information in the 2014 GPO, not the actual subsidence modeling conducted for the NEPA analysis. Through a series of mathematical steps, the report concludes that "the probability that the outer limit of the subsidence zone will extend onto Apache Leap or beyond is 5.3%."

This analysis is unsupportable. Fundamentally, the analysis is based on information not relied upon for the NEPA analysis and then extrapolates this outdated analysis using a number of erroneous assumptions. Using a similar approach, but based on the actual modeling used for the NEPA analysis, Itasca (Resolution Copper's subsidence consultant) as well as the Geology and Subsidence Workgroup found that the probability that the outer limit of subsidence will extend onto Apache Leap is 0.1 percent (Garza-Cruz and Pierce 2020b; Karami and Henderson 2020).

However, the more important point that is missed by the comments is that the Geology and Subsidence Workgroup explicitly addressed the issue of uncertainty, and analyzed the effect through the use of sensitivity analysis. The full range of results was disclosed and informed the DEIS analysis.

We have added a discussion of the uncertainty of the subsidence modeling to section 3.2 of the FEIS.

Comment response: GS11_A Subsidence modeling, supporting information, and uncertainties; with addition for specific comment 8032-264	Page 1 of 1

Responsive to these comments:

8032-264

See response GS11 for response to the general topic of subsidence modeling, supporting information, and uncertainties.

This comment asks a number of specific questions based on the Emerman analysis:

- Why has Rio Tinto not provided the reports on subsidence modeling from their consultants? All subsidence modeling and supporting information was provided to and reviewed by the Geology and Subsidence Workgroup convened by the Forest Service to support the NEPA analysis.
- Why does Rio Tinto not recognize the pronounced lineament that connects Apache Leap with the caved rock zone as a geological fault or zone of structural weakness? The two lineaments identified are faults—the Gant West and West Boundary Faults. Both were identified and incorporated properly into the subsidence modeling.
- Why does Rio Tinto believe that rapid subsidence and rockbursts cannot occur, in opposition to the block caving manual that they rely upon? These concepts were incorporated into the review of the subsidence monitoring plan conducted by the reconvened Geology and Subsidence Workgroup. The subsidence monitoring plan in the FEIS represents an evolution based on review by the workgroup. The question posed in this comment is based on an outdated version of the subsidence monitoring plan, and the concepts were considered. The subsidence monitoring plan makes use of a variety of continuous monitoring techniques that would note sudden movement in almost real-time, and includes specific triggers for action if unanticipated movement occurs.
- Why has Rio Tinto not provided any error bounds on their predictions of the lateral extent of land subsidence? The uncertainties of the subsidence analysis were explicitly analyzed during the NEPA process through the use of a number of sensitivity analyses, by changing key parameters. The entire range of results was disclosed and informed the analysis (DEIS, p. 151).

Comment response: GS12 Need for analysis of subsidence impacts	Page 1 of 1

Responsive to these comments:

1468-5

This comment draws comparisons between other types of ground disturbance, such as dewatering subsidence or hydraulic fracturing, and the land subsidence to be experienced above the Resolution Copper ore body.

These comparisons are not sufficient to adequately analyze the effects of subsidence associated with block caving. The best tool for assessing the potential lateral extent of subsidence displacement is a numerical model such as that developed for the NEPA analysis. This type of model can take into account the site-specific geology, including the locations and characteristics of faults and specific rock properties, in order to assess the potential subsidence effects, as well as analyze the effect that uncertainty has on the outcomes. The analysis contained in the DEIS used the most appropriate tools to predict subsidence outcomes (DEIS, pp. 130–160).

Comment response: GS13 Effectiveness of subsidence monitoring plan; impacts to nearby infrastructure	Page 1 of 1

Responsive to these comments:

1279-2, 1360-14, 227-1, 236-2

These comments express concern that the subsidence might affect nearby infrastructure like U.S. 60, and the effectiveness of the proposed subsidence monitoring to protect these areas.

We had some of the same concerns about the monitoring plan. This is reflected in mitigation measure FS-222 (DEIS, p. 159; appendix J, p. J-4), which states, "The subsidence monitoring plan proposed by Resolution Copper has been included in the EIS as an Applicant-Committed Environmental Protection Measure, however, as subsidence has the potential to impact Tonto National Forest surface resources, the Forest Service will require that a final subsidence monitoring plan be completed and approved by the Forest Service prior to signing a decision."

We reconvened the Geology and Subsidence Workgroup in January 2020 in order to address comments received on the DEIS, including specific review and discussion of the subsidence monitoring plan. After discussion by the reconvened Geology and Subsidence Workgroup, a revised subsidence monitoring plan was submitted by Resolution Copper (Davies 2020b). We provided additional comments and a second revised subsidence monitoring plan was submitted (Davies 2020a). This subsidence monitoring plan has been included as a required mitigation measure in appendix J of the FEIS (measure FS-GS-01).

Based on our analysis, we do not anticipate impacts to important infrastructure like U.S. 60; the monitoring is intended to ensure that real-world effects during operation match predicted outcomes. Specific attention was given to identifying triggers and tying specific actions to those triggers in order to prevent damage, in the event that the NEPA analysis underestimated predicted subsidence effects.

Comment response: GS14 Effects on Apache Leap	Page 1 of 1

Responsive to these comments:

1158-26, 1158-48

These comments express concern that vertical displacement at Apache Leap could cause instability.

The issue of what types of movement or impact causes damage was specifically looked at by the Geology and Subsidence Workgroup, and then reconsidered in light of comments received on the DEIS. Additional information was obtained to explore the most appropriate methods to identify and describe subsidence impacts (Karami and Henderson 2020; Pierce 2020).

Ground movement is generally defined by five different metrics:

- Vertical displacement
- Horizontal displacement
- Tilting
- Horizontal strain
- Angular distortion

Based on review of literature and case studies, we identified appropriate metrics to describe potential damage to Apache Leap (and other sensitive areas). Vertical and horizontal displacement by themselves do not lead to damage of structures. Rather, it is horizontal strain (stretching) and angular distortion that can lead to cracks or fractures. Tilt is important for assessing the stability of tall structures, like the hoodoo formations associated with Apache Leap.

The definition of how much horizontal strain and angular distortion it would take to damage a natural structure like Apache Leap is based on methods developed to assess structural damage to buildings. In reality, rock formations are not as sensitive as building structures, and small cracks in already fractured geological formations are unlikely to have any substantial effect. Clear thresholds have been established to identify the level of damage that would be associated with a given combination of horizontal strain and angular distortion. Within the zone of continuous subsidence, damage would be moderate to severe, which in buildings would translate to cracks on the order of 15 to 25 millimeters (mm) wide. By contrast, the combination of horizontal strain and angular distortion experienced at Apache Leap, U.S. 60, or Devil's Canyon would translate to negligible damage, which in buildings would translate to hairline cracks less than 0.1 mm wide.

The threshold for the level of tilt that might cause tall structures like hoodoos to topple is 7.5 degrees. The modeling results show that tilt at Apache Leap is expected to be less than 1 degree.

We added further discussion to section 3.2 of the FEIS to describe the metrics used to define damage resulting from subsidence.

Comment response: GS15 Dewatering subsidence and block-cave subsidence	Page 1 of 1

Responsive to these comments:

1358-1

This comment notes that the two types of subsidence discussed in the DEIS were not evaluated cumulatively.

This is an appropriate analysis choice, and the reasons are described in section 3.7.1: "Two areas have the potential for land subsidence due to groundwater pumping: the area around the East Plant Site and mining panels where dewatering pumping would continue to occur, and the area around the Desert Wellfield. While small amounts of land subsidence attributable to the dewatering pumping have been observed around the East Plant Site using satellite techniques (approximately 1.5 inches, between 2011 and 2016), once mining operations begin, any land subsidence due to pumping would be subsumed by subsidence caused by the block caving (estimated to be 800 feet deep, and possibly as deep as 1,100 feet at the end of mining)." (DEIS, p. 334)

This comment also expresses concern that subsidence would not end when mining ends but would continue to occur. This question was explored by the Geology and Subsidence Workgroup prior to the DEIS (Morey 2018c). Additional information was requested on this topic (Pierce and Garza-Cruz 2018). Based on analogous mines and case studies, the Geology and Subsidence Workgroup determined that there is little likelihood of substantial residual subsidence after cessation of block caving.

Comment response: GS16 Impacts from mining technique	Page 1 of 1

Responsive to these comments:

30141-5

This comment reiterates many of the impacts resulting from the block-caving operation that are detailed in the DEIS, including impacts to cultural and tribal values, groundwater resources, and recreation. The ultimate point made by the comment is that these impacts could be prevented by "conducting responsible mining instead of maximizing economic profit."

This is a reference to the concept that mining could or should be undertaken using an alternative mining technique. We fully vetted this issue, with the conclusion that the alternative mining techniques proposed by commenters (such as cut-and-fill) are not reasonable at this location. This conclusion is not based in any way on the amount of profit Resolution Copper would make; see response AMT1 for more detail.

Comment response: LG1 Cattle health; scope of analysis	Page 1 of 1

Responsive to these comments:

8032-284, 8032-285, 8032-287

These comments concern perceived shortcomings in the analysis of impacts to livestock and grazing.

The DEIS addresses several perceived shortcomings. Comments indicate the need to expand the spatial scope of analysis. The specific metrics used to analyze livestock grazing are "the potential for acreages of grazing allotments to change, the potential for animal unit months (AUMs) to be reduced, and the potential for loss of grazing-related facilities (e.g., stock watering sources)" (DEIS, p. 687). The spatial scope is "the entirety of all allotments that overlap spatially, in full or in part, with the primary GPO-proposed mine components (East Plant Site and subsidence area, West Plant Site, MARRCO corridor, filter plant and loadout facility, Near West tailings storage facility and pipeline corridors, and transmission lines) and each alternative tailings storage facility analyzed in this EIS" (DEIS, p. 687). This spatial analysis area is where changes in identified metrics would occur and therefore is the appropriate spatial scope.

Comments indicate the need to analyze impacts to water sources. These water sources were analyzed in section 3.16 (DEIS, pp. 694–700).

Comments indicate the need to analyze impacts to cattle health due to project emissions. An analysis of potential health effects from emissions and deposition was included in section 3.6 (DEIS, p. 279). This analysis was expanded in the FEIS (see response TS24 for more detail).

Comments indicate the need to analyze socioeconomic impacts related to changes in livestock grazing. This analysis was added to section 3.13 of the FEIS.

Comment response: LG2 Impacts to livestock water supply and range	Page 1 of 1

Responsive to these comments:

18-1

This comment identifies specific concerns related to ranching water supply, water quality, and loss of range. Potential impacts to water supplies near the mine site resulting from dewatering are found in section 3.7.1 (DEIS, pp. 325–326). Additionally, specific mitigation to replace these water supplies, if needed, is discussed (DEIS, pp. 343–344). The loss of livestock water sources is found in section 3.16 (DEIS, pp. 694–700). Mitigation would replace some, but not all, impacted livestock water sources.

Potential impacts to surface water quality resulting from seepage from the tailings storage facility is discussed in section 3.10.2 (DEIS, pp. 373–419). Potential water quality changes are compared with the strictest surface water quality standards, which would encompass those established for livestock use.

Range analysis appears in section 3.16, and includes the acreage and estimated AUMs that would be lost from each allotment (DEIS, pp. 694–700).

Comment response: LG3 Impacts to Arizona State Trust Land grazing allottees	Page 1 of 1
Responsive to these comments: 562-12	
This comment concerns impacts to grazing allottees on Arizona State Trust land, including economic effects and potential loss of water sources. Potential impacts to water supplies near the mine site resulting from dewatering are found in section 3.7.1 (DEIS, pp. 325–326). Additionally, note that specific mitigation to replace these water supplies, if needed, is discussed as well (DEIS, pp. 343–344). The loss of livestock water sources is discussed in section 3.16 (DEIS, pp. 694–700). Mitigation would replace some, but not all, impacted livestock water sources. Additional analysis of socioeconomic impacts related to changes in livestock grazing was added to section 3.13 of the FEIS.	

Comment response: LG4 BLM comments specific to grazing	Page 1 of 1
Responsive to these comments: 28449-119, 28449-120, 28449-121, 28449-122, 28449-123	
These comments are for specific changes noted by BLM for the livestock grazing analysis. We have revised the FEIS to address all suggestions, as appropriate.	

Comment response: LG5 Impacts to vegetation	Page 1 of 1
Responsive to these comments: 1508-3	
This comment notes a number of aspects of the grazing analysis, including water sources for livestock, impacts to vegetation from tailings, and impacts to sensitive vegetation. The DEIS addresses these aspects. Potential impacts to water supplies near the mine site resulting from dewatering are found in section 3.7.1 (DEIS, pp. 325–326). Additionally, note also that specific mitigation to replace these water supplies, if needed, is discussed as well (DEIS, pp. 343–344). The loss of livestock water sources is found discussed in section 3.16 (DEIS, pp. 694–700). Mitigation would replace some, but not all, impacted livestock water sources. Potential impacts to surface water quality resulting from seepage from the tailings storage facility is discussed in section 3.10.2 (DEIS, pp. 373–419). Potential water quality changes are compared with the strictest surface water quality standards, which would encompass those established for livestock use. The potential for tailings revegetation of the tailings and return to long-term suitability for grazing is discussed in section 3.3 (DEIS, pp. 186–201). This includes long-term impacts to vegetation and special-status plant species. This analysis was expanded in section 3.3 of the FEIS to incorporate more detail on site-specific reclamation and revegetation practices. Additional discussion of grazing impacts on native/non-native vegetation was added to section 3.16 of the FEIS.	

Comment response: LG6 Baseline for livestock grazing, impacts to Oak Flat	Page 1 of 1

Responsive to these comments:

8031-40

This comment indicates the current condition of Oak Flat (part of the Devil's Canyon grazing allotment) was not disclosed. Unlike other allotments, no specific range health assessment was available for the Devil's Canyon allotment (DEIS, p. 690). However, additional documents were reviewed, and an updated assessment of the known range condition for the Devil's Canyon allotment was added to section 3.16 of the FEIS.

Comment response: MIT1 Mitigation concepts or suggestions	Page 1 of 1

Responsive to these comments:

11-2, 1058-1, 1062-3, 1120-1, 1122-3, 1130-1, 1137-1, 1137-2, 1137-3, 1137-4, 1137-6, 1137-7, 1137-8, 1158-14, 1158-16, 1158-18, 1158-20, 1158-21, 1158-25, 1158-29, 1158-30, 1158-35, 1158-36, 1158-42, 1158-47, 1158-51, 1158-7, 1158-9, 1188-22, 1188-23, 1266-1, 1286-5, 1286-6, 1286-7, 1286-8, 1286-9, 1301-6, 1311-12, 1311-13, 1311-17, 1311-22, 1311-7, 1317-1, 1317-2, 1321-5, 1343-3, 1356-4, 1356-6, 1360-17, 1360-9, 1361-1, 1361-2, 1361-3, 1361-5, 1389-15, 1389-17, 1389-18, 1389-19, 1389-2, 1389-21, 1389-22, 1389-23, 1389-24, 1389-26, 1389-27, 1389-29, 1389-30, 1389-31, 1389-32, 1389-33, 1389-34, 1389-36, 1389-37, 1389-38, 1389-39, 1389-40, 1389-42, 1389-9, 1392-2, 1392-3, 1392-4, 1392-5, 1392-6, 1392-8, 1392-9, 1404-4, 1429-1, 1429-2, 1429-4, 14-3, 1438-5, 14-4, 1441-14, 1441-15, 1441-17, 1441-18, 1441-19, 1441-20, 1441-21, 1441-22, 1441-3, 1441-6, 1441-8, 1489-1, 1489-3, 1489-4, 149-1, 1524-1, 1524-2, 1524-3, 15-3, 1540-1, 1540-4, 1540-7, 1544-17, 20-1, 21-1, 22-1, 238-1, 247-1, 258-2, 261-10, 261-13, 261-3, 261-4, 261-6, 261-8, 261-9, 270-1, 273-1, 283-6, 28449-58, 28824-1, 28824-2, 300-2, 30075-104, 30075-111, 30075-113, 30075-114, 30075-115, 30075-117, 30075-118, 30075-119, 30075-120, 30075-123, 30075-124, 30075-125, 30075-126, 30075-127, 30075-128, 30075-133, 30075-14, 30075-39, 30075-40, 30075-46, 30075-47, 30075-49, 30075-56, 30075-70, 30075-75, 30075-77, 30075-78, 30075-80, 30075-81, 30075-82, 30075-83, 30075-84, 30075-85, 30075-86, 30075-93, 30075-98, 30075-99, 30078-30, 30078-31, 30078-32, 307-2, 314-1, 317-10, 317-11, 317-12, 317-13, 317-4, 317-5, 317-6, 317-7, 319-6, 322-1, 322-3, 322-5, 322-6, 324-1, 324-2, 324-3, 324-4, 324-5, 324-6, 324-7, 324-8, 493-1, 524-19, 524-24, 524-7, 555-22, 555-24, 555-26, 555-27, 555-6, 562-7, 562-9, 60-3, 751-1, 8031-48, 8032-144, 8032-17, 8032-18, 8032-198, 8032-204, 8032-279, 8032-283, 8032-312, 8032-317, 8032-321, 8032-322, 822-1, 823-1, 861-1, 861-2, 862-2, 866-10, 866-17, 866-8, 876-1, 904-1, 91-2, 91-3, 92-1, 923-2, 929-2, 929-3, 929-4, 929-5, 929-6, 929-7, 929-9

These comments raise specific suggestions for mitigation of impacts. The mitigation concepts contained in these comments were evaluated for implementation by the Forest Service between the DEIS and FEIS. These deliberations are documented in Garrett (2020g), as well as in chapter 2 and appendix J of the FEIS.

Appendix J in the FEIS summarizes all mitigations brought forward for analysis and the authority under which they would occur.

The effectiveness of the mitigation measures for reducing impacts can be found in the "Mitigation Effectiveness" section of each resource section in chapter 3.

Comment response: MIT3 Support for mitigation already included in DEIS	Page 1 of 1

Responsive to these comments:

5-3, 1107-7, 1122-4, 1136-1, 1137-5, 1158-22, 1158-39, 1158-40, 1158-46, 1188-26, 123-1, 1235-4, 1286-3, 1308-2, 1329-5, 1356-5, 1360-16, 1389-25, 1389-41, 1441-11, 1441-12, 1441-13, 1454-4, 1463-3, 1539-6, 1621-1, 1885-3, 283-4, 28449-20, 28449-33, 30075-102, 30075-103, 30075-105, 30075-106, 30075-107, 30075-108, 30075-109, 30075-110, 30075-112, 30075-116, 30075-121, 30075-122, 30075-129, 30075-16, 30075-21, 30075-30, 30075-69, 30075-71, 30075-92, 30078-29, 30-1, 314-4, 314-5, 317-9, 319-4, 319-5, 322-4, 322-8, 416-2, 463-3, 5537-1, 60-2, 65-1, 76-2, 8032-143, 8032-16, 8032-20, 8032-22, 866-7, 917-1, 929-8, 943-3

These comments generally indicate support for a mitigation concept already included in appendix J of the DEIS. The effectiveness of these mitigation measures for reducing impacts can be found in the "Mitigation Effectiveness" section of each resource section in chapter 3.

Appendix J of the FEIS includes most of these mitigation measures, with the exception being those measures already completed between DEIS and FEIS.

Comment response: MIT4 Support for mitigation not applicable for impacts under the Preferred Alternative	Page 1 of 1

Responsive to these comments:

1158-28, 1311-10, 1311-14, 1311-19, 1311-6, 1311-9, 1343-1, 28449-153

These comments raise specific suggestions for mitigation of impacts. However, many of these impacts are associated with specific alternatives other than the Preferred Alternative.

Many of the mitigation concepts raised in public comments were evaluated for implementation by the Forest Service between the DEIS and FEIS. See response MIT1. However, the mitigation suggestions raised in these comments were not evaluated in the same manner, given that the impacts would not occur if the Preferred Alternative were selected.

The Forest Supervisor's decision will be identified in the draft ROD. If the ROD differs from the Preferred Alternative and any of the mitigation suggestions are applicable to the Selected Alternative and fall within the Forest Service's jurisdiction to require them, the Forest Supervisor may add them in the ROD.

Comment response: MIT5 Carpooling	Page 1 of 1

Responsive to these comments:

8032-320

This comment is based on an incorrect premise.

Carpooling was not considered as a mitigation measure in the DEIS. The lone reference to carpooling in the DEIS is tied to traffic analysis and assumes that each vehicle would carry an average of 1.7 employees (DEIS, p. 260). We base this reasonable assumption on the anticipated size of the workforce and distance to the site (DEIS, p. 246).

Appendix J includes all mitigation measures considered in the DEIS. The effectiveness of these mitigation measures for reducing impacts can be found in the "Mitigation Effectiveness" section of each resource section in chapter 3.

Comment response: MIT6 Agreements with Arizona Game and Fish Department	Page 1 of 1

Responsive to these comments:

30075-76

Resolution Copper has worked directly with the AGFD to develop a suite of mitigation measures to offset impacts to wildlife species, habitat, and related recreation. These measures were incorporated into appendix J of the FEIS (measure FS-WI-01). The effectiveness of these mitigation measures for reducing impacts can be found in the "Mitigation Effectiveness" section of each resource section in chapter 3.

Comment response: MIT7 Cultural and tribal mitigations	Page 1 of 2
Responsive to these comments: 1235-10, 1338-6, 1422-5, 1454-16, 28449-105, 28449-152, 49-2, 541-3, 8032-126, 8032-129	
These comments point to the lack of mitigation related to the tribal and cultural impacts disclosed in the DEIS. Mitigations for these impacts are being developed under two regulatory frameworks: the NHPA, and Section 3003 of PL 113-291 in which Congress authorized the land exchange. The NHPA puts forth a process by which adverse effects on cultural resources are identified, assessed, and resolved. Mitigation falls under the resolution of adverse effects for the NHPA and can include data recovery for archaeological sites and intensive recordation of historic built environment resources, as well as appropriate handling of any funerary objects or human remains encountered required by law. However, measures to resolve adverse effects will include non-research based programs as developed in consultation with tribes and other consulting parties. Measures to resolve adverse effects under the NHPA are stipulated in the PA developed by the Forest Service in consultation with the SHPO, ACHP, Tribes, and other consulting parties. In accordance with the PA, an HPTP was developed for the lands leaving Federal ownership. A separate Research Design was developed for the rest of the project area; additional HPTPs will be developed in accordance with the Research Design for the project area components (i.e., tailings location, West Plant Site, etc.). The legal agreement to execute these mitigations is codified in the executed PA; the final version of the PA circulated for signature is included in the FEIS as appendix O. Execution of the measures in the PA is binding on behalf of Resolution Copper. Section 3003 of PL 113-291 included special conditions for developing mitigations to offset impacts to tribes and tribal members from the loss of Oak Flat. Congress dictated that the Forest Service would work with Resolution Copper to find mutually acceptable measures to address the concerns of the affected tribes and minimize the adverse effects on the affected tribes resulting from mining and related activities on the Federal land conveyed to Resolution Copper. These types of impacts cannot be fully mitigated through the typical activities specified in the HPTPs. Development of these separate mitigations was a collaborative effort that took place during development of the DEIS and FEIS. Mitigations under both acts were developed in conjunction between the Forest Service, Resolution Copper, consulting Tribes, the SHPO, and the ACHP, with additional input from the BLM, ASLD, and USACE.	

Comment response: MIT7 Cultural and tribal mitigations	Page 2 of 2
Responsive to these comments: 1235-10, 1338-6, 1422-5, 1454-16, 28449-105, 28449-152, 49-2, 541-3, 8032-126, 8032-129	
These measures were incorporated into appendix J of the FEIS, and the effectiveness of these mitigation measures for reducing impacts can be found in the “Mitigation Effectiveness” sections in sections 3.12 and 3.14 in the FEIS. Note that we may not be privy to some private mitigation agreements developed directly between Resolution Copper and Tribes. If these agreements exist, they have not been incorporated into the FEIS.	

Comment response: MIT8 Authority for mitigations	Page 1 of 2

Responsive to these comments:

1188-24, 1301-22, 1389-14, 1389-16, 1441-16, 1489-5, 1540-6, 254-1, 294-1, 30075-97, 8032-15, 8032-35, 867-1

These comments indicate that more clarity is needed on where the mitigation identified for the project would be required and under what authority would they occur.

As discussed in appendix J of the DEIS (pp. J1–J3), several different categories of mitigation measures are incorporated into the DEIS: applicant-committed environmental protection measures, mitigation and monitoring required by the Forest Service, and mitigation and monitoring agreed to by Resolution Copper.

Applicant-committed environmental protection measures are considered an integral part of the project analyzed in the EIS and are not optional. They are part of the project analyzed by the Forest Service, and the ROD will specify that they must occur as proposed. These measures are described in detail in each resource section in chapter 3.

We are authorized to require mitigation to minimize adverse environmental effects. The breadth of this authority differs, depending on the regulations under which mine-related activities are approved. Appendix J of the FEIS discusses this in more detail.

Any mitigation and monitoring that the Forest Service requires under its authority will be identified as required in the ROD and then further required as conditions of the approval documents issued after the ROD and before construction can begin (either a final mining plan of operations, or a special use permit). Mitigations that we are authorized to require include those developed under Section 7 of the Endangered Species Act and the Biological Opinion (appendix P of the FEIS) and agreed to in the PA (appendix O of the FEIS).

The USACE also is authorized to require mitigation to minimize adverse environmental impacts, derived from its regulatory role under the Clean Water Act. Appendix J of the FEIS discusses these mitigations, but requirement of these mitigations would be part of the separate USACE ROD and Section 404 permit and not part of the Forest Service ROD and approvals. More details also appear in appendix J of the FEIS.

Additionally, appendix J of the FEIS includes and describes mitigations that are beyond the authority of the Forest Service to require but volunteered by Resolution Copper. However, they cannot be required in the ROD and subsequent approval documents. These remain solely voluntary actions.

Comment response: MIT8 Authority for mitigations	Page 2 of 2

Responsive to these comments:

1188-24, 1301-22, 1389-14, 1389-16, 1441-16, 1489-5, 1540-6, 254-1, 294-1, 30075-97, 8032-15, 8032-35, 867-1

Additional mitigation measures would be required of Resolution Copper under a number of state permits, including an Aquifer Protection Permit, air permit, and stormwater permit. The Forest Supervisor is responsible for ensuring that the Selected Alternative would be consistent with Federal and State laws, which is discussed in the ROD. However, the Forest Supervisor would not be responsible for overseeing State permits or ensuring that any mitigation requirements associated with these permits are met. Mitigation or monitoring related to State permits is therefore not included in the FEIS.

Note that future receipt of State permits was not relied upon in the FEIS in any way to disclose impacts. Impacts related to water quality and air quality are disclosed based on the Forest Service's own analysis, regardless of future permitting actions.

Comment response: MIT9 Water supply mitigation	Page 1 of 1

Responsive to these comments:

1349-5, 1544-8

Groundwater extracted and used by Resolution Copper is subject to permitting under State of Arizona law, whether at the mine site or at the location of the Desert Wellfield in the East Salt River valley. Any pumping of water above and beyond that disclosed in the EIS would require appropriate authorization from the ADWR.

Comment response: MIT11 Moving Emory oak trees	Page 1 of 1
Responsive to these comments: 235-16	
Moving Emory oak trees from Oak Flat has not been proposed as a mitigation measure. Preservation and maintenance of existing oak groves separate from Oak Flat was proposed and is described in PA (appendix O).	

Comment response: MIT12 Preservation of Apache Leap	Page 1 of 1
Responsive to these comments: 1158-8, 30074-3	
In the NDAA, Congress directed that the Forest Service undertake the preservation and management of Apache Leap. As discussed in chapter 1 (DEIS, p. 28), in December 2017, the Tonto National Forest finalized the environmental review process and the management plan for the Apache Leap Special Management Area. The plan establishes a comprehensive framework for managing the Apache Leap Special Management Area, with an emphasis on the preservation of the three primary purposes outlined in PL 113-291: preserve the natural character of Apache Leap; allow for traditional uses of the area by Native American people; and protect and conserve the cultural and archeological resources of the area. The plan includes a management objective to establish a closure order and complete the associated NEPA documentation to exclude overnight camping under 36 CFR Part 261, "Prohibitions." The Forest Supervisor also determined that livestock grazing, timber production, and mining activities (location, entry, and patent) are uses of the land that are incompatible with the desired conditions and primary purposes for which the Apache Leap Special Management Area is to be managed (U.S. Forest Service (2017e:7)).	

Comment response: MIT13 Disclosure of tribal-related mitigations	Page 1 of 1
Responsive to these comments: 1396-8	
This comment suggests that all mitigations related to tribal impacts be consolidated in section 3.14 of the FEIS. We have declined to make this change to the FEIS. It is the nature of tribal members' relationship with the land that the impacts that affect tribal members potentially cover all resources—loss of vegetation, loss of wildlife, loss of springs, etc. Bringing these forward to section 3.14 would substantially duplicate information already available in other resource sections in chapter 3, as well as being consolidated in appendix J of the FEIS. Note that section 3.14 was necessarily revised in the FEIS in response to comments. See response CR4 for more details.	

Comment response: MIT15 Insufficient analysis of mitigation	Page 1 of 1
Responsive to these comments: 8031-75, 8032-12, 8032-13, 8032-9	
As noted in the comment, CEQ regulations require inclusion of mitigation as part of the NEPA process: 40 CFR 1502.14 and 1508.25(b) identify mitigation as an integral part of the scope of alternatives development; 40 CFR 1502.16(h) identifies that, as part of environmental consequences, the EIS should also discuss means to mitigate adverse environmental impacts; and 40 CFR 1505.2 indicates that the ROD needs to state whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not. Development and analysis of mitigation measures has been an integral part of the NEPA process. With respect to 40 CFR 1502.14 and 1508.25, each of the alternatives was developed in order to specifically address certain issues or resource impacts, as described in chapter 2 (DEIS, p. 75 [Alt 3], p. 81 [Alt 4], p. 88 [Alt 5], p. 99 [Alt 6]). For example, different tailings locations were considered in alternatives development to address issues of public safety, air quality, and water quality; different tailings placement or storage techniques were considered in alternatives development to address issues of water quality and tailings stability; and different seepage collection measures were considered in alternatives development to address groundwater and surface water quality impacts. In addition, specific applicant-committed environmental protection measures were evaluated and added to the proposed action in order to further reduce environmental impacts. These are discussed in each resource section of chapter 3 as an integral part of the proposed project (see the "Summary of Applicant-Committed Environmental Protection Measures" subsection). With respect to 40 CFR 1502.16, each resource section of chapter 3 includes a section titled "Mitigation Effectiveness" that expressly identifies mitigation measures developed to address environmental impacts for that resource and assesses the potential effectiveness of that mitigation measure. All of the mitigation measures are compiled in appendix J of the FEIS. In addition, mitigation measures suggested in comments on the DEIS have also been evaluated. Some have been implemented as mitigation requirements by the Forest Service, and others have been included as additional applicant-committed environmental protection measures. The process of evaluating the mitigation comments is documented in the project record (Garrett 2020g). With respect to 40 CFR 1505.2, see response MIT8 for a discussion of which documents include requirements for mitigation and the authority for requiring those mitigations. This includes requirements for mitigation in the ROD, as required in 40 CFR 1505.2.	

Comment response: MIT17 Stormwater flood events	Page 1 of 1
Responsive to these comments: 1534-3, 524-15, 8032-28, 858-1, 910-7	
We have added further discussion to section 3.7.2 of the FEIS to clarify the design parameters for stormwater control facilities, including the tailings storage facility, and have also updated the analysis of potential release of stormwater under large flood events.	

Comment response: MIT18 Lack of specific requirements under Environmental Consequences	Page 1 of 1

Responsive to these comments:

8031-30

This comment suggests shortcomings in several aspects of CEQ regulations (40 CFR 1502.16). The first concern is a perceived lack of "meaningful consideration of energy requirements and conservation potential" (40 CFR 1502.16e). The comment is not correct. Energy requirements of the project were analyzed (DEIS, p. 56; see also Garrett (2019c), "Process Memorandum to File Power Requirements"). There is little variation among alternatives, with most of the power use related to components common to all alternatives. Existing differences among tailings alternatives are described (DEIS, p. 56). Additional information has been added to Section 3.17, Required Disclosures, of the FEIS in response to this comment.

The second concern is a perceived lack of discussion of "natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures." The comment is not correct. A number of natural or depletable resources are associated with the project. The conservation potential of each of these resources, with respect to alternatives, is shown in specific sections of chapter 3. This includes mineral resources (section 3.2), soils (section 3.3), vegetation/habitat (section 3.3), water use (section 3.7.1), and wildlife (section 3.8). Appendix E outlines the conservation potential for alternatives with respect to specific metrics associated with these resources. Appendix E summarizes impacts "in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public" (40 CFR 1502.14). Additional information has been added to Section 3.17, Required Disclosures, of the FEIS in response to this comment.

The third concern is a perceived lack of discussion of "urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential." The comment is not correct. The differences between alternatives for historic and cultural resources is the basis for section 3.12 (DEIS, pp. 629–639). Additional discussion of potential impacts to the built environment was added to section 3.12 of the FEIS in response to comments.

See response MIT15 for discussion of how mitigation measures were analyzed.

Comment response: MIT19 Lack of mitigation in the DEIS	Page 1 of 1

Responsive to these comments:

1539-5

This comment indicates that mitigation was not included in the DEIS, and effectiveness of mitigation was not considered. These are incorrect statements.

With respect to 40 CFR 1502.16, each resource section in chapter 3 includes a section titled "Mitigation Effectiveness" that expressly identifies mitigation measures developed to address environmental impacts for that resource and assesses the potential effectiveness of that mitigation measure. Appendix J of the DEIS includes all of the mitigation measures.

The lone difference between the approach in the DEIS and the FEIS is that the development of mitigation measures continued, including assessment of all mitigation suggestions brought forward as public comments on the DEIS.

Comment response: MIT20 Lack of mitigation in the DEIS; inability to require mitigation	Page 1 of 1

Responsive to these comments:

1188-20

This comment indicates that insufficient mitigation was not included in the DEIS. Each resource section of chapter 3 includes a section titled "Mitigation Effectiveness" that expressly identifies mitigation measures developed to address environmental impacts for that resource and assesses the potential effectiveness of that mitigation measure. Appendix J of the DEIS includes all of the mitigation measures.

The lone difference between the approach in the DEIS and the FEIS is the development of mitigation measures continued, including assessment of all mitigation suggestions brought forward as public comments. See response MIT1 for more details on mitigation brought forward between DEIS and FEIS.

This comment expresses further concern that mitigation measures brought forward by Resolution Copper voluntarily cannot be required. This is true and is clearly disclosed in the DEIS (DEIS, appendix J, p. J-3). See response MIT8 for more discussion on mitigation authorities with respect to applicant-committed environmental protection measures and mitigation brought forward voluntarily by Resolution Copper.

Comment response: MIT21 Financial assurances	Page 1 of 1

Responsive to these comments:

1209-6, 1276-5, 1301-20, 1301-21, 1361-4, 1389-20, 1452-3, 1540-3, 1544-12, 1587-2, 27147-1, 29-5, 30141-8, 336-2, 5448-1, 780-1, 8032-14, 8032-156, 8032-230, 8032-238, 8032-38, 8032-40, 812-1, 814-6, 866-18, 927-1

A discussion of financial assurances was included in chapters 1 and 2 (DEIS, pp. 15–20, 65, 104). These discussions were updated in the FEIS in response to comments.

Comment response: MIT22 Satellite monitoring of tailings storage facilities	Page 1 of 1

Responsive to these comments:

8032-19

This comment raises concerns over satellite monitoring of tailings storage facilities, which was identified as mitigation measure FS-01 in the DEIS (DEIS, appendix J, p. J-17).

The first concern is whether satellite monitoring would be the sole monitoring technique. It would not. Satellite monitoring would be supplemental to all other required monitoring of the tailings storage facility, including Resolution Copper's internal monitoring procedures, and any monitoring procedures required under state permitting (such as the Aquifer Protection Permit). Internal tailings storage monitoring procedures are described in section 3.10.1 (DEIS, pp. 522–527 [industry best practices including those by Rio Tinto] and pp. 536–537 [applicant-committed environmental protection measures and monitoring for specific failure modes]). Monitoring requirements under state permits would be developed as part of that permitting process but have not yet been issued.

The second concern is whether there is sufficient detail to implement this monitoring. Mitigation descriptions in the FEIS are not intended to be so detailed as to be full implementation plans for a given measure. Fully detailed implementation plans typically are developed and included in approval documents (either a final mining plan of operations, or a special use permit), after the draft ROD. CEQ regulations focus on summarizing the nature of the monitoring: "A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation" (40 CFR 1505.2 for the ROD). Sufficient detail is developed in the FEIS to assess the effectiveness of this mitigation measure for minimizing potential impacts. This assessment is in section 3.10.1 (DEIS, pp. 556–558).

The DEIS also clearly states that this particular measure (satellite monitoring) would not be applicable to the Preferred Alternative (DEIS, appendix J, p. J-13).

Comment response: MIT23 Subsidence monitoring plan	Page 1 of 1

Responsive to these comments:

8-2, 1097-11, 1158-19, 1201-4, 148-1, 149-2, 28463-2

After receipt of public comments on the DEIS, the Tonto National Forest reconvened the Geology and Subsidence Workgroup in order to assess these comments regarding the proposed subsidence monitoring plan.

These internal workgroup discussions resulted in a revised version of the subsidence monitoring plan. The revision incorporated into the FEIS was found to be acceptable by the Tonto National Forest, fulfilling mitigation measure FS-222 from the DEIS (DEIS, appendix J, p. J-4). A discussion of this process was added to section 3.2 of the FEIS. See response GS13 for more details on the evolution of the subsidence monitoring plan.

As subsidence has the potential to impact national forest surface resources, such as the adjacent Apache Leap Special Management Area, the Forest Supervisor may require additional measures related to monitoring and mitigating subsidence in the ROD, in addition to those specified in the revised subsidence monitoring plan, if warranted.

Comment response: MIT24 Air and dust mitigations	Page 1 of 1

Responsive to these comments:

1158-13, 1380-1, 1438-11, 8032-154

These comments concern perceived lack of mitigation related to air quality and fugitive dust.

There are two types of measures included in the DEIS to reduce resource impacts: applicant-committed environmental protection measures, and mitigation measures.

Applicant-committed environmental protection measures are included in each resource section of chapter 3 (for example, see air quality, DEIS, pp. 283–284). These measures are features incorporated into the design of the project by Resolution Copper to reduce potential impacts on resources. These measures would be non-discretionary, as they are included in the project design, and their effects are accounted for in the analysis of environmental consequences disclosed in DEIS in chapter 3 (DEIS, p. 103) and appendix J (DEIS, p. J-1).

Mitigation measures are not part of the actions proposed by Resolution Copper but are developed over the course of the NEPA analysis to avoid, minimize, rectify, reduce, or compensate for remaining impacts (DEIS, p. 100). Mitigation measures are identified for each resource, and the effectiveness of that mitigation is assessed in chapter 3 (for example, see air quality, DEIS, p. 293). Appendix J includes a compilation of mitigation measures.

With respect to air quality, numerous controls were incorporated into the project as applicant-committed environmental protection measures. These controls effectively reduce emissions to the extent that they prevent any exceedance of air quality standards at the project fence line (DEIS, pp. 284–288) or at sensitive areas beyond the fence line (DEIS, pp. 288–292). There are no mitigation measures proposed for air quality because applicant-committed environmental protection measures already accomplish the reductions needed to minimize impacts.

Comments also express concern with the impacts associated with dust mitigation, such as water use. Water needs identified for the project already incorporate water use for dust control (DEIS pp. 59–61; appendix H). See also WestLand Resources Inc. (2018b) (showing dust management requirements as part of the water balance for tailings storage facilities).

Further discussion of the closure cover and revegetation after closure (controlling dust) was included in section 3.3 of the FEIS.

Comment response: MIT27 404 Compensatory Mitigation Plan	Page 1 of 2

Responsive to these comments:

1188-21, 1540-2, 524-2, 524-3, 524-5, 524-6, 8030-10, 8030-2, 8030-5, 8030-8, 8031-15, 8031-16, 8031-17, 8031-18, 8031-19, 8031-20, 8031-21, 8031-58, 8032-334, 8032-335, 8032-336, 8032-337

These comments concern aspects of the Clean Water Act Section 404 permit.

Some comments identify the lack of details in the DEIS about compensatory mitigation for impacts to waters of the U.S. in the DEIS, or suggest that the compensatory mitigation proposed is insufficient. The details included in the DEIS (appendix D) represent the draft conceptual compensatory mitigation package as it existed at the time of publication. The compensatory mitigation package is not finalized until approved by the USACE as part of the USACE's final permitting action. A habitat mitigation and monitoring plan (HMMP) will be developed by Resolution Copper that tiers from the plan provided in appendix D and provides a much greater level of detail with respect to refining mitigation requirements and specific mitigation actions to be taken, performance metrics for mitigation, long-term management of mitigation sites, etc. Implementation of the HMMP then becomes a requirement via special condition of the Section 404 Individual Permit that will be issued.

The 404 permit will not be issued until a ROD is completed by the USACE. This will occur after publication of the FEIS. The compensatory mitigation package included as appendix D in the FEIS represents an updated version that was determined to be sufficient and acceptable by the USACE but may still be modified prior to issuance of the 404 permit.

The extent of jurisdictional waters of the U.S. for which the mitigation package must compensate was determined by the USACE, including the evaluation of any special aquatic sites. The compensatory mitigation package was determined to be appropriate and sufficient to offset impacts from dredge and fill of jurisdictional waters, in accordance with USACE policy. The USACE also concluded, based on the updated plan, that adequate mitigation is available for offsetting the impacts of this project on waters of the U.S.

One comment notes that the EIS is intended to be sufficient for all Federal decisions related to the mine, including the 404 permit issuance by the USACE. The comment states that the document in appendix C (the Practicability Analysis) is not sufficient to satisfy requirements for alternatives analysis under Section 404(b)1. The full 404(b)1 alternatives analysis is attached to the FEIS as appendix C.

Other comments concern consultation under Section 7 of the Endangered Species Act, tribal consultation, or consultation under Section 106 of the NHPA. The Forest Service is the lead agency for Section 7 and Section 106 consultation. However, the USACE participates in both processes because the USACE's permitting action occurs within the larger project context for the Forest Service. The USACE conducts its own tribal consultations.

Comment response: MIT27 404 Compensatory Mitigation Plan	Page 2 of 2

Responsive to these comments:

1188-21, 1540-2, 524-2, 524-3, 524-5, 524-6, 8030-10, 8030-2, 8030-5, 8030-8, 8031-15, 8031-16, 8031-17, 8031-18, 8031-19, 8031-20, 8031-21, 8031-58, 8032-334, 8032-335, 8032-336, 8032-337

Additional comments concern other aspects of the USACE process, including the need for a Section 401 water quality certification from the ADEQ, and a public interest review. These requirements must be completed prior to issuance of the 404 permit by the USACE. ADEQ issued the 401 water quality certification for the Resolution Copper Project on December 22, 2020.

Comment response: MIT28 Formal wetland delineation	Page 1 of 1
Responsive to these comments: 1048-2	
Two separate regulatory requirements for wetlands are assessed in the EIS: EO 11990, and Clean Water Action Section 404. EO 11990 requires an assessment of impacts to wetlands and floodplains. Wetlands assessed under EO 11990 are based on data from the National Wetlands Inventory. As described in section 3.7.2, these are different from wetlands as defined under Section 404 of the Clean Water Act (DEIS, p. 435). Wetlands assessed under EO 11990 are described in the "Impacts on Wetlands (Related to Executive Order 11990)" subsection of section 3.7.2 (DEIS, pp. 435–444). Certain wetlands and other waters (including ephemeral drainages) may be considered under the jurisdiction of the USACE for permitting under Section 404 of the Clean Water Act. These wetlands are typically defined during a "jurisdictional delineation" completed for the agency. Resolution Copper has obtained jurisdictional delineations from the agency for all areas within the project or alternative footprints. No jurisdictional wetlands were determined to be present. Discussion of the jurisdictional delineations obtained from the USACE was added to section 3.7.2 of the FEIS.	

Comment response: MIT29 Seepage controls for Skunk Camp	Page 1 of 1
Responsive to these comments: 555-14, 8032-34	
These comments express concerns with the seepage controls associated with the Skunk Camp alternative location, particularly the potential impacts on Arizona Water Company water supplies. We have refined the analysis of seepage controls and potential water quality impacts for Alternative 6 in section 3.7.2 of the FEIS. The refined analysis indicates that no exceedances of numeric aquifer water quality standards or surface water quality standards are anticipated at the point Dripping Spring Wash enters the Gila River. Comments also express the need for more monitoring. New monitoring wells were installed along Dripping Spring Wash by Resolution Copper and will continue to be part of the monitoring network for water quality impacts (see FEIS appendix J, measure RC-WR-03).	

Comment response: MIT30 Water monitoring and mitigation	Page 1 of 1
Responsive to these comments: 1361-6, 30075-10, 43-3, 8031-65	
This comment indicates that inadequate monitoring and mitigation were included in the DEIS with respect to water quantity impacts. There are two major areas where drawdown associated with project groundwater pumping would occur and have the potential to impact natural systems of water supplies: near the mine site, and near the Desert Wellfield in the East Salt River valley. The DEIS included monitoring and mitigation for groundwater impacts near the mine site, including impacts to groundwater-dependent ecosystems, natural systems, and water supplies. These are included in mitigation measure RC-211 (DEIS, appendix J, p. J-9), with full detail contained in Montgomery and Associates (2019b). This mitigation measure will "ensure that groundwater supported flow that is lost due to mining activity is replaced and continues to be available to the ecosystem." Effectiveness of this mitigation measure is assessed in section 3.7.1 (DEIS, pp. 343–344). This same measure (with modifications) has been carried forward into the FEIS (appendix J, measure FS-WR-01). The comment is correct that no specific monitoring or mitigation measures are included in the DEIS specific to the Desert Wellfield in the East Salt River valley. This groundwater pumping is subject to permitting by the ADWR. Monitoring requirements may be established during this permitting process but are not under the jurisdiction of the Forest Service and are not incorporated into either the DEIS or the FEIS. See response MIT8 for more discussion of the role of State permits in mitigation. Note that additional water monitoring and mitigation measures were brought forward between DEIS and FEIS. These are included in appendix J and assessed in section 3.7.1.	

Comment response: MIT33 Reclamation and revegetation	Page 1 of 1
Responsive to these comments: 30075-57, 541-2, 8032-235	
We have added further discussion concerning reclamation and closure plans, revegetation techniques, and revegetation potential to section 3.3 of the FEIS.	

Comment response: MIT34 Mitigation required for all project effects	Page 1 of 1
Responsive to these comments: 30075-68	
A full discussion of potential mitigation measures has been incorporated into the FEIS, appendix J. See response MIT15 for more discussion on how NEPA regulations have been addressed. The intent of the regulations and Forest Service policy is to identify a full range of relevant and reasonable mitigation measures, which is the purpose of appendix J, as well as the mitigation development actions undertaken by the Tonto National Forest (Garrett 2020g). With respect to the specific recommended mitigations associated with this comment, see response MIT6.	

Comment response: MIT35 Section 7 Consultation	Page 1 of 1
Responsive to these comments: 1293-3, 1356-1, 1441-7, 1468-6, 1473-2, 1595-2, 26887-1, 524-26, 8032-179	
These comments concern consultation with the U.S. Fish and Wildlife Service under Section 7 of the Endangered Species Act. As consultation takes place on a single alternative, it necessarily takes place after a Preferred Alternative was identified in the DEIS. The Tonto National Forest initiated and completed Section 7 consultation on threatened and endangered species, and critical habitat, with U.S. Fish and Wildlife Service between the DEIS and FEIS. The outcome of the Section 7 consultation is a Biological Opinion, which is attached to the FEIS as appendix P.	

Comment response: MIT38 Request for specific document	Page 1 of 1
Responsive to these comments: 30075-96	
The requested document is the DEIS reference identified as Montgomery and Associates (2019b) and has been available on the project website since publication of the DEIS.	

Comment response: MIT39 Mitigation codes	Page 1 of 1
Responsive to these comments: 28449-150	
Clarification of the codes used in appendix J was added to the FEIS.	

Comment response: MIT40 Lack of detail on subsidence monitoring	Page 1 of 1
Responsive to these comments: 8032-333	
This comment states, “The [Apache Leap Special Management Area] document mandates, (although it is unclear of the enforcement mechanism) that seismic monitoring, fencing, and other measures must be implemented to mediate the effect of Resolution Copper’s proposed project. Although impacts from the proposed project on the SMA are discussed, we could not find any discussion in the DEIS of how, when, and by whom, these measures would be implemented. As the SMA is a Connected action to this project, that information should have been included in this DEIS.” This statement is incorrect. Section 3.2 of the DEIS described subsidence monitoring as an applicant-committed environmental protection measure (DEIS, pp. 149–150). Further details are included in the project record as appendix E of the GPO (Resolution Copper 2016a) and Tshisens (2018a). Subsidence monitoring was also the subject of a specific mitigation measure (FS-222) required by the Forest Service between DEIS and FEIS (DEIS, p. 159; appendix J, p. J-4). See response GS13 for more details on the evolution of the subsidence monitoring plan.	

Comment response: NEPA1 Comments on Purpose and Need	Page 1 of 1
Responsive to these comments: 1008-2, 1163-2, 124-2, 1360-5, 1396-2, 1438-12, 158-1, 1595-1, 199-2, 42-4, 8031-34, 8032-2, 913-1	
These comments suggest the Tonto National Forest should broaden the purpose and need described in chapter 1 of the DEIS and assess alternatives consistent with a broadened purpose and need. The Forest Service has reviewed the purpose of and need for action statement and determined that is appropriate for this project. See discussion of purpose and need in FEIS section 1.3.	

Comment response: NEPA2 Ramifications of the Rosemont decision	Page 1 of 1
Responsive to these comments: 104-4, 1068-6, 1155-2, 1235-8, 1322-9, 1454-14, 1539-1, 1565-2, 24-3, 263-7, 26968-1, 28037-2, 298-4, 524-27, 53-1, 8032-4, F1-4, F1-9, F2-3, F4-2, F6-7	
The Forest Service has given appropriate consideration to the pending and completed litigation involving the Rosemont Copper Mine. There are many important factors that distinguish the proposed Resolution Copper Mine from the proposed Rosemont Copper Mine, most notably the provisions of PL 113-291.	

Comment response: NEPA3 Opportunities for public comment; need for a Revised DEIS	Page 1 of 1
Responsive to these comments: 1188-28, 1422-2, 1448-9, 1499-1, 1499-5, 1519-2, 1606-1, 28075-2, 28431-2, 286-4, 509-2, 5569-1, 8032-1, 8032-253	
Federal regulations allow several opportunities for public review and comment for EISs, as well as specify minimum comment time frames. • A minimum 45-day public comment period is required for a DEIS (36 CFR 218.25(a)(1)(ii)). The Resolution Copper Project DEIS was released for public comment over a 90-day period between August 10 through November 7, 2019 (U.S. Forest Service 2019a). • An agency preparing an FEIS shall assess and consider comments received on a DEIS and shall respond by one or more of means, stating its response in the final statement (40 CFR 1503.4(a)(1-5)). • A 45-day objection period follows the release of an FEIS and draft ROD. This allows the public to review and file objections that will be considered by the Regional Forester (36 CFR 218.22). Each of these periods provide an opportunity for public review and comment on the DEIS, FEIS, and draft ROD, respectively. The Resolution Copper DEIS and FEIS follow these requirements for all decisions we are authorized to make. For this project, Congress mandated that the land exchange occur at a specific time under specific conditions, as outlined in Section 3003 of PL 113-291. Thus, the land exchange is not a Forest Service decision. The FEIS—not a revised or supplemental DEIS—is the appropriate document to revise in response to public comments. As noted, the objection process provides another opportunity for public involvement.	

Comment response: NEPA4 American Indian Religious Freedom	Page 1 of 1

Responsive to these comments:

1276-1, 1330-2, 235-24, 235-25, 235-26, 311-1

These comments focus on impacts to resources and values important to Native American Tribes, most specifically religious freedom.

The DEIS addressed tribal concerns in: Section 3.12, Cultural Resources (DEIS, pp. 622–639); Section 3.14, Tribal Values and Concerns (DEIS, pp. 658–671); and Section 3.15, Environmental Justice (DEIS, pp. 672–686). Impacts to these resources and values clearly are described for each alternative.

The FEIS and ROD will describe final results of consultation between Tribes and the Forest Service. This will include mitigation and its effectiveness, and compliance with the AIRFA and other laws and regulations pertaining to resources and values important to Tribes.

Note that government-to-government consultation between the Forest Service and Tribes is ongoing. A full list of consultation activities as of publication of the FEIS can be found in chapter 5 and appendix S of the FEIS.

We continue to develop and evaluate measures to reduce impacts to resources and values important to the Tribes (DEIS, pp. 670); those developed as of publication of the FEIS are summarized in section 3.14 and appendix J of the FEIS.

Comment response: NEPA6 Compensation to tribes	Page 1 of 1

Responsive to these comments:

1176-1, 126-2, 1499-3

There is no mechanism in Federal law or regulation that allows for provision of financial compensation for loss of tribal, heritage, or cultural resources. Such compensation would require specific action from Congress. Rather, mitigation is developed through Section 106 consultation under the NHPA and specified in the PA and HPTP. The final version of the PA circulated for signature is attached to the FEIS as appendix O.

Beyond NHPA requirements, Section 3003 of PL 113-291 specifies that the Secretary of Agriculture shall engage in government-to-government consultation with affected Tribes. Following consultation, the Secretary shall consult with Resolution Copper and seek to find mutually acceptable measures to address the concerns of affected tribes; and minimize adverse effects on affected tribes from mining and related activities on the Federal land conveyed to Resolution Copper (PL 113-291, Section 3003(c)(3)). We have engaged in efforts to identify and address specific concerns of affected tribes since August 2015.

Comment response: NEPA8 Use of mining regulations (36 CFR 228A) and approval of a mine plan; or use of special use regulations (36 CFR 251) and approval of a special use permit	Page 1 of 1

Responsive to these comments:

124-4, 8032-226, 8032-3, 8032-5

These comments state that the DEIS is deficient because it does not explicitly discuss permitting the mine under regulations at 36 CFR 251 (Special Use Permit) instead of Forest Service mining regulations at 36 CFR 228 using a GPO.

The DEIS acknowledges that a Special Use Authorization may be required to authorize uses of NFS lands for specific features such as power lines, access roads, and other features (DEIS, pp. 9, 13, 15, 56).

We have included additional language in the FEIS explaining the criteria that must be considered to permit use and occupancy of NFS land. Any decision to authorize use and occupancy of NFS land will be made in the ROD, which will apply criteria from the regulations for the type of authorizations that will be issued.

Comment response: NEPA9 Public interest requirement of land exchange	Page 1 of 1
Responsive to these comments: 1048-5, 8032-217	
Through PL 113-291, Congress has enacted legislation authorizing and directing this specific land exchange. The requirements that must be met are specified in Section 3003 of PL 113-291 and addressed in the DEIS (DEIS, pp. 10–11, 30–36, and 104–105 and appendix B).	

Comment response: NEPA10 Ramifications of the withdrawal area on Oak Flat, if the land exchange does not occur	Page 1 of 2
Responsive to these comments: 1097-1, 1158-49, 1441-1, 885-2	

The 760-acre "Oak Flat Picnic and Camp Ground" area was withdrawn on September 30, 1955 (Federal Register, October 1, 1955) by Public Land Order 1229 signed by Assistant Secretary of the Interior, Fred Aandahl: "RESERVING LANDS WITHIN NATIONAL FORESTS FOR USE OF THE FOREST SERVICE AS CAMPGROUNDS, RECREATION AREAS AND FOR OTHER PUBLIC PURPOSES." The lands were "withdrawn . . . from all forms of appropriation under the public land laws, including the mining but not the mineral leasing laws, and reserved for use of the Forest Service, Department of Agriculture, as camp grounds, recreation areas, and for other public purposes, as indicated."

On September 20, 1971, Public Land Order 5132 modified the "Oak Flat Picnic and Camp Ground" withdrawal. Signed by Assistant Secretary of the Interior, Harrison Loesch, the new order stated that the 1955 Public Land Order 1229 was "hereby modified to the extent necessary to open the following described lands to all forms of appropriation under the public land laws applicable to national forest lands, except under the U.S. mining laws . . . the lands described in paragraph 1 will be open to such forms of disposal as may by law be made of national forest lands except appropriation under the U.S. mining laws."

Public Land Order 5132 modified Public Land Order 1229 by making the 760-acre "Oak Flat Picnic and Camp Ground" area eligible for disposal by land exchange and other disposal authorities of the Forest Service.

Section 3003 of PL 113-291 defines the Oak Flat Withdrawal Area as follows: "OAK FLAT WITHDRAWAL AREA.—The term 'Oak Flat Withdrawal Area' means the approximately 760 acres of land depicted on the map entitled 'Southeast Arizona Land Exchange and Conservation Act of 2011–Oak Flat Withdrawal Area' and dated March 2011" (PL 113-291, Section 3003(b)(6)).

Section 3003 further directs that public land orders that withdraw Federal land from appropriation or disposal shall be revoked to permit disposal of the land (PL 113-291, Section 3003(i)(4)(1)).

As specified in the DEIS, there are two scenarios regarding the Withdrawal Area:

1. The land exchange occurs in which the Withdrawal Area becomes the private holding of Resolution Copper Mining. In that case, the area is no longer Federal property and the withdrawal is no longer applicable. The Withdrawal Area would be available for mining activity under the laws and regulations that govern mining on private property.
2. The land exchange for the Withdrawal Area is not completed and the parcel remains Federal property. In that situation, the withdrawal remains in place and mining cannot occur within the Withdrawal Area.

Comment response: NEPA10 Ramifications of the withdrawal area on Oak Flat, if the land exchange does not occur	Page 2 of 2
Responsive to these comments: 1097-1, 1158-49, 1441-1, 885-2	
Note: Subsidence of land within the withdrawal from mining on adjacent Federal land mining claims is unlikely to be allowable. The only authority to subside NFS land from adjacent placer or lode mining is under the Mining Law, and the Mining Law does not apply within withdrawn areas. Subsidence arguably falls under the definition of "processing" for purposes of locating a millsite claim, but millsites cannot be located within withdrawn areas. It is unlikely that other authorities pertaining to administration of NFS land would allow subsidence from adjacent mining in a withdrawn area.	

Comment response: NEPA11 Release of FEIS and ROD	Page 1 of 1
Responsive to these comments: 1097-2	
The NEPA process for the Resolution Copper Project is unique due to legislative direction contained in Section 3003 of PL 113-291. Thus, we must meet applicable NEPA regulations as well as the legislative requirements stipulated in Section 3003. As this comment correctly states, Section 3003(c)(10), "Title Transfer," states, "Not later than 60 days after the date of publication of the final environmental impact statement, the Secretary shall convey all right, title, and interest of the United States in and to the Federal land to Resolution Copper." Under a "normal" NEPA process, we would publish an FEIS and draft ROD, go through an objection process, issue a final ROD, and then authorize the discretionary actions specified under the final ROD. However, PL 113-291 language stipulates that the process for Resolution Copper Project will be (1) publication of the FEIS and draft ROD, (2) overlapping objection process and conveyance of all right, title, and interest of lands to be exchanged to Resolution Copper within 60 days of FEIS publication, (3) issuance of the final ROD, and (4) project authorizations. We still are responsible for properly completing the NEPA process for discretionary actions, including the objection process. However, conveyance of land interest and title is not a discretionary action on the part of the Forest Service, but a legislative requirement that we are obligated to enact. The comment also pointed out inconsistent language in a variety of documents (such as the Dear Reader letter, and the website briefing and notification materials) concerning publication of the FEIS. We have reviewed those documents and made corrections or revisions where appropriate.	

Comment response: NEPA12 Mineral rights on Town of Superior exchange parcels	Page 1 of 1
Responsive to these comments: 261-15, 929-11	
PL 113-291 identified three parcels the United States would transfer to the Town of Superior, if requested (DEIS, p. ES-7). The Town of Superior has not yet requested this transfer. These lands are currently under the administration of the Tonto National Forest as part of the National Forest System, and as such these lands are open to mineral entry under the Mining Law, and surface use and occupancy is governed by Forest Service mineral regulations (36 CFR 228A). These comments concern the effect that mining claims currently filed within these parcels will have on the ability of the Town of Superior to acquire and use these lands, as authorized by Congress. Any surface use of the mining claims on these lands must be in accordance with Forest Service regulations. No significant disturbance of surface resources may occur without first obtaining approval of a plan of operations by the Tonto National Forest. Plan approval must comply with other applicable laws, including NEPA. Mining claims do not give fee title to the land, but give the claimant the right to explore, prospect, and develop minerals. However, no property rights in the claim vest until there is a discovery of a valuable mineral deposit.	

Comment response: NEPA13 U.S. citizenship/foreign ownership	Page 1 of 1
Responsive to these comments: 1150-7, 1192-2, 130-1, 158-2, 23-1	
Resolution Copper Mining, LLC—a U.S. corporation registered in Delaware—owns the mineral claims proposed to be mined by this project. No Federal or State law precludes Resolution Copper Mining, LLC, from mining its deposits due to ownership or citizenship.	

Comment response: NEPA14 Winters doctrine and water rights	Page 1 of 1
Responsive to these comments: 23-2, 30078-42, 30078-43, 30078-44, 8032-340, 885-1	
Section 3.7.1 of the DEIS acknowledges that potential impacts due to dewatering are anticipated for a number of springs in the project area. These impacts are anticipated at six springs under the no action alternative (DEIS, pp. 317–325) and an additional two springs under the action alternatives (DEIS, pp. 325–334). The DEIS also acknowledges that water rights have been filed with the State of Arizona for five of these springs by the Forest Service (DEIS, pp. 332–333). The comments suggest that impacts to such water rights, if they are necessary to fulfill the purposes for which the Tonto National Forest was reserved, are not allowable by the Forest Service. Section 3.7.1 of the DEIS discusses the ramifications to water rights from the anticipated dewatering impacts at these springs (DEIS, p. 332) and notes that these are water rights filings only, and that they have not yet been adjudicated by the State of Arizona (Superior Court) in the General Stream Adjudication of the Gila River. The DEIS concludes that while physical loss to these springs is disclosed "impact on any surface water rights from a legal or regulatory standpoint cannot yet be determined due to the ongoing adjudication." Regardless, the DEIS clearly describes that the anticipated impacts to these water sources would not persist once mitigation is applied. The mitigation to be applied to these springs is described later in section 3.7.1 (DEIS, pp. 343–344). The five springs identified as having water rights filings by Tonto National Forest (Bitter Spring, Bored Spring, Hidden Spring, McGinnel Mine Spring, and McGinnel Spring) are specifically identified as being covered by DEIS mitigation measure RC-211. The DEIS identifies the purpose of this mitigation measure as follows: "…to ensure that groundwater supported flow that is lost due to mining activity is replaced and continues to be available to the ecosystem." The DEIS then identifies five specific techniques that could be applied to replace water in the event the anticipated dewatering impacts are observed during monitoring. The DEIS appropriately discloses the potential for impacts to such Tonto National Forest water rights from mining activities, but also discloses Resolution Copper's commitment to prevent impacts from impinging on water uses at these springs.	

Comment response: NEPA15 U.N. Declaration of Indigenous Rights	Page 1 of 1

Responsive to these comments:

1236-1, 235-21, 8031-49, 851-4

The United Nations Declaration on the Rights of Indigenous Peoples was passed in 2017; the United States signed the declaration in 2010. The Organization of American States, including the United States, adopted an American Declaration on the Rights of Indigenous Peoples in 2016 (http://www.narf.org/wordpress/wp-content/uploads/2015/09/2016oas-declaration-indigenous-people.pdf).

Both the United Nations and Organization of American States declarations are statements of goals and objectives for signatory states and are non-binding on member states. In the United States, Federal agencies are required to adhere to U.S. laws, regulations, and policies that protect cultural resources and the rights of Native Americans, such as the National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.); Archaeological and Historic Preservation Act of 1974 (16 U.S.C. 469); American Indian Religious Freedom Act of 1978 (42 U.S.C. 1996–1996a); and Native American Graves Protection and Repatriation Act of 1990 (23 U.S.C. 3001 et seq.); as well as other applicable laws, regulations, and policies. These laws, regulations, and policies foster progress toward achieving the goals and objectives in the United Nations and Organization of American States Declarations on the Rights of Indigenous Peoples.

In response to concerns that the DEIS did not adequately address tribal impacts, section 3.14 of the FEIS was modified to more thoroughly explore these issues and to incorporate specific comments and viewpoints from the Tribes. See comment response CR4 for further detail.

Comment response: NEPA16 Validity of Resolution mining claims	Page 1 of 2

Responsive to these comments:

8031-36, 8031-37, 8031-7

Issues related to validity of mining claims on NFS lands largely are dependent on the specific activity proposed on NFS lands, and what regulations allow authorization of those activities. For the Resolution Copper Project, the specific activities proposed to occur on NFS lands differ by alternative.

For the Resolution Copper Project, the activities proposed on NFS lands can be authorized under either mining regulations at 36 CFR 228A or special use regulations at 36 CFR 251, depending on the circumstances. The regulations under which the decision would be made vary, depending on the nature of the Selected Alternative that will be identified in the ROD.

Each of the action alternatives described in the DEIS has two scenarios: (1) mining and associated activities if the land exchange occurs; and (2) mining and associated activities if the land exchange does not occur.

If the land exchange occurs, mining would occur solely on private land. Whether activities on NFS lands would be authorized by mining or special use regulations would depend on what specific actions are proposed to occur on those lands, and in some instances whether the claims underlying proposed tailings are mining or mill site claims.

If the land exchange does NOT occur, the mine would be located on both private and NFS lands, and all activities would take place under the GPO filed by Resolution Copper and 36 CFR 228A mineral regulations.

At this point, the land exchange is anticipated to occur. With DEIS Preferred Alternative 6 – Skunk Camp, assuming the land exchange occurs, both mining and tailings would ultimately be on private land, and the uses on NFS lands to be authorized under the special use regulations at 36 CFR 251 would be limited to the pipeline corridor, power line corridors, and certain mitigation and monitoring activities. No actions on NFS lands would be authorized under mining regulations at 36 CFR 228A.

If the Selected Alternative identified by the Forest Supervisor in the ROD requires that the Forest Service authorize activities on NFS land under mining regulations at 36 CFR 228A, the legal requirements for considering mine claim validity are detailed in Department of the Interior Office of Solicitor Memoranda M-37012 (dated November 14, 2005) and M-37057 (dated August 17, 2020). This legal opinion concludes that although the agency is authorized to determine claim validity at any time until a patent is issued, the agency is under no legal obligation to determine mining claim or mill site validity before approving a proposed plan of operations to explore for or develop minerals on lands open to the Mining Law's operation. This would be the case for Resolution Copper in the event that the land exchange did not occur.

Comment response: NEPA16 Validity of Resolution mining claims	Page 2 of 2
Responsive to these comments: 8031-36, 8031-37, 8031-7	
The legal opinion also concludes that when lands are withdrawn from entry under the Mining Law, the agency must verify whether the mining claims and mill sites included in a proposed mine plan of operations are valid before approving the plan. The mine plan of operations submitted by Resolution Copper to the Tonto National Forest does not include any mining within the boundaries of any withdrawal area.	

Comment response: NEPA17 Resolution mining claims on adjacent properties	Page 1 of 1
Responsive to these comments: 1479-1, 8032-326	
As stated in the DEIS, a potential future activity must be "reasonably foreseeable." A reasonably foreseeable action is an action that is likely to occur in the future and is not simply an activity that may or may not occur at some unknown time in the future (e.g., a speculative action) (DEIS, p. 129). It is unknown at this time whether, when, or how potential adjacent mineral deposits that are not included in the Resolution Copper GPO would be mined. There have been no proposals to mine these deposits, so future development is speculative, and they have not been included as reasonably foreseeable actions. Should proposals to mine these deposits be made in the future, those proposals would have to comply with applicable laws and regulations, such as Federal mining laws, NEPA, and Federal and State environmental laws.	

Comment response: NEPA18 No Action Alternative	Page 1 of 1
Responsive to these comments: 1188-1, 1338-10, 1544-1, 8031-35, 886-1	
These comments question the accuracy of statements in the DEIS and related documents claiming that the Tonto Forest Supervisor cannot legally select the no action alternative. As noted in the comments, consideration of a no action alternative is required by NEPA and its implementing regulations. We complied with this requirement by developing and analyzing a no action alternative in the DEIS. The DEIS correctly described our authority under mining regulations at 36 CFR 228 Subpart A. The question raised by these comments is whether the proposed action and alternatives presented in the DEIS are properly authorized under Forest Service mining regulations at 36 CFR 228 Subpart A, or special use regulations at 36 CFR 251. The authorities the Forest Service has under special use regulations differ substantially from those under the mining regulations. The alternatives presented in the DEIS differ in whether they would be permitted under the mining or special use regulations. See response NEPA8 for a more detailed discussion. We added language to chapter 1 of the FEIS to clarify the criteria that will be considered when deciding which is the appropriate permitting regulation for actions on Federal lands.	

Comment response: NEPA19 Appropriateness of continuing baseline pumping under the No Action Alternative	Page 1 of 1
Responsive to these comments: 3-1, 30078-20, 30078-21, 8031-39, 8031-41, 8031-62, 8032-23, 8032-24, 8032-69, 8032-86	
These comments are concerned with the ongoing dewatering pumping being conducted by Resolution Copper, expressing the point of view that the current impacts from this dewatering should be properly analyzed in the NEPA process. This issue was raised early in the NEPA process and thoroughly explored by the NEPA team (BGC Engineering USA Inc. 2020b; Garrett 2018d). The history of the dewatering and the impacts of that dewatering on the existing condition of the environment is explored in several places, but in the most detail in chapter 3.7.1 (pp. 304–309, 312). This includes the impact this dewatering has had on groundwater levels (DEIS, p. 309), and on groundwater-dependent ecosystems (DEIS, p. 312; Garrett (2019f)). Besides describing the impact the dewatering has had on existing environmental conditions, the ongoing dewatering is evaluated in the no action alternative and the cumulative effects analysis. Among other purposes, the no action alternative acts as a baseline against which the impacts from other alternatives can be compared. A decision was required as to whether the no action alternative should include continued dewatering or not. None of the comments provide additional information beyond what was considered in the DEIS, or suggest a basis for changing the approach. Most importantly, we believe that the approach taken ensures that no impacts are disregarded. All future impacts resulting from the dewatering are assessed in the FEIS as part of the no action alternative and proposed action alternative, and all past impacts resulting from dewatering are assessed in the FEIS as part of the existing condition of the affected environment.	

Comment response: NEPA20 Effects of jurisdictional delineation on Arizona State Trust lands	Page 1 of 1
Responsive to these comments: 562-6	
Whether any waters of the U.S. are, or are not, considered jurisdictional under the Clean Water Act is a matter of law and regulation, and determined under the auspices of the U.S. Army Corps of Engineers. Whether a jurisdictional delineation is approved or not does not change the fundamental requirements associated with that piece of property under those laws and regulations. Any development that occurs is subject to those laws and regulations. Effects of jurisdictional delineations to the Arizona State Land Department's ability to realize the highest value for those State Trust lands located downstream, if any, are speculative and inappropriate for analysis.	

Comment response: NEPA21 Financial assurances at Preferred Alternative (Alternative 6 – Skunk Camp)	Page 1 of 1
Responsive to these comments: 1194-2, 524-17	
See the response to NEPA16 concerning regulations for authorizing activities for various alternatives, scenarios, and land ownership. Assuming that the land exchange occurs, mining for Alternative 6 – Skunk Camp (the Preferred Alternative) would occur solely on private land. Actions proposed for NFS lands under this alternative are limited to the pipeline corridor, power line corridors, and certain mitigation and monitoring activities that would be authorized under special use regulations at 36 CFR 251. We would not be responsible for bonding at Skunk Camp, which would be a facility located on private land. The Arizona State Mine Inspector will require a reclamation plan and financial assurance. The Arizona Department of Environmental Quality will also require financial assurance as part of the Aquifer Protection Permit. The Special Use Permit that would authorize actions on NFS lands would require certain mitigation, which was identified and analyzed in appendix J of the FEIS. We can require a bond or other security to secure all or any of the obligations imposed by the terms of the Special Use Permit or by any applicable law, regulation, or order (36 CFR 251.56(e)). If the land exchange does not occur, mining for Alternative 6 – Skunk Camp would occur on both private and NFS lands. In this case, mining and associated actions on NFS lands would be authorized under Forest Service mining regulations at 36 CFR 228A. These regulations allow the Forest Service to require a bond or other financial assurance to ensure performance of payment (as necessary), reclamation, and other conditions of the contract or permit (36 CFR 228.51(a)).	

Comment response: NEPA22 Agencies and their authorities	Page 1 of 1
Responsive to these comments: 1194-1	
We clarified the discussion of authorities under which various agencies would authorize project-related actions on their lands in chapter 1 of the FEIS.	

Comment response: NEPA23 Required components of a "single EIS"	Page 1 of 2

Responsive to these comments:

8031-6

This comment focuses on the importance of the EIS addressing all Federal actions and connected actions, as required by the land exchange legislation. We acknowledged that the EIS must address all Federal actions in multiple locations in the DEIS (pp. ES-4 and pp. 11, 32, 66).

The comment states that the EIS must address all connected actions, specifically noting power lines and substations. The comment also asserts that "permitting decisions" are connected actions that must be analyzed in the EIS.

Infrastructure like power lines and substations, are fully analyzed as part of the proposed project, along with all other auxiliary facilities, including pipelines, road, and water supplies. Power lines and substations are specifically described as part of the project in chapter 2 (DEIS, pp. 56–59).

Any Federal agency making a decision related to the project is required to comply with the requirements of NEPA. The intention of the land exchange legislation at Section 3003 (c)(9)(B) is to have one single EIS provide the NEPA compliance disclosures for all Federal decisions, including the Forest Service, Bureau of Land Management (if needed), and U.S. Army Corps of Engineers. The decision framework for each of these three Federal agencies is described in chapter 1 (DEIS, pp. 11–14). The NEPA process is intended to be sufficient to support these Federal decisions. We added information to chapter 1 of the FEIS to more clearly describe which components of each alternative would require Federal decisions.

The comment is incorrect when it says that State "permitting decisions" are required to be addressed in the EIS as connected actions. Rather, the purpose of the EIS is to disclose the impacts of the project on the environment: "It [the EIS] shall provide full and fair discussion of significant environmental impacts and shall inform decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment" (40 CFR 1502.1). While these disclosed impacts are often the same impacts for which State permits are required, the permit decisions themselves are not part of the NEPA process.

State permitting actions are described in chapter 1 (DEIS, pp. 15–20). The relationship between these state permits and the NEPA process is described on DEIS p. 15: "The EIS would not determine if a permit through another agency would be approved but would disclose impacts for resources analyzed."

Comment response: NEPA23 Required components of a "single EIS"	Page 2 of 2

Responsive to these comments:

8031-6

With respect to other permits mentioned in the comment, the DEIS properly includes analysis of the resource impacts associated with these permits, including migratory birds (DEIS, pp. 461–462), bald eagles (DEIS, pp. 468 and 476), golden eagles (DEIS, pp. 466 and 476), threatened and endangered species (DEIS, pp. 473–476), water quality impacts (DEIS, pp. 346–422), air quality impacts (DEIS, pp. 275–294), and hazardous materials and waste (DEIS, pp. 574–584).

The comment is not correct when it says that all aspects of the project are required to be fully determined in the DEIS. This contradicts the NEPA process, during which modifications are anticipated to be made between the DEIS and FEIS in response to public comments (40 CFR 1502.9(b)). In addition, many of the permitting processes mentioned in the comment, including the 404 permit under the Clean Water Act, Section 7 consultation, State of Arizona 401 water quality certification, Aquifer Protection Permit, and air permit, are specific to the alternative ultimately selected by the Forest Supervisor, and as such, these permits may not be finalized prior to the publication of a ROD.

Comment response: NEPA24 Skunk Camp alternative was not subject to scoping; need for more public comment.	Page 1 of 1
Responsive to these comments: 1360-19, 8031-31	
These comments misunderstand the purpose of and legal requirements for scoping and alternative development. The Skunk Camp alternative was developed to respond to the issues that were raised in scoping, including public health and safety, groundwater quality, and impacts on scenic resources and recreational opportunities, and to limit the impacts on NFS surface resources (DEIS, p. 94). Development of the alternative was part of the scoping process.	

Comment response: NEPA25 Requests for extension of comment period	Page 1 of 1
Responsive to these comments: 110-1, 1106-1, 1158-1, 1455-2, 199-3, 246-1, 248-2, 249-1, 251-1, 251-3, 268-1, 279-5, 31-1, 521-1, 69-1, 8031-9	
These comments generally concern aspects of the release of the DEIS to the public, and specifically include requests for extensions to the public comment period. The Forest Supervisor chose not to extend the comment period for the general public, as it already was twice as long as required by Forest Service guidance or regulation. Forest Service guidance is to "allow a minimum of 45 days for comments on a draft EIS unless a different time period is required by law or regulation" (Forest Service Handbook 1909.15, Section 24.1). This is consistent with CEQ regulations implementing NEPA (40 CFR 1506.10(c)). Recognizing the complexity of the Resolution Copper Project, the Forest Supervisor specified a 90-day public comment period, running from publication of the Notice of Availability (NOA) in the Federal Register on August 9, 2019, through November 7, 2019. After a specific request from the San Carlos Apache Tribe, on October 2, 2019, the Forest Supervisor extended the comment period for an additional 45 days for tribes, through December 22, 2019 (U.S. Forest Service 2019b). With respect to comments on tribal consultation, see response CR12. With respect to comments on the number, format, and location of public meetings, see response NEPA30. With respect to comments concerning the availability of the DEIS document, the document was available in electronic format on the website at the time of publication of the Notice of Availability, and hard copies were available upon request as well at the time of publication at various Tonto National Forest offices and the Town of Superior public library. Thumb drives containing the DEIS and all reference documents were also made available at public locations and at all public meetings. In addition, approximately 40 hard copies and thumb drives were delivered or mailed upon request in the first 2 weeks after publication of the Notice of Availability. One comment voiced concern with the publication of the Notice of Availability in the Federal Register through the EPA weekly notice, rather than a separate Forest Service Federal Register notice. The Federal Register Notice of Availability for the Resolution Copper Project DEIS was published consistent with the "Amended Environmental Impact Statement Filing System Guidance for Implementing 40 CFR 1506.9 and 1506.10 of the Council on Environmental Quality's Regulations Implementing the National Environmental Policy Act" (Federal Register (77):51530 (2012)). Publication followed the established Forest Service process for approving Federal Register notices, which took effect in January 2017. Note that we provided details of this process to certain commenters upon request in September 2019 (Rasmussen 2019).	

Comment response: NEPA26 Logistics of website and comment acceptance	Page 1 of 1

Responsive to these comments:

8031-1, 8031-10, 8032-26

We offered a variety of methods to submit comments on the DEIS. These methods were identified on the project website, in the Dear Reader letter published with the DEIS, in mailers sent to the entire mailing list upon publication of the Notice of Availability in the Federal Register, in news releases from the Tonto National Forest, and in materials provided at the public meetings.

Methods for submitting comments identified to the public included: (1) providing comments at an open house public meeting; (2) using the online form at www.ResolutionMineEIS.us/Comment, noting that the online form accepts attachments in Microsoft Word (.doc and .docx), rich-text format (.rtf), plaintext (.txt), or portable document format (.pdf); and (3) mailing written comments to the Tonto National Forest via the U.S. Postal Service. Public meetings provided attendees with further opportunities to submit comments by speaking publicly during the meeting, speaking privately to a court reporter, or submitting written comments.

We chose to use the website for acceptance of comments electronically, instead of email. The reasons for this choice included the following: (1) both email and website were perceived to require the same level of technological skill to use; (2) webforms are commonplace and standard methods for accepting comments; (3) both email and website have similar attachment file size limitations; (4) the webform allows direct entry of comments into a comment database, not only increasing efficiency, but minimizing the potential for mishandling of comments; (5) use of the webform provides the commenter with an individualized receipt with a tracking number, providing assurance that the comment was received; (6) use of a webform avoids possible loss of email comments by spam/filtering; (7) safety at public meetings was a paramount concern, and use of a webform allows for real-time tracking of comments, searching for key words or threats; and (8) similar key word searches in the database can identify requests that are time-sensitive, such as problems noted with website, references, or documents, or requests for public comment period extension.

Comments note that attachments larger than 20 MB were required to be delivered separately and could not be delivered through the website. This would have been the case with any electronic delivery system such as email. In all cases, the Tonto National Forest accepted submittal of these files via thumb drive on a schedule convenient to the commenter. We did not reject any comments for using this delivery method or reject any comments for receipt of via this delivery method after close of the comment period.

Comment response: NEPA27 Locations of postings, details of mailing list	Page 1 of 2

Responsive to these comments:

1115-1, 125-1, 1358-5, 1360-1, 289-2, 32-2, 38-1, 6820-1

These comments raise concerns about the notification process for the DEIS and the public comment meetings.

We have maintained a project mailing list of interested parties, adjacent landowners, and those who have commented upon the project.

The mailing list began when the project started and we update the list regularly. It includes people interested in previous Resolution NEPA processes, commenters from the scoping period, and commenters from the DEIS comment period. The list also includes people who contacted the Tonto National Forest through webform, comment form, or direct communication and requested to be added.

As we developed alternatives that covered different geographic areas, we used the county assessor sites to add adjacent landowners to the mailing list. We used the assessor site to expand the list to include landowners up to 1 mile from each project component and in some areas up to 10 miles from the proposed project.

We use the mailing list to contact interested stakeholders and notify them of key project activities. These activities include the Notice of Availability of the DEIS and public comment meetings, scoping meetings, and the alternatives development meetings. See response NEPA30 for details of when notices such as mailed postcards or handouts, emails were distributed for the DEIS release and public meetings.

In addition to the mailing list, we used other outreach and notification means such as a Federal Register notice, social media posts, news releases, website announcements, newspaper notices (in English and Spanish) and posters physically displayed at 37 various local bulletin boards and areas in the project vicinity. We targeted communities for notification if they expressed specific concerns, including the town of Queen Valley, Superior, and Top-of-the-World, the residences along existing roads used to access project components such as residential access off of Skyline Road from Quail Run Road to the filter plant and loadout facility, or residential access from Dripping Springs Road between SR 77 to the Skunk Camp tailings storage facility.

During the San Tan Valley public meeting on September 12, 2019, local residents expressed concern that they were not aware of the project. This led us to expand our outreach and notification efforts to include landowners located farther than 1 mile from the proposed project.

The August 2019 legal notice was published in multiple local papers to achieve widespread notification. Specific to San Tan Valley residents, this included the Arizona Republic, La Voz, and the Florence Reminder and Blade Tribune.

Comment response: NEPA27 Locations of postings, details of mailing list	Page 2 of 2

Responsive to these comments:

1115-1, 125-1, 1358-5, 1360-1, 289-2, 32-2, 38-1, 6820-1

One comment suggested that we post information to the Oak Flat Campground community board, which we will consider for future notices.

The June 2019 pre-DEIS notice was sent to 17,500+ postal mail addresses and 23,000+ email addresses. The August 2019 DEIS release was sent to 15,200+ postal mail addresses (which is smaller than the June notice as duplicates and undeliverable addresses were removed from the mailing list) and 23,000+ email addresses. The September 2019 notice of an additional public meeting was sent to 15,400+ postal addresses and 23,000+ email addresses.

Comment response: NEPA28 Accessibility of DEIS and materials	Page 1 of 2

Responsive to these comments:

1360-2, 274-1

The comments suggest the documents were not available to users of various disabilities or languages.

The Section 508 amendment of the Rehabilitation Act of 1973 requires that information in Federal documents be accessible to individuals with disabilities. All NEPA documents created for this project were 508 compliant and posted to the public website in usable ways for people with sight limitations. The video recording of the public meeting posted to the project website included closed captioning for those with hearing limitations. All maps and graphics were designed with color contrast in mind to make information more easily discernible.

We are not required to produce documents in languages other than English. Public notices such as the Notice of Intent, Notice of Availability, and newspaper announcements were translated to Spanish and published in the Spanish newspaper La Voz.

Disclaimers on the project website noted "if anyone had issues with the documents to contact John Scaggs at john.scaggs@usda.gov or (602) 225-5292 if they needed additional documents or formats." No comments or requests came to our attention to translate documents into other languages, expressed problems with 508 compliant documents, or asked assistance with some external documents that were not 508 compliant but cited by a project document.

The DEIS was available by electronic download from the public website, flash drive, or printed hard copy. References cited by the DEIS also were provided for electronic download from the public website or by flash drive.

On the inside front cover of every DEIS volume (both digital and hard copy) we included the following notice:

> *"In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.*

Comment response: NEPA28 Accessibility of DEIS and materials	Page 2 of 2

Responsive to these comments:

1360-2, 274-1

> *Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.*
>
> *To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at http://www.ascr.usda.gov/complaint_filing_cust.html and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.*
>
> *USDA is an equal opportunity provider, employer and lender."*

Comment response: NEPA29 Alleged conflict of interest	Page 1 of 1

Responsive to these comments:

119-2, 119-3, 120-1, 1338-11, 1493-1, 1505-3, 175-1, 194-2, 262-1, 265-1, 265-3

These comments allege conflicts of interest with the third-party NEPA contractor (SWCA Environmental Consultants) selected by the Forest Service to prepare the EIS for the Resolution Copper Project.

The basis stated in the comments for the alleged conflicts of interest, specifically the relationship between Dr. Stephen W. Carothers and The Nature Conservancy and Dr. Carothers's position with SWCA Environmental Consultants, are incorrect. These claims were investigated, and the facts on these issues were documented for the Tonto National Forest in October 2019 after verbal receipt of these comments during a public meeting and were included in the project record (Garrett 2019e).

Conflict-of-interest management is a requirement of the third-party contract. These issues have been actively managed by the third-party NEPA contractor since award of the contract in 2015. A consolidated description of contracting and conflict-of-interest management activities was prepared for the Tonto National Forest and for the project record after receipt of these comments (Garrett 2019g).

We are aware that these allegations were raised with the U.S. Department of Agriculture Office of Inspector General (OIG), as noted in the comments. An OIG inspector contacted and interviewed the Tonto National Forest and SWCA Environmental Consultants. Both agencies cooperated by providing all information requested.

Comment response: NEPA30 Meeting locations	Page 1 of 2

Responsive to these comments:

115-1, 1477-2, 180-2, 186-1, 213-1, 235-6, 245-3, 260-1, 64-1, 71-1, 801-1

These comments suggest that the Tonto National Forest should expand the public involvement outreach and public meetings conducted on the DEIS. We held six public meetings within local communities in the vicinity of the project during the 90-day public comment period, which ended on November 7, 2019. We conducted a seventh meeting with the San Carlos Apache Tribe during a special Tribal Council meeting on November 22, 2019, within the tribe's extended 135-day comment period, which ended on December 22, 2019.

We notified interested stakeholders of the upcoming release of the DEIS and future public meetings by first class U.S. mail postcards (June 14, 2019) and via email to the project mailing list (June 17, 2019). The Federal Register publication of Notice of Availability of the DEIS and notification of public meetings occurred on August 9, 2019. The project website simultaneously was updated with the same information on August 9, 2019, to coincide with the Federal Register Notice. We also announced availability of the DEIS and the public meeting schedule through mailers sent via U.S. first class mail (August 12, 2019), an email to the project mailing list (August 13, 2019), 16 different Arizona newspapers (beginning on August 9, 2019, and varied publication dates over the next 2 weeks based on publication schedule for each paper), and physical posting of 37 Notice Posters on local bulletin boards as well as at public meetings (September 4, 2019).

Beginning on August 9, 2019, the legal notice was published in 16 newspapers, including a Spanish translation of the notice. Newspapers included statewide and local readership areas around the project and the land exchange parcels, as follows: Arizona Capitol Times, Arizona Republic, Arizona Business Gazette, Sierra Vista Herald, Arizona Silver Belt, San Carlos Apache Moccasin, Payson Roundup, Arizona Daily Star, Florence Reminder and Blade Tribune, Coolidge Examiner, San Manuel Miner, Copper Basin News, Superior Sun, La Voz, Foothills Focus, and Arizona Daily Sun.

Six public meetings were held in September and October 2019 at locations around the project area. These locations were chosen as they mirrored locations used during the scoping period. Meetings were held mid-week during the evening hours in Superior, San Tan Valley, Kearny, Globe, Queen Valley, and Tempe. We added the Tempe meeting based on public requests for a meeting closer to central Phoenix. A seventh meeting was held at a special open meeting of the San Carlos Apache Tribal Council on November 22, 2019.

Comment response: NEPA30 Meeting locations	Page 2 of 2

Responsive to these comments:

115-1, 1477-2, 180-2, 186-1, 213-1, 235-6, 245-3, 260-1, 64-1, 71-1, 801-1

We held the Superior meeting at the Superior Junior/Senior High School on September 10, 2019, as it is close to the mine headquarters as well as the West and East Plant Sites. We held the San Tan Valley meeting at the Central Arizona College on September 12, 2019, to provide a venue close to the filter plant and loadout facility. We held the Kearny meeting at the Ray Elementary School on September 17, 2019, to provide additional outreach to communities near two additional proposed tailings storage facility locations (Alternative 5 – Peg Leg and Alternative 6 – Skunk Camp). We held the Globe meeting at High Desert Middle School on September 19, 2019, on the east side of town, closest to the San Carlos Reservation. We held the Queen Valley meeting at the Queen Valley Recreation Hall on October 8, 2019, for residents who live downstream from the Near West Tailings Storage Facility and the MARRCO corridor. We held the Tempe meeting at the Hotel Tempe/Phoenix Airport on October 10, 2019, to enable additional Phoenix residents to participate.

Feedback from scoping meetings held in 2016 informed these locations. The Gilbert meeting location from scoping was updated to Kearny, Arizona, to better consider the additional tailings facilities described in the DEIS, and given that the San Tan Valley meeting covers the eastern metropolitan area. The Tempe meeting was held at a location close to freeways and the Phoenix Sky Harbor Airport. Additional public notice was given to the project mailing list by both U.S. Postal Service postcards and emails (on September 25, 2019, and September 27, 2019), press release, website banner announcement, and with notification at the Queen Valley meeting participants (October 8, 2019).

The presentation shown at each public meeting that provided input on the project and its anticipated impacts was recorded and available on the project website for those unable to attend a meeting in person (posted on website September 10, 2019).

Court reporters transcribed public comments at each meeting and we placed the transcripts for others to view on the project website (November 4, 2019).

We distributed multiple news releases and generated several social media posts about the project meetings and DEIS release and comment period (September 26, 2019, and October 22, 2019, for media releases).

We received requests for a meeting in Tucson, but the Forest Supervisor determined that this would not be an appropriate use of Forest Service resources, considering the other meetings, online access to information, and distance from the project and its anticipated impacts.

Comment response: NEPA31 Request for no extensions of public comment period	Page 1 of 1

Responsive to these comments:

1075-2, 303-1

These comments state that the comment period for the DEIS should not be extended. The Forest Supervisor chose not to extend the comment period for the general public, as it already was twice as long as required by Forest Service guidance or regulation. Forest Service guidance is to “allow a minimum of 45 days for comments on a draft EIS unless a different time period is required by law or regulation” (Forest Service Handbook 1909.15, Section 24.1). This is consistent with CEQ regulations implementing NEPA (40 CFR 1506.10(c)).

Recognizing the complexity of the Resolution Copper Project, the Forest Supervisor specified a 90-day public comment period running from publication of the Notice of Availability in the Federal Register on August 9, 2019, through November 7, 2019.

Comment response: NEPA32 Missing or incorrect reference	Page 1 of 1
Responsive to these comments: 30075-48	
The comment notes that reference Newell (2018k) was not provided on the DEIS website. This is the result of a typographical error in the Literature Cited of the DEIS (p. 753), which inadvertently repeated the information for reference Newell (2018j). After this issue was noted, we made Newell (2018k) available on the website and corrected this issue in the Literature Cited section of the FEIS.	

Comment response: NEPA33 Appraisal details, including public interest and best and highest use	Page 1 of 3
Responsive to these comments: 1206-5, 1207-1, 126-1, 1295-1, 1301-24, 1322-2, 1342-3, 263-8, 27977-1, 27995-1, 27996-4, 28002-2, 42-3, 7308-1, 8032-216, 8032-218, 8032-219, 8032-220, 8032-221, 8032-222, 8032-223, 8032-225, 866-12, 873-2, 892-1, F6-2	

These comments focus on a variety of perceived shortcomings of the land exchange appraisal process. They raise the following specific points: (1) question why the appraisal of lands to be exchanged has not been completed and disclosed in the DEIS; (2) make a number of claims about how the appraisal should be conducted, including determination of public interest, consideration of best and highest use, and inclusion of specific values (recreational use, Tribal values, value of copper deposits, water used by the mine, etc.); (3) question the method of appraisal to be used, which is specified in Section 3003 of PL 113-291; (4) state that the appraisal must be conducted in compliance with Federal Land Policy Management Act of 1976 (FLPMA) and the National Environmental Policy Act (NEPA); (5) claim a lack of meaningful public review of the appraisal; and (6) state that there is no disclosure of potential impacts from mining to Apache Leap and other nearby lands.

As stated in response NEPA9, this land exchange is a legislative exchange, and the requirements for conducting the exchange are specified in Section 3003 of PL 113-291. Requirements contained in other law, regulation, or policy that are not required by this legislation are not applicable to the exchange.

Section 3003 of PL 113-291 contains numerous requirements for appraisal of lands identified for exchange in this section. These legislative appraisal requirements include the following:

1. The appraisal of Federal and non-Federal lands is conducted in compliance with the requirements of 36 CFR 249.9;
2. The appraisal is prepared in accordance with nationally recognized appraisal standards, including the Uniform Appraisal Standards for Federal Land Acquisitions and the Uniform Standards of Professional Appraisal Practice (other than excluding the value of any improvements made by Resolution Copper);
3. Stipulations regarding reappraisal;
4. Requirement that the Secretary “make the appraisals of the land to be exchanged (or a summary thereof) available for public review.”
5. A requirement that the appraisal “include a detailed income capitalization approach analysis of the market value of the Federal land which may be utilized, as appropriate, to determine the value of the Federal land, and shall be the basis for calculation of any payment;” and
6. A requirement that the value of lands to be exchanged shall be equal or equalized.

Comment response: NEPA33 Appraisal details, including public interest and best and highest use	Page 2 of 3

Responsive to these comments:

1206-5, 1207-1, 126-1, 1295-1, 1301-24, 1322-2, 1342-3, 263-8, 27977-1, 27995-1, 27996-4, 28002-2, 42-3, 7308-1, 8032-216, 8032-218, 8032-219, 8032-220, 8032-221, 8032-222, 8032-223, 8032-225, 866-12, 873-2, 892-1, F6-2

The DEIS clearly disclosed the requirements and current state of the appraisal:

> *"The appraiser was selected and began work in 2019. The completed appraisal reports will be reviewed by a Forest Service review appraiser. The review appraiser will ensure that the appraisal follows the appraisal instructions, Uniform Standards of Professional Appraisal Practice and Uniform Appraisal Standards for Federal Land Acquisitions standards, Federal regulations, and the special requirements found in the NDAA. The review appraiser will ensure that the values concluded by the appraiser are sound and well supported.*
>
> *The NDAA specifies 'a detailed income capitalization approach analysis of the market value of the Federal land which may be utilized, as appropriate, to determine the value of the Federal land.' The income capitalization approach is one of three commonly used approaches used for real property appraisals.*
>
> *The NDAA specifies that the appraisal reports (or a summary thereof) supporting the land exchange will be made available for public review prior to completion of the land exchange. The appraisal information will be made available after it is reviewed and approved by the Forest Service review appraiser."* (DEIS, pp. 35–36)

The Federal regulations for land appraisal that are required by PL 113-291 are at 36 CFR 259.9. These regulations include consideration of the best and highest uses of lands being appraised. These regulations, along with standards contained in Uniform Standards of Professional Appraisal Practice and Uniform Appraisal Standards for Federal Land Acquisitions standards, describe values and resources that are to be considered appraisal of exchange lands. As stated in both PL 113-291 and in the DEIS, the appraisal will comply with these regulations and nationally recognized appraisal standards.

The DEIS complies with NEPA requirements regarding the land exchange by describing the lands proposed for exchange and analyzing the impacts of exchanging these lands. These disclosures are contained throughout the DEIS, including in appendices B and I.

As required by PL 113-291, the final appraisal or a summary thereof will be released for public review prior to consummation of the land exchange. This release need not be part of the FEIS or draft ROD.

Comment response: NEPA33 Appraisal details, including public interest and best and highest use	Page 3 of 3

Responsive to these comments:

1206-5, 1207-1, 126-1, 1295-1, 1301-24, 1322-2, 1342-3, 263-8, 27977-1, 27995-1, 27996-4, 28002-2, 42-3, 7308-1, 8032-216, 8032-218, 8032-219, 8032-220, 8032-221, 8032-222, 8032-223, 8032-225, 866-12, 873-2, 892-1, F6-2

Impacts to nearby lands and to Apache Leap are included in the analysis of impacts throughout the sections of chapter 3 of the DEIS. There are too many instances of descriptions of potential impacts to Apache Leap and other nearby lands to identify here.

In conclusion, the land exchange appraisal will comply with a requirements stated in Section 3003 of PL 113-291 and the final report or a summary thereof will be made available for public review, as required by PL 113-291.

Comment response: NEPA34 Importance of copper for defense	Page 1 of 1

Responsive to these comments:

1112-1, 1197-4, 928-2

These comments note the uses of copper and importance of copper for national strategic interests, including defense.

Uses of copper are ubiquitous and varied. Identifying specific uses of the copper to be mined by this project is speculative and beyond the scope of the analysis. The purpose and need statement in the DEIS (p. 6-8) already notes the importance of mining to national interests, including security: "Through the Mining and Mineral Policy Act, Congress has stated that it is the continuing policy of the Federal Government, in the national interest, to foster and encourage private enterprise in the development of economically sound and stable domestic mining, minerals, and metal and mineral reclamation industries; and the orderly and economic development of domestic mineral resources, reserves, and reclamation of metals and minerals to help ensure satisfaction of industrial, security, and environmental needs."

Comment response: NEPA35 Forest Service decision space and framework	Page 1 of 2

Responsive to these comments:

101-1, 104-2, 1158-4, 1226-3, 1278-2, 1360-18, 1361-8, 1424-1, 1481-1, 202-1, 24-5, 28093-2, 28449-1, 8031-69, 8031-8, 8032-227, 8032-339, 886-2

These comments raise a variety of concerns and questions regarding the Forest Service decision space, the framework in which decisions will be made, and related issues.

The decision framework for the Resolution Copper Project is described in the DEIS (DEIS, pp. 11–20). This section of the DEIS describes decisions that may be required by the Forest Service, Bureau of Land Management, and U.S. Army Corps of Engineers, as well as various permits that would be required. The decisions to be made and the specific permits required will differ, depending on whether the requirements for the mandatory land exchange are met, and which alternative is ultimately selected in the final ROD.

Another comment asks what parties will be responsible for ensuring required mitigation, monitoring, and other NEPA requirements will be carried out. The responsible party for ensuring NEPA compliance depends on which alternative is selected, and the land ownership on which specific activities would occur. For alternatives with mine and mine-related facilities on Federal lands, the Federal agency that administers those lands would be responsible for bonding and ensuring compliance with NEPA and other requirements. For alternatives with mine and mine-related facilities on private or State lands, the Arizona State Mine Inspector would be responsible for bonding and ensuring compliance on those lands. Language will be added to the FEIS to clarify these roles and responsibilities. See response MIT31 for more detail on financial assurances.

Two comments ask why this project is being addressed at this time, given that Rio Tinto has other projects in the pipeline. Resolution Copper submitted a GPO to the Forest Service in 2013. The Forest Service has an obligation to process permit requests in a timely manner. In addition, Congress directed the Forest Service to complete an EIS addressing this project through Section 3003 of PL 113-291.

Two comments assert that the DEIS is flawed and has failed to comply with NEPA, applicable laws, and PL 113-291. One claims the Forest Service cannot ensure that the project will comply with all applicable air, water, and other environmental standards. It is not unreasonable to presume for purposes of analysis that there will be compliance with statutory and regulatory requirements that are overseen and enforced by several Federal and State agencies.

One comment notes that the Oak Flat Recreation Area is used as a teaching site for Arizona State University's field biology courses and asks how the Forest Service justifies the loss of this educational land use value. We have added language to the FEIS noting this current use of the Oak Flat area.

Comment response: NEPA35 Forest Service decision space and framework	Page 2 of 2
Responsive to these comments: 101-1, 104-2, 1158-4, 1226-3, 1278-2, 1360-18, 1361-8, 1424-1, 1481-1, 202-1, 24-5, 28093-2, 28449-1, 8031-69, 8031-8, 8032-227, 8032-339, 886-2	
Another comment notes that, while PL 113-291 requires one EIS to be prepared to analyze the mineral extraction and associated activities and the land exchange, there is nothing to preclude using separate/supplementary compliance review and procedures in accordance with applicable laws. Another notes that while PL 113-291 does not permit the Forest Service to reject the land exchange, it does not change the agency's discretion to reject the mining plan. PL 113-291 states that a single EIS will be prepared that "shall be used as the basis for all decisions under Federal law related to the proposed mine and the Resolution mine plan of operations and any related major Federal actions significantly affecting the quality of the human environment, including the granting of any permits, rights-of-way, or approvals for the construction of associated power, water, transportation, processing, tailings, waste disposal, or other ancillary facilities." If the land exchange occurs, it may be that there are no mining operations that occur on NFS land as defined under 36 CFR 228A and therefore no requirement to obtain approval of a plan of operations from the Forest Service. Another comment notes that the DEIS inaccurately states that the Forest Service will no longer have jurisdiction over forest lands impacted by the land exchange. The statement on DEIS p. 14 is meant to apply only to lands that will be in private ownership once the land exchange is completed. The statement is correct that the Forest Service will no longer have jurisdiction over these formerly Federal lands, which would then be in private ownership. Lastly, one comment expressed the belief that to have this decision-making process in the hands of one person seems unwise. While there is one decision-maker for the Forest Service, there are many decisions that will be made by Federal and State agencies. Depending on which alternative is selected for implementation in the final ROD, decisions may be required by other land management or regulatory agencies (Bureau of Land Management, U.S. Army Corps of Engineers, State of Arizona). The issuance of required permits involved decisions by multiple agencies, such as Arizona Department of Environmental Quality and others.	

Comment response: NEPA36 Legality of Forest Plan amendment	Page 1 of 1

Responsive to these comments:

5-2, 1051-3, 1158-5, 799-1, 8032-341

These comments contend that the forest plan amendment should not occur, that the GPO should be changed to comply with the forest plan, and that the amendment would not comply with the National Forest Management Act.

The National Forest System Land Management Planning Rule (Planning Rule) (36 CFR 219) sets out the planning requirements for developing, amending, and revising land management plans (also referred to as forest plans) for units of the National Forest System, as required by the Forest and Rangeland Renewable Resources Planning Act of 1974, as amended by the National Forest Management Act of 1976 (16 U.S.C. 1600 et seq.).

Identifying the need for an amendment to the forest plan is consistent with Section 219.13 of the Planning Rule. On DEIS pp. 10 and 11, we disclosed that a forest plan amendment was part of the project purpose and need and that the Forest Supervisor has the discretion to determine whether and how to amend the forest plan and to determine the scope and scale of any such amendment. We further disclosed that based on a project consistency review with the existing 1985 forest plan (as amended through 2017), a few narrowly focused amendments would be needed under any alternative to reconcile the visual quality objective (VQO) and recreation opportunity spectrum (ROS) management classes for Management Areas 2F and 3I. We further disclosed in DEIS table 1.4.3-1 (p. 12) specific language for the proposed plan amendment.

After considering the options available under Section 219.15(c) of the Planning Rule, the Forest Supervisor has chosen to amend the forest plan contemporaneously with the approval of the project so that the project will be consistent with the plan as amended. This amendment will be limited to apply only to the project or activity.

We disagree with the statement in one comment that the amendment cannot go forward because it is not supported by a legally adequate EIS. Compliance with applicable laws and regulations cannot be determined at this phase of the process. When conducting an EIS, NEPA envisions a multi-step process with several opportunities for public participation. The DEIS is only one of these steps. Scoping of the proposal prior to publication of the DEIS helps to identify issues with the proposal, which, in turn, helps identify reasonable alternatives to the proposal and social and environmental aspects that must be analyzed to determine impacts. The DEIS then presents a draft of these issues, alternatives, analysis, and impacts for public review and comment. After consideration and response to public comments on the DEIS, an FEIS is prepared and includes modifications, corrections, and additions as needed to respond to DEIS comments. The FEIS is published with a draft ROD, which addresses whether the alternative proposed for authorization will comply with applicable laws and regulations. The FEIS and draft ROD will then go through a Forest Service objection process. Once all objections are processed and rectified, a final ROD will be published, followed by agency-specific authorizations.

Comment response: NEPA37 Exemption from laws	Page 1 of 1

Responsive to these comments:

107-9, 132-5, 213-2, 26820-1, 28093-3, 298-2, 43-1, 5689-1

These comments express a belief that this project is exempt from a broad swath of Federal laws, either because of foreign ownership of the proponent or because the comment purports that Forest Service believes PL 113-291 trumps other Federal environmental laws.

These comments are not correct. Section 3003 of PL 113-291 legislatively directs the land exchange to take place in compliance with specific statutory provisions and other Federal laws. Specific laws mentioned are the NHPA and NEPA. As explained in the DEIS, the Tonto National Forest Supervisor has no decision authority regarding the land exchange due to the constraints imposed by PL 113-291 (DEIS, p. 13).

All other actions proposed in the DEIS are subject to all applicable laws and regulations.

Groundwater pumping and use is regulated and permitted by the Arizona Department of Water Resources. Resolution Copper currently holds several groundwater rights: Type 2 Non-Irrigation Grandfathered Rights/Type II Mineral Extraction Rights, and a dewatering withdrawal permit. Similar rights or permits would be required for any dewatering that occurs during operations. Resolution Copper would be required to permit any wells associated with the Desert Wellfield, which would lie within the MARRCO corridor. Notices of Intent to Drill would be required for any well installation, to ensure proper construction and documentation. Any further permits or rights required would depend on whether water pumped was legally considered recharged or banked water, or regular groundwater. This would be determined by the Arizona Department of Water Resources (DEIS, p. 18). Analysis of the impacts of dewatering at the mine site, analysis of pumping from the Desert Wellfield for the mine water supply, and anticipated effects from tailings seepage are disclosed in the DEIS in Chapter 3, Section 3.7.1, Groundwater Quantity and Groundwater-Dependent Ecosystems.

Determination of impacts to species listed under the Endangered Species Act as threatened, endangered or candidate for listing is the responsibility of the U.S. Fish and Wildlife Service (FWS). The Forest Service has conducted formal consultation with the FWS to determine impacts to listed species from the Resolution Copper Project. The FWS has completed a Biological Opinion, which is attached as appendix P of the FEIS and is discussed in FEIS sections 1.6, 3.3, and 3.8.

Placing mine tailings on Federal lands is not illegal and may be authorized by the Forest Service, subject to compliance with applicable regulations. For the alternatives that propose to construct tailings storage facilities on NFS land, the impacts are described in each resource section of chapter 3 in the FEIS.

In terms of making a determination of legal compliance, the draft ROD specifically addresses whether the alternative proposed to be implemented will comply with applicable laws and regulations.

Comment response: NEPA38 Administrative Procedures Act	Page 1 of 1

Responsive to these comments:

5423-1

The aspect of the Administrative Procedures Act (APA) that typically applies to Forest Service NEPA

The reviewing court shall—

(1) compel agency action unlawfully withheld or unreasonably delayed; and

(2) hold unlawful and set aside agency action, findings, and conclusions found to be—

(A) arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law;

(B) contrary to constitutional right, power, privilege, or immunity;

(C) in excess of statutory jurisdiction, authority, or limitations, or short of statutory right;

(D) without observance of procedure required by law;

(E) unsupported by substantial evidence in a case subject to sections 556 and 557 of this title or otherwise reviewed on the record of an agency hearing provided by statute; or

(F) unwarranted by the facts to the extent that the facts are subject to trial de novo by the reviewing court.

The Forest Service is acting in compliance with the APA and other applicable laws.

Comment response: NEPA39 Overturn of land exchange	Page 1 of 1
Responsive to these comments: 1158-12, 1205-1, 1297-1	
These comments either ask for the EIS process to be put on hold pending congressional action on repealing the land exchange specified in Section 3003 of PL 113-291; or state the land exchange should be reversed due to resulting environmental and cultural impacts. Congress passed and the President signed PL 113-291 into law. It remains binding law that the Forest Service must comply with until it is changed or repealed by Congress and the President. We cannot simply ignore the direction in PL 113-291 and wait to see whether Congress will act on an introduced bill at some unknown time in the future. If Section 3003 of PL 113-291 is modified or repealed in the future, we will follow whatever applicable stipulations and requirements the new legislation or court decision contains.	

Comment response: NEPA40 Incorrect statement about not analyzing tailings	Page 1 of 1
Responsive to these comments: 2052-1	
The comment states that tailings piles were not analyzed as a connected action. This is an incorrect statement. The tailings storage facilities are analyzed in the DEIS as part of the proposed action and action alternatives. Modification of the location of the tailings storage facility and the methods of tailings deposition formed the core of the alternatives analysis. Tailings storage facilities are described in detail for each alternative in chapter 2, including the tailings type, conveyance, embankment, liner, disposal method, auxiliary facilities, and reclamation and closure (DEIS, pp. 67–99). Impacts resulting from the placement of the tailings are discussed for each resource in chapter 3, for each alternative.	

Comment response: NEPA41 Analysis of power lines	Page 1 of 2

Responsive to these comments:

1544-15, 8031-71

The Forest did analyze power lines and impacts from the power lines in the DEIS. Figure 2.2.2-15 provides an overview of the existing power lines in the project area and new power lines considered in various alternatives of the project (DEIS, p. 57).

The DEIS analysis assumed that disturbance could impact all land within the analysis corridor or project component fence line. Resolution and Salt River Project have done additional design work to narrow the amount of impacts within the corridor associated with the Preferred Alternative. The FEIS shows a smaller impact as the corridor was reduced from 1,000 feet wide in some areas down to 75 to 500 feet wide. The greatest extent of impacts is with a 1,000-foot-wide corridor, and those impacts were disclosed in the DEIS.

Rights-of-way and easements will include the power line and associated infrastructure (e.g., substation and staging areas) and temporary construction impacts. The entire analysis corridor is considered impacted, and we disclose the impacts of disturbed acres. Substations built specific to this project are anticipated at the West Plant Site, East Plant Site, and tailings storage facility. These are designed to be within the project disturbance disclosed in both the DEIS and FEIS.

The DEIS disclosed that the use of applicant-committed environmental protection measures would reduce impacts on soils and vegetation in the project area.

We considered reasonably foreseeable future actions such as “Superior to Silver King 115-kV Relocation Project” and “APS Herbicide Use within Authorized Powerline Rights of Way on NFS lands” in the analysis, as the projects may overlap spatially or temporally with the proposed Resolution Copper Project.

The air quality analysis in section 3.6 considered the estimated emissions from construction and reclamation activities, ground disturbance, and operations and maintenance trips necessary throughout the mine life.

Vegetation impacts from the project and power lines from construction, operation and maintenance, and reclamation phases are disclosed in section 3.3 with the impact to acres disturbed. Vegetation management will be conducted under power lines and is further described in the Biological Opinion in appendix P of the FEIS.

Section 3.8 of the DEIS considered wildlife impacts from the power line corridors. The analysis and detail provided in the Biological Opinion in appendix P of the FEIS includes noise, vibration, vegetation management, and other concerns.

Comment response: NEPA41 Analysis of power lines	Page 2 of 2

Responsive to these comments:

1544-15, 8031-71

Section 3.11 considers impacts from the construction and heavy machinery as well as where the lines would be visible from key observation points such as U.S. 60. DEIS mitigation measure FS-03 is the one scenic mitigation measure as part of appendix J to be considered and has been brought forward into appendix J of the FEIS as well (measure FS-SR-01).

Cultural and historical resource impacts consider the impacts from the power lines with all areas within the project considered disturbed and in need of data recovery or avoidance. Class I and III surveys have occurred on the proposed power line and project areas as noted in section 3.12 and the PA (appendix O).

The power lines have also been considered in other sections such as 3.5, transportation; 3.7, water resources; 3.9, recreation; and 3.10, public health and safety.

DEIS appendix B included information on the existing power lines that cross land exchange parcels.

DEIS appendix G includes an additional description of the power lines, substations, and other auxiliary facilities. See the heading titled “Electrical Substations and Power Lines,” which describes the route, corridor, height of tower, and operational use of the power.

Comment response: NEPA42 Clarification of Arizona State Land Department permitting	Page 1 of 1

Responsive to these comments:

562-10

Since the DEIS, we have refined the footprint of the Alternative 6 tailings storage facility and the Alternative 6–North pipeline/power line corridor in order to reduce potential resource impacts. These include avoiding more Arizona State Trust land, avoiding Government Springs Ranch, and avoiding disturbance along Mineral Creek, including critical habitat for Gila chub and yellow-billed cuckoo.

We added detailed information to chapter 1 of the FEIS to more clearly describe which components of each alternative would require involvement with Federal and State agencies, including the Arizona State Land Department.

Resolution Copper will be responsible for following the appropriate process for obtaining access to Arizona State Trust land for any project-related facilities.

Comment response: NEPA43 Clarification of BLM role	Page 1 of 1

Responsive to these comments:

28449-2, 8032-228

The DEIS identified the BLM as a decision-maker in the project. Chapter 1 of the DEIS described the decision framework for BLM (p. 14). The DEIS also describes additional process steps needed to approve Alternative 5 – Peg Leg, in the event that this alternative is selected by the Forest Supervisor in the final ROD. The FEIS identifies Alternative 6 – Skunk Camp as the Preferred Alternative.

Since the DEIS, we have refined the footprint of the Alternative 6 tailings storage facility and the Alternative 6–North pipeline/power line corridor in order to reduce potential resource impacts. These include avoiding more Arizona State Trust land, avoiding Government Springs Ranch, and avoiding disturbance along Mineral Creek, including critical habitat for Gila chub and yellow-billed cuckoo. In addition, Alternative 6 now completely avoids any BLM-administered land. If Alternative 6 becomes the Selected Alternative in the final ROD, BLM would not have a decision role with respect to the mine facilities. However, they would have responsibility for management of a portion of the offered lands.

Since the DEIS, we also have dropped the western pipeline alternative for Alternative 5 – Peg Leg, to reduce potential resource impacts. These include avoiding Acuña cactus habitat and impacts to the Arizona National Scenic Trail.

In addition to clarification and modifications described above, we added more detailed information in chapter 1 of the FEIS to more clearly describe which components of each alternative would require involvement with Federal and State agencies, including BLM.

Comment response: NEPA44 Clarification of 401 water quality certification	Page 1 of 1

Responsive to these comments:

8031-11

This comment identifies the need to obtain a water quality certification from the State of Arizona, under Section 401 of the Clean Water Act, prior to issuance of the Clean Water Act Section 404 permit. Chapter 1 of the DEIS (p. 17) described the need for the issuance of the 401 water quality certification.

The comment is correct in that a Section 401 water quality certification is required for issuance of a 404 permit. The comment is incorrect that the 401 application has not yet been submitted. A Clean Water Act Section 401 application, specific to the activities for which the 404 permit is being requested from the U.S. Army Corps of Engineers, was submitted to ADEQ on February 13, 2020, and ADEQ issued the Section 401 water quality certification for the Resolution Copper Project on December 22, 2020. The U.S. Army Corps of Engineers will follow the appropriate process to consider the issuance of the Clean Water Act Section 401 water quality certification in its Clean Water Act Section 404 permitting decision.

See response NEPA35 for more discussion of the role of state permits in the NEPA process and the disclosure contained in the EIS.

Comment response: NEPA45 Complaints related to typos	Page 1 of 1
Responsive to these comments: 1158-31, 1499-4, 30075-17, 30075-19, 8031-25, 8032-254	
These comments identify a specific typographic error that appeared in the DEIS text. As suggested in the comments, this error occurred from the accidental pasting of unrelated text into the text of the DEIS during production. This accidental pasting of text in no way conveys a flippant attitude toward the analysis. We have fixed this error in the FEIS.	

Comment response: NEPA46 Need to consult with the Town of Florence	Page 1 of 1
Responsive to these comments: 28449-131	
In its "Memorandum to Heads of Federal Agencies," dated January 30, 2002, the CEQ listed 12 factors for Federal agencies to consider when determining which agencies to invite as "cooperating agencies." Cooperating agencies have a responsibility to participate throughout the NEPA process by providing special expertise; provide pertinent data, participating in preparation and/or review of analyses and documents; or have pertinent legal jurisdiction for such things as issuing permits. We reviewed agencies and entities for cooperating agency status and extended invitations to those we felt best met the criteria and were capable of carrying out the obligations of a cooperating agency. No municipalities were identified as potential cooperating agencies. However, the Town of Florence has had many opportunities to be involved in the NEPA process without cooperating agency status. We received a comment letter from the Town of Florence (letter 515), and those comments are being considered. In that letter, the Town noted that it has been aware of the project, was following its progress, and had been in touch with the EIS team for several years. The letter expressed a preference for the Skunk Camp alternative (Preferred Alternative in the DEIS) and discussed the reasons for this preference. As a local governmental entity, the Town can contact us if other issues arise regarding this or other projects.	

Comment response: NEPA47 Request for Arizona Water Company to participate in meetings; other specific requests of Arizona Water Company	Page 1 of 2
Responsive to these comments: 555-21, 555-25	

This comment asks that specific analyses and data be provided to the Arizona Water Company (Arizona Water); and that Arizona Water be involved in conducting certain future analyses.

1. Arizona Water Company asks for a detailed analysis of the hydrogeological and surface water runoff data after the final site selection is complete and the impact of changes in runoff on the Queen Creek and Gila River water supplies.

An assessment of the change in volume, frequency, and magnitude of runoff from the project area, as it affects Devil's Canyon, Queen Creek, and the Gila River, was conducted. The DEIS summarized the results (p. 114). Further detail is provided in section 3.7.3.4 for each alternative (DEIS, pp. 427–447).

The "final site selection", i.e., the selected action, has not been determined and will not be determined until the FEIS and draft ROD are published. In the meantime, Alternative 6 – Skunk Camp has been identified as our Preferred Alternative.

2. Arizona Water Company asks for extensive geological investigation and information, regardless of which alternative is chosen.

The DEIS presents geological information and analysis, with a summary for all alternatives on p. 107, and more detail provided in section 3.2 (DEIS, pp. 130–160).

Numerous supporting technical documents focused on geology and related topics are available on our project website (resolutionmineeis.us) under "Related Documents" and then "Documents Cited." The comment does not specify what specific geological information and investigation is requested. The number of documents on the website that relate to geology are too numerous to list here.

3. Arizona Water Company asks to have further involvement in future hydrogeology and monitoring analysis.

Arizona Water Company is not a cooperating agency for the Resolution Copper Project (see response NEPA46 regarding cooperating agency status). The scope of its involvement is the same as the general public: it can review the DEIS, FEIS, draft and final ROD, and supporting information and data. Arizona Water Company can comment during public comment periods and file objections to the FEIS and draft ROD.

4. Arizona Water Company asks that we model and determine the impact on the physically available groundwater Arizona Water Company needs for assured water supply purposes.

The DEIS addresses availability of groundwater for all alternatives. The DEIS contains a summary of impacts (DEIS, p. 112) and a more detailed discussion of current conditions and impacts (DEIS, pp. 295–345). Impacts on public groundwater supplies are specifically addressed.

Comment response: NEPA47 Request for Arizona Water Company to participate in meetings; other specific requests of Arizona Water Company	Page 2 of 2
Responsive to these comments: 555-21, 555-25	

5. Arizona Water Company asks we determine potential differences in subsidence (in the East Salt River valley) and resulting damage.

Section 3.7.1 of the DEIS (p. 334) discussed subsidence effects due to pumping at the Desert Wellfield, along with Newell and Garrett (2018d). We added further analysis of subsidence effects to section 3.7.1 of the FEIS in response to public comments.

Comment response: NEPA48 USGS involvement	Page 1 of 1

Responsive to these comments:

10-1, 12-5, 1140-1, 44-1, 59-1, 82-3

These comments express concern that the USGS was not involved in preparing the analysis for the EIS.

The stated mission of the USGS is as follows: "The USGS serves the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life." While having specialized expertise concerning analysis of technical aspects such as seismic activity, geology, and surface and groundwater hydrology and water quality, the USGS has no specific statutory role in conducting NEPA analysis. Any USGS involvement in a NEPA project is at the request of the lead agency and is discretionary on the part of the USGS.

For the Resolution Copper Project, the Forest Supervisor explored the possibility of the USGS assisting with or reviewing some aspects of the NEPA analysis (U.S. Forest Service 2017g). The USGS declined becoming a cooperating agency but held open the possibility of assisting on technical issues (U.S. Geological Survey 2017a). In November 2017, the USGS identified willingness to participate in a single task: participation in the Groundwater Modeling Workgroup, predicated on specific conditions for how USGS input could be used (U.S. Geological Survey 2017b). USGS specialists participated in four Groundwater Modeling Workgroup meetings between September 2017 and January 2018, while discussion of a full scope of work was ongoing. On January 29, 2018, we notified the USGS that we would not be requesting an interagency agreement, as the necessary time frames and costs to complete tasks identified by the USGS fell outside the scope and framework under which our EIS project team was working (Rasmussen 2018). The USGS specialists stopped their participation in the Groundwater Modeling Workgroup at that time.

Comment response: NEPA49 Bureau of Reclamation withdrawn lands (Comment from Department of Interior)	Page 1 of 1

Responsive to these comments:

1121-1

These comments from the Department of the Interior identified an area within the Tonto National Forest that previously was withdrawn for use by the Salt River Project, potentially involving the MARRCO corridor and the tailings storage facility for Alternatives 2 and 3.

On December 19, 2019, we held a subsequent meeting with the Bureau of Reclamation to discuss the ramifications of the withdrawal, for the purposes of the NEPA process as well as the preparation of the 404(b)1 alternatives analysis for the U.S. Army Corps of Engineers. Documentation of the withdrawal area was added to the project record, including a triparty agreement between the Tonto National Forest, Salt River Project, and Bureau of Reclamation dating to 1979 that governs management of the withdrawn lands (Salt River Project Agricultural Improvement and Power District et al. 1979).

With respect to the NEPA process, the presence of the withdrawn lands does not invalidate consideration of Alternatives 2 and 3. CEQ guidance is that "an alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable. A potential conflict with local or Federal law does not necessarily render an alternative unreasonable, although such conflicts must be considered" (CEQ 40 Most Asked Questions #2b (FWS 2020c)). A discussion of the conflict between these alternatives and the withdrawn lands was added to chapter 1 of the FEIS.

Comment response: NEPA50 Management of land exchange offered lands after completion of exchange	Page 1 of 1

Responsive to these comments:

1188-10, 1188-11, 1188-14, 1188-15, 1188-16, 1188-17, 1188-18, 1188-9, 8032-199

These comments raise concerns about the environmental or resource effects that would occur on the offered lands after execution of the land exchange.

The effects of the land exchange have been analyzed in the DEIS. The process for the analysis is described in chapter 2 (DEIS, pp. 66–67), and the fundamental change in regulation of the selected lands moving from Federal to private ownership is described in chapter 2 (DEIS, pp. 104–105), the resource impact sections of chapter 3 and appendix I.

There are a number of specific items that the comments indicate should be analyzed for the land exchange, primarily related to wildlife and habitat impacts. Wildlife and habitat impacts from the land exchange were discussed in sections 3.3 and 3.8 of the DEIS (pp. 183, 457). These sections have been expanded in the FEIS to more directly address the items raised in the comments.

Many of the comments are specific to post–land exchange management of the 7B Ranch parcel. As with all offered lands, management of this parcel after execution of the land exchange would be subject to the management direction of the Bureau of Land Management. Specific mitigation suggestions regarding the 7B Ranch were raised in public comments (Garrett 2020g). The mitigation items that are being implemented are described in appendix J of the FEIS and include continued involvement of The Nature Conservancy in management of the 7B Ranch (see measure RC-SV-04).

Comment response: NEPA51 Failure to identify Least Environmentally Damaging Practicable Alternative	Page 1 of 1

Responsive to these comments:

8031-14

This comment notes that the analysis presented in the DEIS and appendix C (the Practicability Assessment to support the Section 404 permitting process) does not identify the Least Environmentally Damaging Practicable Alternative (LEDPA).

LEDPA identification is associated with two separate regulations.

Under 40 CFR 230.10(a), “no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.” In practice, this LEDPA determination is contained in the 404(b)1 Alternatives Analysis. The complete and approved 404(b)1 Alternatives Analysis is included as appendix C of the FEIS and identifies Alternative 6 – Skunk Camp as the LEDPA.

Under 40 CFR 1502.05(b), the lead agency’s decision must “identify all alternatives considered by the agency in reaching its decision, specifying the alternative or alternatives which were considered to be environmentally preferable.” In practice, this determination of the environmental preferable alternative is made in the ROD. Inclusion in the FEIS is not required. Note this is a different requirement than the LEDPA, as it does not dictate that the identified alternative be practicable.

Comment response: NEPA52 Purpose of Appendix I	Page 1 of 1

Responsive to these comments:

1188-19, 28449-149

These comments question the usefulness and appropriateness of appendix I of the DEIS. Appendix I is titled "Summary of Effects of the Land Exchange." The discussion related to appendix I can be found in chapter 2 (DEIS, pp. 67, 104–105).

The purpose of appendix I is summarized in chapter 2 (DEIS, p. 105).

We have added further discussion in the text of the FEIS (chapter 2, section 2.4) and in the introduction to appendix I to provide additional context for the discussion that follows. The comments also suggest adding a description of the laws shown (in column 3). We have added this discussion to appendix I as suggested.

We note also that additional discussion has been added to chapter 1 to clarify the laws and regulations that would be applicable to different project components and alternatives.

Comment response: NEPA53 Analysis of power lines	Page 1 of 1

Responsive to these comments:

1235-7, 1454-13, 40-6, 8032-294

These comments claim that power lines were not included in the DEIS analysis. This is incorrect. The power lines clearly were described in chapter 2 (DEIS, pp. 56–59; see specifically table 2.2.2-6). Also see response NEPA41.

Comment response: NEPA54 Cumulative effects analysis	Page 1 of 1

Responsive to these comments:

1477-3, 1477-6, 1531-5, 28449-110, 28449-56, 28449-98, 28463-1, 30075-53, 8031-29, 8031-70, 8031-72, 8031-74, 8032-324, 8032-325

These comments contain criticisms of the cumulative effects analysis.

In response to comments, the cumulative impacts analysis has been expanded in the FEIS (see chapter 4).

Some comments refer specifically to water-related aspects of the cumulative effects analysis. See response WT4_F for specific discussion of the Drought Contingency Plan, and the expanded discussion of cumulative effects on water resources.

Several comments question the framework for cumulative effects. The Forest Service maintains that the approach described in the DEIS (p. 129) is appropriate and that cumulative effects are a combination of the affected environment (representing the effects of past and present actions), environmental consequences (representing the effects of project-related actions), and analysis of effects of reasonably foreseeable future actions. This approach remains the same in the FEIS as in the DEIS, though the cumulative effects analysis itself has been revised and given a separate chapter (chapter 4).

Comments variously suggest discussing the affected environment all in one location, instead of by resource section in chapter 3. The Forest Service followed common procedures in structuring the NEPA document, and the structure remains the same for the FEIS.

Comment response: NEPA55 Improper analysis of ASARCO Ray Mine land exchange	Page 1 of 1

Responsive to these comments:

1539-4

The ASARCO Ray Mine land exchange was included in the DEIS as a reasonably foreseeable future action. This comment indicates that the level of detail of analysis was insufficient.

The available details for the Ray Mine land exchange are found in SWCA Environmental Consultants (2018a). This document is a compilation of worksheets without page numbering; see p. 132 of the PDF file. Sources for the Ray Mine land exchange details are listed here as the final supplemental environmental impact statement (FSEIS) (Bureau of Land Management 2019b) and the FEIS (Bureau of Land Management 1999), as suggested by the comment. Similar information can be found in SWCA Environmental Consultants (2020b).

The comment states, “Although no plan of operations has been approved for a Ray Mine expansion, FSEIS analysis offers sufficient information to discuss its cumulative impacts on the project area for the Resolution Copper proposal.” Indeed, the FSEIS was the source used to identify impacted resources. As outlined in SWCA Environmental Consultants (2018a), all resources are shown to “contribute to cumulative effects” and therefore are pulled forward into the cumulative effects analysis in each resource section in chapter 3.

We are aware of a number of comments criticizing the methodologies used for the cumulative effects analysis and stating that the impacts analysis is too generic and qualitative.

We thoroughly documented the cumulative effects analysis. We acknowledge that further quantification of impacts analysis was needed. As a result, the FEIS contains a reworked cumulative effects analysis (chapter 4) that takes a more quantitative approach whenever possible. This includes impacts from the Ray Mine land exchange.

Comment response: NEPA56 Specific criticisms of DEIS, on a variety of issues	Page 1 of 2

Responsive to these comments:

1422-3

This comment raises a number of specific issues that are characterized as having shortcomings. The DEIS adequately addresses all of them. Specific issues are as follows:

- Include a complete, accurate description of the proposed action. Response: Chapter 2 devotes 78 pages to describing the proposed action and action alternatives (DEIS, pp. 29–106), in addition to more detailed information in Appendix G, Further Details of East Plant Site, West Plant Site, MARRCO Corridor, and Filter Plant and Loadout Facility Infrastructure; and Appendix H, Further Details of Mine Water Balance and Use.
- Give due consideration to scoping comments. Response: During the NEPA process, there is no requirement that the DEIS explicitly and individually address scoping comments. Scoping comments generate a suite of issues that guide the analysis in the DEIS. Those issues are contained in the report titled "Final Summary of Issues Identified Through Scoping Process, November 2017" (SWCA Environmental Consultants 2017b). Any scoping comment is traceable to the issue statements that encompass it, through the report titled "Public Concern Statements, May 2017" (U.S. Forest Service 2017h).
- Evaluate a full range of alternatives, including "no action," as well as technologically feasible alternative mining techniques. Response: NEPA regulations require that an EIS develop a reasonable range of alternatives that sharply define the issues and provide a clear basis for choice among options by the decision-maker (40 CFR 1502.14). 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)). The DEIS presents five action alternatives and the no action alternative. Alternative 2 is the proposed action and consists of the GPO that was submitted to the Forest Service by the proponent. The remaining action alternatives were developed to meet the purpose and need, and sharply define the issues. For the issue of alternative mining techniques, see response AMT1.
- Document all consultations with the affected Native American communities, and include a finalized PA. Response: The final version of the PA circulated for signatures is included in appendix O of the FEIS. Consultation details are included in the FEIS in chapter 5 and appendix S.
- Greatly expand the discussion of the proposed mine's impacts on water resources, given climate change facts, drought, diminished Colorado River flows, groundwater depletion in Pinal County, ongoing and planned population growth (e.g., the proposed city-sized "Superstition Vistas" development on State lands between Apache Junction and Florence Junction), and sustainability goals in urban, rural, and agricultural settings. Response: These details were included in the DEIS and have been expanded in the FEIS (chapter 4). See response WT4 for more details.

Comment response: NEPA56 Specific criticisms of DEIS, on a variety of issues	Page 2 of 2

Responsive to these comments:

1422-3

- More fully explore the long-term socioeconomic impacts of the proposed action. Response: Additional discussion on this topic was added to section 3.13 of the FEIS.
- Discuss the post-mining requirements and costs for "in perpetuity" management of affected lands and resources. Response: These details are included in the DEIS. Section 3.7.2 discusses long-term management of water quality. Reclamation and closure plans and revegetation of disturbed areas is discussed in section 3.3 and chapter 1 (DEIS, pp. 61–65). Financial assurances are discussed in chapter 1 (DEIS, p. 65) and chapter 2 (DEIS, p. 104), as well as specifically in section 3.7.2 for each alternative with respect to water quality.
- Consider the loss of revenue and jobs from sustainable recreation, ecotourism, and heritage tourism as compared to the "boom, then bust" nature of the proposed 40-year mine. Response: Section 3.13 (DEIS, p. 653) discusses boom/bust cycles as well as impacts to nature-based tourism.
- Properly acknowledge that Oak Flat is a sacred place to the affected Native American communities and that it is still being used for religious and ceremonial activities that the spiritual leaders of the San Carlos Apache Tribe consider necessary for the survival of their culture. Response: Section 3.14 (DEIS, p. 663) explicitly acknowledges the nature of Oak Flat. See response CR4 for details on how discussion of this topic was revised in the FEIS.
- Highlight Oak Flat's historic and ongoing significance as a scenic and recreational destination, including rock-climbing competitions. Response: Section 3.9 specifically addresses recreation aspects, including climbing. Section 3.11 addresses scenic resource impacts.

Comment response: NEPA57 Independent research by Forest Service	Page 1 of 1

Responsive to these comments:

29506-2

This comment states, "I urge the USFS to conduct further, independent research (not relying on the research submitted by Resolution Copper) into the hydrological, environmental, cultural, and recreational impact of this proposed project."

CEQ's NEPA regulations expect that an applicant will submit environmental information to the agency for purposes of the NEPA analysis and directs the agency to independently evaluate the information submitted and be responsible for its accuracy. The Forest Service has complied with those requirements.

The NEPA regulations also require that agencies ensure the professional integrity, including scientific integrity, of the discussions and analyses in the EIS. The Forest Service has employed multiple measures. Those measures are described in the text of the FEIS and in summary memoranda describing the process for obtaining, reviewing, and evaluating information for key resources.

The regulations also allow for an EIS to be prepared by a third-party contractor, subject to certain disclosures and procedures. The third-party contractor (and a number of subcontractors) worked with Forest Service resource specialists to review data, conduct specialized analysis, manage the NEPA process, maintain the project record, assist in conducting public outreach, and draft the text of the NEPA documents. The actions and communication of this third-party contractor are governed by a Memorandum of Understanding, and the third-party contractor works for the Forest Service. Resolution Copper pays for the work but does not manage the work done by the third-party contractor (Garrett 2019g).

Comment response: NEPA58 Lack of analysis on a variety of resources	Page 1 of 1

Responsive to these comments:

8031-27

This comment identifies a number of resources for which the comment states direct and indirect effects were not analyzed. This is incorrect. The DEIS includes all of these analyses. Specific issues include the following:

- Raptors, eagles, and other species. See response CR20 for details.
- Effects of dewatering on local water availability. See responses WT4 and WT21 for details.
- Potential ground subsidence. See response WT10 for details.
- Tribal cultural resources and Tribal religious and traditional practices. See response CR4 for details.
- Surrounding economics of the region. Section 3.13 of the DEIS analyzed a wide range of socioeconomic effects (pp. 647–656).
- Landowners and their wells. Section 3.7.1 of the DEIS analyzed water supply and potential impacts on well owners (p. 333). See also response WT45, Issue #8, for why wells were not analyzed individually, but by proxy wells. We also added a discussion of the financial impacts of changes to water supply to the socioeconomics section (3.13) of the FEIS.
- Long-term environmental effects. DEIS analysis covered the entire mine life cycle, including construction, operation, and closure (p. 36). Post-closure conditions also were analyzed in multiple places, including long-term trends (out to 1,000 years) for groundwater impacts (DEIS section 3.7.1, pp. 317–340) and reclamation success and revegetation time frames (DEIS section 3.3, pp. 186–201). In addition, each resource section in chapter 3 included an analysis of "Short-Term Uses and Long-Term Productivity" and "Irreversible and Irretrievable Commitment of Resources." These required disclosures illuminate long-term environmental effects of the project.

Comment response: NEPA59 Failure to consider conflicts with plans, policies, and controls	Page 1 of 1

Responsive to these comments:

8031-28

This comment states, "The DEIS failed to consider possible conflicts between the project and Federal, regional, State, and local land use plans, policies, and controls as required by 40 C.F.R. §1502.16, as evidenced in part by the failure to consider conflicts between project water usage and local, statewide, and regional drought planning measures."

The comment is not correct. These plans are identified in section 3.17.2.40 (DEIS, p. 714). Compliance with these plans is included throughout the analysis. For instance, conflicts with the Tonto National Forest Land and Resource Management Plan are addressed through a specific plan amendment as described in chapter 1 (DEIS, pp. 10–11).
In response to this comment, we have added summaries to section 3.17 to consolidate any conflicts with these plans into one location.

The Drought Contingency Plan was considered through the cumulative effects analysis; see response WT4_F for more detail. Note that despite the fact that the Drought Contingency Plan itself is not able to be analyzed (as it does not overlap in time with Resolution Copper water use), the FEIS cumulative effects analysis (chapter 4) has been expanded to quantify the cumulative effects of competing water uses in the region and the ramifications of ongoing drought or climate change.

Comment response: NEPA60 Changes to issue statements	Page 1 of 1

Responsive to these comments:

28449-10, 28449-11, 28449-12, 28449-8

These comments all suggest changes to Section 1.7, Issues. In general, changing this section would be inappropriate. We developed issues based on scoping, and the analysis was structured around those issues. Section 1.7 describes the road map the Tonto National Forest used to develop the EIS. Retroactively changing the issues would be inappropriate.

However, since the DEIS addresses all items noted in these comments, we have made changes to the wording in FEIS section 1.7 as deemed appropriate.

Comment response: NEPA61 Connected actions	Page 1 of 2

Responsive to these comments:

8032-332

This comment identifies several activities that are believed to be connected actions to the project and states that they were not analyzed. The comment is not correct. All issues raised were analyzed as part of the DEIS. Specific statements include the following:

- "Thus, the fact that some of the activities will occur on private lands does not eliminate NEPA's requirement that the Forest Service analyzed the environmental impacts of those private land activities." The FEIS analyzes the environmental impacts of all activities associated with the project, regardless of land ownership or agency jurisdiction. This includes analysis of the East Plant Site and the mine site itself (which would be private land after the land exchange), the West Plant Site (private land), the MARRCO corridor (a mix of Forest Service and private land), the filter plant and loadout facility (private land), impacts from the Desert Wellfield (pumping from private land), and the tailings storage facility (on NFS, State, and private land, depending on the alternative).
- "We have argued as far back as our Pre-Feasibility Drilling Plan comments in April of 2009 that the dewatering of shafts #9 & #10 shafts at the East Plant are Connected to the larger mine now being discussed in this DEIS." Section 3.7.1 describes the impacts that have occurred and will occur from current and future dewatering associated with the proposed action. The Forest Service does not agree that the affected environment described in the NEPA analysis should be retroactively applied to a point in time before Resolution Copper began activities at the site (dewatering began in 2009). The topic of appropriate baseline conditions for the water analysis is explicitly discussed in section 3.7.1 (DEIS, pp. 299–300). As noted there, the Forest Service has designed the analysis to ensure that even though the affected environment or baseline describes conditions at present, not in 2009, the NEPA analysis also contains disclosure of any ongoing trends caused by the dewatering that started, including impacts to groundwater-dependent ecosystems. This analysis is in section 3.7.1 (DEIS, p. 312). See response NEPA19 for more details on this issue.
- "The DEIS discusses briefly the need for an additional powerline corridor paralleling the MARRCO corridor, but defers a detailed analysis that is required under both NEPA and the NDAA. Likewise other powerlines feeding power to this project are mentioned but not discussed as is any real discussion of the actual route and design of pipeline and road access corridors." This is incorrect. All power lines are included as components of the proposed action. The power lines included are clearly described in chapter 2 (DEIS, pp. 56–59; see specifically table 2.2.2-6). See response NEPA41 for more detail.

Comment response: NEPA61 Connected actions	Page 2 of 2

Responsive to these comments:

8032-332

- "For that matter, all mitigation and monitoring plans outlined in the DEIS are connected actions with this project and should have been discussed in detail in this document no matter what the ownership of land underlying the proposed measure." The Forest Service concurs, and this information is included in the DEIS. Aside from the compilation of all mitigation and monitoring measures in appendix J, the effectiveness of the mitigation, including remaining unavoidable impacts, is discussed in every resource section of chapter 3. In addition, every resource section in chapter 3 also analyzes "Impacts from Mitigation Actions" to describe how the mitigation activities themselves may adversely impact some resources while benefiting others. The distinction is drawn in appendix J regarding whether mitigation is required under the authority of the Forest Service or other agency, or is proposed by Resolution Copper and voluntary. This distinction does not change whether the mitigation measure is discussed in chapter 3; all mitigation measures are discussed for their effectiveness. The distinction is included in appendix J because there is an element of uncertainty associated with some voluntary mitigation measures, and disclosure of this uncertainty to the public is important.

Comment response: NEPA62 Scoping comments	Page 1 of 1

Responsive to these comments:

8032-121

This comment claims that scoping comment were not addressed in the DEIS.

During the NEPA process, there is no expectation that scoping comments be addressed individually in the DEIS; rather, scoping comments generate a suite of issues that then guide the analysis in the DEIS. Those issues are contained in the report "Final Summary of Issues Identified Through Scoping Process, November 2017" (SWCA Environmental Consultants 2017b) and are summarized in section 1.7 of the DEIS (pp. 24–27). A total of 14 issues and 29 sub-issues was identified based on scoping comments. A table that identifies where each sub-issue is analyzed in the DEIS is included in appendix E.

Any given scoping comment can also be traced to the issue statements that encompass it, through the report "Public Concern Statements, May 2017" (U.S. Forest Service 2017h).

Comment response: NEPA63 Molybdenum processing and transport	Page 1 of 1

Responsive to these comments:

1158-3

This comment states that the FEIS should include an analysis of the molybdenum processing and the subsequent transportation of the final product.

The DEIS included this analysis. Chapter 2 of the DEIS included molybdenum processing as part of the proposed action (pp. 38, 47). This includes the intent to transport the molybdenum concentrate from the West Plant Site by truck (DEIS, p. 58).

These molybdenum trucks were included in the traffic analysis in section 3.5 (DEIS, p. 258; see also Southwest Traffic Engineering LLC (2017)).

Comment response: NEPA64 Climate change	Page 1 of 1

Responsive to these comments:

8032-196, 8032-60, 8032-61

These comments express that climate change has not been adequate addressed in the DEIS: "The DEIS ignores any assessment of the effect of climate change on the numerous natural resources that would also be affected by the proposed Resolution Copper mine."

The comment is not correct. The discussion of potential climate change impacts is included under certain resource sections in chapter 3 and has been consolidated in FEIS chapter 4.

Comment response: NEPA65 Analysis of land exchange	Page 1 of 1

Responsive to these comments:

1188-29, 1188-7, 1441-5

These comments raise several issues regarding the analysis of the effects of the land exchange.

One concern is as follows: "This DEIS is incomplete, because it does not disclose the pre-exchange and post-exchange land management practices for the Lower San Pedro River parcel." The pre-exchange conditions of the offered land parcels, including the Lower San Pedro Parcel, are summarized in chapter 2 (DEIS, p. 34) and discussed in detail in DEIS appendix B. The post-exchange management of the parcels is disclosed to the extent it can be (DEIS, p. 14), and then in each resource section in chapter 3 (see "Effects of the Land Exchange") subsection. However, the specific management of the offered lands was not dictated by Congress in PL 113-291, and those lands will be subject to management under whatever land and resource management plans are in place for the Bureau of Land Management, Coconino National Forest, or Tonto National Forest. See response NEPA50 for further discussion of this topic, specific to the Lower San Pedro Parcel.

Another concern is as follows: "The DEIS does not provide a comprehensive analysis of the effects of the proposed land exchange." The effects of the proposed land exchange are handled in multiple ways. First, as noted above, each resource section in chapter 3 includes a subsection titled "Effects of the Land Exchange," which addresses effects on a resource-by-resource basis. A larger question is how the mine itself might develop on Federal land (no land exchange occurs) instead of private land (land exchange occurs). This change in regulatory oversight is discussed in chapter 2 (DEIS, pp. 66–67, 104–105) and appendix I.

Another concern is as follows: "We do not believe the DEIS properly evaluates the second No Action alternative with no land exchange. That option would retain the Oak Flat Campground and the ore body beneath it in Federal ownership and not accessible for mining. The FEIS should include this evaluation." This scenario is analyzed in the DEIS. There are two aspects of this question to consider: regulatory oversight, and physical effects. The physical effects of the mine development would be the same, regardless of whether the land exchange occurs: "Physically, the panel caving proposed to take place under Oak Flat is independent of the land exchange. The deposit would be mined with fundamentally the same techniques and require fundamentally the same infrastructure, and result in the same surface subsidence, regardless of whether the surface is under Forest Service jurisdiction or is private" (DEIS, p. 105). The change in regulatory oversight caused by the land exchange (shifting from a mine on Federal land to a mine on private land) is the focus of DEIS appendix I.

Comment response: NEPA66 FOIA request	Page 1 of 1

Responsive to these comments:

8032-224

This comment summarizes a Freedom of Information Act (FOIA) request made to the Forest Service's Southwestern Region (Region 3) regarding the appraisal, and the response received by the submitter.

We defer to the response provided by Region 3. The FOIA request has no bearing on the NEPA analysis at this time, as the appraisal was not considered in the DEIS.

Comment response: NEPA67 Congressional approval of land exchange	Page 1 of 1
Responsive to these comments: 1150-5	
This comment states, "Congress approved a land exchange prior to the NEPA process which is not acceptable." The Forest Service is directed by law to execute the land exchange and must follow the provisions in PL 113-291 (DEIS, p. 13).	

Comment response: NEPA68 Updated Forest Plan	Page 1 of 1
Responsive to these comments: 64-3, 885-3	
These comments concern the status of the updated forest plan. A revision to the 1985 Tonto National Forest Land and Resource Management Plan (forest plan) is currently underway. As of the date of publication of the DEIS, the 1985 plan dictates the management direction for the Tonto National Forest, and the plan amendment considered in the DEIS is specific to the 1985 forest plan. The revised forest plan and DEIS was released for public comment in December 2019. Until a final ROD is signed by the Tonto National Forest Supervisor adopting the plan, the 1985 plan remains the management direction for the Tonto National Forest, and the Resolution Copper FEIS addresses it as such.	

Comment response: NO1 Noise baseline for Skunk Camp location	Page 1 of 2
Responsive to these comments: 8032-248, 8032-277	
This comment indicates that baseline noise measurements should be collected for the Skunk Camp location, rather than extrapolation based on baseline noise measurements at the Peg Leg location. CEQ regulations (1502.22) address incomplete or unavailable information. Two pertinent aspects are cited in these regulations: (1) Is the information "relevant to reasonably foreseeable significant adverse impacts?" and (2) Is the information "essential to a reasoned choice among alternatives?" Baseline noise measurements for Alternative 6 – Skunk Camp are not necessary because that information does not meet either of these thresholds. The comment misinterprets the purpose of collecting baseline noise measurements, suggesting they are required at every location where noise levels are predicted. This is not the case. The noise analysis focuses on seven analysis areas "where there are existing and/or future land uses that are particularly sensitive to noise, known as 'noise sensitive areas'" (DEIS, p. 211). These areas are based on land uses (e.g., residential, recreation, conservation). Within each of these general areas, a single specific location known as a "sensitive receptor" was selected for predictive modeling, set at the location anticipated to experience the highest future noise. Predictive future noise requires an assumption of baseline noise levels. Resolution Copper completed baseline noise monitoring at six locations. These sample locations were meant to represent the general noise sensitive areas and land uses so that they can be reasonably used for all identified sensitive receptors (DEIS, p. 213). The DEIS (p. 218) details each baseline noise monitoring location and the land uses it represents. As shown in table 3.4.3-1 (DEIS, p. 220), the "measured" locations are then matched to the sensitive receptors, based on land use and compared to "expected" levels at sensitive receptors in comparable land use(s). The Peg Leg monitoring location at the Peg Leg location also was used for Skunk Camp as well based on land use: "This location also serves as the source of background noise for Alternative 6, given the similar rural setting" (DEIS, pp. 218–219). This approach is identical to that taken for all other sensitive receptors shown in table 3.4.3-1. Having baseline noise measurements at each and every location where noise is modeled is not "essential to a reasoned choice among alternatives." Predicted future noise at the Skunk Camp tailings storage facility also is not a "significant adverse impact" that would inform a choice among alternatives. As shown in figure 3.4.4-6 (DEIS, p. 240), the noise contours at the most stringent threshold applied in the DEIS (55 dBA) do not leave the facility boundaries except along Dripping Springs Road.	

Comment response: NO1 Noise baseline for Skunk Camp location	Page 2 of 2
Responsive to these comments: 8032-248, 8032-277	
Residences along Dripping Springs Road are the sole location where modeled noise impacts exceed any selected thresholds under normal conditions (DEIS, p. 242). Mitigation was included in the DEIS to prevent these impacts (see measure RC-218, p. 242). The FEIS identifies different mitigation that is effective at preventing noise levels from exceeding thresholds at the residences along Dripping Springs Road (see measure RC-NV-01 in section 3.4 and appendix J of the FEIS).	

Comment response: NO2 Need for analysis of rail noise	Page 1 of 1
Responsive to these comments: 1344-3	
This comment indicates the concern that running the rail cars at night to avoid traffic (see DEIS, p. 261) would instead increase noise levels. The DEIS already discloses these impacts. Noise levels associated with the rail cars were incorporated into the noise modeling: “The Filter Plant and Loadout Facility also incorporates a railway system that will tie into the existing railway located along the MARRCO corridor. The facility will be able load a maximum of two trains per day with 100 cars. This railway was entered as a railway source in the noise model and was evaluated from the Filter Plant to Magma Junction” (Tetra Tech 2019:30). Modeling results are shown in figure 3.4.4-3 (DEIS, p. 230), as well as in Tetra Tech Inc. (2019:figure 12a, p. 43). Noise levels at four sensitive receptors were modeled in the immediate vicinity of the rail line (see DEIS figure 3.4.3-1, p. 217). The noise levels do not exceed the most stringent noise level applied in the DEIS (55 dBA). Rail noise levels were not explicitly modeled in the DEIS for Alternative 4 – Silver King, which envisions the possibility of moving the filter plant to Superior, thus requiring rail cars to transport concentrate from Superior to Magma Junction. We have added an analysis to section 3.4 of the FEIS to discuss these impacts.	

Comment response: NO3 Basis for background noise measurements	Page 1 of 2

Responsive to these comments:

8032-273, 8032-274, 8032-276, 8032-278, 8032-39

This series of comments contains general concerns over the collection and use of background noise measurements.

One comment references statements from the GPO that say indicate noise monitoring would be done during the NEPA process. This monitoring was indeed conducted and formed the basis for the DEIS analysis (see "Background Noise Measurements," DEIS p. 213).

Other comments raise two concerns: the representativeness of the selected baseline monitoring time frames, and the potential skewing of data due to ongoing activities or other disturbances (aircraft noise are is mentioned specifically). These concerns are raised because they could potentially skew the baseline data higher, therefore potentially minimizing the noise impacts caused by the mine.

Methodology used for the DEIS addresses these two concerns.

Daily/weekly variation is accounted for by the duration of monitoring: "Background noise levels are monitored for several days or weeks in order to account for variation between day and night, and weekends and weekdays" (DEIS, p. 213).

Seasonal variation also was reflected in the methodology: "Ambient sound and vibration measurements were performed from June 7 through July 2016 to represent the existing environment for the spring and summer periods when there are fewer residents and less outdoor recreation. Additional sound and vibration measurements were conducted from November 14, 2017 through January 18, 2018, to represent the existing environment for the fall and winter conditions, when there are more residents and more outdoor recreation" (Tetra Tech Inc. 2019:9). Specifically, the recreational use areas around Alternatives 2/3 – Near West were monitored during both summer and winter periods; the results are comparable, with summer measurements being slightly higher. The higher measurements were selected for use in the DEIS (DEIS table 3.4.3-1, p. 220).

As part of the methodology, the data were reviewed for anomalous high measurements, and these were removed: "The background noise data are then reviewed to identify any anomalies, such as fireworks, thunder, rainfall, high wind, or very close activity (like a nearby off-road vehicle). While these types of noises do occur in the analysis area, they happen infrequently or may affect the monitoring equipment more than they would a human listener. The goal of background noise measurements is to obtain a 'typical' background level, while acknowledging that occasional louder noises would also occur." (DEIS, p. 213).

Comment response: NO3 Basis for background noise measurements	Page 2 of 2

Responsive to these comments:

8032-273, 8032-274, 8032-276, 8032-278, 8032-39

As a cross-check, an assessment of baseline noise measurements were also assessed versus expected background noise levels for different land uses and found them to be similar (Tetra Tech Inc. 2019:table 11, pp. 20–21) (DEIS, pp. 213, 219–220).

Regardless of how background noise measurements are determined, the approach used to assess noise impacts in the DEIS effectively prevents background measurements from skewing modeled results. Results are assessed not only for the total modeled noise (background noise plus predicted mine noise), but also for the incremental increase over background levels. A threshold of a 15-dBA noise increase was used in the DEIS to define adverse impacts.

Comment response: NO5 Noise/vibration caused by block caving	Page 1 of 1
Responsive to these comments: 8032-282	
We have added further analysis to section 3.4 of the FEIS to evaluate the potential for noise or vibration caused by block-caving activities.	

Comment response: NO6 Impacts from concentrator/dryer	Page 1 of 1
Responsive to these comments: 417-3	
This comment questions whether the impacts of noise, light, and air emissions from the concentrator/dryer were assessed. From context, we believe the term "concentrator/dryer" refers to the filter plant and loadout. Noise, air quality, and light impacts from these emissions already were incorporated into the modeling used to disclose impacts in the DEIS. With regard to air quality, all sources of emissions associated with the filter plant and loadout were included. The exact sources of emissions are detailed in Air Sciences Inc. (2019b:appendix A, pp. 45–53). Note specifically the reference to "Copper Concentrate Loadout" on p. 51. These sources also were included in noise modeling: "The primary noise sources for the Filter Plant and Loadout Facility include conveyors, concentrator filter plant, substation and mobile equipment" (Tetra Tech Inc. 2019:28). Lighting effects from the filter plant also were included in the dark skies modeling. See the Dark Sky Partners LLC (2018:table 3, p. 12) reference to "Concentrate Loadout." We added more detail on the lighting sources and dark skies impact to section 3.11 of the FEIS.	

Comment response: NS1 General response for non-substantive comments	Page 1 of 7

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5818-1, 58-2, 5825-1, 584-1, 5841-1, 5844-1, 5845-1, 585-1, 5856-1, 586-1, 5863-1, 5867-1, 5877-1, 588-1, 5882-1, 5882-2, 5885-1, 5892-1, 5897-1, 5901-1, 5906-1, 5907-1, 5910-1, 591-1, 5911-1, 5912-1, 5919-1, 5920-1, 592-1, 5922-1, 5923-1, 5924-1, 5925-1, 5925-2, 5930-1, 593-1, 5936-1, 5937-1, 5939-1, 5942-1, 5942-3, 5943-1, 5943-2, 5952-1, 5952-2, 5956-1, 596-1, 5966-1, 5967-1, 597-1, 5972-1, 5973-1, 5974-1, 5975-1, 598-1, 599-1, 600-1, 600-2, 6003-1, 6005-1, 6006-1, 6008-1, 601-1, 601-2, 602-1, 6022-1, 6025-1, 6026-1, 6029-1, 6030-1, 603-1, 6033-1, 6034-1, 6036-1, 6038-1, 604-1, 605-1, 6051-1, 6056-1, 6060-1, 6062-1, 6066-1, 6068-1, 6072-1, 6088-1, 609-1, 6091-1, 6095-1, 6097-2, 6099-1, 610-1, 6101-1, 6102-1, 6119-1, 6124-2, 6125-1, 613-1, 6131-1, 6139-1, 6142-1, 615-1, 6152-1, 6154-1, 6155-1, 6157-1, 6159-1, 616-1, 6161-1, 6164-1, 6166-1, 6172-1, 6173-1, 6180-1, 618-1, 6181-1, 6186-1, 6188-1, 6190-1, 6191-1, 6192-1, 6195-1, 6197-1, 6198-1, 6199-1, 6200-1, 620-1, 6201-1, 6202-1, 6203-1, 6208-1, 6214-1, 6218-1, 622-1, 6222-1, 6224-1, 6225-1, 6229-1, 6231-1, 6235-2, 6244-1, 6248-1, 625-1, 626-1, 6268-1, 6275-1, 6275-2, 6275-3, 6275-4, 6276-1, 6278-1, 628-1, 6281-1, 6282-1, 6282-2, 6283-1, 6297-1, 6300-1, 630-1, 6302-1, 6304-1, 631-1, 6311-1, 6315-1, 6315-2, 6322-1, 633-1, 634-1, 6341-1, 634-2, 6350-1, 635-1, 636-1, 636-2, 6365-1, 6379-1, 638-1, 6383-1, 6387-1, 639-2, 6393-1, 6399-1, 6400-1, 6401-1, 6406-1, 6408-1, 641-1, 6411-1, 6413-1, 6415-1, 6415-2, 6424-1, 6424-2, 643-1, 6434-1, 6435-1, 6436-2, 6438-1, 6439-1, 644-1, 6441-1, 6442-1, 6443-1, 645-1, 6451-1, 6452-1, 6455-1, 6456-1, 6464-1, 6467-1, 6469-1, 647-1, 647-2, 6478-1, 6480-1, 648-1, 6482-1, 6484-1, 6490-1, 649-1, 6494-1, 6496-1, 6497-1, 6498-1, 6498-2, 6501-1, 6504-1, 6505-1, 651-1, 6513-1, 6515-1, 6519-1, 6520-1, 652-1, 6527-1, 653-1, 6535-1, 6539-1, 6542-1, 6545-1, 6545-2, 6546-1, 6550-1, 6550-2, 655-1, 6551-1, 6557-1, 6561-1, 6563-1, 6564-1, 6567-1, 657-1, 6573-1, 658-1, 6581-1, 6586-1, 6587-1, 6587-2, 659-1, 659-2, 6602-1, 6602-2, 6609-1, 66-1, 661-1, 662-1, 6622-1, 663-1, 6638-1, 664-1, 6644-1, 6646-1, 6646-2, 66-5, 665-1, 6656-1, 6660-1, 666-1, 6663-1, 667-1, 6673-1, 6675-1, 6676-1, 6680-1, 668-1, 6685-1, 6686-1, 669-1, 6696-1, 6697-1, 6699-1, 670-1, 6704-1, 6707-1, 671-1, 6713-1, 6718-1, 672-1, 6721-1, 6723-1, 6726-1, 6728-1, 6733-1, 6738-1, 674-1, 6743-1, 6745-1, 675-1, 6751-1, 6752-1, 6753-1, 6754-1, 6760-1, 676-1, 6764-1, 6766-1, 6769-1, 677-1, 6771-1, 6776-1, 6777-1, 6779-1, 678-1, 6784-1, 6786-1, 6788-1, 679-1, 6793-1, 680-1, 6804-1, 6807-1, 68-1, 6811-1, 6823-1, 6827-1, 683-1, 6831-1, 6836-1, 6839-1, 6840-1, 684-1, 6845-1, 6847-1, 685-1, 6851-1, 6852-1, 6859-1, 6860-1, 686-1, 6861-1, 6865-1, 6870-1, 687-1, 6872-1, 6875-1, 6880-1, 688-1, 6883-1, 6884-1, 6888-1, 6889-1, 6895-1, 6903-1, 6905-1, 691-1, 6911-1, 6915-1, 6923-1, 6925-2, 693-1, 6931-1, 6938-1, 694-1, 6941-1, 6946-1, 6950-2, 6953-1, 6956-1, 6959-1, 696-1, 6961-1, 6967-1, 6973-1, 6974-1, 6979-1, 6984-1, 6988-1, 6989-1, 6995-1, 6998-1, 700-1, 7004-1, 7007-1, 701-1, 7012-1, 7015-1, 7022-1, 703-1, 7032-1, 7034-1, 7036-1, 704-1, 7046-1, 705-1, 7057-1, 7059-1, 706-1, 7061-1, 7066-1, 7067-1, 7069-1, 7072-1, 7074-1, 7078-1, 708-1, 7081-1, 7089-1, 7094-1, 7098-1, 7100-1, 7103-1, 7108-1, 7114-1, 7117-1, 71-2, 712-1, 7122-1, 7124-1, 7127-1, 713-1, 7133-1, 7135-1, 7138-1, 714-1, 7143-1, 7147-1, 715-1, 7151-1, 7152-1, 7154-1, 7156-1, 7158-1, 7168-1, 717-1, 7174-1, 7178-1, 7181-1, 7182-1, 7185-1, 7188-1, 719-1, 7193-1, 7198-1, 7200-1, 720-1, 7203-1, 7206-1, 7210-1, 7211-1, 7216-1, 722-1, 7221-1, 7223-1, 7227-1, 7228-1, 7234-1, 7238-1, 724-1, 7244-1, 7247-1, 725-1, 7251-1, 7256-1,

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Upon careful review, we concluded that this comment is non-substantive for one of the following reasons:

- Contains general comments, opinions, or position statements that express support or opposition to the project;
- Reiterates impacts or actions already described in the DEIS;
- Lacks specific changes or actions for consideration;
- Falls outside the scope or irrelevant to the proposed action and decision;
- Lists concerns already decided by law, regulation, or policy.

Comment response: NS2 Non-substantive comments related to a specific resource or impact topic	Page 1 of 1

Responsive to these comments:

4-2, 12-1, 12-3, 1002-2, 104-1, 1041-2, 107-10, 107-3, 1084-6, 1088-1, 1097-3, 1107-3, 1128-8, 1149-1, 1150-3, 1150-6, 1150-9, 1152-1, 1152-3, 1159-2, 1159-4, 1163-1, 1169-2, 1180-3, 1197-3, 1207-4, 1222-2, 1235-3, 1265-1, 1276-4, 1281-2, 1281-3, 1293-2, 1311-16, 1311-2, 1311-21, 1318-3, 1318-4, 132-1, 1322-7, 1328-1, 1329-1, 1338-5, 1338-8, 1359-3, 1379-1, 1388-1, 1453-1, 1454-3, 1455-1, 1455-6, 1468-8, 1473-3, 1504-1, 1517-1, 1531-2, 156-2, 162-2, 1870-1, 1885-1, 1885-2, 1919-2, 1919-3, 19-3, 1933-1, 1933-2, 1941-1, 1957-1, 22-3, 223-2, 235-10, 242-3, 255-5, 259-3, 263-6, 28037-3, 286-6, 286-7, 29505-1, 29753-1, 30074-2, 30078-25, 30079-1, 30144-1 (Emerman3), 311-3, 415-1, 416-1, 43-2, 466-1, 515-4, 55-2, 5550-1, 56-2, 57-2, 572-1, 572-2, 576-2, 585-2, 62-2, 6235-1, 62-4, 64-2, 66-4, 72-1, 778-1, 791-2, 7941-1, 80-2, 8032-173, 8032-209, 8032-27, 8032-303, 8032-44, 8032-45, 809-2, 814-5, 824-1, 86-1, 862-1, 866-13, 866-5, 883-2, 884-1, 884-2, 884-3, 890-1, 894-2, 90-1, 901-3, 90-4, 90-5, 910-4, 91-1, 95-2, 979-2, 99-1

Upon careful review, we concluded that this comment is non-substantive relative to the specific resource or impact topic described. The comment expresses one or more of the following:

- Contains general comments, opinions, or position statements that express support or opposition to the project;
- Reiterates impacts or actions already described in the DEIS;
- Lacks specific changes or actions for consideration;
- Falls outside the scope or irrelevant to the proposed action and decision;
- Lists concerns already decided by law, regulation, or policy.

Comment response: SO1 Property values will decline near tailings or nearby facilities, from water quality changes, noise, traffic	Page 1 of 1

Responsive to these comments:

1356-3, 1389-7, 1473-1, 494-1, 60-1, 8032-249, 897-1, 897-2, 897-4, 897-9, 899-1, 899-2, 899-4, 899-9

These comments concern the potential reduction in nearby property values that could be caused by mine-related impacts.

Section 3.13 of the DEIS disclosed potential reductions in property value due to the tailings facility (pp. 655–656). As analyzed in the DEIS, the proximity of properties to the tailings facility would be the primary reason for the reductions in property value. We expanded this discussion in section 3.13 of the FEIS to more completely describe the basis for this analysis of property reductions from proximity to tailings.

The DEIS disclosed other potential impacts mentioned in these comments but not explicitly tied back to potential reductions in property value. These include the following: noise (DEIS, pp. 223–241); traffic (DEIS, pp. 258–269); impacts to groundwater quality downstream of tailings storage facilities (DEIS, pp. 381–419); impacts to water supplies from drawdown near the mine site (DEIS, pp. 317–345), and impacts from drawdown near the Desert Wellfield (DEIS, pp. 317–345). We added further discussion to section 3.13 of the FEIS to assess potential reductions in property values due to impacts to private water supplies.

We have not explicitly analyzed reductions in property value due to traffic or noise. Noise analysis found that "under most conditions, predicted noise and vibration during construction and operations, for both blasting and non-blasting activities, at sensitive receptors are below thresholds of concern; rural character would not change due to noise" (DEIS, p. ES-22). One exception was along Dripping Springs Road. However, additional mitigation was brought forward between the DEIS and FEIS to address this impact (see FEIS appendix J, measure RC-NV-01). We added discussion of the effectiveness of this mitigation to section 3.4 of the FEIS. The traffic analysis found that most traffic impacts, as measured by changes in level of service, remain within acceptable levels and similar to that caused by natural growth (DEIS, pp. 262–263, 266). Unacceptable levels of service caused by project-related traffic occurs at Silver King Mine Road/U.S. 60 (construction and operations), Main Street/U.S. 60 (construction and operations), SR 177/U.S. 60 (construction), and Magma Mine Road/U.S. 60 (operations). Section 3.13 of the FEIS acknowledges that increased traffic and industrial development has an effect on the overall quality of life in an area. However, tying reductions in property value to level of service at specific intersections along a major highway is not feasible or appropriate.

Comment response: SO2 Economic impacts of water use	Page 1 of 1

Responsive to these comments:

1301-9, 30147-5 (Powers), 8032-291, 8305-1

These comments tie the use of water by the Resolution Copper mine to economic effects on the State of Arizona and other water users, based on a variety of studies.

The issue of competing water uses, water scarcity, and regional water supplies is one that has been raised in many public comments, and we added necessary additional discussion of this topic to the FEIS in response to comments. See response WT4 for additional discussion.

The use of water by the mine—from whatever source—takes place under a complex regulatory framework for management of limited water resources. This includes the following: the authorities and restrictions put in place by the 1980 Groundwater Management Act, administered by the Arizona Department of Water Resources, for use of groundwater within Active Management Areas; and the contracting and use of Central Arizona Project water, which is administered by the Central Arizona Water Conservation District and Bureau of Reclamation.

Particularly in Arizona, every water source has competing users. Laws and regulations were enacted to codify the value and priorities that the State of Arizona and society in general place on the use of a limited water supply. Any water used by Resolution Copper must adhere to this framework, whether direct use of CAP water, dewatering at the mine site (which lies within the Phoenix Active Management Area), pumping from the Desert Wellfield (also within the Phoenix Active Management Area), or acquisition and use of long-term storage credits.

By definition, the legally permitted use of water by Resolution Copper adheres to the norms and values placed on water by the State of Arizona. Analysis of the economic value of the water used by Resolution Copper, analysis of other beneficial uses for that water, or extrapolation of economic harm to other entities due to the legally permitted use of water by Resolution Copper is outside the scope of analysis of this EIS.

On a local scale, there are potential indirect economic impacts to individual well owners due to the Resolution Copper water supply. Section 3.13 of the FEIS analyzes these impacts.

There also are potential risks to regional water supplies in the event of a tailings storage facility failure. We do not anticipate this to occur, based on the demonstration in section 3.10.1 of how Resolution Copper design standards meet or exceed State, Federal, international, and industry-standard guidelines (DEIS, pp. 520–527). The importance of tailings safety resulted in the disclosure of potential impacts to regional water supplies if a failure were to occur (DEIS, pp. 535–554). We expanded this discussion in the FEIS to incorporate additional work conducted on tailings safety between the DEIS and FEIS, specifically the failure modes and effects analysis (FMEA) conducted for the Preferred Alternative.

Comment response: SO3 Dripping Spring Wash road mitigations	Page 1 of 1

Responsive to these comments:

28449-83, 30075-95, 897-7, 899-7

These comments are concerned with the potential impacts to Dripping Springs Road, due to use to access to Alternative 6 tailings storage facility.

The DEIS proposed a potential reroute of access to the Alternative 6 tailings storage facility in order to resolve noise issues (mitigation measure RC-218, p. 242, and appendix J, p. J-7). This potential mitigation was dropped between the DEIS and FEIS due to the greater impacts that would result from constructing it, compared with the relatively minor noise issues it would mitigate. Instead, different mitigation was proposed along Dripping Springs Road that would reduce the noise impact. We described the effectiveness of this new mitigation in section 3.4 of the FEIS and summarized the details in appendix J of the FEIS (measure RC-NV-01).

We added details on road maintenance for Dripping Springs Road to section 3.4 of the FEIS.

Comment response: SO4 Powers report comments	Page 1 of 2

Responsive to these comments:

30147-1 (Powers), 30147-10 (Powers), 30147-11 (Powers), 30147-2 (Powers), 30147-3 (Powers), 30147-4 (Powers), 30147-7 (Powers), 30147-8 (Powers), 8032-288, 8032-290, 8032-292

These comments provide specific criticisms of the economic analysis conducted for the DEIS and summarized in section 3.13. These comments are based on an economics report conducted by Power Consulting for the San Carlos Apache Tribe (herein called the Power report). These comments address four specific issues:

- Boom-bust analysis in the DEIS
- Quantification of negative economic impacts on nature-based tourism and amenities
- Exaggeration of local positive impacts
- Lack of analysis of societal impacts

Boom-bust analysis

Section 3.13 of the DEIS analyzed and disclosed the vulnerability of the Resolution Copper Mine to the boom/bust cycles that are common in industry (p. 653). The full boom-bust analysis contained in the project record (BBC Research and Consulting 2018) addressed many of the issues raised in the Power report.

We expanded our discussion in section 3.13 of the FEIS to more clearly describe the methodologies used for this analysis and the uncertainties involved in some of the inputs. More importantly, the Power report raises a number of social concerns that are not specifically economic in nature, that have to do with the workforce and communities that are subject to boom-bust cycles. We added new discussion to section 3.13 of the FEIS to directly address these types of societal impacts.

Quantification of negative economic impacts

Several comments see inconsistencies in the treatment of the economic "benefits" of the proposed mine with the "negative impacts" on recreation and "amenity-supported economic vitality." The Power report argues that the "benefits" and "negative impacts" were not treated equally in the DEIS, primarily focusing on the points that natural amenities and the visitor-based economy are vital to Arizona, and to the area near the proposed mine in particular. These points are largely made by citing information provided in the DEIS, and we agree with them, which is why an analysis of these impacts was included in section 3.13 (DEIS, pp. 653–655).

A main concern is that there is more quantification of the potential "benefits" associated with the proposed mine than of the "negative impacts" on the amenity and recreation-based economy. We acknowledge this is the case. However, the Power report does not provide new data or analysis to support further quantification of "negative impacts." Therefore, the narrative or qualitative approach used in the DEIS also was used in the FEIS.

Comment response: SO4 Powers report comments	Page 2 of 2

Responsive to these comments:

30147-1 (Powers), 30147-10 (Powers), 30147-11 (Powers), 30147-2 (Powers), 30147-3 (Powers), 30147-4 (Powers), 30147-7 (Powers), 30147-8 (Powers), 8032-288, 8032-290, 8032-292

Exaggeration of positive benefits to Town of Superior

These comments indicate that the DEIS exaggerated the "positive impacts" of the project. This assertion is based on the argument that most of the proposed mine's benefits will occur outside the town of Superior. Exploration of where these benefits would occur is a fundamental part of the analysis contained in the project record (BBC Research and Consulting 2018) and is summarized in the DEIS (pp. 650–651). We revised this analysis based, in part, on comments and on direct discussions with the Town of Superior. The revised analysis in section 3.13 of the FEIS accurately depicts where the positive economic benefits of the project would occur.

Societal impacts

These comments indicate that non-economic societal impacts have not been adequately discussed. We added a new discussion to section 3.13 of the FEIS to address these impacts.

Comment response: SO5 Economic losses from livestock changes, including multiplier effect	Page 1 of 1
Responsive to these comments: 1122-2, 8032-286	
We added an analysis of the economic impact due to reductions in livestock grazing capacity to section 3.13 of the FEIS. Comments raised concerns that the pipeline corridor could inhibit movement of cattle and operation of a grazing allotment. Note that the pipelines would be buried in most locations and are not anticipated to restrict access for livestock or personnel. Comments also raised concerns that water sources used by livestock would be lost. We anticipate that some water sources would be impacted due to dewatering at the mine site. A monitoring and mitigation plan is required that would restore water to any impacted spring or stream. The only lost water sources that would remain unmitigated would be those lost within the subsidence area or within the footprint of a tailings storage facility. Grazing would not take place within these areas.	

Comment response: SO6 Costs associated with loss of recreation and tourism	Page 1 of 1
Responsive to these comments: 1003-2, 1097-6, 1235-11, 1360-13, 1454-17, 1468-9, 1523-4, 209-1, 495-2, 548-2, 5925-3, 5990-1, 6559-1, 748-2, 8032-207, 8032-289, 8032-328	
Many of these comments focus on the economic costs associated with the loss of recreation opportunities and tourism that would be caused by the loss of areas. These impacts were specifically analyzed for the DEIS (BBC Research and Consulting 2018) and are included in section 3.13 (DEIS, pp. 653–655). We developed a mitigation package related to recreational opportunities between the DEIS and FEIS. We assessed the effectiveness of this suite of mitigations to replace recreation opportunities in sections 3.9 and 3.13 of the FEIS. Other comments point to the long-term effects on recreation and property values, even after closure of the facility. We added a discussion to section 3.13 of the FEIS to address this issue.	

Comment response: SO7 Competition for electricity and water	Page 1 of 1
Responsive to these comments: 1068-2, 1301-3, 1542-1	
These comments regard the potential economic impacts of the use of power by the mine. Note that many comments are based on an estimation of power use that is not supportable; see response WT24 for more detail. Since publication of the DEIS, Salt River Project has conducted an independent load study for the project and concluded the following: “The total maximum combined load proposed by RC is 273 to 315 MW, which represents 3.7 to 4.3 percent of SRP’s 2019 peak demand. SRP is well suited to provide the needed power just as it has done with other large power users across the state. SRP does not see any limitations to serving this load to the Project at the aforementioned sites, presuming the recommended system upgrades are implemented. With these system upgrades, there will be no impact on the neighboring customers as the Project site increase loads as per the estimated load levels” (1898 and Company 2020:9). Some comments also note the impact of competition for water. See response SO2 for more discussion of this topic.	

Comment response: SO8 Statements of positive economic benefits	Page 1 of 1
Responsive to these comments: 1111-2, 1197-5, 1281-4, 1396-3, 1396-7	
These comments note the positive economic benefits that would occur from the mine. The analysis contained in section 3.13 of the FEIS accurately assesses the positive and negative socioeconomic benefits that would occur from the mine.	

Comment response: SO9 Employment effects of specific facilities, such as filter plant being placed in Superior, or tailings storage facility in Gila County	Page 1 of 1
Responsive to these comments: 1516-3, 317-8, 518-3	
These comments express the economic benefits of placement of the tailings storage facility at the Skunk Camp location, or for the movement of the filter plant to be within the boundaries of the town of Superior. We added analysis for these changes in alternatives to section 3.13 of the FEIS.	

Comment response: SO10 Socioeconomic effects on other communities (Kearny, Florence, San Tan Valley, Queen Creek, Apache Junction, and Gold Canyon, Winkelman, Hayden)	Page 1 of 1
Responsive to these comments: 28449-111, 285-2, 291-1, 314-3	
These comments question the economic effects that would be felt by specific individual communities within the analysis area. Existing analysis encompasses these communities. We added discussion of each of these communities to section 3.13 of the FEIS to better clarify the pertinent effects.	

Comment response: SO12 Gila River impacts from water supply	Page 1 of 1
Responsive to these comments: 27045-2	
This comment notes that “Freeport Copper in New Mexico is pushing to dam the Gila River to provide our water to this proposed mine.” This is an incorrect statement. Freeport McMoRan is not associated with the Resolution Copper Project. No water sources proposed for the Resolution Copper Project originate with or are associated with the Gila River.	

Comment response: SO14 Comments related to Town of Superior impact analysis	Page 1 of 1
Responsive to these comments: 1113-2, 1158-50, 1286-2, 1312-3, 1360-12, 1389-1, 1389-35, 250-1, 261-5, 261-7, 283-3, 310-3, 314-2, 322-2, 8032-306, 866-1, 866-15, 866-16, 928-3	
These comments indicate that analysis of potential economic impacts to the Town of Superior are flawed, including the calculation of costs to the Town, tax revenue, impacts to the school system, impacts to emergency services, and housing stock. We revised the socioeconomic analysis to address many of these issues, with changes based in part on discussions between the Forest Service and the Town of Superior following publication of the DEIS (BBC Research and Consulting 2020). We changed the analysis appropriately in section 3.13 of the FEIS to address these concerns.	

Comment response: SO15 Emissions will inhibit other development	Page 1 of 1
Responsive to these comments: 1438-8	
This comment indicates that the development of the Resolution Copper Project, by emitting nitrogen oxides, would reduce the amount of this criterial pollutant that could be emitted by other developments or projects, thereby inhibiting growth within the area. Mine emissions must meet regulations and conform with state plans for implementation of the Clean Air Act. Section 3.6 of the FEIS demonstrates that this is the case. The emission of criteria pollutants by competing sources takes place under a complex regulatory framework for management of regional air quality. This includes the authorities and restrictions put in place by the Clean Air Act, which ultimately are enacted through permitting administered by Pinal County Air Quality Control or the Arizona Department of Environmental Quality. Every emission of a criteria pollutant reduces the ability of the airshed to receive other emissions without violating air quality regulations and guidelines. For instance, the air quality analysis conducted for Resolution Copper had to incorporate the existing background air quality, which encompasses all sources that preceded Resolution Copper in the airshed. These laws and regulations were enacted to codify the value and priorities that the State of Arizona and society in general place on the emission of pollutants. Any emission by Resolution Copper must adhere to this framework. By definition, the legally permitted emissions by Resolution Copper adhere to the norms and values placed on air quality by the State of Arizona. The decision whether it is more appropriate for the mine, or for some other development, to use this “capacity” for emitting pollutants is outside the scope of analysis of this EIS.	

Comment response: SO16 Labor force details	Page 1 of 1
Responsive to these comments: 104-5, 1097-4, 1389-8, 1464-5, 231-2, 291-3, 392-2	
These comments concern the labor force assumptions used in the DEIS. We updated the economic analysis and labor force analysis using the most recent numbers available from Resolution Copper (BBC Research and Consulting 2020). The updated analysis contained in section 3.13 of the FEIS accurately assesses the anticipated labor force, and associated impacts, using the best sources of information and taking into account uncertainty about future predictions.	

Comment response: SO17 Offsets for Payment In Lieu of Taxes (PILT)	Page 1 of 1
Responsive to these comments: 866-11	
This comment asks that a comparison be made for the revenues generated by Resolution Copper to the amount currently paid by the Federal Government in lieu of taxes. The revenues generated by Resolution Copper and to which jurisdiction they would accrue is complex and the focus of the analysis in the project record (BBC Research and Consulting 2018) and section 3.13 (DEIS, pp. 648–651). We updated this analysis in section 3.13 of the FEIS to incorporate the most recent data and assumptions available.	

Comment response: SO18 Impacts to State Trust Land	Page 1 of 1
Responsive to these comments: 1188-4, 562-13, 562-5	
These comments concern the potential impact to Arizona State Trust land, and specifically the future Superstition Vistas development area in the East Salt River valley. Many public comments raised the issue of competing water uses, water scarcity, and regional water supplies. We added discussion of this topic to the FEIS. This includes the Superstitions Vistas development. See response WT4 for additional discussion. The DEIS contains analysis of the impact to adjacent property values caused by proximity to a tailings facility (DEIS, pp. 655–656). Section 3.13 of the FEIS clarifies that these reductions in value would apply to any adjacent lands—whether private land or State Trust land.	

Comment response: SO19 Social effects of mine	Page 1 of 1
Responsive to these comments: 1003-1, 1389-3, 1523-9, 8032-293	
These comments indicate that non-economic societal impacts were not adequately discussed. We added a new discussion to section 3.13 of the FEIS to address these impacts. FEIS Section 3.15, Environmental Justice, also provides additional discussion of these issues.	

Comment response: SO21 Boom/bust impacts; financial viability	Page 1 of 1

Responsive to these comments:

106-3, 1097-5, 1360-11, 1389-4, 151-4, 182-2, 890-2

Section 3.13 of the DEIS analyzed and disclosed the vulnerability of the Resolution Copper Mine to the boom-bust cycles that are common in the mining industry (DEIS, p. 653). Many of the issues raised in the Power report are directly addressed in the full boom-bust analysis contained in the project record (BBC Research and Consulting 2018).

We expanded our discussion in section 3.13 of the FEIS to more clearly describe the methodologies used for this analysis and the uncertainties involved in some of the inputs. More importantly, the Power report raises a number of social concerns that are not specifically economic in nature, that have to do with the workforce and communities that are subject to boom-bust cycles. We added new discussion to section 3.13 of the FEIS to directly address these types of societal impacts.

These comments also question the financial viability of the mine. We are not required to assess the financial viability of the mine proposal. Resolution Copper holds mining claims that confer a statutory right to enter upon public lands to prospect, explore, develop, mine, and process mineral resources. Demonstrating the financial ability to do so is not a requirement under Federal mining laws.

We do have a responsibility to ensure that long-term environmental liabilities on NFS lands will not occur, which is accomplished through appropriate bonding and financial assurance as discussed in chapter 1 and elsewhere (DEIS, pp. 15–20, 65, 104, 391–417).

Comments also raise the question of demand for copper and the international copper market. This also is a financial decision the mining company must make as it assesses the financial viability of the project. Assessing financial viability and international copper markets is outside the scope of analysis for this EIS.

The analysis of alternative mining techniques (see response AMT1 for more detail) incorporates economics only on a per-ton basis, with the goal of assessing not profitability but whether requiring alternative mining techniques would be reasonable.

Comment response: SR2 Comments related to BLM visual management framework	Page 1 of 1

Responsive to these comments:

1051-1

We added discussion to FEIS section 3.11 that updates the scenery resource impact analysis methodology to describe the rationale for using the Bureau of Land Management Visual Resource Management system for analyzing impacts to scenery and how that system relates to and is similar to the Forest Service Visual Management System.

Comment response: SR4 Clarification of rationale for analysis distances	Page 1 of 1

Responsive to these comments:

1051-5

The impact distance zones and project analysis area described in the DEIS section 3.11 are based on landscape topography in the project area, general visibility distances of project features, and location of sensitive viewpoints. Collectively, these represent the geographic scope of expected impacts to scenery from the proposed project.

The 6-mile buffer around the tailings facilities represents the visibility within the landscape from the sensitive viewpoints that were identified through review of the locations where people gather, travel, recreate, or live in the vicinity of the proposed project.

Although the viewshed analyses for the tailings facilities presented in Newell and Grams (2018) illustrate modeled visibility beyond 6 miles, this model does not incorporate landscape features such as vegetation and structures or a distance factor that shows reduced visibility by distance. At a distance beyond 6 miles, it is not anticipated that the tailings facilities would be visible to the casual observer.

Comment response: SR5 Visual impact of fog plume	Page 1 of 1
Responsive to these comments: 8032-233, 8032-267, 8032-270	
We have included additional analysis for fog plume impacts in section 3.11 of the FEIS, and simulations for fog plume effects are included in appendix D of Newell and Grams (2018). The DEIS included analysis of impacts to visual resources for the subsidence area and all tailings facility alternatives. It also included analysis of visual impacts to key observation points (KOPs) at Picket Post Mountain and Boyce Thompson Arboretum, and it included parts of the Superstition Wilderness and White Canyon Wilderness areas in the viewshed analyses included in Newell and Grams (2018).	

Comment response: SR7 Comment about areas denuded of vegetation	Page 1 of 1
Responsive to these comments: 8032-269	
We have updated section 3.11 of the FEIS to further explain the visual simulation development process and the use of revegetation success at the West Plant Site legacy mining sites as a reference for simulation development. The FEIS contains an additional simulation package and analysis for the Preferred Alternative, Skunk Camp (see FEIS section 3.11 and appendix D of Newell and Grams (2018)), which presents the approximate view of the tailings facility at 15-, 20-, and 30-year intervals. These simulations illustrate the scenery impact over time and account for concurrent reclamation activities beginning at approximately year 10.	

Comment response: SR8 Question on visual haze effects	Page 1 of 1
Responsive to these comments: 227-2	
Analysis of visual haze effects includes multiple analysis points and is included in section 3.6 (DEIS, pp. 288–292). Effects from air quality on nearby people (whether local residents or visitors) are also analyzed in section 3.6 in a variety of ways. See response TS24 for more details of new analysis included in the FEIS.	

Comment response: SR9 Subsidence area visual analysis	Page 1 of 1
Responsive to these comments: 8032-268, 8032-272	
Representative KOPs were identified through a selection process with the Forest Service. Based on potential recreation locations, access, and topography, the KOP location selected for analysis for the area around the subsidence area best represents views from NFS Road 2466; as such, it is anticipated that there would not be visibility due to intervening landforms. We have updated section 3.11 of the FEIS to describe the KOP selection process.	

Comment response: SR10 Dark sky impacts	Page 1 of 1
Responsive to these comments: 8032-275	
We included additional analysis for impacts to regional dark skies from mining operations in FEIS section 3.11, including anticipated lighting from each of the mine plan locations (West Plant Site, East Plant Site, tailings facility, pump stations, and filter plan and loadout facility) and anticipated impacts to the town of Superior, Oak Flat Campground, Boyce Thompson Arboretum, and Queen Valley. Lighting impacts to wildlife are disclosed in section 3.8 of the DEIS and FEIS.	

Comment response: SR11 Visual impacts related to pipelines	Page 1 of 1
Responsive to these comments: 1311-11	
We revised the FEIS to remove the Alternative 5 – Peg Leg West Tailings Pipeline Corridor Option and the Alternative 6 – Skunk Camp South Tailings Pipeline Corridor Option. The scenery impact analyses for the remaining Alternative 5 – East Tailings Pipeline Corridor Option and Alternative 6 – North Tailings Pipeline Corridor Option were updated and are included in section 3.11 of the FEIS.	

Comment response: SR12 Visual impacts to Arizona Trail	Page 1 of 1
Responsive to these comments: 1311-5	
Impact analysis to the Arizona National Scenic Trail (Arizona Trail) is presented in the DEIS throughout section 3.11 and includes much of the analysis presented in the comment (DEIS, pp. 594–618). Specifically, the impacts to the Barnett Camp area of the Arizona Trail through analysis of KOP 5. A visual simulation for KOP 5 that illustrates the pipeline bridge at Barnett Camp is presented in Newell and Grams (2018). Impacts of the borrow area on the Arizona Trail was added to FEIS section 3.11 for Alternatives 2 and 3.	

Comment response: SR13 Greater impact anticipated for non-motorized users vs. motorized users; other impacts recreation regionally due to changes	Page 1 of 1
Responsive to these comments: 1097-7, 1454-6, 1523-3, 28449-22, 28449-86, 319-3, 8032-210, 8032-211, 8032-213, 8032-214, 8032-215	
The concern regarding a reduction in non-motorized uses under all alternatives is provided in section 3.9 (DEIS, pp. 495–509). Impacts to motorized uses are also provided in section 3.9. The approach for these analyses has not changed between DEIS and FEIS. The commenters express many of the direct impacts that this EIS has disclosed, where recreation opportunity would be lost and noise, air quality, and visual impacts are anticipated to impact non-motorized recreation experiences. However, to assert that this same level of direct impact be universally applied to all surrounding public lands is beyond the scope of this analysis. We included a discussion of public land recreation displacement in FEIS section 3.9 under "Loss of Federal Land Base." This information discloses the potential impact of shifting recreational use to other public lands in the area as well as the unique recreation setting and opportunity at Oak Flat. Some of the issues put forth by commenters that are wholly outside the scope of this analysis include the request for the proponent to construct recreation facilities in Superior, Arizona, and to develop extensive, yet-to-be-surveyed motorized trails. However, specific mitigation to offset recreational opportunity impacts was developed after the DEIS and was included in appendix J of the FEIS and assessed for effectiveness in section 3.9 (FEIS appendix J, measure FS-RC-03). This was an evolution of mitigation measure RC-214, included in the DEIS (appendix J, p. J-15).	

Comment response: SR13_A Greater impact anticipated for non-motorized users vs. motorized users; other impacts recreation regionally due to changes; with addition for specific comment 8032-327; 1523-2; 1454-5	Page 1 of 1
Responsive to these comments: 1454-5, 1523-2, 8032-327	
See Response SR13 for response to comments on motorized users and loss of Federal land base for recreation. Indirect impacts of mining to surrounding lands (such as Upper and Lower Devil's Canyons, as the commenter suggests) such as dewatering, noise, dust, view degradation, subsidence, and other mine impacts are discussed under each resource analysis in the FEIS. The discussion in the FEIS at section 3.9 provides an in-depth analysis for the potential shifting/displacement of recreational users to surrounding private and public lands.	

Comment response: SR14 Recreational value of Oak Flat	Page 1 of 1
Responsive to these comments: 1523-7	
Oak Flat has been used by locals and visitors alike for decades, and its history and importance as a recreation site include traditional recreation like camping, hiking, and nature viewing. It also contains unique recreation settings and opportunities as it relates to rock climbing. It also has a strong link to cultural and heritage resources. We added information on the historic recreational use of Oak Flat in FEIS section 3.9 under "Loss of Federal Land Base." This information discloses the unique recreation setting of Oak Flat and the loss to recreation opportunity that would occur once Oak Flat is closed to the public.	

Comment response: SR16 Definition of ROS (or equivalent) for BLM lands around Peg Leg; request to conduct inventory	Page 1 of 1
Responsive to these comments: 28449-67, 28449-74, 28449-75, 28449-76	
The Bureau of Land Management's Tucson Field Office Planning Area is guided by the 1989 Phoenix RMP, and the recreation management prescriptions therein did not specify ROS acreages. Section 201(a) of FLPMA specifies the Secretary must prepare and maintain on a continuing basis inventory of all lands (including for recreation purposes). This inventory is conducted by the BLM during the land use planning process. While the BLM does use ROS or ROS-like management frameworks for recreation, in this portion of the Tucson Field Office, there are no lands designated for ROS. Therefore, a quantitative recreation opportunity inventory was not conducted for the DEIS, and it remains inappropriate to do so in the FEIS. Section 3.9.3.2 was updated in the FEIS to provide a discussion of the differences of the Forest Service's recreation categorization, compared with the BLM's.	

Comment response: SR17 Lack of "Recreation Specialist Report"	Page 1 of 1
Responsive to these comments: 8032-208	
While a standalone Recreation Technical Report was not created for this EIS, the analysis and project record is supported by baseline data acquisition, review, verification, and compilation processes, including tiering to applicable NEPA analysis like Apache Leap EA or Baseline EA, numerous project-specific recreation-related process memoranda, GIS and spatial data and calculations, administrative draft and DEIS working documents, specialist-to-specialist communication and meetings, subject-matter expert/agency specialist input, engagement with local community groups like the Recreation User Group and forest plan consistency reviews. All the information gathered as part of the baseline data acquisition culminates in the recreation section of the EIS. We note that neither the NEPA nor the Forest Service requires Specialist Reports for EISs, and a Recreation Specialist Report was not produced for the FEIS. We included new analysis on the very real potential for recreation opportunity displacement, in FEIS section 3.9 under "Loss of Federal Land Base."	

Comment response: SR18 White Canyon ACEC	Page 1 of 1
Responsive to these comments: 203-1	
Incorrect labels for White Canyon Wilderness were corrected on all figures in the FEIS. The description of the purposes for designation of the wilderness were also included in section 3.9 of the FEIS.	

Comment response: SR19 Power line noise	Page 1 of 1
Responsive to these comments: 8032-280	
This comment indicates that the effect of power line noise on recreation should be assessed. We added an analysis of anticipated noise impacts on recreationists due to power lines to sections 3.4 and 3.9 of the FEIS. Approximate levels of noise in close proximity to power lines is estimated as 40 to 50 dBA, which is below the most stringent noise thresholds selected in the DEIS.	

Comment response: SR20 Motorized recreation	Page 1 of 1
Responsive to these comments: 1276-6, 911-1	
Much of the motorized-recreation experience within the Near West tailings storage facility footprint includes a loop experience, which is a different opportunity from an out-and-back experience. The FEIS makes the impact connection between the named NFS roads to any loop-route opportunities to describe the impact more clearly. Additional mitigation for motorized recreation was included in FEIS appendix J, with a focus on recreation experiences like motorized loops (see FEIS appendix J, measure FS-RC-03).	

Comment response: SR21 Inconceivables mitigation	Page 1 of 1
Responsive to these comments: 1343-2	
We developed additional details on the Inconceivables climbing area mitigation proposal (FEIS, appendix J, see measure RC-RC-05). We determined the route and design features of the mitigation proposal using information from cultural and natural resources surveys, and from consistency reviews of existing and pending Forest Service management decisions. We documented our recreation mitigation evaluation findings in a process memorandum (Rausch and Rasmussen 2020) to support the disclosures in FEIS section 3.9 and appendix J.	

Comment response: SR22 Request for data collection for rock climbing impacts	Page 1 of 1
Responsive to these comments: 1048-4, 6124-1	
The FEIS (section 3.9) includes the best available information for climbing resources in the analysis area, and this threshold of reasonableness is consistent with guidance contained in the Forest Service's NEPA requirements. As some public comments correctly contend, comprehensive climbing guides for this area are not easily found. Classic Queen Creek and surrounding area guides, including Karabin Jr. (1996), informed the analysis, and a comprehensive review of climbing resources was included in the DEIS (Oliver 2017). Additional information on climbing data is not necessary for this analysis, which identifies this impact as long term and major in the FEIS.	

Comment response: SR23 Adjacent rock climbing areas	Page 1 of 1
Responsive to these comments: 1454-10, 1454-8, 1523-5, 1523-6, 8032-329, 8032-331	
These comments identify the Pond and Atlantis climbing areas as not being analyzed in the DEIS and identify any mitigation proposal related to them as inappropriate. These are incorrect statements. These two climbing resources were correctly included in the analysis in section 3.9 (DEIS, pp. 493–494). No mitigation related to these two climbing resources was proposed in the DEIS, nor has any been proposed in the FEIS. There may be other access agreements related to these two climbing areas that have been executed outside of the Forest Service NEPA process. Agreements between Resolution Copper Mining, LLC, and climbing groups as they relate to access to these areas is similar to any private partnership, which is subject to termination.	

Comment response: SR24 Arizona Trail analysis; Trail comprehensive plan	Page 1 of 1
Responsive to these comments: 1311-3, 1311-8, 1389-28, 1454-9, 1523-8, 28449-70, 28449-84, 8032-330	
Reference to the Arizona Trail Comprehensive Plan is included in the FEIS. While not available for public review at the time of this FEIS publication, much of the information that will feed into the Comprehensive Plan (nature and purpose development documents) is now referenced in this analysis. As the commenter correctly points out, the Forest Service manages the area, allowing motorized and other uses. The nature and purpose of the Arizona National Scenic Trail was re-reviewed, and additional text was added to the FEIS to better specify potential impacts, particularly for Passage 18.	

Comment response: SR25 Birding	Page 1 of 1
Responsive to these comments: 30075-94	
Section 3.9 of the FEIS now includes discussion of birding as a recreation opportunity, as well as describing the recreation setting as it relates to prime birding areas (e.g., riparian areas, canyons).	

Comment response: SR26 Hunting	Page 1 of 1
Responsive to these comments: 283-2, 30075-88, 30075-89, 30075-91	
Section 3.9 included basic information regarding the hunting opportunities in the analysis area, such as the GMUs affected, the common species hunted, and indicated that the analysis area was subject to application of basic hunting regulations (DEIS, p. 489). The FEIS includes more detailed information about the hunting opportunities (species and hunts) in the analysis area, and missing information regarding lawful discharge of firearms was corrected. The hunting setting of the proposed tailings storage facility is more specifically described as the commenter suggested, including the link between dispersed camping opportunities and hunting opportunities.	

Comment response: SR27 Impacts to climbing	Page 1 of 1
Responsive to these comments: 965-1	
A comprehensive climbing inventory of the Oak Flat area was provided in the DEIS in section 3.9.3.2; this is the only inventory in existence for the analysis area, apart from local and national climbing guidebooks and publicly available information on the Internet. Additional climbing areas in the analysis area, both known and unknown, will not be inventoried for the FEIS.	

Comment response: SR30 Comments related to Peg Leg Visual Resource Management (VRM) Class Objectives	Page 1 of 1
Responsive to these comments: 28449-80, 28449-97	
Table 3.11.4-11 in the DEIS identifies acres where the proposed project components intersect Federal lands, not all lands in the analysis area. Section 3.11 of the FEIS was revised to include information regarding meeting Class III objectives for Alternative 5 – Peg Leg. The DEIS analysis identifies that the Peg Leg tailings storage facility alternative would likely not meet Visual Resource Management (VRM) Class III objectives. If the Arizona Trail and Gila River pipeline crossing area is designated Interim VRM Class II, the proposed alternative would also not meet these objectives. These data are not available to make this determination. A representative KOP for the West Pipeline crossing of the Arizona National Scenic Trail and Gila River corridors was not identified as part of the analysis to determine degree of contrast, and it is assumed, based on project components and descriptions, that the pipeline crossing would not meet interim VRM Class II objectives without further mitigation measures. The West Pipeline has been removed from further consideration, thus eliminating any potential visual impacts to the Reymert Townsite.	

Comment response: SR31 Comments related to BLM visual management framework	Page 1 of 1
Responsive to these comments: 28449-91	
We have added the text provided related to further defining BLM directives to the FEIS.	

Comment response: SR32 Changes to visual analysis driven by comments related to viewshed quantification	Page 1 of 1
Responsive to these comments: 28449-94	
We have included additional analysis in the FEIS for each alternative to quantify the number of acres visible associated with each tailings storage facility within the foreground, middle ground, and background distance zone area as defined in the DEIS.	

Comment response: SR33 Changes to visual analysis driven by comments, including additional travel routes	Page 1 of 1
Responsive to these comments: 28449-48, 28449-92, 28449-93, 28449-95	
We have included the additional routes identified by the commenter in the FEIS as part of the effects analysis for Alternative 5 as applicable. The majority of routes identified below by the commenter are in proximity of the West Pipeline Corridor, which is no longer under consideration, include the following: • Box Canyon Road • North Sandman • Cottonwood Canyon • Mineral Mountain • Reymert Road • Whitlow Ranch Road Battle Axe Road, which has been identified by the commenter, intersects the East Pipeline Corridor, and the FEIS has been updated accordingly. Rincon Road was not located, and a specific location was not provided.	

Comment response: SR34 Changes to visual analysis findings driven by comments	Page 1 of 1
Responsive to these comments: 28449-154, 28449-96	
We have updated conclusions associated with degree of contrast and description of contrast as indicated by the commenter. Additionally, as part of the analysis, the tailings storage facilities were evaluated as structures, rather than as landform modifications. There would be no change in determination of contrast and/or conformance with Visual Resource Management objectives as a result of this methodology.	

Comment response: SR35 Visibility analysis and associated figure information	Page 1 of 1
Responsive to these comments: 1051-4	
Further clarification related to the methodology associated with the development of the viewshed analyses is provided in Newell and Grams (2018). We have updated section 3.11 of the FEIS to include additional information regarding KOP selection.	

Comment response: SR36 Changes to visual analysis driven by comments, including new metric of viewshed quantification and additional travel routes	Page 1 of 1
Responsive to these comments: 1051-2, 28449-23	
Additional information on concurrent reclamation (a design feature that reduces impacts to scenery, also known as progressive reclamation) for the tailings facilities is included in the FEIS in section 3.3. Additional information on scale and vegetative pattern is included in table 3.11.4-1 of the FEIS. An additional simulation package and analysis for the Preferred Alternative, Skunk Camp, is presented in the FEIS and appendix D of Newell and Grams (2018) to illustrate the approximate view of the tailings facility at 15-, 20-, and 30-year intervals. This illustrates the scenery impact over time and accounts for concurrent reclamation beginning at approximately year 10. The FEIS contains additional analysis illustrating the anticipated length of time the tailings facilities would potentially be visible to travelers on the area's scenic byway (U.S. 60) and the Arizona Trail. The Florence-Kelvin highway simulation for KOP 27 in the DEIS illustrates the top of the tailings facility, which is not vegetated at the simulated mine-life year. The top of the facility, which is visible in the simulation, is not "painted to match the sky" as understood by the commenter, but actually shows the water covering.	

Comment response: SR37 Recreational values of Oak Flat	Page 1 of 1
Responsive to these comments: 1454-7	
We disclosed the impacts to the nature-based tourism economy, including the recreation uses listed in the comment in section 3.13 (DEIS, p. 653). More specific analysis of impacts to recreation resources was included in section 3.9 (DEIS, pp. 495–509).	

Comment response: TR1 Street wear and maintenance	Page 1 of 1

Responsive to these comments:

1113-1, 1516-2, 310-2, 8032-310

These comments indicate that street wear and maintenance should have been analyzed, in addition to traffic and access.

The primary roadways used by the project (U.S. 60, SR 177, SR 79) are designed and maintained by ADOT to accommodate typical passenger cars and trucks. Roadways are designed to incorporate growth in background traffic volumes as part of the design life of the pavement structure. Increases in traffic (passenger cars and standard load trucks) already are included in existing roadways design and do not require separate mitigation.

When necessary, overweight/oversized vehicles will need to obtain permits from ADOT. These permits outline specific criteria for use of such transports to ensure that damage to state highways does not occur.

A different concern for road degradation and maintenance needs would be the use of roads within the town of Superior. ADOT did not design or maintain these roads. The original Road Use Plan analyzed in the DEIS used Magma Avenue. In response to comments on the DEIS and concerns from the Town of Superior, the revised Road Use Plan uses the existing entrance at the intersection of Main Street/North Smeltertown Road during construction and operations. Most vehicles traveling to/from the mine entrance at North Smeltertown Road likely would use the intersection of U.S. 60/Main Street. This is the fastest and most direct route to the West Plant Site. Trips into the town of Superior using Main Street (north of North Smeltertown Road) and/or Magma Avenue are expected to be limited and consist of employees visiting restaurants and other amenities in town.

Vehicle use of a small section of road from U.S. 60 along Main Street to the Lone Tree/Smelter Town Gate would increase. Resolution Copper introduced mitigation to cover increased maintenance costs for road degradation within the town of Superior caused by mine traffic (see FEIS appendix J, measure RC-SO-06).

We added discussion of the revised Road Use Plan, potential for pavement degradation, and new mitigation measures to section 3.5 of the FEIS.

Other comments are concerned with the double-accounting of costs associated with road maintenance.
The socioeconomic analysis was revised after consultation with the Town of Superior and Resolution Copper.
The analysis more closely reflects the costs and benefits of the mine for the Town of Superior. Resolution Copper introduced mitigation to reflect these increased costs (see FEIS appendix J, measure RC-SO-06).

Comment response: TR3 Impacts to roads near filter plant/loadout facility	Page 1 of 1

Responsive to these comments:

1538-3, 38-3, 417-2

These comments largely are concerned with impacts to local roads near the filter plant/loadout facility, specifically Skyline Drive.

Section 3.5 (DEIS, pp. 249–252) described the access route for the filter plant. The existing condition of these roads also is described (DEIS, p. 249) as are the existing traffic volumes and level of service (DEIS, pp. 255–257). Baseline traffic data were collected for four intersections along this access route.

Filter plant/loadout facility-related traffic is relatively small, compared with the other mine facilities, with peak hour construction trips of 60 employee and 18 material trips, and peak hour operations trips of 18 employees (DEIS, p. 260). Three of these intersections were analyzed for level of service; two are disclosed in section 3.5 (DEIS, pp. 258–261). Mine-related traffic causes no changes in level of service. We anticipate the Combs Road/Schnepf Road intersection to experience unacceptable levels of service in the future, regardless of the mine-related traffic. Other intersections along Skyline Drive experience no degradation in level of service due to mine-related traffic.

One comment indicates that Skyline Drive is closed to through traffic at Laine Road. We believe this corresponds with a transition from private to Arizona State Trust land. Access restrictions on this road will conform to Arizona State Trust land requirements. We added discussion to section 3.9 of the FEIS regarding the possible impacts of opening access to lands because of mine infrastructure.

Comment response: TR4 Back roads	Page 1 of 1
Responsive to these comments: 1508-2	
An inventory of all "back roads" was not conducted for the DEIS, but all NFS roads currently open to public use were provided (see table 3.9.4-2). An assessment to determine "orphaned roads" is described in section 3.5, and as they relate to the recreation setting, in section 3.9.	

Comment response: TR5 Mitigation for unacceptable level of service	Page 1 of 1
Responsive to these comments: 1461-1	
These comments note intersections in the analysis that will experience unacceptable levels of service (LOS) as a result of mine traffic. These impacts are disclosed in section 3.5 (DEIS, pp. 262–263) and include Silver King Mine Road/U.S. 60 (change in LOS to "E" during construction and "F" during operations), Main Street/U.S. 60 (change in LOS to "F" during construction and operations), SR 177/U.S. 60 (change to LOS "E" during construction), and Magma Mine Road/U.S. 60 (change to LOS "F") during construction. The original Road Use Plan analyzed in the DEIS used Magma Avenue. In response to comments on the DEIS and concerns from the Town of Superior, the revised Road Use Plan uses the existing entrance at the intersection of Main Street/North Smeltertown Road during construction and operations. We expect that most vehicles traveling to/from the mine entrance at North Smeltertown Road would use the intersection of U.S. 60/Main Street. This is the fastest and most direct route to the West Plant Site. We revised the transportation analysis to incorporate these changes, and we updated the results in section 3.5 of the FEIS to reflect the changes. Note that Smeltertown Road and Lonetree Road refer to the same location. These changes still result in unacceptable LOS. SR 177/U.S. 60 was not reanalyzed, and those results have not changed between the DEIS and FEIS. The Silver King Road/U.S. 60 intersection was reanalyzed and improved, though it still has an unacceptable LOS (change to LOS of "E" during operations). Main Street/U.S. 60 was reanalyzed and remains at an unacceptable LOS (change to LOS of "F" during construction and operations). The Main Street/Smeltertown Road intersection was reanalyzed and maintains adequate LOS. The Main Street/Magma Avenue would no longer be used by mine-related traffic. No mitigations were developed for traffic impacts in the DEIS, though a number of applicant-committed environmental protection measures were identified. These included (DEIS, p. 258) the following: (1) installation of new stop signs at minor approaches to intersections as needed, subject to ADOT approval; (2) having flaggers or officers to assist with turning movements at major project intersections during peak construction, subject to ADOT approval; and (3) using construction traffic or similar advanced warning signs as needed during peak construction, subject to ADOT approval. No new applicant-committed environmental protection measures or mitigation measures related to these intersections were brought forward for the FEIS. We are not authorized to require implementation of mitigation measures for traffic impacts at these intersections. However, a handful of mitigations were recommended based on the analysis of the NEPA team. We describe these in section 3.5 and appendix J of the FEIS (see measure PF-TA-02).	

Comment response: TR6 Oversized loads	Page 1 of 1
Responsive to these comments: 8032-305	
This comment expresses concern that oversized loads are not documented in the EIS. Specific information on oversized loads is not known at this time. When necessary, overweight/oversized vehicles will obtain permits from ADOT. These permits outline specific criteria for the use of such transports to ensure that damage to state highways does not occur and that traffic impacts are understood and mitigated to the extent possible (typically by timing the loads).	

Comment response: TR7 Analysis of movement of molybdenum and copper concentrates	Page 1 of 1
Responsive to these comments: 8032-307	
This comment states that the DEIS did not analyze transportation of molybdenum and copper concentrates. This is incorrect. The DEIS included this analysis. Chapter 2 included molybdenum processing as part of the proposed action (pp. 38, 47). This includes the intent to transport the molybdenum concentrate from the West Plant Site by truck (DEIS, p. 58). These molybdenum trucks were included in the traffic analysis in section 3.5 (DEIS, p. 258; see also Southwest Traffic Engineering LLC (2017)). Chapter 2 of the DEIS included the movement of copper concentrate from the filter plant/loadout facility to the railhead (DEIS, pp. 9, 38, 51). Impacts along the rail to the filter plant/loadout facility are analyzed for noise in section 3.4 (DEIS, pp. 214, 227–230) and for traffic impacts in section 3.5 (DEIS, p. 261). We added further discussion of rail impacts to section 3.5 of the FEIS to better describe existing and future conditions. All crossings on the MARRCO corridor are signalized and currently operate two trains or fewer per night, based on current Federal Railroad Administration (FRA) information. During peak production years, an average 0.8 train sets per day is expected to enter/exit the facilities, with a typical train set being 100 cars. The typical covered hopper rail car is upward of 65 feet long, with an estimated 75 feet for each engine required for pulling the 11,000-ton load. This places the total train length at approximately 7,000 feet. Assuming an estimated travel speed between 5 and 10 mph (per FRA documentation from 2011) and that no gate-down time associated with switching will be required, the estimated increase in gate-down time is 8 to 15 minutes each day. According to FRA data, no trains cross these locations between 6 a.m. and 6 p.m. As noted in chapter 1, the smelter location is unknown at this time (DEIS, pp. 38, 58). Analysis of concentrate movement beyond the railhead is speculative.	

Comment response: TR8 Analysis of impacts to highways 60, 77, and 177	Page 1 of 1
Responsive to these comments: 267-2, 8032-309, 8032-313	
These comments indicate that additional analysis is needed for U.S. 60, SR 77, and SR 177. Mine-related traffic impacts to these highways, beyond the intersections analyzed in the DEIS, is well within the design capacity, even when considering population increase. Specific analysis of traffic impacts on these routes is not warranted. We added discussion to section 3.5 of the FEIS to clarify this point.	

Comment response: TR9 Traffic accidents and fatalities	Page 1 of 1

Responsive to these comments:

8032-315, 8032-47

These comments concern the lack of analysis for traffic accidents and fatalities.

Extrapolation of accidents based on traffic volumes is not an appropriate analysis technique. However, examination of crash data is reasonable. We added this analysis to section 3.5 of the FEIS.

Crash data on U.S. 60 at Silver King Mine Road and Main Street were obtained from ADOT's Traffic Records Section and reviewed as a part of this traffic analysis to determine whether there are any observable trends. Records for the most recent 5-year period were reviewed and reported (Southwest Traffic Engineering LLC 2020b).

Available crash data do not reveal any crash patterns or trends at the study intersections that require mitigation by the project. A single left-turn collision was reported in 2015 at the West Main Street/U.S. 60 intersection. Analysis shows there would be an added 611 eastbound left-turn mine trips at this intersection during construction, and 133 eastbound left-turn mine trips during normal operations (Southwest Traffic Engineering LLC 2020b). This does not yet warrant mitigation but will require monitoring for potential safety mitigation if turning left becomes a concern.

No new applicant-committed environmental protection measures or mitigation measures related to these intersections were brought forward for the FEIS. We are not authorized to require implementation of mitigation for traffic impacts at these intersections. However, a handful of mitigations were recommended based on the NEPA team's analysis; we describe these in section 3.5 and appendix J of the FEIS (see measure PF-TA-02). One of these recommendations concerns the use of a temporary traffic signal during construction at Main Street/U.S. 60.

Comment response: TR11 Road impacts from pipeline	Page 1 of 1

Responsive to these comments:

28449-17, 28449-77, 28449-81

The FEIS includes additional detail on the potential impacts to motorized recreation opportunities that may result from pipeline construction and operation. Specific common route names such as Battle Axe Road and Mineral Mountain Road are now noted in the analysis.

The FEIS is not evaluating the West and South pipeline routes, as they have been dropped from consideration.

Comment response: TR13 Rail transportation impacts	Page 1 of 1

Responsive to these comments:

1158-2, 1158-27, 1311-18, 8032-318, 8032-319, 8032-48

These comments raise a number of concerns with analysis of impacts related to rail transportation of copper concentrate.

Chapter 2 of the DEIS included the movement of copper concentrate from the filter plant/loadout facility to the railhead (DEIS, pp. 9, 38, 51), including the movement of the filter plant to the West Plant Site (DEIS, pp. 81–84).

Impacts along the rail between the filter plant/loadout facility are analyzed for noise in section 3.4 (DEIS, pp. 214, 227–230) and for traffic impacts in section 3.5 (DEIS, p. 261). See response NO2 for additional discussion of revised analysis of rail noise in the FEIS. See response TR7 for additional discussion of rail impacts on traffic in the FEIS.

These comments note the potential impact of releasing hazardous materials during rail transport. We added discussion of this possibility to section 3.10.3 of the FEIS.

These comments also note potential impacts to the Arizona National Scenic Trail from the use of the railroad to transport concentrate between the West Plant Site and the railhead in Alternative 4. We acknowledged this in chapter 2: "The MARRCO corridor track would require upgrades along the entire length, bridge replacement at Queen Creek Bridge, and significant upgrades for crossings at Queen Creek, US 60, State Route (SR) 79, the Arizona Trail, Hewitt Canyon Road, and other NFS roads" (DEIS, p. 84). Such upgrades have not been designed at this time but are considered part of the actions proposed under Alternative 4.

Comment response: TR14 Concerns with traffic analysis	Page 1 of 3

Responsive to these comments:

8032-304

These comments contain a number of specific concerns with the traffic analysis. These include the following:

1) Incorrect methodology was used to generate the traffic impact reports. Two-way, two-lane highway segment methodology was used when the roadway conditions mandate the directional methodology must be used.
2) There is also evidence of incomplete LOS worksheets.
3) No input data are documented; there is incorrect site information, and incorrect lane width and shoulder width used to determine adjusting values.
4) The DEIS incorrectly bases its traffic counts on only two studies on a Friday in 2015 (between 7 am and 10 pm) and presumably also on a Friday during the same hours of the day in November of 2018 (this was supposed to cover winter visitor traffic). No explanation was given as to why the sample is so small or why only those days were used. To begin with summer traffic begins well before 7 am and winter visitors have not all yet arrived in November.
5) Why were these studies done 3-4 years ago? It is unclear if the DEIS's multiplier rate for traffic increase of 2% per year was added to make those old studies more relevant. Also, since the Skunk Camp tailings alternative was not made public until 2017 at the earliest, does the Resolution Copper study claim to have surveyed the intersection of Highway 777 and Dripping Springs Road in 2015?
6) Why does the DEIS assume that construction would begin in 2022 when Resolution Copper publicly maintains that construction would begin much later as would presumably production?

Two-way, two-lane highway segment methodology

We maintain that the intersections are the key analysis points where conflicts occur. We maintained this approach between the DEIS and FEIS. Mine-related traffic impacts on the highway segments between intersections are well within the design capacity, even when considering population increase. Specific analysis of traffic impacts on these routes is not warranted. See also response TR8. We added discussion to section 3.5 of the FEIS to clarify this point.

Incomplete worksheets

This comment refers to worksheets in the original traffic analysis report (Southwest Traffic Engineering LLC 2017). These worksheets were updated for key intersections (Southwest Traffic Engineering LLC 2020b). The worksheets reflect percent heavy vehicles and peak hour factors (PHFs) based on traffic counts.

Comment response: TR14 Concerns with traffic analysis	Page 2 of 3

Responsive to these comments:

8032-304

Lane width and shoulder width

Shoulder widths do not impact the calculations required for intersection analyses. In accordance with ADOT procedures and their typical lane width design/construction, 12-foot lanes are used in capacity calculations unless more narrow lanes are noted during the field review. The field review did not note such lanes. We added discussion to section 3.5 of the FEIS to clarify this point.

Baseline traffic counts

Background (baseline) traffic counts were purposefully taken to capture peak traffic (i.e., peak day of week and season). Per discussions with ADOT (Southwest Traffic Engineering LLC 2020c), traffic counts were taken on Friday (the day of the week with historically highest traffic volumes due to users traveling for the weekend in the region). Also, to ensure that the most conservative case scenario was analyzed, traffic counts were taken seasonally in August 2015 and November 2016, with the most conservative winter (November) counts used for the analysis.

The period from 7 a.m. to 10 p.m. provides a typical daily count that captures most a.m. and p.m. peak hours. Traffic count data shown in the appendix of the original traffic analysis (Southwest Traffic Engineering LLC 2017) indicated U.S. 60 only encounters one peak (p.m.), with traffic steadily increasing between a.m. and p.m. hours.

Note that the revised analysis (Southwest Traffic Engineering LLC 2020b) analyzes both a.m. and p.m. peak hours, with no change in conclusions.

Timing of Baseline Studies

Baseline studies were conducted during the NEPA analysis (2015–2016), with modeling conducted shortly thereafter (2017). The data used in the modeling were reasonable, recent, and pertinent to the affected environment captured in the DEIS. Note that publication of the DEIS occurred in August 2019, but most analysis was completed in 2017–2018, with 2019 primarily dedicated to finishing the administrative draft, receiving cooperating agency review on the administrative draft, and producing the revised DEIS for publication.

ADOT's road-aggregated annual growth rates are below the 2 percent annual growth used in the analysis. The analysis used a growth rate of 2 percent as a conservative estimate to account for uncertainty in the development plan (i.e., shifting study years). For example, ADOT data estimated growth at U.S. 60/SR 79 is 1.6 percent per year, and growth at U.S. 60/SR 177 is 1.6 percent per year.

Comment response: TR14 Concerns with traffic analysis	Page 3 of 3

Responsive to these comments:

8032-304

The comments further ask, "Why does the Resolution Copper study claim to have surveyed the intersection of Highway 77 and Dripping Springs Road in 2015?" We assume that this refers to the traffic assessment conducted specifically for the tailings storage alternatives (Southwest Traffic Engineering LLC 2018). This document clearly states that the baseline studies at SR 77 and Dripping Springs Road were conducted in March 2018 (Southwest Traffic Engineering LLC 2018:14).

Start of Construction in 2022

The DEIS explained that traffic modeling necessitates picking specific dates (DEIS, pp. 244–246) and notes the steps taken to ensure that conservative traffic values were used. The assumption that 2022 is an unreasonable time frame for construction is not warranted. At this time, 2022 remains a reasonable start time for construction. Conceivably, it would allow time for publication of the FEIS and draft ROD, completion of the pre-decisional objection process, and publication of the final ROD.

However, we also recognize that process delays could occur. Our analysis of growth rates suggests that, based on the difference between the growth rate used in the analysis and ADOT's estimated growth rate, the published analysis would remain valid until at least 2025. We added further discussion of this issue to section 3.5 of the FEIS.

Comment response: TR15 Effects on Highway 60	Page 1 of 1
Responsive to these comments: 1369-1	
The potential effect on U.S. 60 was an integral part of the subsidence analysis conducted for the project. The analysis concluded that no impacts are anticipated at U.S. 60 (DEIS, p. 154). In addition, specific monitoring and mitigation is in place to ensure that potential impacts are observed if they occur (DEIS, pp. 149–150). See responses GS13 and GS14 for more details.	

Comment response: TR17 Safety of bicyclists	Page 1 of 1
Responsive to these comments: 8032-314	
This comment notes that the safety of bicyclists considering mine truck traffic was not analyzed, noting specifically SR 77 and SR 177. We analyzed these state routes in section 3.5 in the DEIS. The SR 177 typical section provides a 4-foot shoulder in each direction of travel. However, there are sections of the highway where the shoulder is less than the desired 4 feet or does not exist at all. Current daily truck traffic on SR 177 is approximately 200 trucks per day. The added truck traffic on SR 177 represents a 2 percent increase in total trucks. Given this existing condition, there has been one recorded pedestrian collision on SR 177 (2009–2018). There have been no recorded bicycle collisions on either SR 177 or SR 77 between Winkelman and U.S. 60 (2009–2018). Available crash data do not reveal any crash patterns or trends along the study corridors that require mitigation by the project. We added analysis of these data to section 3.5 of the FEIS.	

Comment response: TR18 School bus safety	Page 1 of 1
Responsive to these comments: 8032-323	
This comment concerns analysis of school bus safety. The analysis in the DEIS covers a wide variety of potential impacts vehicular traffic. School buses represent one type of vehicular traffic. As such, impacts are encompassed in the traffic analysis in section 3.5 of the FEIS. We added further analysis to section 3.5 of the FEIS to analyze available crash data. See response TR9 for more discussion. None of the factors identified as potential safety issues suggest a propensity for school buses to be more at risk than other vehicular traffic.	

Comment response: TR20 Role of ADOT	Page 1 of 1
Responsive to these comments: 8032-316	
This comment states that the role of ADOT was overlooked in the DEIS's description of decisions that must be made in the transportation arena. This is incorrect. ADOT guidance pertinent to analysis of impacts clearly is stated in section 3.5 (DEIS, p. 246). The need for a Right-of-Way Encroachment Permit clearly is stated in chapter 1 (DEIS, p. 18). Further, traffic analysis was based on publicly available ADOT data sources and guided by conversations with ADOT staff regarding data collection methodology (Southwest Traffic Engineering LLC 2020b).	

Comment response: TR21 Conflicts with OHV users	Page 1 of 1
Responsive to these comments: 8032-212, 8032-311	
Additional analysis and qualitative discussion about user displacement in included in section 3.9 of the FEIS. Understanding the conflicts that may arise from user displacement, including the potential noise and the impacts it may have to non-motorized recreation settings, the Forest Service has included additional analysis on non-motorized user conflicts with OHV users.	

Comment response: TR22 Impacts from traffic	Page 1 of 1
Responsive to these comments: 1477-4	
This comment notes a number of impacts related to traffic, including quality of life, transportation, air quality, road maintenance, and cumulative effects. These aspects were analyzed in the DEIS, with some additional discussion added in the FEIS. With regard to quality of life, see response EJ6 for more detail. Transportation and access was analyzed in section 3.5 (DEIS, pp. 244–274), using a variety of methodologies. Air quality was analyzed in section 3.6 (DEIS, pp. 275–294), using a variety of methodologies, and included emissions from employee and delivery traffic. With regard to road maintenance, see response TR1 for more detail. With regard to cumulative effects, see response NEPA54 for more detail.	

Comment response: TS1 FMEA, breach analysis, seismic analysis, and emergency planning	Page 1 of 3

Responsive to these comments:

1075-4, 1097-8, 1118-1, 1200-2, 1209-5, 1279-1, 1329-3, 1342-4, 1349-2, 1452-1, 1452-2, 1474-2, 1501-6, 263-2, 295-2, 30066-3, 30141-6, 30145-5 (Emerman4), 30145-6 (Emerman4), 30145-7 (Emerman4), 30145-8 (Emerman4), 313-2, 323-1, 524-23, 550-2, 8032-10, 8032-21, 8032-240, 8032-245, 8032-43, 866-9, 897-6, 899-6

These comments concern the potential for a tailings embankment failure and the analysis that was presented in the DEIS.

In response to comment, the Forest Service has included additional analysis of tailings safety issues in the FEIS, particularly in regard to the Preferred Alternative (Alternative 6) tailings storage facility. This effort was driven by mitigation measures required by the Tonto National Forest and included in the DEIS. These include the following:

- Conducting a Refined Failure Modes and Effects Analysis (FMEA) before the FEIS (DEIS, p. 557; appendix J, p. J-19, Measure FS-227).
- Development of an Emergency Action Plan for the Tailings Storage Facility, and specifically a refined breach analysis before the FEIS based on the outcome of the FMEA (DEIS, p. 557; appendix J, p. J-20, Measure FS-229)

Additional hydrologic and geotechnical fieldwork and data collection were also conducted for the Preferred Alternative to support the measure required by the Forest Service. See response ALT22 for a listing of the specific information developed between DEIS and FEIS for the Preferred Alternative.

A discussion of the FMEA process undertaken is in the chapter 3, section 3.10.1, of the FEIS.

Some comments request “3rd party risk analysis be undertaken.” This is essentially the purpose and scope of the FMEA. See FEIS chapter 3, section 3.10.1, of the FEIS.

Several comments specifically mention seismic hazards associated with the tailings storage facility. These hazards were specifically considered during the FMEA process. In addition, site-specific seismic hazard evaluations have been prepared for the Alternative 6 tailings storage facility location, as well as specific investigations into whether certain faults that underlie the tailings storage facility are active. The results of these analyses are summarized in section 3.2 and in 3.10.1 of the FEIS.

Many comments also mistakenly identify the 5,000-year earthquake as the design basis for the tailings storage facility. This is an incorrect assumption. The design basis for the tailings storage facility is the Maximum Credible Earthquake (DEIS, p. 529). See response TS2 for more details.

Comment response: TS1 FMEA, breach analysis, seismic analysis, and emergency planning	Page 2 of 3

Responsive to these comments:

1075-4, 1097-8, 1118-1, 1200-2, 1209-5, 1279-1, 1329-3, 1342-4, 1349-2, 1452-1, 1452-2, 1474-2, 1501-6, 263-2, 295-2, 30066-3, 30141-6, 30145-5 (Emerman4), 30145-6 (Emerman4), 30145-7 (Emerman4), 30145-8 (Emerman4), 313-2, 323-1, 524-23, 550-2, 8032-10, 8032-21, 8032-240, 8032-245, 8032-43, 866-9, 897-6, 899-6

A breach analysis was conducted in section 3.10.1 of the DEIS (pp. 538–540). This breach analysis represents a scenario in which the tailings are saturated at the time of failure and flow extensively downstream. The analysis was based solely on statistical assessment of historic tailings failures, with no consideration for site-specific conditions. As required in mitigation measure FS-229 in the DEIS, the Tonto National Forest anticipated that a breach analysis using details of the actual tailings design and location would be one of the outcomes of the FMEA. This breach analysis was conducted and consists of largely non-saturated failure of the embankment and NPAG tailings. This breach analysis, in conjunction with the approach used in the DEIS, form the bounds of anticipated failures; these also form the basis for future emergency planning by Resolution Copper. We have included a description of the refined breach analysis in section 3.10.1 of the FEIS, and it can be found in KCB Consultants Ltd. (2020b).

Some comments request the breach analysis be based on "actual design and environmental factors." This is essentially what has been done, informed by the FMEA process.

Many comments indicate that downstream impacts from a potential tailings storage facility failure have not been analyzed. This is incorrect. Section 3.10.1 of the DEIS analyzes the effects from a failure of saturated tailings that travel far downstream. The impacts assessed from this runout include the following:

- Estimated chemistry of released liquids and released solids (DEIS, p. 540)
- Potential risk to life and property (DEIS, p. 544 [Alt 2], p. 547 [Alt 3], p. 548 [Alt 4], p. 549 [Alt 5], p. 552 [Alt 6])
- Potential exposure to contaminants (DEIS, p. 544 [Alt 2], p. 547 [Alt 3], p. 548 [Alt 4], p. 549 [Alt 5], p. 552 [Alt 6])
- Potential disruption of water supplies and infrastructure (DEIS, p. 544 [Alt 2], p. 547 [Alt 3], p. 548 [Alt 4], p. 550 [Alt 5], p. 552 [Alt 6])
- Potential destruction of habitat and vegetation (DEIS, p. 545 [Alt 2], p. 547 [Alt 3], p. 548 [Alt 4], p. 550 [Alt 5], p. 552 [Alt 6])
- Large-scale societal impacts (DEIS, p. 545 [Alt 2], p. 547 [Alt 3], p. 548 [Alt 4], pp. 550–551 [Alt 5], p. 553 [Alt 6])

Comment response: TS1 FMEA, breach analysis, seismic analysis, and emergency planning	Page 3 of 3

Responsive to these comments:

1075-4, 1097-8, 1118-1, 1200-2, 1209-5, 1279-1, 1329-3, 1342-4, 1349-2, 1452-1, 1452-2, 1474-2, 1501-6, 263-2, 295-2, 30066-3, 30141-6, 30145-5 (Emerman4), 30145-6 (Emerman4), 30145-7 (Emerman4), 30145-8 (Emerman4), 313-2, 323-1, 524-23, 550-2, 8032-10, 8032-21, 8032-240, 8032-245, 8032-43, 866-9, 897-6, 899-6

Many comments also cite high-profile catastrophic failures. Indeed, we noted several of these in the DEIS itself (Mt. Polley [pp. 520–521], Fundão [pp. 521–522], and Brumadinho [p. 515]), and the historic tailings upon which the breach analysis was based incorporated the majority of known catastrophic tailings breaches (DEIS, pp. 519–520). This experience has informed the NEPA analysis, including the FMEA for the Preferred Alternative.

Other comments request evaluation of the risks associated with different types of tailings embankments and pipelines. These analyses were included in section 3.10.1. Embankment types included modified centerline embankments (Alternatives 2 and 3), filtered tailings (Alternative 4), centerline embankments (Alternatives 5 and 6), and downstream embankments (PAG cells for Alternatives 5 and 6).

Comment response: TS1_A FMEA, breach analysis, seismic analysis, and emergency planning; with addition for specific comment 1349-1	Page 1 of 1
Responsive to these comments: 1349-1	
See Response TS1 to the general topic of tailings failure, the FMEA, seismic analysis, and emergency planning. This comment asks specifically about the studies conducted for the tailings pipeline. Studies include the following: • The site-specific seismic hazard analyses for the mine site and Alternative 6 tailings storage facilities (Wong et al. 2020b). • The pipeline management plan available before the DEIS, which includes specific analysis of potential failure modes, including geohazards and storm events (AMEC Foster Wheeler Americas Limited 2019). • A pipeline protection and integrity plan prepared in response to comments, which includes specific analysis of potential failure modes, including geohazards such as slope instability, seismic hazards, scour, and geologic subsidence (Golder Associates Inc. 2020). This plan includes specific mitigation methods to respond to these geohazards.	

Comment response: TS2 Insufficiency of tailings design; design earthquake; embankment type	Page 1 of 1
Responsive to these comments: 1301-17, 1322-4, 1448-6, 1501-1, 1587-1, 178-2, 230-2, 24-4, 255-6, 259-5, 263-5, 27995-2, 27996-1, 28106-2, 30145-1 (Emerman4), 30145-2 (Emerman4), 30145-3 (Emerman4), 30145-4 (Emerman4), 336-1, 568-3, 67-2, 8032-256, 8032-258, F1-5, F2-6, F4-6, F6-4	
These comments variously state that the tailings facility design would be illegal in other countries, with Brazil and Chile noted specifically, or would not meet the standards of either the USACE or the ADEQ. These are incorrect statements. While many of these comments do not identify specific factors, we believe they likely are based on two fundamental misunderstandings. The first misunderstanding is that the tailings storage facility is designed only to a 5,000-year earthquake event, which is the specific topic of a report submitted with comment letter #8032 by Dr S. Emerman. This is an incorrect assumption. The design basis for the tailings storage facility is the Maximum Credible Earthquake (DEIS, p. 529). The second misunderstanding is that the tailings storage facility proposed to use an upstream-type embankment, which is rapidly becoming unacceptable for the mining industry. While Resolution Copper's original proposal used an upstream embankment, this was changed during alternative development to a modified-centerline embankment (DEIS, p. 67). No upstream embankments are proposed for any of the alternatives. The requirements of these different regulatory programs with respect to tailings facilities is disclosed in section 3.10.1, table 3.10.1-1 (DEIS, pp. 524–525). Section 3.10.1, table 3.10.1-2, outlined the comparison of the Resolution Copper tailings design parameters specifically to ADEQ and National Dam Safety Program requirements (DEIS, pp. 528–529). Section 3.10.1 included a comparison of the Resolution Copper Project design against local, national, and international regulations and industry best practices (DEIS, pp. 522–527). The DEIS concludes: "The designs developed by Resolution Copper meet the most stringent of these standards, whether required (National Dam Safety Program or Aquifer Protection Permit program) or solely industry best practice" (DEIS, p. 527).	

Comment response: TS3 Specific questions on tailings storage facility design parameters	Page 1 of 2

Responsive to these comments:

1301-19

This comment asks several specific questions about the tailings storage design parameters:

- Potential for liquefaction, specifically due to monsoon storms
- Handling of water during tropical storms
- Presence of 100-year floodplains

With respect to liquefaction, the presence of water in the facility is not a consideration because the tailings design assumes that liquefaction will occur regardless of conditions. This is described in section 3.10.1 (DEIS, p. 515) and in the design documents. For example, from the design document for the Preferred Alternative: "For stability analysis, all potentially liquefiable contractive tailings are assumed to liquefy regardless of the triggering mechanism" (Klohn Crippen Berger Ltd. 2018d:22).

The handling of stormwater and stormwater controls are described in section 3.7.2 (DEIS, pp. 379–380), with more detail in Newell and Garrett (2018d). Stormwater controls at the tailings storage facility are designed for complete capture and control of stormwater during operations:

> *"Generally speaking, during operations any precipitation or runoff that comes into contact with tailings, ore, hazardous material storage areas, or processing areas is considered "contact water." During operations contact water would be captured, contained in basins, pumped out after storm events, and recycled back into the process water stream. This type of containment would be required by both the stormwater and aquifer protection permits that would be issued for the project. Contact water would not be released to the environment at any time during operations…The tailings storage facility generally follows the same strategy during operations. For all alternatives, runoff from upstream of the facility would be diverted around the facility to prevent any contact with tailings. For Alternatives 2, 3, 5, and 6, any precipitation falling within the facility would run into the recycled water pond, and any runoff from the external embankments would be routed to the downstream seepage collection ponds, then pumped back and recycled into the process water stream."* (DEIS, p. 379)

The stormwater analysis was revised for the FEIS. See response WT35 for more discussion. As part of this analysis, the design storm events used for the facility are described in detail in the FEIS:

Comment response: TS3 Specific questions on tailings storage facility design parameters	Page 2 of 2

Responsive to these comments:

1301-19

- All dams and diversion channels would be designed to handle the 100-year, 24-hour storm event.
- The tailings storage facility itself is designed for greater than the 72-hour Probable Maximum Flood, including the conservative assumption that diversions fail and stormwater enters the facility as well. The Probable Maximum Flood is defined as the flood that may result from the most severe combination of critical meteorological and hydrologic conditions. This Probable Maximum Flood encompasses precipitation outcomes from all types of precipitation patterns, including monsoon, winter frontal, and tropical storms.
- Downstream from the embankment, the seepage collection pond is sized to hold an operating pond, a week's worth of inflows without outflow (i.e., an upset condition where pumps fail), and the 200-year 24-hour storm volume.

With respect to floodplains, these are disclosed in section 3.7.3 (pp. 435–444), with further detail included in Newell and Garrett (2018d). Some of the tailings storage facilities do partially lie within the 100-year floodplains (Alternatives 5 and 6), while other areas have not been fully mapped for floodplains (Alternatives 2 and 3).

Regardless, design specifications exist to specifically address the location of tailings storage facilities within floodplains. For instance, ADEQ Best Available Demonstrated Control Technologies (BADCT) requires that if they are within the 100-year floodplain, drainage structures must be designed to protect them from the 100-year peak stream flows (Klohn Crippen Berger Ltd. 2018d:8).

Comment response: TS5 Height of tailings embankment	Page 1 of 1
Responsive to these comments: 555-8	
This comment says: "The EIS states that the dam created by facility would be approximately 1,000 feet tall. This is not feasible and needs to be reconsidered in order to maintain structural stability of the facility." This is an incorrect statement. The tailings storage facility embankment height varies by alternative: 521 feet [Alt 2, DEIS p. 73], 510 feet [Alt 3, DEIS p. 80], 310 feet [Alt 5, DEIS p. 93], and 490 feet [Alt 6, DEIS p. 99]. This comment may mistakenly refer to the height of the filtered tailings facility for Alternative 4, which is 1,040 feet for the NPAG tailings (DEIS, p. 87). This is not a dam or embankment; filtered tailings are free-standing with a structural shell but do not require any sort of embankment or dam.	

Comment response: TS7 Liner for PAG tailings, and seepage controls	Page 1 of 1
Responsive to these comments: 11-1, 1333-2, 1448-2, 1602-3, 99-3	
These comments raise questions or concerns regarding the use of liners, particularly for the PAG tailings, and question the impact of seepage. The concept of a "liner" evolved during the alternatives development (see Newell and Garrett (2018d)), and discussion in the DEIS is more expansive than just a geomembrane. The term used in the DEIS is "engineered low-permeability layer," which could comprise one or more of the following: an engineered low-permeability liner, compacted fine tailings, asphalt, slurry bentonite, cemented paste tailings, etc. Most alternatives incorporate low-permeability layers. Alternative 2 incorporates it in the PAG cell starter facility (DEIS, pp. 69, 73). Alternative 3 incorporates it in the entire PAG cell (DEIS, pp. 78, 80). Alternative 5 incorporates it in the entire PAG cell and the starter NPAG cell (DEIS, pp. 90, 93). Alternative 6 incorporates it in the entire PAG cell (DEIS, pp. 97, 99). The NEPA team specifically assessed the longevity of liners and seepage through liners (Newell and Garrett 2018d). In all cases, we assume seepage will occur regardless of the type of low-permeability layer or liner incorporated. This would be true even for a facility lined with a full geomembrane liner (see Newell and Garrett (2018d). The water quality analysis contained in the DEIS assumes that this seepage occurs and estimates the potential impacts in groundwater and surface water downstream. This analysis is found in section 3.7.2 of the DEIS. While not relied upon for any aspect of the NEPA analysis, Resolution Copper would also be obtaining an Aquifer Protection Permit for the tailings storage facility (DEIS, pp. 16, 363–364). This permit would have specific requirements for seepage control, water quality monitoring, and water quality standards.	

Comment response: TS10 Inconsistent references to most resilient alternative	Page 1 of 1
Responsive to these comments: 524-22	
This comment noted internal inconsistencies for which alternative represents the most resilient facility. We have clarified this language in the Executive Summary and section 3.10.1 of the FEIS.	

Comment response: TS12 Varied water-related criticisms	Page 1 of 1
Responsive to these comments: 1151-1	
This comment raises four criticisms: • With respect to the design earthquake, see response TS2 for more detail. • With respect to the power consumption by the project, see response WT24 for more detail. • With respect to geothermal water, see response WT6 for more detail. • With respect to overall water use for the project, see response WT1.	

Comment response: TS13 Varied tailings-related criticisms	Page 1 of 1
Responsive to these comments: 1381-2	
This comment raises four criticisms: • With respect to the design earthquake, see response TS2 for more detail. • With respect to seepage from the tailing storage facility, see response TS7 for more detail. • With respect to emergency planning and warnings to residents downstream from a tailings storage facility, and specifically development of an emergency action plan, this is a requirement of all national and international regulations and industry best practices reviewed in section 3.10.1 (DEIS, p. 525). It is not a requirement of Arizona regulations under the Aquifer Protection Permit program. We required mitigation measure FS-229 between DEIS and FEIS to develop the breach analysis based on site-specific designs to inform emergency planning efforts. See response TS1 for more details. In addition, section 3.10.1 of the FEIS now discusses the Global Industry Standard on Tailings Management, launched on August 5, 2020. Both of Resolution Copper's parent companies (Rio Tinto and BHP) are signatory to the International Council on Mining and Metals (ICMM), and through that membership have committed to implementing the new Standard. Principal 13 of the Standard requires Emergency Response Planning. • Potential impacts from leakage from slurry pipelines are addressed in section 3.10.1 (DEIS, pp. 540–554).	

Comment response: TS14 Alternative 4 Silver King stormwater controls	Page 1 of 1
Responsive to these comments: 51-2	
Stormwater controls for Alternative 4 – Silver King are described in detail in Newell and Garrett (2018d) and summarized in section 3.7.2 (DEIS, pp. 379–380).	

Comment response: TS15 Varied questions on tailings alternatives	Page 1 of 1

Responsive to these comments:

1279-5

This comment raises several concerns and questions regarding tailings alternatives.

Impacts to scenery and recreation from Alternatives 2, 3, and 4 are disclosed in sections 3.11 (DEIS, pp. 603–609) and 3.9 (DEIS, pp. 502–505). Disclosures include impacts to the Arizona National Scenic Trail users. Impacts to scenery and recreation from Alternative 6 are also disclosed in these same sections (DEIS, pp. 507–509, 615-616).

The NEPA team specifically reviewed placing tailings at previously disturbed sites, including mine pits, during alternatives analysis but found it to be impractical for a variety of reasons (DEIS, appendix F, pp. F4–F6). Ray Mine was specifically analyzed (DEIS, appendix F, p. F-5). Full details of the evaluation are contained in the Alternatives Evaluation Report (SWCA Environmental Consultants 2017a).

The ramifications of a breach at Alternatives 2, 3, 4, and 5 were analyzed in section 3.10.1(DEIS, pp. 535–554). This included potential impacts to groundwater and water supplies for the San Tan Valley, Queen Creek, and Florence.

Comment response: TS16 Concerns with stormwater controls for tailings storage facilities	Page 1 of 2

Responsive to these comments:

1128-12, 1128-13, 8032-33

The handling of stormwater and stormwater controls was described in section 3.7.2 (DEIS, pp. 379–380), with more detail in Newell and Garrett (2018d). Stormwater controls at the tailings storage facility are designed for complete capture and control of stormwater during operations:

> *"Generally speaking, during operations any precipitation or runoff that comes into contact with tailings, ore, hazardous material storage areas, or processing areas is considered 'contact water.' During operations contact water would be captured, contained in basins, pumped out after storm events, and recycled back into the process water stream. This type of containment would be required by the stormwater and aquifer protection permits issued for the project. Contact water would not be released to the environment at any time during operations. The tailings storage facility generally follows the same strategy during operations. For all alternatives, runoff from upstream of the facility would be diverted around the facility to prevent any contact with tailings. For Alternatives 2, 3, 5, and 6, any precipitation falling within the facility would run into the recycled water pond, and any runoff from the external embankments would be routed to the downstream seepage collection ponds, then pumped back and recycled into the process water stream."* (DEIS, p. 379)

The stormwater analysis was revised in the FEIS; see response WT35 for more discussion. As part of this analysis, the design storm events used for the facility are described in detail in the FEIS:

- All dams and diversion channels would be designed to handle the 100-year, 24-hour storm event
- The tailings storage facility itself is designed for greater than the 72-hour Probable Maximum Flood, including the conservative assumption that diversions fail and enter the facility as well. The Probable Maximum Flood is defined as the flood that may result from the most severe combination of critical meteorological and hydrologic conditions. This Probable Maximum Flood encompasses precipitation outcomes from all types of precipitation patterns, including monsoon, winter frontal, and tropical storms.
- Downstream from the embankment, the seepage collection pond is sized to hold an operating pond, a week's worth of inflows without outflow (i.e., an upset condition where pumps fail), and the 200-year 24-hour storm volume.

Comment response: TS16 Concerns with stormwater controls for tailings storage facilities	Page 2 of 2
Responsive to these comments: 1128-12, 1128-13, 8032-33	
With respect to floodplains, these are disclosed in section 3.7.3 (pp. 435–444), with further detail included in Newell and Garrett (2018d). Some of the tailings storage facilities do partially lie within the 100-year floodplains (Alternatives 5 and 6), whereas other areas have not been fully mapped for floodplains (Alternatives 2 and 3). Regardless, design specifications exist to specifically address the location of tailings storage facilities within floodplains. For instance, ADEQ Best Available Demonstrated Control Technologies (BADCT) requires that if they are within the 100-year floodplain, drainage structures must be designed to protect them from the 100-year peak stream flows (Klohn Crippen Berger Ltd. 2018d:8).	

Comment response: TS17 Varied criticisms related to tailings storage facilities	Page 1 of 1
Responsive to these comments: 863-2	
This comment raises several concerns and questions regarding tailings storage facilities. With respect to tailings safety, see responses TS1 and TS2 for more discussion. A comparison of the Resolution Copper Project design against local, national, and international regulations, and industry best practices, is included in section 3.10.1 (DEIS, pp. 522–527). The DEIS concludes, "The designs developed by Resolution Copper meet the most stringent of these standards, whether required (National Dam Safety Program or Aquifer Protection Permit program) or solely industry best practice" (DEIS, p. 527). The potential for acid generation is fundamental to the water quality analysis in section 3.7.2 (DEIS, pp. 370–373). Additional comments were raised regarding operational segregation of PAG and NPAG tailings. We have added further discussion on this topic to section 3.7.2 of the FEIS. The NEPA team specifically reviewed placement of tailings in previous mine excavations during alternatives analysis but found it to be impractical for a variety of reasons (DEIS, appendix F, pp. F4–F6). Putting tailings back into the Resolution crater is specifically analyzed (DEIS, appendix F, p. F-6). Full details of the evaluation are contained in the Alternatives Evaluation Report (SWCA Environmental Consultants 2017a), as well as DEIS appendix F.	

Comment response: TS19 Regulation at Skunk Camp	Page 1 of 1

Responsive to these comments:

8032-42

This comment requests clarification of the framework under which a tailings storage facility at the Skunk Camp location (Alternative 6) would be regulated.

We described this issue in several places within the DEIS. Federal financial assurance mechanisms are not applicable to this location (DEIS, p. 553): "However, Alternative 6 differs from the other alternatives because the tailings facility would not be located on lands managed by the Forest Service (Alternatives 2, 3, and 4) or BLM (Alternative 5). For Alternative 6, the Federal financial assurance mechanisms would not be applicable." Section 3.7.2 of the DEIS specifically discussed this with respect to water quality and potential long-term contamination (p. 417).

Similarly, adherence to National Dam Safety Standards would not apply to this location (DEIS, appendix J, p. J-20): "Alternative 6: As facility would ultimately be located on private land, Forest Service would not have authority to require these specific design standards."

However, note that the specific state and industry guidance discussed in section 3.10.1 remains pertinent to Skunk Camp (DEIS, pp. 523–526), as does the new Global Industry Standard on Tailings Management, launched on August 5, 2020. Both of Resolution Copper's parent companies (Rio Tinto and BHP) are signatory to the International Council on Mining and Metals (ICMM), and through that membership have committed to implementing the new Standard. We now discuss this new standard in section 3.10.1.

We added further discussion to chapter 1 of the FEIS to clarify which components of the project would be regulated by various agencies.

Comment response: TS20 Response times in event of failure	Page 1 of 1

Responsive to these comments:

124-3, 67-3, 8032-242, 8032-255, 8032-41, 99-2

These comments all reference the potential response times that would be experienced by residents downstream of a tailings storage facility in the event of a failure.

Many of these reference specific time frames it would take for tailings to reach downstream communities. The methods used to develop these estimates are not clearly articulated by the comments. We investigated a number of methods for conducting breach analyses (see Newell and Garrett (2018c)). The chosen method (Rico empirical method) does not estimate travel times. Such travel times were not disclosed in the DEIS, nor are they disclosed in the FEIS.

With respect to emergency planning and warnings for residents downstream from a tailings storage facility, and specifically development of an emergency action plan, this is a requirement of all national and international regulations and industry best-practices reviewed in section 3.10.1 (DEIS, p. 525). It is not a requirement of Arizona regulations under the Aquifer Protection Permit program. We required mitigation measure FS-229 between the DEIS and FEIS to develop the breach analysis based on site-specific designs to inform emergency planning efforts. See response TS1 for more details.

Development of a full emergency action plan is premature, given that the tailings storage facility would likely not be constructed for at least a decade and on-the-ground details of downstream infrastructure, communities, and residents likely will change in that time. We believe that the disclosures of a liquefied breach analysis (Rico method), as included in the DEIS, a site-specific unsaturated embankment failure analysis, as included in section 3.10.1 of the FEIS, and the analysis of the downstream consequences of these failures adequately disclose the environmental effects required under NEPA.

However, development of emergency plans is required by the Global Industry Standard on Tailings Management, launched on August 5, 2020. Both of Resolution Copper's parent companies (Rio Tinto and BHP) are signatory to the International Council on Mining and Metals (ICMM), and through that membership have committed to implementing the new Standard. Principal 13 of the Standard requires Emergency Response Planning. Requirement 13.1 requires the preparation and implementation of a site-specific tailings facility Emergency Preparedness and Response Plan (EPRP) based on credible flow failure scenarios and the assessment of potential consequences. Requirement 13.2 requires engaging with public sector agencies, first responders, local authorities and institutions to assess the capability of emergency response services to address the hazards in the EPRP. Requirement 13.3 requires all reasonable steps to maintain a shared state of readiness.

Comment response: TS20_A Response times in event of failure; with addition for specific comment 8032-257	Page 1 of 1

Responsive to these comments:

8032-257

See TS20 for response to the general topic of response times in the event of a tailings storage facility failure.

This comment also mentions the incorrect assumption that the design earthquake for the tailings storage facility is 5,000 years. See response TS2 for more discussion about this incorrect assumption.

Comment response: TS21 Specific concerns over long-term liability	Page 1 of 1

Responsive to these comments:

1468-10

This comment raises a number of concerns regarding long-term liability.

Regarding the potential health effects from tailings fugitive dust, see response TS24 for more details.

With respect to bankruptcy, chapters 1 and 2 of the DEIS included a discussion of financial assurances (pp. 15–20, 65, 104). We updated these discussions in the FEIS. Section 3.7.2 of the DEIS specifically discussed financial assurances with respect to water quality and potential long-term contamination (DEIS, pp. 381–417).

Comment response: TS22 Consultation with irrigation districts	Page 1 of 1

Responsive to these comments:

8032-259

The analysis of tailings safety in section 3.10.1 of the DEIS considered potential impacts to the San Carlos Irrigation and Drainage District, including potential disruption of infrastructure and contamination of water supplies (pp. 531, 534, 550). Section 3.10.1 also addressed the "financial and societal hardships" resulting from a catastrophic failure of the tailings storage facility (DEIS, pp. 540–554; see "Large Scale Societal Impact" subsections for each alternative).

In its "Memorandum to Heads of Federal Agencies," dated January 30, 2002, CEQ listed 12 factors for Federal agencies to consider when determining which agencies to invite as "cooperating agencies." Cooperating agencies have a responsibility to participate throughout the NEPA process by providing special expertise and pertinent data, participating in preparation and/or review of analyses and documents, or having pertinent legal jurisdiction for such things as issuing permits. We reviewed agencies and entities for cooperating agency status and extended invitations to those we felt best met the criteria and were capable of carrying out the obligations of a cooperating agency. No irrigation districts were identified as potential cooperating agencies.

However, San Carlos Irrigation and Drainage District and other irrigation districts have many opportunities to be involved in the NEPA process without cooperating agency status. As a local governmental entity, these districts can contact us if issues arise regarding this or other projects.

Comment response: TS23 Use of Pinto Valley Mine	Page 1 of 1

Responsive to these comments:

108-1

This comment states, "They say they will dump these poisons at BHP's nearby Pinto Creek mine."

We believe this refers to the Pinto Valley mine. During the alternatives development process the Pinto Valley mine was considered as a tailings storage location, but eventually was dismissed from detailed consideration. Placing tailings at previously disturbed sites, including mine pits, was specifically reviewed by the NEPA team but found to be impractical for a variety of reasons (DEIS, appendix F, pp. F4–F6). The Pinto Valley mine was specifically analyzed (DEIS, appendix F, p. F-5). The Alternatives Evaluation Report includes full details of this evaluation (SWCA Environmental Consultants 2017a).

Comment response: TS24 Analysis of potential health concerns	Page 1 of 5

Responsive to these comments:

4-3, 1089-1, 1093-3, 1107-4, 1115-3, 1128-1, 1128-10, 1140-3, 1248-1, 1279-3, 1335-2, 1361-7, 1404-2, 1404-3, 198-2, 30078-52, 30078-53, 30078-54, 33-4, 55-3, 60-4, 6403-1, 8032-150, 8032-155, 8032-165, 8032-167, 8032-168, 8032-49, 8032-50, 8032-51, 8032-52, 8032-53, 8032-54, 8032-56, 8032-58, 8032-59, 85-1, 897-5, 90-3

These comments contain numerous concerns about health impacts and the analysis of potential health impacts from the mine project. These include the following:

- Health impacts from deposition of heavy metals in dust from the tailings storage facility, including ingestion through game, livestock, or plants
- Health impacts like asthma and heart disease caused generally by emissions of particulate matter and ultrafine particles
- Health impacts from valley fever or other fungal diseases spread by dust from the tailings storage facility
- Already vulnerable populations due to existing cancer clusters in the vicinity of the mine site, or existing elevated levels of contaminants like arsenic
- Potential impacts to mine employees
- Health impacts from water quality degradation
- Health impacts from the excavation and processing of radioactive materials
- Health impacts from the excavation and processing of asbestiform materials
- Concentration of processing chemicals in the tailings storage facility

<u>Potential health impacts from air emissions and dust deposition</u>

The rationale and approach used in the DEIS to assess the potential impact to health from elevated concentrations of contaminants in water is described in SWCA Environmental Consultants (2018b), "Overview of Potential Mining Impacts on Public Health and Safety and Rationale for Analysis Approach" (pp. 6–14). It is summarized as follows:

> *"Federal law has established specific air quality standards that are considered to be protective of human health and the environment. The intent of promulgating these standards is explicitly spelled out in the Clean Air Act. . . . For the purposes of the National Environmental Policy Act (NEPA) analysis, the ability to meet these standards is considered protective of public health; therefore, a separate health-based analysis is not necessary in order to disclose impacts on human health."*

This approach had changed slightly by the time the DEIS was published, and an additional health risk assessment was conducted (DEIS, p. 279):

Comment response: TS24 Analysis of potential health concerns	Page 2 of 5

Responsive to these comments:

4-3, 1089-1, 1093-3, 1107-4, 1115-3, 1128-1, 1128-10, 1140-3, 1248-1, 1279-3, 1335-2, 1361-7, 1404-2, 1404-3, 198-2, 30078-52, 30078-53, 30078-54, 33-4, 55-3, 60-4, 6403-1, 8032-150, 8032-155, 8032-165, 8032-167, 8032-168, 8032-49, 8032-50, 8032-51, 8032-52, 8032-53, 8032-54, 8032-56, 8032-58, 8032-59, 85-1, 897-5, 90-3

> *"For the purposes of the NEPA analysis, the ability to meet air quality standards is considered protective of public health; therefore, a separate health-based analysis of individual constituents, particularly those associated with particulate emissions, is not necessary in order to disclose impacts on human health. . . . However, the levels of metals deposition associated with particulate emissions were estimated and compared with Regional Screening Levels for which the EPA has derived carcinogenic and/or non-carcinogenic chronic health effects. Where the cancer risk health quotient is less than 1, excess cancer risk is less than 1×10^{-6}, and where the non-carcinogenic chronic health effects health quotient is less than 1, the health index for non-carcinogenic chronic health effects is less than 1. For all alternatives, the estimated human health risk associated with the maximum air concentrations of inorganic metals is less than 1×10^{-6} cancer risk (representing a risk below 1.0 for cancer) and below 1.0 for non-carcinogenic chronic health effects. Further background about these estimations can be found in Newell et al. (2018)."*

We took this same approach in section 3.6 of the FEIS, but analysis was expanded with additional analysis (Randall 2020b). An important aspect of the health risk assessment included in the FEIS is that the risk factors take into account multiple exposure pathways. This includes inhalation and ingestion through a variety of methods, including drinking of water, inhalation of emissions, and dermal contact or ingestion of soils.

Potential health impacts from airborne fungal diseases

Comments raised the concern that certain fungal diseases, like coccidioidomycosis (valley fever), could be transmitted due to ground disturbance from the project. Valley fever is a human fungal infection caused by inhaling fungi spores in certain geographic areas in Arizona. This infection is endemic to Arizona and can occur as a result of many activities (e.g., construction activities, gardening, farming, windy weather, dirt biking, driving ATVs).

The project will include ground-disturbing activities, like any other form of development. Numerous controls will be used and required to reduce fugitive dust (DEIS, pp. 283–284). Emissions of particulate matter at the facility boundaries do not exceed Federal standards established to prevent adverse health effects. The project is no more likely to contribute to the spread of valley fever than any other form of disturbance.

Comment response: TS24 Analysis of potential health concerns	Page 3 of 5

Responsive to these comments:

4-3, 1089-1, 1093-3, 1107-4, 1115-3, 1128-1, 1128-10, 1140-3, 1248-1, 1279-3, 1335-2, 1361-7, 1404-2, 1404-3, 198-2, 30078-52, 30078-53, 30078-54, 33-4, 55-3, 60-4, 6403-1, 8032-150, 8032-155, 8032-165, 8032-167, 8032-168, 8032-49, 8032-50, 8032-51, 8032-52, 8032-53, 8032-54, 8032-56, 8032-58, 8032-59, 85-1, 897-5, 90-3

Presence of existing cancer clusters

During scoping meetings and the public comment period for the DEIS, the concern was raised that the existing populations of the town of Superior and nearby communities are at higher risk for health effects, due to existing high rates of cancer.

The NEPA team evaluated this issue after scoping. Results were included in "Overview of Potential Mining Impacts on Public Health and Safety and Rationale for Analysis Approach" (SWCA Environmental Consultants 2018b:30–31). This analysis concluded, "Given the public concern and interest, the documentation described above will be disclosed. However, at this time there does not appear to be any compelling evidence that a cancer cluster exists, and as such it is not expected to be incorporated into any assessment of health effects."

Public comments received on the DEIS do not contain any specific, additional information on this issue. We included an additional discussion about this topic in section 3.6 of the FEIS.

Potential impacts to mine employees

The air quality analysis demonstrates that Federal air quality standards (NAAQS) are met at the facility fence line, thus being protective of the health of the public at large. The potential impact of air emissions to mine employees within the boundaries of the facility was considered to be beyond the scope of the NEPA analysis. The rationale for this was described in "Overview of Potential Mining Impacts on Public Health and Safety and Rationale for Analysis Approach" (SWCA Environmental Consultants 2018b:13):

> *"The above analysis components will focus solely on exposure to the general public. While acknowledging that mine workers within the boundaries of the mine facilities have a greater potential for exposure, the Mine Safety and Health Administration (MSHA) enforces specific health and safety standards, as well as monitoring. Resolution Copper will directly address worker health and safety regulations in compliance with MSHA rules. For the purposes of the NEPA analysis this oversight is considered to be protective of mine worker health and safety. Worker health and safety regulations are not evaluated further under NEPA requirements."*

Potential health impacts from water contamination

The rationale and approach used in the DEIS to assess the potential impact to health from elevated concentrations of contaminants in water was described in "Overview of Potential Mining Impacts on Public Health and Safety and Rationale for Analysis Approach" (SWCA Environmental Consultants 2018b:14–19). It is summarized as follows:

Comment response: TS24 Analysis of potential health concerns	Page 4 of 5

Responsive to these comments:

4-3, 1089-1, 1093-3, 1107-4, 1115-3, 1128-1, 1128-10, 1140-3, 1248-1, 1279-3, 1335-2, 1361-7, 1404-2, 1404-3, 198-2, 30078-52, 30078-53, 30078-54, 33-4, 55-3, 60-4, 6403-1, 8032-150, 8032-155, 8032-165, 8032-167, 8032-168, 8032-49, 8032-50, 8032-51, 8032-52, 8032-53, 8032-54, 8032-56, 8032-58, 8032-59, 85-1, 897-5, 90-3

> *"For the purposes of the NEPA analysis, the ability to meet these standards is considered protective of public health; therefore, separate health-based analysis of individual constituents is not necessary in order to disclose impacts on human health.*
>
> *1) Predictions will be made of potential water quality impacts to groundwater from exposure to materials either in situ or at the surface, and from seepage or other discharge of process water. Groundwater quality changes due to the project will be compared to numeric Arizona Aquifer Water Quality Standards. Compliance with narrative Arizona Aquifer Water Quality Standards will be assessed in a qualitative manner.*
>
> *2) Predictions will be made of potential surface water quality changes from stormwater runoff from the project areas and will be compared with numeric Arizona Surface Water Quality Standards. Compliance with narrative Arizona Surface Water Quality Standards will be assessed in a qualitative manner."*

Predictions of groundwater and surface water quality impacts, with comparison to the appropriate standards, are contained in section 3.7.2 (DEIS, pp. 373–419). The results of the analysis are summarized as (DEIS, p. ES-24):

> *"After closure, the reflooded block-cave zone could have poor water quality; however, a lake in the subsidence crater is not anticipated, and no other exposure pathways exist for this water.*
>
> *Stormwater runoff could have poor water quality, but no stormwater contacting tailings or facilities would be released during operations or post-closure until reclamation is successful.*
>
> *All of the tailings facilities would lose seepage with poor water quality to the environment, and all are dependent on a suite of engineered seepage controls to reduce this lost seepage. Modeling indicates that seepage from Alternatives 2 and 4 would result in water quality problems in Queen Creek; Alternative 3 would not, but requires highly efficient seepage control to achieve this (99.5 percent capture). Seepage from Alternatives 5 and 6 does not result in any anticipated water quality problems; these alternatives also have substantial opportunity for additional seepage controls if needed."*

The approach taken in the FEIS is identical to that taken in the DEIS, although some tools used to predict water quality impacts for Alternative 6 were refined. See response WT7 for more discussion.

Comment response: TS24 Analysis of potential health concerns	Page 5 of 5

Responsive to these comments:

4-3, 1089-1, 1093-3, 1107-4, 1115-3, 1128-1, 1128-10, 1140-3, 1248-1, 1279-3, 1335-2, 1361-7, 1404-2, 1404-3, 198-2, 30078-52, 30078-53, 30078-54, 33-4, 55-3, 60-4, 6403-1, 8032-150, 8032-155, 8032-165, 8032-167, 8032-168, 8032-49, 8032-50, 8032-51, 8032-52, 8032-53, 8032-54, 8032-56, 8032-58, 8032-59, 85-1, 897-5, 90-3

Potential health impacts from radioactive materials

Section 3.7.2 (DEIS, pp. 418–419) summarized analysis of the presence of radioactive materials in the ore and the potential concentration of those materials during processing (technologically enhanced naturally occurring radioactive materials). The full detailed analysis is contained in Newell and Garrett (2018d). The analysis concluded,

> *"When compared with common background levels, review of existing information at the site does not suggest the strong presence of naturally occurring radioactive materials above typical concentrations, although a small percentage (2 to 6 percent) of samples have exhibited concentrations above thresholds of concern.*
>
> *The processes that historically have been documented with problems would not occur as part of this project. . . . With respect to the processing (flotation) that would be used during the Resolution Copper Project, site-specific locked cycle testing has simulated the effect of processing to potentially concentrate radioactive materials, and no concentrations are above any thresholds of concern for uranium, radium, and gross alpha activity."*

Additional investigation was undertaken after receipt of DEIS comments (Randall 2020b), with similar conclusions. The public comments received on the DEIS contain general discussions of the issue and theoretical sources and exposure mechanisms, but do not contain additional information relevant for analysis. This analysis remains unchanged in section 3.7.2 of the FEIS.

Potential health impacts from asbestiform materials

Section 3.7.2 (DEIS, p. 419) summarized analysis of the presence of asbestiform materials in the ore and the potential release of these materials during processing, based on analysis contained in Duke (2019a). The analysis concluded,

> *"Asbestos is present in trace to minor amounts in the Resolution ore and development rock as fibrous forms of the amphibole minerals tremolite and actinolite, primarily tremolite. The general threshold for asbestos-containing material is more than 1 percent asbestos as determined by polarized light microscopy (40 CFR 61.141).*

Comment response: TS24 Analysis of potential health concerns	Page 6 of 6

Responsive to these comments:

4-3, 1089-1, 1093-3, 1107-4, 1115-3, 1128-1, 1128-10, 1140-3, 1248-1, 1279-3, 1335-2, 1361-7, 1404-2, 1404-3, 198-2, 30078-52, 30078-53, 30078-54, 33-4, 55-3, 60-4, 6403-1, 8032-150, 8032-155, 8032-165, 8032-167, 8032-168, 8032-49, 8032-50, 8032-51, 8032-52, 8032-53, 8032-54, 8032-56, 8032-58, 8032-59, 85-1, 897-5, 90-3

> *These analyses indicate that asbestiform minerals are present in the ore deposit, but on average the percentage is below the threshold for concern. However, the block caving is not conducted on the ore deposit as a whole, but panel by panel. When viewed on a panel-by-panel basis, overall asbestiform minerals are not anticipated to exceed 0.1 percent by weight."*

Additional investigation was undertaken after receipt of DEIS comments (Randall 2020b), with similar conclusions. The public comments received on the DEIS contain general discussions of the issue and theoretical sources and exposure mechanisms, but do not contain additional information that informs this analysis. This analysis remains the same in section 3.7.2 of the FEIS.

Concentration of processing chemicals in tailings seepage

Analysis of the potential for processing chemicals used during the flotation process to be concentrated, carried into the tailings storage facility, and released in seepage was analyzed in section 3.7.2 (DEIS, pp. 417–418). The analysis concluded that for six specific reagents analyzed, three have no theoretical pathway to be released, two degrade at rates high enough to be unlikely to persist in tailings seepage, and one (a binder and flocculant) is unlikely to be mobile. This analysis remains the same in section 3.7.2 of the FEIS.

Comment response: TS24_A Analysis of potential health concerns; with addition for specific comments 8032-149; 899-5	Page 1 of 1
Responsive to these comments: 8032-149, 899-5	
See response TS24 for the general topic of analysis of health impacts. This comment contains mention of a number of issues: "The dust related to mining activities can contain a variety of toxic materials, and can cause exceedances of health-based air quality standards, as well as provisions that protect Class I airsheds such as the Superstition Wilderness. The Forest Service has underestimated the impacts of the air pollution that would be generated by this mine on the health of both employees and area residents, region-wide visual impact on scenery and view sheds, and the impact on plant and animal life. Consideration of the impacts on recreational values and property values was also not adequately considered." Section 3.6 (DEIS, pp. 282–288) contained analysis of health-based air quality standards (NAAQS). The project meets all NAAQS at the facility boundaries. Section 3.6 (DEIS, pp. 288–292) contained analysis of impacts to sensitive areas, including five Class I areas and two Class II areas, including the Superstition Wilderness. This analysis includes impacts from criteria pollutants, haze and visibility, and deposition of nitrogen and sulfur. Section 3.11 (DEIS, pp. 594–618) contained analysis of impacts to scenery and viewsheds. Analysis of impacts on plants is contained in section 3.3 (DEIS, pp. 183–205), and analysis of impacts on wildlife is contained in section 3.8 (DEIS, pp. 457–476). See specifically DEIS pp. 161 and 448 for descriptions of how the analysis areas for plants and wildlife incorporate air quality. Section 3.9 (DEIS, pp. 495–509) contained analysis of impacts on recreation. Also see section 3.13 (DEIS p. 653) for air quality impacts related to nature-based tourism. Section 3.13 (DEIS, pp. 647–656) contained analysis of impacts on property values.	

Comment response: TS24_B Analysis of potential health concerns; with addition for specific comment 8032-166	Page 1 of 1
Responsive to these comments: 8032-166	
See response TS24 for the general topic of analysis of health impacts. This comment lists a number of specific contaminants. All of these, with the exception of fluoride (which was not identified in the tailings samples), were included in the health assessment.	

Comment response: TS24_C Analysis of potential health concerns; with addition for specific comment 1309-2	Page 1 of 1
Responsive to these comments: 1309-2	
See response TS24 for the general topic of analysis of health impacts. This comment notes concerns with the use of chemicals for dust control. Treatment with chemicals or polymer dust suppressants is one of the applicant-committed environmental protection measures for controlling dust emissions described in section 3.6 (DEIS, p. 283). These materials would be used according to manufacturer recommendations and all applicable laws and regulations. In general, because of the stormwater controls that prevent any water contacting tailings from being released, exposure pathways even in the event of improper use of these materials at the tailings storage facility are limited.	

Comment response: TS24_D Analysis of potential health concerns; with addition for specific comment 6181-2	Page 1 of 1
Responsive to these comments: 6181-2	
See response TS24 for response to the general topic of analysis of health impacts. This comment notes several additional concerns. Section 3.10.1 (DEIS, pp. 535–554) contained the analysis of potential tailings storage facility failure. Section 3.10.3 (DEIS, pp. 577–582) contained analysis of risk associated with hazardous waste transport.	

Comment response: TS26 Potential for air blast	Page 1 of 1
Responsive to these comments: 1043-2, 1097-10, 8032-234, 8032-46	
These comments concern the potential for an air blast to occur within the block-cave zone during active mining. We agree that block caving air blasts are a mine operational safety concern. The potential impact of an air blast on mine employees within the boundaries of the facility is beyond the scope of the NEPA analysis. The rationale is similar to that described in "Overview of Potential Mining Impacts on Public Health and Safety and Rationale for Analysis Approach" (SWCA Environmental Consultants 2018b:13) with respect to worker exposure to air contaminants: *"The above analysis components will focus solely on exposure to the general public. While acknowledging that mine workers within the boundaries of the mine facilities have a greater potential for exposure, the Mine Safety and Health Administration (MSHA) enforces specific health and safety standards, as well as monitoring. Resolution Copper will directly address worker health and safety regulations in compliance with MSHA rules. For the purposes of the NEPA analysis this oversight is considered to be protective of mine worker health and safety. Worker health and safety regulations are not evaluated further under NEPA requirements."*	

Comment response: TS27 Impact of traffic on medical care	Page 1 of 1
Responsive to these comments: 1504-3	
This comment raises concern with traffic impacting medical transport and care. Section 3.5 of the DEIS contained analysis of transportation impacts (pp. 254–269). It focused primarily on intersections, which is where most traffic conflicts occur. We added further analysis to section 3.5 of the FEIS to discuss impacts specific to highway segments, including that to Phoenix as noted in the comment. See response TR1 for more discussion.	

Comment response: TS28 Impacts to vegetation and habitat	Page 1 of 1
Responsive to these comments: 1464-3, 1469-2	
These comments raise concerns with impacts to vegetation and habitat. Analysis of impacts to vegetation is contained in section 3.3 (DEIS, pp. 183–205), including the types and acreage of vegetation lost to project disturbance. Biodiversity is analyzed in sections 3.3 and 3.8 (DEIS, pp. 197, 463). The impact of that habitat loss on wildlife species is analyzed in section 3.8 (DEIS, pp. 457–476). Potential impacts on surface waters due to this loss of vegetation and disturbance are also analyzed in section 3.7.3 (DEIS, pp. 427–444). Edge effects, artificial night lighting, noise, vibration, and associated disturbance to species is discussed in section 3.8 (DEIS, pp. 459–462). We added further detail to the analysis regarding edge effects, artificial night lighting, noise, vibration, and the associated disturbance to section 3.8 of the FEIS. We also added further detail on biodiversity to section 3.8 of the FEIS.	

Comment response: TS29 Pipeline failure	Page 1 of 1

Responsive to these comments:

1544-13, 45-1, 8032-236, 8032-237

These comments raise concerns over the risk and consequences of pipeline failures.

Section 3.10.1 of the DEIS analyzed the potential for pipeline failures and their consequences (DEIS, pp. 535–554).

We evaluated a pipeline protection and integrity plan in response to comments. The plan incorporates specific analysis of potential failure modes, including geohazards such as slope instability, seismic hazards, scour, and geological subsidence, mechanical failure, corrosion and erosion, operational failures, and human-caused failures (Golder Associates Inc. 2020). It also includes specific mitigation methods to respond to these potential failure modes.

One comment notes that lubricant is used in the slurry pipeline. This is an incorrect statement. The slurry (tailings and water) and concentrate (concentrate and water) pipelines do not need lubricant to facilitate flow in the pipes.

Also see response GS1 for more discussion of seismic risk to pipelines.

Comment response: TS30 Locations of tailings storage	Page 1 of 1

Responsive to these comments:

1196-2, 1206-3

These comments question where the tailings would be stored.

We analyzed five tailings storage facility alternatives at four separate locations. These are described in detail in chapter 2 (DEIS, pp. 29–100).

Comment response: TS31 Choice of tailings type for Preferred Alternative	Page 1 of 1

Responsive to these comments:

1463-2

This comment questions the determination of tailings type for the Preferred Alternative, though referencing only the Executive Summary.

A variety of tailings types were analyzed in the DEIS, as described in chapter 2 (DEIS, p. 50), each with varying water and solids content. The use of thickened tailings (50–70 percent solids) is considered for three of the alternatives (Alternatives 2, 5, and 6), with ultra-thickened tailings considered for one alternative (Alternative 3) and filtered tailings considered for one alternative (Alternative 4).

Analysis of multiple tailings types allows for comparison of impacts in the NEPA analysis.

As the responsible official, the Forest Supervisor for the Tonto National Forest can modify an alternative in the ROD as long as the modification is "encompassed within the range of alternatives analyzed" in the EIS. Thus, the decision documented in the ROD can pick and choose between actions, activities, and facilities presented in the actions alternatives in forming a Selected Action. This could include changing the tailings type, if such a decision is within the scope of the ROD. See response ALT1 for more discussion on this topic.

Comment response: TS32 Pipeline safety protocols	Page 1 of 1

Responsive to these comments:

8032-30

Section 3.10.1 of the DEIS discusses pipeline safety. The section includes the potential for failures and spills (DEIS, pp. 535–554) as well as the applicant-committed environmental protection measures, including safety protocols that will be followed (DEIS, pp. 536–538).

Comment response: WI1 Comments on specific species, species groups, and available survey data	Page 1 of 2
Responsive to these comments: 1084-4, 1349-6, 8032-185, 8032-192, 8032-195	
These comments identify specific species or groups of species that are perceived to be insufficiently analyzed. In some cases this information was already sufficiently analyzed in the DEIS; in other cases, we have expanded the analysis in the FEIS. We have added more discussion describing potential impacts on species protected under the Migratory Bird Treaty Act to section 3.8 of the FEIS. We addressed lowland leopard frog in section 3.8 (DEIS, p. 466, table 3.8.4-2) using as a metric the acres of modeled suitable habitat for all alternatives. We also mentioned the species in light of a potential failure of the tailings storage facility (DEIS, p. 532). Minimization measures that would reduce or avoid potential impacts on the species are discussed in section 3.8 (DEIS, p. 458). We added text to section 3.8 of the FEIS to further discuss the potential for the species to occur in the project area. We addressed potential impacts to fish, reptiles, and amphibians from habitat loss and changes to water quality in section 3.8 (DEIS, pp. 458–461 for general project impacts, pp. 461–463 for "Additional Impacts Specific to Wildlife Groups" broken out by mammals, birds, amphibians, reptiles, and invertebrates). We addressed springs, seeps, and water holes in the affected area in sections 3.7.1 and 3.8 (DEIS, pp. 452 and 460, figure 3.8.3-1 on p. 453, and table 3.7.1-2 on p. 314). We have added further detail to section 3.8 regarding potential dewatering of springs and riparian areas. We analyzed habitat loss, degradation, and fragmentation in section 3.8 (DEIS, pp. 459–461). We analyzed habitat use (selection), changes to foraging/hunting and breeding behavior and success in section 3.8 (DEIS, pp. 459–462). We addressed edge effects, artificial night lighting, noise, vibration, and disturbance to species in section 3.8 (DEIS, pp. 459–462). We have added further detail to the analysis regarding edge effects, artificial night lighting, noise, vibration, and associated disturbance to section 3.8 of the FEIS. Some comments raise concerns that inadequate surveys were conducted. CEQ regulations address the need for additional data collection under 40 CFR 1502.22. The ability to collect additional information needs to be addressed when "the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives." We used the best available data to determine the potential presence or absence of species, including migratory birds, wildlife, vegetation, and special status species in the project area. Surveys for species in the project and action area have been occurring, with oversight from the Tonto National Forest. These surveys and data provide sufficient information to make a reasoned choice between alternatives.	

Comment response: WI1 Comments on specific species, species groups, and available survey data	Page 2 of 2
Responsive to these comments: 1084-4, 1349-6, 8032-185, 8032-192, 8032-195	
Potential impacts on the Arizona hedgehog cactus are addressed in the DEIS and also are subject to Section 7 consultation with the U.S. Fish and Wildlife Service. The species is addressed in section 3.3 (DEIS, pp. 178, 179, 195, 197, and 203). The final Biological Opinion issued by U.S. Fish and Wildlife Service is attached to the FEIS as appendix P.	

Comment response: WI3 Impacts from flow reductions	Page 1 of 1
Responsive to these comments: 30075-44	
We addressed potential impacts to wildlife from reductions in surface flows in sections 3.7.3 and 3.8 (DEIS, pp. 447, 462, 463, 472, and 473). We have added further detail to the analysis regarding how changes in surface flow impact wildlife to section 3.8 of the FEIS.	

Comment response: WI5 Concerns over insufficient survey data and analysis of game species	Page 1 of 1

Responsive to these comments:

1534-2

These comments identify potential shortcomings in survey data, and concerns regarding game species and hunting.

With respect to survey data or research, CEQ regulations address the need for additional data collection under 40 CFR 1502.22. The ability to collect additional information needs to be addressed when "the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives." We used the best available data to determine potential presence or absence of species, including migratory birds, wildlife, vegetation, and special status species in the project area. Surveys for species in the project and action area have been occurring with oversight from the Tonto National Forest. These surveys and data provide sufficient information to make a reasoned choice between alternatives.

We addressed potential impacts to hunting in section 3.9 (DEIS, pp. 489, 498–500). Mitigation related to wildlife is given in section 3.8 (DEIS, pp. 479–480). No specific hunting mitigation was proposed or included in the DEIS.

We have added further detail about potential impacts to game species to section 3.8 of the FEIS and impacts to hunting in section 3.9 of the FEIS. Additional mitigation has also been brought forward related to hunting and wildlife species and is included in section 3.8 and appendix J of the FEIS (see measures FS-TA-01 and FS-WI-01).

Comment response: WI6 Comments on Sonoran Desert Tortoise, Gila Monster	Page 1 of 1

Responsive to these comments:

8031-67, 8032-190, 8032-191

These comments raise concerns about analysis of Sonoran desert tortoise and Gila monster, and insufficiency of survey data.

We addressed impacts to vegetation and wildlife in sections 3.3 and 3.8 of the DEIS, respectively, as well as in the "Unavoidable Impacts" sections (3.3.4.8 and 3.8.4.4). Cumulative impacts were also addressed in sections 3.3.4.8 and 3.8.4.4 of the DEIS. We have expanded the cumulative impacts analysis in the FEIS (chapter 4).

We addressed potential impacts to predator/prey relationships from power lines, including predation on Sonoran desert tortoise by ravens in section 3.8 (DEIS, p. 462).

Mitigation for wildlife species, including Sonoran desert tortoise and Gila monster, are given in section 3.8 (DEIS, pp. 457–458). We analyzed the potential impacts on wildlife and special status species using the best available information. Uncertain and unknown information is discussed as well (DEIS, p. 450). Potential mitigation for Sonoran desert tortoise includes pre-construction surveys, biological monitoring, crew orientation, and creation of tortoise crossings for the pipeline corridors in suitable habitat.

With respect to survey data, CEQ regulations address the need for additional data collection under 40 CFR 1502.22. The ability to collect additional information needs to be addressed when "the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives." We used the best available data to determine potential presence or absence of species, including migratory birds, wildlife, vegetation, and special status species in the project area. Surveys for species in the project and action area have been occurring with oversight from the Tonto National Forest. These surveys and data provide sufficient information to make a reasoned choice between alternatives.

We have added further details to section 3.8 of the FEIS regarding edge effects impacting Sonoran desert tortoise habitat use and selection.

Comment response: WI7 Analysis of wind erosion and fugitive dust	Page 1 of 1
Responsive to these comments: 28449-28, 28449-29, 28449-30, 28449-31	
These comments are concerned with fugitive dust and wind erosion. We analyzed fugitive dust as part of the air quality analysis in section 3.6 by assessing criteria pollutants PM_{10} and $PM_{2.5}$ (DEIS, pp. 282–292). Based on our modeling results, these pollutants are estimated to meet applicable air quality standards at the fence line of each facility. The susceptibility of soils to water and wind erosion is disclosed in section 3.3 (DEIS, pp. 192–193).	

Comment response: WI8 Time frame for regeneration of land	Page 1 of 1
Responsive to these comments: 1356-2	
This comment concerns the long time frame for regeneration of disturbed land, as well as the importance of vegetation resources for tribal members. The time frame for reestablishing native vegetation and specifically the potential for these lands to meet their future desired condition is disclosed in section 3.3 (DEIS, pp. 197–201). The difficulties are fully disclosed: "Revegetation success in these desert ecosystems is demonstrated. However, impacts to soil health and productivity may last centuries to millennia, and the ecosystem may not meet desired future conditions. The habitat may be suitable for generalist wildlife and plant species, but rare plants and wildlife with specific habitat requirements are unlikely to return" (DEIS, p. ES-22). For further discussion of overall importance of the land to tribal members, see response CR4. For further discussion of species of tribal importance, see response CR15.	

Comment response: WI9 Impact of mine processes on soil	Page 1 of 1
Responsive to these comments: 1115-2	
This comment raises concerns with long-term effects of potential contamination of soil due to exposure to chemicals or mine tailings. These effects are analyzed in several places in the DEIS. We disclosed the potential for release of tailings or concentrate (from a tailings storage facility or pipeline rupture) and the resulting long-term contamination that would result in section 3.10.1 (DEIS, pp. 540–542, 544–546). We analyzed the interaction of water with tailings material and the subsequent release into the environment through tailings seepage in section 3.7.2 (DEIS, pp. 373–419). We also discussed the potential for stormwater to interact with tailings material in section 3.7.2 (DEIS, pp. 379–381). See response WT35 for a discussion of how this analysis has been refined for the FEIS. We analyzed the potential for impacts to human health from air emissions of chemicals or particulate matter in section 3.6 (DEIS, pp. 282–292). This includes a specific impact to human health. See response TS24 for a discussion of how this analysis has been refined for the FEIS, including potential exposure to asbestiform materials, radioactive materials, heavy metals, and processing chemicals.	

Comment response: WI10 Comments on vegetation analysis and Arizona hedgehog cactus	Page 1 of 1

Responsive to these comments:

8032-197

These comments identify a number of specific issues related to Arizona hedgehog cactus and general vegetation analysis.

CEQ regulations address the need for additional data collection under 40 CFR 1502.22. The ability to collect additional information needs to be addressed when "the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives." We used the best available data to determine potential presence or absence of species, including migratory birds, wildlife, vegetation, and special status species in the project area. Surveys for species in the project and action area have been occurring with oversight from the Tonto National Forest. These surveys and data provide sufficient information to make a reasoned choice between alternatives.

An analysis of the potential impacts to Arizona hedgehog cactus was disclosed in the DEIS (pp. 178–179, 195, 197, 203). Arizona hedgehog cactus are subject to Section 7 consultation with the U.S. Fish and Wildlife Service. We added discussion of the outcome of this process to section 3.3 of the FEIS, and the final Biological Opinion issued by U.S. Fish and Wildlife Service is attached to the FEIS as appendix P.

We addressed potential impacts to vegetation communities from other items mentioned in the comments in sections 3.3, 3.7.1, and 3.8 of the DEIS, including the removal of vegetation by mining activity (DEIS, p. 202), air pollution (DEIS, pp. 161–163, noting the analysis area for vegetation defined to encompass deposition impacts), dewatering (DEIS, pp. 178, 317–340), invasive species (DEIS, pp. 197–201), and fire (DEIS, pp. 190–201).

Comment response: WI11 Avian analysis	Page 1 of 1

Responsive to these comments:

8032-178

These comments concern impacts to avian species and available information to support the avian analysis.

We have added further discussion of species protected under the Migratory Bird Treaty Act in section 3.8 of the FEIS.

CEQ regulations address the need for additional data collection under 40 CFR 1502.22. The ability to collect additional information needs to be addressed when "the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives." We used the best available data to determine potential presence or absence of species, including migratory birds, wildlife, vegetation, and special status species in the project area. Surveys for species in the project and action area have been occurring with oversight from the Tonto National Forest. These surveys and data provide sufficient information to make a reasoned choice between alternatives.

Comment response: WI12 Mammal analysis	Page 1 of 1

Responsive to these comments:

8032-189

These comments concern impacts to wildlife and mammal species and available information to support the analysis.

We addressed wildlife and mammals in section 3.8 (DEIS, pp. 457–461). Mitigation for these species was also discussed in section 3.8 (DEIS, pp. 479–480).

CEQ regulations address the need for additional data collection under 40 CFR 1502.22. The ability to collect additional information needs to be addressed when "the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives." We used the best available data to determine potential presence or absence of species, including migratory birds, wildlife, vegetation, and special status species in the project area. Surveys for species in the project and action area have been occurring with oversight from the Tonto National Forest. These surveys and data provide sufficient information to make a reasoned choice between alternatives and as such a population density analysis would not be required.

We have added further information and analysis regarding the issues raised in this comment to section 3.8 of the FEIS.

Comment response: WI13 Improvements on bird analysis; Migratory Bird Treaty Act	Page 1 of 1
Responsive to these comments: 8032-177, 8032-180, 8032-181, 8032-182, 8032-183, 8032-184	
We have added text describing potential impacts on species protected under the Migratory Bird Treaty Act in section 3.8 of the FEIS.	

Comment response: WI14 Wildlife camera data	Page 1 of 1
Responsive to these comments: 8032-205	
We have used the wildlife camera data submitted with this comment and included it in the baseline data for section 3.8.	

Comment response: WI15 Wildlife connectivity	Page 1 of 1
Responsive to these comments: 30075-61, 30075-62, 8031-68, 8032-201	
These comments concern habitat blocks and habitat connectivity across the larger landscape. Habitat connectivity is addressed in section 3.8 (DEIS, pp. 452–456, 463–465). We have added further information to section 3.8 of the FEIS regarding habitat connectivity, including defining habitat category 1 and 2 blocks, the ability of species to move between habitat blocks, linkages, and potential impacts to individual wildlife and species groups related to potential impacts to springs.	

Comment response: WI16 Comments on general wildlife analysis; uncertain information	Page 1 of 2

Responsive to these comments:

8032-172

This comment raises a number of issues regarding general analysis of wildlife and biological resources, including analysis at alternative locations, cumulative impacts, mitigation, threatened and endangered species, and uncertainties in the analysis.

With respect to the analysis of impacts to wildlife and biological resources, direct and indirect effects are analyzed in section 3.8 (DEIS, pp. 457–476). This analysis includes impacts to special status species, such as threatened and endangered species. Cumulative effects are analyzed as well (DEIS, pp. 476–479); note that we have reworked the cumulative effects analysis for the FEIS (chapter 4), with the intent of using more quantitative metrics than those used in the DEIS. Migratory birds are also addressed as special status wildlife species, but note that we have added further detail to the analysis impacts to species protected by the Migratory Bird Treaty Act in section 3.8 of the FEIS.

Potential impacts on threatened and endangered species are addressed in the DEIS and also are subject to Section 7 consultation with the U.S. Fish and Wildlife Service. These species are addressed in section 3.3 (DEIS, pp. 473–476). The final Biological Opinion issued by U.S. Fish and Wildlife Service is attached to the FEIS as appendix P.

With respect to alternative locations, impacts to wildlife species are assessed separately for each of the alternatives in section 3.8 (DEIS, pp. 463–472).

Mitigation for wildlife species was also discussed in section 3.8 (DEIS, pp. 479–480) and was summarized in appendix J. Additional mitigation measures related to wildlife have been developed since the DEIS, and we have added these to section 3.8 and appendix J of the FEIS.

A number of these comments appear to not be aware of the substantial background information, either in the project record or cited as DEIS references, that contribute to the analysis statements contained in the DEIS. CEQ regulations indicate that not all information available has to appear in the EIS itself: “Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment” (40 CFR 1502.21).

Comment response: WI16 Comments on general wildlife analysis; uncertain information	Page 2 of 2

Responsive to these comments:

8032-172

The comment states, “The DEIS cites the problem of ‘uncertainties and unknown information’ and ‘assumptions,’ including ‘limitations in the use of GIS data,’ ‘lack of current scientific data,’ and ‘reliance on other resource analyses’ that further this problem (Ch. 3, p. 450).”

It is incorrect to characterize these statements as problems. They are disclosures of uncertainties in the analysis, but they do not preclude an adequate assessment of impacts. CEQ regulations address the need for additional data collection under 40 CFR 1502.22. The ability to collect additional information needs to be addressed when “the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives.” We used the best available data to determine potential presence or absence of species, including migratory birds, wildlife, vegetation, and special status species in the project area. Surveys for species in the project and action area have been occurring with oversight from the Tonto National Forest. These surveys and data provide sufficient information to make a reasoned choice between alternatives.

Comment response: WI17 Management Indicator Species	Page 1 of 1

Responsive to these comments:

8032-175

This comment indicates that the analysis of MIS is insufficient, as it is based solely on habitat acreage lost.

We address MIS species in section 3.8 (DEIS, pp. 454–457, 472) and in the background documentation (see Newell (2018j)). Analysis of MIS has a specific purpose that is applicable on a forest-wide basis. MIS are plant and animal species, communities, or special habitats that are selected for emphasis in planning and monitored during forest plan implementation in order to assess the effects of management activities on their populations and the populations of other species with similar habitat needs, which they may represent. In order to determine the level of impact that each of these MIS may incur on a forest-wide level, analysis was completed to determine the percentage of each species' occupied habitat across the Tonto National Forest that may be impacted (lost or altered) by implementation of any of the action alternatives. Use of acres of disturbance to MIS habitat is an appropriate analysis technique to meet these purposes.

Comment response: WI18 Wildlife impacts from tailings failure or seepage	Page 1 of 1

Responsive to these comments:

8032-174, 8032-29

These comments indicate that exposure of wildlife to seepage affected by tailings or a tailings release was not included in the DEIS. We addressed wildlife exposure during a major tailings release in section 3.10.1 (DEIS, p. 544).
We addressed wildlife exposure to seepage ponds in section 3.8 (DEIS, p. 460). We have added a revised analysis to section 3.7.2 of the FEIS that specifically analyzes water quality from a release of stormwater during operations; we have also added further discussion to section 3.8 to more clearly describe the effects that water in seepage ponds, seepage, or stormwater could have on wildlife.

Comment response: WI19 Noise/vibration/light impacts on species	Page 1 of 1

Responsive to these comments:

8032-281

This comment indicates that the EIS needs to disclose impacts of noise, vibration, and artificial light on plants and animals normally inhabiting the surrounding areas.

Disclosure of these impacts is already incorporated into the DEIS, as described below.

Wildlife impacts focus primarily on two aspects: acreage of habitat that could be affected by the project, and the typical impacts experienced in these areas by various species.

The buffer areas that define the wildlife habitat impacts were based specifically on noise and light impacts. This buffer area selected was 1 mile, and the rationale for this distance to represent noise and light impacts is included in Newell (2018j), as well as the DEIS:

> *"The noise modeling shows that for all action alternatives, noise levels at 1 mile would be at or below the level of normal human conversation; as such, the 1-mile buffer is sufficient to address potential impacts from noise-producing activities. We also expect light associated with project construction and facilities to increase night-sky brightness from 1 to 9 percent (Dark Sky Partners LLC 2018). Light impacts would occur across the landscape but available research suggests any substantial impacts would occur within the 1-mile buffer (Newell 2018j)."* (DEIS, pp. 448–450)

Specific impacts to individuals caused by noise and light are described in Section 3.8, Wildlife and Special Status Wildlife Species (see specifically DEIS pp. 458–459 (general construction noise/vibration impacts: change in use patterns, competition, stress levels, decreased immune response, hearing damage, diminished intraspecific communication, increased predation risk, reduced reproductive success); pp. 460–461 (general operations lighting impacts: changes in foraging, changes in migration/dispersal); p. 461 (mammal-specific impacts); p. 462 (bird-specific impacts); p. 462 (reptile-specific impacts); p. 462 (invertebrate-specific impacts); and p. 463 (amphibian-specific impacts)).

Comment response: WI20 Species of Economic and Recreational Importance	Page 1 of 1
Responsive to these comments: 30075-73	
We addressed Species of Economic and Recreational Importance (SERI) in section 3.8 (DEIS, pp. 451–452). Additional analysis of species that are game species is included in Section 3.9, Recreation, with respect to hunting (DEIS, pp. 489, 500), and Section 3.13, Socioeconomics (DEIS, pp. 653–655). We have added further analysis of SERI in sections 3.8 and 3.9 of the FEIS.	

Comment response: WI21 Comments on bat species	Page 1 of 1
Responsive to these comments: 8032-188	
These comments concern analysis of bat species, and bat inventories. We addressed existing conditions and potential impacts to bats in section 3.8, including from artificial light, impacts to prey species, roost impacts, and habitat impacts (DEIS, pp. 452, 460, 461). Acres of impacts to habitat for special status bat species are given in table 3.8.4-2 (DEIS, p. 470). Mitigation is described as well (DEIS, pp. 479–480). We added further detail to section 3.8 of the FEIS regarding potential impacts to bat species. As lesser long-nosed bat is no longer listed as threatened or endangered, Section 7 consultation with the U.S. Fish and Wildlife Service for the species would not occur. We give the acres of modeled habitat for the species that would be potentially impacted under each action alternative in table 3.8.4-2 (DEIS, p. 470). With respect to survey data or bat inventories, CEQ regulations address the need for additional data collection under 40 CFR 1502.22. The ability to collect additional information needs to be addressed when "the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives." We used the best available data to determine potential presence or absence of species, including migratory birds, wildlife, vegetation, and special status species in the project area. Surveys for species in the project and action area have been occurring with oversight from the Tonto National Forest. These surveys and data provide sufficient information to make a reasoned choice between alternatives.	

Comment response: WI22 Missing species	Page 1 of 1
Responsive to these comments: 30075-66	
This comment indicates additional source data are needed for wildlife species, and that some species may be missing when compared with reports generated by Arizona Game and Fish Department. We have added the source to table 3.8.4-2 and other tables, and we have updated the data for the FEIS. Note that not all species appear in the DEIS; some may be screened out. This additional information is included in the background documentation (see Newell (2018j)). We addressed Species of Economic and Recreational Importance (SERI) in section 3.8 (DEIS, pp. 451–452). Additional analysis of species that are game species is included in Section 3.9, Recreation, with respect to hunting (DEIS, pp. 489, 500), and Section 3.13, Socioeconomics (DEIS, pp. 653–655). We have added further analysis of SERI in sections 3.8 and 3.9 of the FEIS. We addressed ecologically important areas in "Special Habitat Areas" and "Wildlife Connectivity" in section 3.8 of the DEIS. We added further detail and analysis to the FEIS for "Special Habitat Areas" and "Wildlife Connectivity."	

Comment response: WI23 Impacts to Gila Chub in Mineral Creek	Page 1 of 1
Responsive to these comments: 8032-193	
We have addressed potential impacts to Gila longfin dace and Gila chub in section 3.8 (DEIS pp. 462, 469, for Gila longfin dace, and pp. 469, 475–476, for Gila chub). Potential impacts on threatened and endangered species are also subject to Section 7 consultation with the U.S. Fish and Wildlife Service. The final Biological Opinion issued by U.S. Fish and Wildlife Service is attached to the FEIS as appendix P. Note that during the Section 7 consultation, Mineral Creek is assumed to be occupied habitat for Gila chub. We added further detail to section 3.8 of the FEIS regarding potential impacts to Gila longfin dace and Gila chub.	

Comment response: WI24 Ocelot	Page 1 of 1
Responsive to these comments: 8032-187	
We addressed the potential for the ocelot to occur in the project area in the wildlife resources process memorandum. The species was determined to be unlikely to occur based on guidance from species' experts at FWS and that the project alternatives occur outside of an area where the species is known to occur, with only one known record. Also, camera trap data from the project vicinity has not shown any ocelot. FWS agreed in its Biological Opinion that the species was unlikely to occur in the project and action areas.	

Comment response: WI25 Impacts to Mineral Creek	Page 1 of 1
Responsive to these comments: 5760-2, 8032-194	
This comment states, "The DEIS then describes potential damage to nearby critical habitat in Mineral Creek above the confluence with Ga'an Canyon, including 'reduction of perennial pools and a conversion of vegetation toward xeroriparian species', but concludes that "groundwater modeling for the action alternatives does not indicate that impacts from groundwater drawdown would significantly impact Mineral Creek in the area of designated critical habitat' (Ch. 3, p. 476)." To be clear, the statement of potential impacts (DEIS, p. 476) does not tie them to Mineral Creek, and as noted in the comment, the DEIS explicitly states that groundwater drawdown is not anticipated to impact Mineral Creek. We addressed potential impacts to Mineral Creek and critical habitat from changes in surface and groundwater hydrology. The drawdown analysis is contained in section 3.7.1 (DEIS, p. 320), and the surface hydrology analysis is contained in section 3.7.3 (since no stormwater is lost within the Mineral Creek watershed, it is not analyzed specifically; see analysis area on p. 423). We addressed potential impacts from water contamination in section 3.7.2, and water quality would meet all wildlife standards for acute and chronic exposure. We have added further analysis of water quality impacts to wildlife in section 3.8 of the FEIS. We consulted with FWS regarding the potential impacts on Gila chub and designated critical habitat, and FWS concurred that the project may affect but is not likely to adversely affect the species or designated critical habitat. The final Biological Opinion issued by FWS is attached to the FEIS as appendix P. These comments also note impacts to Gila longfin dace. We addressed Gila longfin dace in section 3.8 (DEIS, pp. 462, 469). We have added further detail to section 3.8 of the FEIS regarding potential impacts to Gila chub.	

Comment response: WI26 Clarifications on reclamation aspects	Page 1 of 1

Responsive to these comments:

524-16, 8032-239, 8032-32

These comments raise several issues related to reclamation details.

One comment questions how the remaining material in the seepage ponds, where solids have been concentrated through evaporation, would be removed and disposed of. As noted in the DEIS (p. 391), these solids would be handled as solid or hazardous waste. Solids physically would be removed, along with the liner for the seepage pond, and disposed in an appropriate facility off-site. We added more detail on this aspect to section 3.7.2 of the FEIS.

Several comments ask for cost details for reclamation. We calculate costs for reclamation activities during the bond approval process. This takes place after the NEPA analysis, after a ROD, and during the approval stage of the operating plan, whether in the form of a special use permit or a mine plan of operations. It is not our policy to include bonding financial estimates in the EIS documents.

Another comment notes, “Although options for post-closure seepage management are briefly discussed, substantial additional detail is warranted given the importance of implementing and maintaining seepage management for protecting water quality. . . . Add a detailed discussion of the post-closure tailings seepage management periods and strategies for each alternative, including a discussion of the infrastructure required and potential impacts from constructing and operating post-closure management facilities. For water treatment options, discuss available treatment technologies that could be used, the water quality that could be achieved, as well as likely AZPDES permit requirements and whether they could be met.”

We added further discussion of post-closure water quality management to section 3.7.2 of the FEIS.

Comment response: WT1 Comments that disclosed water use is incorrect and unrealistic	Page 1 of 2

Responsive to these comments:

1053-1, 1084-3, 1088-2, 1092-2, 1094-1, 1284-1, 1301-13, 1301-14, 1322-5, 1344-4, 1349-4, 1419-1, 1420-1, 1441-2, 1448-4, 1455-4, 1468-2, 1501-4, 151-2, 154-1, 1602-1, 224-1, 24-2, 255-1, 259-2, 263-3, 27848-3, 27916-2, 27993-1, 27995-3, 28093-5, 28106-3, 286-5, 298-1, 30065-4, 30143-6 (Emerman2), 30143-7 (Emerman2), 52-2, 5760-1, 67-4, 871-2, 910-3, F1-7, F2-5, F4-4, F6-5

The information presented in these comments is not factually accurate. Detailed comments related to this topic were submitted with comment letter #8032 in the form of a report from Dr. S. Emerman titled "Projected Consumption of Electricity and Water by the Proposed Resolution Copper Mine, Arizona." Based on estimates of per ton water use by mines both globally and in Arizona, Dr. Emerman calculates that "predicted water consumption of the Resolution Copper Mine is 50,000 acre-feet per year."

The water balance of the mine is complex, and the DEIS discloses the water use of the mine in multiple places, including in chapter 2 (see "Water Use," DEIS, pp. 52–54); chapter 3, section 3.7.1 (see "Changes in Desert Wellfield Pumping"); and Appendix H, Further Details of Mine Water Balance and Use (DEIS appendix H).

There is no single water balance component that equals "predicted water consumption." We interpret the term "predicted water consumption" used by the commenter to mean water that is lost from evaporation, seepage, or shipping with concentrate and therefore cannot be captured and recycled. Similarly, "predicted water consumption" also equals the various sources of water supply that continually make up for this lost water, and this can be readily quantified.
The "predicted water consumption" of the mine consists of three components.

1) By far the largest of these components is makeup water pumped from the Desert Wellfield in the East Salt River valley (for the Preferred Alternative, this water use ranges from 5,578 to 17,948 acre-feet per year, depending on the project phase, and averages 13,289 acre-feet over the 41-year period of active pumping; see DEIS, appendix H, p. H-8).
2) For consumptive use it would be reasonable to also add the dewatering from the East Plant Site (ranges from 1,298 to 2,118 acre-feet per year, with an average of 1,715 acre-feet per year; see DEIS, appendix H, p. H-2); and
3) The capture of precipitation at the tailings storage facility (for the Preferred Alternative, ranges from 1,110 to 1,865 acre-feet per year, with an average of 1,678 acre-feet per year; see DEIS, appendix H, p. H-4).
4) Thus, the "predicted water consumption" of the mine as disclosed in the DEIS averages 16,682 acre-feet per year (13,289 acre-feet plus 1,715 acre-feet plus 1,678 acre-feet).

Comment response: WT1 Comments that disclosed water use is incorrect and unrealistic	Page 2 of 2

Responsive to these comments:

1053-1, 1084-3, 1088-2, 1092-2, 1094-1, 1284-1, 1301-13, 1301-14, 1322-5, 1344-4, 1349-4, 1419-1, 1420-1, 1441-2, 1448-4, 1455-4, 1468-2, 1501-4, 151-2, 154-1, 1602-1, 224-1, 24-2, 255-1, 259-2, 263-3, 27848-3, 27916-2, 27993-1, 27995-3, 28093-5, 28106-3, 286-5, 298-1, 30065-4, 30143-6 (Emerman2), 30143-7 (Emerman2), 52-2, 5760-1, 67-4, 871-2, 910-3, F1-7, F2-5, F4-4, F6-5

The point made by these public comments is that this disclosed water use (16,682 acre-feet per year) is less than that predicted by Emerman from literature estimates (50,000 acre-feet per year). The Emerman analysis was thoroughly examined and considered, and the results are included in the project record (see Garrett (2020c)). It should be noted that Emerman did not base his calculations on any of the information described above that is contained in the DEIS, but rather on the GPO (Resolution Copper 2016c).

A review of the same literature sources used by Emerman confirms the point made: Resolution Copper water use as disclosed is less than would be anticipated, based on other mines. However, Emerman fails to examine why this difference exists, but instead assumes it means the disclosure is flawed. As discussed in the review of the Emerman report (Garrett 2020c), the data sources used by Emerman fail to account for the type of tailings. Specifically, the Resolution Copper Project is using thickened tailings ranging from 50 to 65 percent solids, compared with 20 to 50 percent solids in a conventional tailings slurry (see DEIS, p. 50). The review of the Emerman report demonstrates that the water difference identified by Emerman is due to use of this technology (Garrett 2020c).

In other words, the Resolution Copper Project uses less water than other mines because the proponent has incorporated enhanced technology (thickening) in order to reduce water use.

Comment response: WT1_A Comments that disclosed water use is incorrect and unrealistic; with addition for specific comment 30143-8	Page 1 of 2

Responsive to these comments:

30143-8 (Emerman2)

See response WT1 for response to the estimates of water use contained in the Emerman report. In addition, see response WT24 for the response to the estimates of power use by the project in the Emerman report.

This comment is a summary of the points made by Dr. Emerman and poses a number of questions. The answers to these questions are as follows:

- Does Rio Tinto have a guarantee from SRP that they will supply power to the Resolution Copper Mine? The power requirements estimated by Emerman are erroneous, as discussed in response WT24. In addition, as discussed in response WT24, SRP has conducted an independent load study for the project and concluded the following: “The total maximum combined load proposed by RC is 273 to 315 MW, which represents 3.7 to 4.3 percent of SRP’s 2019 peak demand. SRP is well suited to provide the needed power just as it has done with other large power users across the state. SRP does not see any limitations to serving this load to the Project at the aforementioned sites, presuming the recommended system upgrades are implemented. With these system upgrades, there will be no impact on the neighboring customers as the Project site increase loads as per the estimated load levels” (1898 and Company 2020).
- Why does Rio Tinto believe that the water consumption for the Resolution Copper Mine will be 10.2 percent of the average for copper mines in Arizona? As discussed in response WT1, water use calculated for the Resolution Copper Mine is based on a thickened tailings slurry that differs from sources in the literature referenced by Emerman. Resolution Copper is investing in thickening technology specifically in order to reduce water use.
- Why does Rio Tinto believe that water consumption for the Resolution Copper Mine will be only 15,700 acre-feet per year when the water exported with the tailings alone will be 25,600 acre-feet of water per year, according to the GPO? This information is out of date. The disclosure and the analysis in the DEIS are based on updated information developed during the NEPA analysis, not the GPO from 2016. The actual amount of water exported with the tailings differs by alternative. For instance, for Alternative 2 this ranges from 5,820 af/yr to 20,810 af/yr (DEIS, appendix H, p. H-2). Dr. Emerman also disregards the amount of water that is reclaimed back to the process from the tailings storage facility. For instance, for Alternative 2 this ranges from 434 to 2,989 af/yr (DEIS, appendix H, p. H-4).

Comment response: WT1_A Comments that disclosed water use is incorrect and unrealistic; with addition for specific comment 30143-8	Page 2 of 2
Responsive to these comments: 30143-8 (Emerman2)	
• What alternatives does Rio Tinto have for water supply if Rio Tinto cannot meet its promise to consume only 15,700 acre-feet of water per year? Even if Rio Tinto can fulfill its promise to consume only 15,700 acre-feet of water per year, how will Rio Tinto secure the shortfall of 35 percent of necessary water supply, as stated in the GPO? Resolution Copper's water supply from the Desert Wellfield must be permitted through the Arizona Department of Water Resources, which is located within the Phoenix Active Management Area and is therefore subject to obtaining valid groundwater rights. This is true regardless of the amount of water Resolution Copper pumps from the Desert Wellfield.	

Comment response: WT1_B Comments that disclosed water use is incorrect and unrealistic; with addition for specific comment 8031-50	Page 1 of 1
Responsive to these comments: 8031-50	
See response WT1 for response to the estimates of water use contained in the Emerman report. This comment also refers back to the water use figures provided in the GPO (Resolution Copper 2016c) and indicates that the DEIS numbers differ. This is correct; the DEIS estimates of water use are based on actual tailings alternatives and do differ in a number of ways from the general estimates in the GPO. The comments also indicates that the DEIS "simply concludes with no analysis or support that for the life of the mine, '87,000 acre-feet of water would be pumped from the mine, and between 180,000 and 590,000 acre-feet of makeup water would be pumped from the Desert Wellfield in the East Salt River Valley.'" It is incorrect to state that this conclusion is not supported. The quote from the comment is taken solely from the Executive Summary, with no reference to the rest of the analysis in the DEIS itself. The water balance for the mine is complex, and the DEIS, DEIS references, and the project record contain extensive analysis of the mine water balance. For instance, the DEIS discloses the water use of the mine in chapter 2 (see "Water Use," DEIS, pp. 52–54); chapter 3, section 3.7.1 (see "Changes in Desert Wellfield Pumping"); and Appendix H, Further Details of Mine Water Balance and Use (DEIS appendix H). These are based in turn on reference documents such as WestLand Resources Inc. (2018b).	

Comment response: WT2 Questions on total amount of water use	Page 1 of 1

Responsive to these comments:

1166-2, 1196-1, 1301-16, 1333-1, 7687-2, 8032-67

There is no single water balance component that equals "predicted water consumption." We interpret the term "predicted water consumption" used by the commenter to mean water that is lost from evaporation, seepage, or shipping with concentrate and that cannot be captured and recycled. Similarly, "predicted water consumption" also equals the various sources of water supply that continually make up for this lost water, and this can be readily quantified. The "predicted water consumption" of the mine consists of three components:

1) By far the largest of these components is makeup water pumped from the Desert Wellfield in the East Salt River valley (for the Preferred Alternative, this water use ranges from 5,578 to 17,948 acre-feet per year, depending on the project phase, and averages 13,289 acre-feet over the 41-year period of active pumping (DEIS, appendix H, p. H-8)).
2) For consumptive use it would be reasonable to add the dewatering from the East Plant Site (ranges from 1,298 to 2,118 acre-feet per year, with an average of 1,715 acre-feet per year; see DEIS, appendix H, p. H-2).
3) The capture of precipitation at the tailings storage facility (for the Preferred Alternative, ranges from 1,110 to 1,865 acre-feet per year, with an average of 1,678 acre-feet per year; see DEIS, appendix H, p. H-4).
4) Thus, the "predicted water consumption" of the mine as disclosed in the DEIS averages 16,682 acre-feet per year (13,289 acre-feet plus 1,715 acre-feet plus 1,678 acre-feet).

Comment response: WT3 Comments on amount of water use shown in Appendix H	Page 1 of 1

Responsive to these comments:

30078-22

The comment correctly restates and interprets the data shown in table 2.2-1 but does not correctly interpret the data in appendix H.

The numbers cited in the comment from p. H-3 for Alternatives 2 and 6 are specifically for the combined inflow to the West Plant Site, which in turn consists of process makeup water (a combination of groundwater pumped from the Desert Wellfield and return flow from the filter plant) and tailings recycled water.

The numbers shown on table 2.2-1 only reflect the Desert Wellfield pumping. Both the process makeup water and Desert Wellfield pumping values shown in appendix H are consistent with table 2.2-1. For process makeup water, Alternative 2 (peak year = 13,757 acre-feet [p. H-2]) uses more than Alternative 6 (peak year = 11,779 acre-feet [p. H-3]). For Desert Wellfield pumping, Alternative 2 (peak year = 19,926 acre-feet [p. H-7]) uses more than Alternative 6 (peak year = 17,948 acre-feet [p. H-8]).

Comment response: WT4 Comments on water scarcity and competing water uses	Page 1 of 1

Responsive to these comments:

1054-1, 1068-3, 107-1, 107-2, 1083-4, 1090-2, 1093-2, 1110-2, 1117-1, 1128-11, 1140-2, 1150-8, 1161-2, 1189-1, 1189-2, 122-7, 1235-6, 1301-10, 1301-11, 1301-4, 1301-5, 1301-7, 1310-1, 1318-2, 1321-1, 1321-2, 132-4, 1335-3, 1338-9, 1358-4, 1359-4, 1360-15, 1374-1, 1381-1, 1383-1, 1389-13, 1464-1, 1464-2, 1538-2, 1540-10, 1540-8, 1544-7, 1919-1, 209-3, 233-3, 27978-1, 28449-54, 28561-2, 290-3, 291-2, 30064-2, 30066-2, 30078-15, 30078-16, 30078-17, 30078-18, 30078-36, 30079-3, 30079-4, 30138-1, 30147-6 (Powers), 356-2, 356-3, 392-1, 40-3, 410-1, 417-1, 437-3, 44-2, 452-2, 481-2, 506-1, 529-1, 533-2, 555-16, 555-17, 555-18, 557-1, 5727-2, 59-3, 5942-2, 595-1, 609-2, 612-1, 614-1, 624-1, 633-2, 639-1, 64-4, 669-3, 6950-1, 6984-2, 737-1, 747-1, 777-1, 8031-42, 8031-51, 8031-56, 8031-73, 8032-101, 8032-106, 8032-107, 8032-62, 8074-1, 8144-1, 82-5, 8320-1, 894-1, 897-3, 897-8, 899-3, 899-8, 900-3, 906-1, 943-2, 974-2, 979-3, F10-2

Groundwater use by the mine is regulated by the State of Arizona, not the Forest Service. The Arizona legal framework has been promulgated in order to balance competing uses of a finite resource, under a comprehensive framework of water rights and water use permits. The responsibility of the Forest Service under NEPA is to analyze and disclose the water use of the mine, and disclose the anticipated effects on the environment caused by extraction and use of that water.

Numerous public comments raise the issue of water shortages due to overallocation, drought, and climate change. The DEIS addresses these issues in several sections, including the following: “Ongoing Climatic Trends Affecting Water Balance” (DEIS, p. 311); “Cumulative Effects – East Salt River Valley Water Supplies” (DEIS, p. 341); “Cumulative Effects – Recharge and Recovery Credits” (DEIS, p. 341); and “Cumulative Effects – Regional Water Supplies” (DEIS, p. 342). The DEIS concludes, “Cumulatively, the total demand on the groundwater resources in the East Salt River valley is substantial and could be greater than the estimated amount of physically available groundwater” (DEIS, p. 342).

The FEIS reaches similar conclusions; however, the cumulative effects analysis has been expanded in chapter 4 of the FEIS to quantify the cumulative effects of competing water uses in the region and the ramifications of ongoing drought or climate change.

Comment response: WT4_A Comments on water scarcity and competing water uses; with addition for specific comment 1068-1; 30078-13	Page 1 of 1

Responsive to these comments:

1068-1, 30078-13

See response WT4 for response to the general topic of water scarcity and competing water uses.

This comment also raises the issue of the use of long-term storage credits. With respect to the makeup water supply for the project, the intent of the analysis contained in the DEIS is to consider the maximum physical impacts that could be caused by the pumping. For this reason, the analysis models the physical extraction of all water from the Desert Wellfield, regardless of legal status: “The impacts from the Desert Wellfield that are described in this section are based on the physical removal of water from the aquifer as it exists today and are not a reflection of the legal availability of that groundwater” (DEIS, p. 342). Resolution Copper has obtained long-term storage credits equal to more than one-half of the planned water supply over the life of the mine (DEIS, p. 342). These long-term storage credits represent water that otherwise would have already been pumped from the aquifer; thus, from a regulatory viewpoint, ADWR does not consider pumping that recovers these credits to be “new” groundwater extraction. In the DEIS, the pumping of the full amount of groundwater was modeled regardless of the regulatory context, in order to ensure that physical impacts to the aquifer were not underrepresented.

With respect to the FEIS: (1) the pumping analysis continues to assume that all water is removed directly from the Desert Wellfield, without reduction from direct delivery, in order to not underestimate physical impacts to the aquifer; and (2) the cumulative effects analysis in chapter 4 of the FEIS has been expanded to quantify the cumulative effects of competing water uses in the region, and the ramifications of ongoing drought or climate change.

Also note that these comments mention recent modeling of projected shortfalls in Pinal County conducted by the ADWR; the area for which this model was conducted does not extend as far north as the Desert Wellfield, or as far any substantial drawdown anticipated from the Desert Wellfield.

Comment response: WT4_B Comments on water scarcity and competing water uses; with addition for specific comment 1379-3; 83-2; 8201-2; 461-2; 366-1	Page 1 of 1

Responsive to these comments:

1379-3, 366-1, 461-2, 8201-2, 83-2

See response WT4 for response to the general topic of water scarcity and competing water uses.

Several comments claim that the amount of water use was not disclosed, or cite incorrect water usage numbers.

With respect to disclosure of water use, the water balance of the mine is complex, and the DEIS discloses the water use of the mine in multiple places, including in chapter 2 (see "Water Use," DEIS, pp. 52–54); chapter 3, section 3.7.1 (see "Changes in Desert Wellfield Pumping"); and Appendix H, Further Details of Mine Water Balance and Use (DEIS appendix H). There is no single water balance component that equals "predicted water consumption." We interpret the term "predicted water consumption" used by the commenter to mean water that is lost from evaporation, seepage, or shipping with concentrate and that cannot be captured and recycled. Similarly, "predicted water consumption" also equals the various sources of water supply that continually make up for this lost water, and this can be readily quantified. The "predicted water consumption" of the mine consists of three components:

1) By far the largest of these components is makeup water pumped from the Desert Wellfield in the East Salt River valley (for the Preferred Alternative, this water use ranges from 5,578 to 17,948 acre-feet per year, depending on the project phase, and averages 13,289 acre-feet over the 41-year period of active pumping (DEIS, appendix H, p. H-8)).
2) For consumptive use it would be reasonable to add the dewatering from the East Plant Site (ranges from 1,298 to 2,118 acre-feet per year, with an average of 1,715 acre-feet per year; see DEIS, appendix H, p. H-2), and
3) The capture of precipitation at the tailings storage facility (for the Preferred Alternative, ranges from 1,110 to 1,865 acre-feet per year, with an average of 1,678 acre-feet per year; see DEIS, appendix H, p. H-4).
4) Thus, the "predicted water consumption" of the mine as disclosed in the DEIS averages 16,682 acre-feet per year (13,289 acre-feet plus 1,715 acre-feet plus 1,678 acre-feet).

See also response WT1 for more discussion about incorrect estimates for mine water use.

Comment response: WT4_C Comments on water scarcity and competing water uses; with addition for specific comment 1454-12 and 6419-21	Page 1 of 1

Responsive to these comments:

1454-12

See response WT4 for response to the general topic of water scarcity and competing water uses.

These comments incorrectly assert that no analysis of the impact on the local area from the pumping was contained in the DEIS. Analysis of groundwater drawdown in the vicinity of the Desert Wellfield is contained in section 3.7.1 of the DEIS (see specifically figure 3.7.1-2, and pp. 335–340 (changes in the Desert Wellfield by alternative)). Analysis of groundwater drawdown in the vicinity of the mine site is also contained in section 3.7.1 of the DEIS (see specifically figure 3.7.1-3, as well as all of section 3.7.1.4, which looks at impacts to groundwater-dependent ecosystems and water supplies from groundwater drawdown).

Comment response: WT4_D Comments on water scarcity and competing water uses; with addition for specific comment 1463-1	Page 1 of 1
Responsive to these comments: 1463-1	
See response WT4 for response to the general topic of water scarcity and competing water uses. The comment states, "I think it would be valuable to the public if there was more of a discussion on the potential impact there may be at these sites." This appears to refer to riparian areas where mitigation would be applied. Discussion of the impacts to these areas is found in the DEIS in the following places: in table 3.7.1-3 (see specifically the footnote for types of riparian impacts anticipated: "reduction or loss of spring/stream flow, increased mortality or reduction in extent or health of riparian vegetation, and reduction in the quality or quantity of aquatic habitat from loss of flowing water, adjacent vegetation, or standing pools"); p. 329 (anticipated impacts on Devil's Canyon); p. 329 (anticipated impacts on springs); pp. 329–332 (anticipated impacts on Queen Creek); and pp. 333–334 (longer term anticipated impacts on springs, Queen Creek, Devil's Canyon, Telegraph Canyon, and Arnett Creek). Also see response WT8 for more detail on riparian impacts contained in the DEIS.	

Comment response: WT4_E Comments on water scarcity and competing water uses; with addition for specific comment 1468-4	Page 1 of 1
Responsive to these comments: 1468-4	
See response WT4 for response to the general topic of water scarcity and competing water uses. The comment asks, "Has the impact of the reduction in the water table on the ability of the surrounding areas to provide adequate water for development been factored into the financial impact of this project?" We have added a discussion of the financial impacts of changes to water supply to the socioeconomics section (3.13) of the FEIS.	

Comment response: WT4_F

Comments on water scarcity and competing water uses; with addition for specific comment 8031-55; 8031-57; 8032-108

Responsive to these comments:

8031-55, 8031-57, 8032-108

See response WT4 for response to the general topic of water scarcity and competing water uses.

These comments criticize the lack of inclusion of the Drought Contingency Plan in the cumulative effects analysis. This is an incorrect assumption.

We evaluated the Drought Contingency Plan as a potential reasonably foreseeable future action (RFFA). Our cumulative effects analysis in the DEIS consisted of three documented steps:

- First, a list of any and all potential RFFAs was compiled from available sources, including public scoping, internal scoping, news media, and the Forest Service Schedule of Proposed Actions. These potential RFFAs were screened for temporal overlap and to ensure sufficient detail existed to allow analysis. The results of this screen are found in "Process Memorandum to File – Determination of Reasonably Foreseeable Actions Considered in Cumulative Effects Analysis" (Rigg and Morey 2018).
- Second, for those RFFAs passing the initial screening, and for other key RFFAs raised specifically after the initial screening, a more complete resource-by-resource assessment of spatial overlap was conducted. The results of this screen are found in "Process Memorandum to File – Cumulative Effects Analysis" (SWCA Environmental Consultants 2018a).
- Third, the analysis of cumulative effects for all RFFAs that passed both screenings were analyzed in chapter 3 of the FEIS, in each of the appropriate resource sections.

The assessment of the Drought Contingency Plan can be found in SWCA Environmental Consultants (2018a). (Note that this process memorandum is a compilation of worksheets and does not have useful page numbering; the Drought Contingency Plan can be found on p. 68 of the PDF file). The Drought Contingency Plan was not analyzed because there is no temporal overlap with the Resolution Copper Project: "Although an important reasonably foreseeable future action, the DCP is statutorily set to expire in December 2026. A new water management plan for the seven Colorado River basin states and Mexico will replace it, but work on this new plan has not yet begun. . . . Overall conclusion: It is unlikely that any of the provisions of the DCP will be in effect when (or if) the Resolution Mine becomes operational, which is not likely to occur before 2026-2027. No information exists as to what any new water management plan that will replace it will entail. This analysis therefore presumes no cumulative effects can be established between the Resolution Mine project and the DCP."

Despite the fact that the Drought Contingency Plan itself could not be analyzed, we expanded the FEIS cumulative effects analysis (chapter 4 of the FEIS) to quantify the cumulative effects of competing water uses in the region, and the ramifications of ongoing drought or climate change.

Comment response: WT4_G Comments on water scarcity and competing water uses; with addition for specific comment 83-1, 59-4, 562-4	Page 1 of 1

Responsive to these comments:

562-4, 59-4, 83-1

See response WT4 for response to the general topic of water scarcity and competing water uses.

These comments specifically mention the planned Superstitions Vistas development area in the East Salt River valley. We evaluated these developments as a potential reasonably foreseeable future action (RFFA). See response WT4_F for more detail on the steps of the cumulative effects analysis.

The assessment of Superstition Vistas can be found in SWCA Environmental Consultants (2018a). (Note that this process memorandum is a compilation of worksheets and does not have useful page numbering; Superstition Vistas can be found on p. 33 of the PDF file). Superstition Vistas was not analyzed as a standalone RFFA because insufficient detail exists: "Development of any or all of these projects depends on numerous factors, including public demand for new housing and commercial facilities in the area as well as necessary roads, bridges, and water and electrical and other infrastructure and services; favorable market conditions; municipal government approval of planning and individual development designs; and innumerable other factors. It is considered too speculative to estimate if, when, or to what extent development may occur in these areas."

However, we still incorporated the future growth in the Superstition Vistas planning area conceptually. One RFFA carried into the cumulative effects analysis was "Future Assured Water Supplies" (SWCA Environmental Consultants (2018a:76). This RFFA includes more general impacts as well: "Note that this RFFA is combined with the overall use of water resources and development in the East Salt River valley, which are assessed together for cumulative effects." The resulting analysis is disclosed in section 3.7.1 (DEIS, pp. 341–342).

Note that we expanded the FEIS cumulative effects analysis (chapter 4) to quantify the cumulative effects of competing water uses in the region, and the ramifications of ongoing drought or climate change. This includes the Superstition Vistas development.

Comment response: WT4_H Comments on water scarcity and competing water uses; with addition for specific comment 30078-19	Page 1 of 1

Responsive to these comments:

30078-19

See response WT4 for response to the general topic of water scarcity and competing water uses.

This comment indicates that the level of analysis conducted for cumulative effects is not sufficient under NEPA.

In response to comment, the cumulative effects analysis has been expanded and reformatted in the FEIS. The FEIS contains a reworked cumulative effects analysis (chapter 4) that takes a more quantitative approach whenever possible. This includes the cumulative impacts in the East Salt River valley; after consultation with the Arizona Department of Water Resources, additional modeling has been conducted to quantify the combined impact of future regional water use with the Resolution Copper Project Desert Wellfield pumping, including approved assured water supplies and extraction of all accumulated long-term storage credits. The quantitative results of this model are included in chapter 4 and section 3.7.1 of the FEIS.

Comment response: WT4_I Comments on water scarcity and competing water uses; with addition for specific comment 8032-100	Page 1 of 1
Responsive to these comments: 8032-100	
See response WT4 for response to the general topic of water scarcity and competing water uses. This comment states, "The DEIS (p. 335) states that 'the amount of groundwater in storage in the East Salt River valley subbasin (above a depth of 1,000 feet) is estimated to be about 8.1 million acre-feet.' The amount of water in storage (meaning in water storage facilities) is NOT the same thing as the amount of water which actually exists in the subbasin." This is an incorrect reading of the DEIS. The value of 8.1 million acre-feet refers to the amount of groundwater physically existing in the basin above a depth of 1,000 feet. It does not refer to the amount of water stored in permitted water storage facilities.	

Comment response: WT4_J Comments on water scarcity and competing water uses; with addition for specific comment 1499-2	Page 1 of 1
Responsive to these comments: 1499-2	
See response WT4 for response to the general topic of water scarcity and competing water uses. This comment states, "Resolution Copper essentially gave up on modeling the impacts on groundwater resources from the Desert Wellfield withdrawals claiming it is too difficult to foresee." The comment is not correct. We evaluated the modeling results from the Desert Wellfield impacts analysis as the basis for our disclosure of impacts in the DEIS. Analysis of groundwater drawdown in the vicinity of the Desert Wellfield is contained in section 3.7.1 of the DEIS (see specifically figure 3.7.1-2 and pp. 335–340 (changes in the Desert Wellfield by alternative)).	

Comment response: WT4_K Comments on water scarcity and competing water uses; with addition for specific comment 6419-2	Page 1 of 1
Responsive to these comments: 6419-2	
See response WT4 for response to the general topic of water scarcity and competing water uses. This comment states, "Dewatering the pit may also have unintended consequences on local groundwater as the analysis conducted by Resolution Copper failed to determine the source of water that would have to be removed and managed." This is an incorrect statement. The proposed mine is not an open pit mine. Assuming the comment may be referring to the underground mine infrastructure in the block-cave zone, this is still an incorrect statement. Analysis of groundwater drawdown in the vicinity of the mine site is also contained in section 3.7.1 of the DEIS (see specifically figure 3.7.1-3, as well as all of section 3.7.1.4, which looks at impacts to groundwater-dependent ecosystems and water supplies from groundwater drawdown).	

Comment response: WT4_L Comments on water scarcity and competing water uses; with addition for specific comment 52-3	Page 1 of 1
Responsive to these comments: 52-3	
See response WT4 for response to the general topic of water scarcity and competing water uses. This comment states, “The DEIS says that this would cause the ground to collapse as much as 10 feet.” This is an incorrect statement. The DEIS acknowledges the potential for ground subsidence but makes no specific predictions. See response WT10 for more detail on subsidence impacts.	

Comment response: WT6 Ramifications of geothermal water	Page 1 of 1
Responsive to these comments: 1068-4, 1235-5, 1301-1, 1468-3, 151-3, 28605-1, 290-2, 29444-2, 30142-1 (Emerman1), 30142-2 (Emerman1), 30142-3 (Emerman1), 30142-4 (Emerman1), 30142-5 (Emerman1), 30142-6 (Emerman1), 30142-7 (Emerman1), 30143-1 (Emerman2), 30147-9 (Powers), 356-5, 452-4, 567-2, 5885-2, 6097-1, 669-2, 8000-2, 8032-299, 8032-300, 8032-88, F10-4	
These comments suggest that Resolution Copper underestimates the amount of groundwater required to be removed in order to dewater mine infrastructure. These same comments also focus on the temperature of the water, suggesting that the cooling requirements have not been properly taken into account with the design. These comments have been made by multiple commenters, but are handled in the most detail in two technical reports (attached to comment letter #8032 as B2 and B3), authored by Dr. S. Emerman. The Forest Service explored the issues raised in these two reports and documented the review (Garrett 2020c). This review found that the information compiled by Dr. Emerman is quoted correctly from sources and is factual as applied to the specific location and experience of constructing Shaft 10. However, Dr. Emerman has then extrapolated these facts to the project as a whole, based primarily on review of the GPO (Resolution Copper 2016c) rather than the documents used in the NEPA analysis. When taken in the context of the entire project and all other available information, the conclusions drawn by Dr. Emerman are not valid; four specific considerations that led to this conclusion are discussed in detail (Garrett 2020c). The Forest Service also determined that the temperature data were not unexpected or unanticipated and that the high temperatures have been assumed in the support documents and incorporated into both design and analysis (Garrett 2020c).	

Comment response: WT6_A Ramifications of geothermal water; with addition for specific comment 28930-2	Page 1 of 1

Responsive to these comments:

28930-2

See response WT6 for response to the general topic of geothermal water.

The comment states that there has not been a geotechnical study or a cultural resource study conducted for the Preferred Alternative (Skunk Camp).

With respect to cultural resources, this is not factually correct. As noted on DEIS p. 635, almost all of the land in this alternative had been surveyed prior to the DEIS: "Please note that portions of the proposed pipeline corridors for the Skunk Camp alternative have not been completely surveyed. At this time, 16,049 acres (96 percent) of the alternative has been surveyed for Alternative 6 and the north pipeline route option, and 16,559 acres (96 percent) has been surveyed for Alternative 6 and the south pipeline route option." These surveys are fully complete and have been consulted on with the Arizona SHPO, as required under Section 106 of the NHPA.

With respect to the geotechnical study, the commenter is correct that this had not been completed as of the time of publication of the DEIS. The Forest Service obtained the results in late 2019 from Resolution Copper; these results are reflected in the FEIS (see section 3.2 for an overview) and in fact formed a key part of the collaborative review of tailings safety that occurred in February 2020 (the failure modes and effects analysis, described in section 3.10.1 of the FEIS).

Comment response: WT7 Refined analysis for water quality for Alternative 6	Page 1 of 1

Responsive to these comments:

103-2, 1084-5, 1128-9, 1157-1, 1158-32, 1158-33, 1158-41, 1540-11, 28449-52, 30075-41, 30078-34, 30078-35, 524-4, 555-11, 555-13, 555-15, 555-23, 66-3, 7690-2, 8031-64, 8032-251, 8032-252, 8032-84, 8237-1

These comments express concerns for water quality in general. Potential surface water and groundwater quality impacts have been fully analyzed and disclosed in the DEIS. See response WT48 for more details.

Many of these comments are specifically concerned with the Preferred Alternative (Alternative 6 – Skunk Camp) and the potential downstream water quality impacts to residents along Dripping Spring Wash or water supplies further downstream, such as Winkelman or Hayden.

The analysis of potential impacts to surface water and groundwater quality associated with the Preferred Alternative was refined and is presented in section 3.7.2 of the FEIS. The updated analysis is supported by additional baseline hydrologic investigations, aquifer testing, and additional groundwater and surface water quality samples. The results disclosed in the FEIS are similar to those in the DEIS. Concentrations of contaminants due to the seepage from the Alternative 6 tailings storage facility are not anticipated to exceed numeric water quality standards.

Comment response: WT8 Riparian analysis and mitigation	Page 1 of 2

Responsive to these comments:

1219-2, 1322-6, 1501-5, 1544-10, 27681-3, 27755-2, 27955-3, 27995-4, 27996-3, 28093-4, 28093-6, 28106-4, 30075-25, 30075-3, 30075-5, 30075-50, 30075-52, 30075-7, 30075-8, 8031-46, F6-6

These comments generally indicate that riparian habitats have not been adequately analyzed in the DEIS.

We consider the analysis of impacts to riparian habitats to be thorough and complete. A number of these comments appear to be unaware of the substantial background information, either in the project record or cited as DEIS references, that contributed to the analysis statements contained in the DEIS.

CEQ regulations indicate that not all information available has to appear in the EIS itself: "Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment" (40 CFR 1502.21).

Analysis of riparian areas and potential impacts appears in the following places in the DEIS itself:

- Section 3.3, amount of riparian vegetation and xeric riparian vegetation removed by each alternative (DEIS, pp. 176–178)
- Section 3.3, desired future conditions from the Tonto National Forest for riparian and xeric riparian areas, the potential to meet these conditions after reclamation, and the amount of time needed to meet these conditions (DEIS, pp. 186, 188–190, 200)
- Section 3.3, anticipated impacts to riparian vegetation extent and health due to water quantity and quality impacts (DEIS, p. 196)
- Section 3.7.1, descriptions of groundwater-dependent ecosystems, including riparian areas (DEIS, pp. 312–317)
- Section 3.7.1, impacts to groundwater-dependent ecosystems, including riparian areas, due to dewatering from the project (DEIS, pp. 317–340)
- Section 3.7.1, cumulative impacts to groundwater-dependent ecosystems, including riparian area (DEIS, pp. 340–342)
- Section 3.7.1, mitigation, mitigation effectiveness, and unavoidable adverse effects on groundwater-dependent ecosystems (DEIS, pp. 342–345)
- Section 3.7.3, amount of wetlands (defined under the National Wetlands Inventory) impacted (DEIS, pp. 435–444)
- Section 3.7.3, amount of jurisdictional wetlands (defined under Section 404 of the Clean Water Act) impacted (DEIS, pp. 435–444)
- Section 3.7.3, impact of changes in geomorphology on groundwater-dependent ecosystems, including riparian vegetation (DEIS, pp. 433–434)

Comment response: WT8 Riparian analysis and mitigation	Page 2 of 2

Responsive to these comments:

1219-2, 1322-6, 1501-5, 1544-10, 27681-3, 27755-2, 27955-3, 27995-4, 27996-3, 28093-4, 28093-6, 28106-4, 30075-25, 30075-3, 30075-5, 30075-50, 30075-52, 30075-7, 30075-8, 8031-46, F6-6

- Section 3.7.3, impact of reductions in storm flow on surface water systems supporting vegetation (DEIS, pp. 435–444)
- Section 3.8, impact on special habitat areas supporting wildlife, including riparian (DEIS, pp. 452, 459–461)
- Section 3.8, impact to specific species groups, including impacts of low-elevation riparian loss on MIS (DEIS, pp. 461–463, 472)
- Section 3.8, impact to threatened and endangered species from riparian zone impacts (DEIS, pp. 473–476)
- Section 3.10.1, potential to impact riparian areas from tailings storage facility or pipeline failures (DEIS, pp. 527–534, 540–543)

In addition to these, there are a number of reference documents that contain more detail on these riparian areas. Key documents include the following, all of which were available for public review on the website at the time of release of the DEIS:

- DEIS reference “Summary and Analysis of Groundwater-Dependent Ecosystems” (Garrett 2018e)
- DEIS reference “Spring and Seep Catalog Resolution Copper Project Area Upper Queen Creek and Devils Canyon Watersheds, Version 2.0” (WestLand Resources Inc. and Montgomery and Associates Inc. 2018)
- DEIS reference “Surface Water Baseline Addendum: Upper Queen Creek, Devils Canyon, and Mineral Creek Watersheds” (Montgomery and Associates Inc. 2017d)
- DEIS reference “2017 Oak Flat Surface Water Monitoring Program” (Montgomery and Associates Inc. 2017a)

Note: we added further description of riparian impacts to the FEIS, including potential impacts to landowners from drawdown (section 3.13), results of Section 7 consultation on threatened and endangered species (section 3.8), and further descriptions of the types of riparian impacts that could occur (section 3.7.1).

Comment response: WT8_A Riparian analysis and mitigation; with addition for specific comment 1107-5	Page 1 of 1

Responsive to these comments:

1107-5

See response WT8 for response to the topic of inadequate riparian analysis in the DEIS.

Potential impacts to water rights are described in section 3.7.1 (DEIS, pp. 332–333). Also see response NEPA14 for more discussion of water rights impacts.

Comment response: WT9 Pumping from MARRCO corridor	Page 1 of 1

Responsive to these comments:

8031-52, 8032-102

This comment indicates that "impacts of activities in the desert wellfield (MARRCO corridor) including water pumping have not been fully considered . . . . Future activity in the MARRCO corridor includes at least the drilling of several dozen wells, construction of major power line infrastructure, new pump stations, grading and sloping, access roads, and an additional 50-foot easement (DEIS, appendix G, p. G-10), all of which are major connected actions as defined in 40 C.F.R. § 1508.25, and which should have been fully analyzed in this DEIS."

All impacts within the MARRCO corridor were included in the DEIS:

- With respect to ground disturbance, the entire footprint of the MARRCO corridor was incorporated into all analysis in the DEIS with an assumption of 100 percent disturbance as described in chapter 2 (DEIS, p. 38). This ground disturbance incorporates many impacts found in analysis on soils (section 3.3), vegetation (3.3), and wildlife habitat (section 3.8).
- Noise impacts along the MARRCO corridor are in section 3.4 (DEIS, pp. 227–232).
- Transportation impacts related to activities along the MARRCO corridor are in section 3.5 (DEIS, pp. 254–269).
- Air quality impacts related to activities along the MARRCO corridor are in section 3.6 (DEIS, pp. 284–291). Note also that more detailed impacts are found in the DEIS references for air quality, such as Air Sciences Inc. (2019b).
- Impacts from pumping of the Desert Wellfield are specifically analyzed in section 3.7.1 (DEIS, pp. 325–340).
- Recreation impacts related to the MARRCO corridor, particularly the crossing of the Arizona National Scenic Trail, are analyzed in section 3.9 (DEIS, pp. 498–509).
- Potential impacts caused by rupture of a concentrate pipeline along the MARRCO corridor is analyzed in section 3.10.1 (DEIS, pp. 538–554).

Comment response: WT10 Subsidence analysis	Page 1 of 1

Responsive to these comments:

1177-2, 30078-50, 30078-51, 46-1, 555-20, 8031-53, 8032-103, 8032-79

These comments concern the analysis of potential land subsidence in the East Salt River valley caused by pumping from the Desert Wellfield. The analysis of land subsidence is found in section 3.7.1 (DEIS, p. 334). Note that this short summary is not the sole analysis of land subsidence. Further description can be found in Newell and Garrett (2018d), and further references in the project record.

CEQ regulations indicate that not all information available has to appear in the EIS itself: "Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment" (40 CFR 1502.21).

Based on comments on the DEIS, we have included additional analysis of land subsidence in section 3.7.1 of the FEIS. We also have included a new discussion of regional water supply and competing water uses in a new cumulative effects chapter in the FEIS (chapter 4).

Several of these comments note the lack of mitigation proposed for pumping impacts from the Desert Wellfield. This is a correct statement. Mitigation is not a regulatory requirement for pumping impacts properly permitted by the Arizona Department of Water Resources, nor is it within the jurisdiction of the Forest Service to require it for pumping impacts off of National Forest System lands, nor has Resolution Copper brought forth voluntary mitigation for impacts to nearby well owners or property owners.

A specific comment was made that MODFLOW could be used to quantitatively estimate the contribution of the Desert Wellfield to subsidence. This specific issue was brought forward to the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS) and explored by the NEPA team. We found that the MODFLOW based ADWR Salt River valley model is a sufficient tool to estimate the contribution of the Desert Wellfield to subsidence in the East Salt River valley, when considered alongside historic data (Walser 2020b).

Comment response: WT12 Analysis of impacts in the San Tan area	Page 1 of 1

Responsive to these comments:

1342-5, 1544-9, 29-6, 42-1

These comments indicate that analysis on dewatering impacts—either at the mine site or in the East Salt River valley near the Desert Wellfield—are missing from the DEIS. This is not a correct statement.

Analysis of dewatering impacts from the mine site are found in section 3.7.1, including analysis of potential impacts on springs and seeps, perennial waters, riparian areas, and water supplies (DEIS, pp. 317–340). This includes analysis of mitigation meant to offset these impacts (DEIS, pp. 342–344).

Analysis of dewatering impacts in the San Tan area (East Salt River valley) from pumping at the Desert Wellfield is also found in section 3.7.1 (DEIS, pp. 317–340). No mitigation is pertinent to this pumping, but substantial discussion of the cumulative impacts on the regional water supplies in this area is also found in section 3.7.1 (DEIS, pp. 340–342).

Based on comments on the DEIS, we have included a necessary new discussion of regional water supply and competing water uses in a new cumulative effects chapter in the FEIS (chapter 4).

Comment response: WT14 Long-term storage credits	Page 1 of 1

Responsive to these comments:

1540-9, 49-1

The use of long-term storage credits by Resolution Copper is discussed in chapter 2 (DEIS, p. 59), in section 3.7.1 as part of "Applicant-Committed Environmental Protection Measures" (DEIS, pp. 327–328), and in section 3.7.1 as part of the cumulative effects analysis (DEIS, pp. 340–342). Based on comments on the DEIS, we have expanded the discussion of regional water supply and competing water uses in the reformatted cumulative effects chapter in the FEIS (chapter 4). This refined cumulative effects analysis includes the cumulative impact caused by removal of all currently held long-term storage credits in the East Salt River valley, in addition to the removal of water by Resolution Copper for the mine. See also response WT4_A for more discussion of the analysis of long-term storage credits.

One comment notes the lack of mitigation proposed for pumping impacts from the Desert Wellfield. This is a correct statement. Mitigation is not a regulatory requirement for pumping impacts properly permitted by the Arizona Department of Water Resources, nor is it within the jurisdiction of the Forest Service to require it for pumping impacts off of National Forest System lands, nor has Resolution Copper brought forth voluntary mitigation for impacts to nearby well owners or property owners.

Comment response: WT15 Pumping impacts	Page 1 of 1

Responsive to these comments:

1158-38

This comment notes, "The DEIS states, 'Drawdown from 10 to 30 feet is anticipated in wells in the Superior area.' It assumed that this estimate is an addition to the drawdown that has occurred already as a result of dewatering in the #9 and #10 shafts at Oak Flat."

To clarify, the quote from the DEIS that is referenced in the comment represents the impact anticipated from the no action alternative. These anticipated drawdowns are indeed in addition to any drawdown that has occurred in the past due to Resolution Copper dewatering pumping. The amount of drawdown that has already occurred near Superior is also disclosed in section 3.7.1 (DEIS, p. 309, see wells DHRES-03, -04, -05, and -16).

Comment response: WT16 Long-term trends beyond 200 years	Page 1 of 1

Responsive to these comments:

1321-4, 30075-2, 8032-90

These comments indicate that the use of the 200-year threshold for assessing impacts was inappropriate. These comments misconstrue the analysis contained in the DEIS.

The choice to restrict the groundwater modeling analysis to 200 years was arrived at after discussions with the Groundwater Modeling Workgroup (DEIS, p. 300). This time frame is applicable only to quantitative impacts. As noted in the DEIS, "Even if quantitative results are unreliable at long time frames, the general trends in modeled groundwater levels can indicate whether the drawdown or impact reported at 200 years represents a maximum impact, or whether conditions might still worsen at that location. These trends are qualitatively explored, regardless of time frame" (DEIS, p. 300).

This qualitative exploration of long-term trends beyond 200 years is also contained in section 3.7.1 (DEIS, p. 325 [no action alternative], and pp. 333–334 [action alternatives]).

Long-term trends were also quantitatively used in the analysis of whether a lake would develop in the subsidence crater (DEIS, pp. 375–379). See response WT36 for details on how the subsidence lake analysis has been modified in response to comments.

Comment response: WT17 Insufficient analysis of water quantity impacts in Queen Creek	Page 1 of 1

Responsive to these comments:

30075-29

This comment notes that "full discussion and disclosure of the environmental effects on Queen Creek caused by the Propose Action requires an analysis of all combined stressors (mine dewatering; the block cave zone; loss of runoff in the subsidence area), along with climate change."

All of these impacts have been analyzed in the DEIS for Queen Creek. Mine dewatering and block-cave zone impacts are analyzed in section 3.7.1 (DEIS, pp. 317–340). Loss of runoff to Queen Creek from the subsidence zone is analyzed in section 3.7.3 (DEIS, pp. 427–444).

The comment indicates that any drawdown impacts should be looked at in tandem with impacts to surface runoff. This indeed was done in the DEIS, for those groundwater-dependent ecosystems experiencing both impacts. For instance, see analysis of Devil's Canyon in section 3.7.1 (DEIS, p. 329), which concludes, "Percent reductions in average annual flow due to the subsidence area range from 5.6 percent in middle Devil's Canyon to 3.5 percent at the confluence with Mineral Creek; percent reductions during the critical low-flow months of May and June are approximately the same. Combined with loss from spring DC-6.6W due to groundwater drawdown, total estimated flow reductions along the main stem of lower Devil's Canyon caused by the proposed project could range from 5 to 10 percent."

Queen Creek does not experience effects from both drawdown and runoff like Devil's Canyon. As described in the DEIS, only impacts from surface runoff are likely (DEIS, pp. 329–332).

Future effects of climate change have been considered in both the groundwater and surface water analysis, as discussed in the section titled "Ongoing Climatic Trends Affecting Water Balance" in section 3.7.1 (DEIS, p. 311), and the section titled "Climate Conditions" in section 3.7.3 (DEIS, pp. 426–427). For groundwater drawdown, climate change effects were incorporated into the groundwater modeling itself as one of the sensitivity analyses modifying the amount of recharge to the system (see September 2018 groundwater workgroup notes (Morey 2018e), Action Item 89, and Meza-Cuadra et al. (2018c)).

The impact of climate change on surface runoff is not readily predicted in ephemeral systems or perennial systems without reliance on snowmelt: "While future projected temperature increases are anticipated to change mean annual precipitation to a small degree, the majority of changes to annual flow in the Lower Colorado River basin are related to changes in runoff timing. Increased temperatures are expected to diminish the accumulation of snow and the availability of snowmelt, with the most substantial decreases in accumulation occurring in lower elevation portions of the basin where cool season temperatures are most sensitive to warming (Dugan 2018)" (DEIS, p. 427).

We have added a comprehensive discussion of climate change to chapter 4 of the FEIS to incorporate all of the different resources in one location.

Comment response: WT19 Water rights	Page 1 of 2

Responsive to these comments:

1540-5, 30078-26, 30078-47, 30078-48, 555-19

The comments purport that project activities may result in impacts to surface water rights. Comments involving the Winters doctrine and Federal reserved water rights are also discussed in response NEPA14.

Several comments indicate that groundwater pumping by wells in the Desert Wellfield in the Salt River valley has not been considered for surface water impacts under the General Stream Adjudication of the Gila River. As noted in section 3.7.1, drawing firm conclusions about impingement on surface water right holders is problematic: "Goals of the adjudication include clarifying the validity and priority of surface water rights and providing a clear legal framework for when groundwater withdrawals would impinge on surface water rights. The adjudication has been underway for several decades, and while progress has been made, many issues remain unresolved, including any prioritization or validation of water rights in the analysis area" (DEIS, p. 332). The DEIS then concludes that while physical loss to these springs is disclosed, "impact on any surface water rights from a legal or regulatory standpoint cannot yet be determined due to the ongoing adjudication" (DEIS, p. 332).

However, for the case of the Desert Wellfield, these same difficulties are not pertinent. As noted in the DEIS, "Current depths to groundwater in the vicinity of the Desert Wellfield range from 400 to 600 feet below ground surface" (DEIS, p. 310). While it is correct that groundwater pumping can in some cases be legally considered surface water under the General Stream Adjudication, usually these wells are located quite close to surface waters, pull water from the same aquifer as the surface water (usually young alluvium), and have relatively shallow groundwater levels because of this. The Desert Wellfield is located roughly 4 miles from Queen Creek (typically ephemeral at this location), 10 miles from the Gila River (typically ephemeral at this location), and 25 miles from the Salt River, with groundwater levels hundreds of feet below surface. There is no reasonable expectation that any of the groundwater pumping wells would impact surface water rights.

There are also pumping wells associated with the seepage collection ponds at the tailings storage facilities. These are similarly unlikely to impact surface water rights. Even the closest alternative tailings storage facility locations (Alternatives 2 and 3) are located several miles from the nearest flowing surface waters, and these wells are intended to capture and control seepage, which represents water being added to the aquifer. These wells are not intended to substantially dewater the aquifer from its current state.

As noted in section 3.7.3 of the DEIS, surface water flows will also be reduced, due to either the subsidence crater (a permanent reduction,) or the tailings storage facility stormwater control (reductions only during operations).

Comment response: WT19 Water rights	Page 2 of 2

Responsive to these comments:

1540-5, 30078-26, 30078-47, 30078-48, 555-19

With respect to subsidence crater impacts, through mitigation these flows would be returned to Queen Creek. This new mitigation is described in section 3.7.1 and appendix J (see measure FS-WR-04) of the FEIS.

With respect to the tailings stormwater controls, typically, sequestration and control of stormwater from development in upland areas are not considered under the General Stream Adjudication, with exceptions for such diversions in active channels such as stock tanks. For Alternatives 5 and 6, there would be temporary, operational, reductions in stormwater delivered to the Gila River (DEIS, pp. 437–444). As with impact to springs, while physical impacts to surface flow can be disclosed, impact to any surface water rights from a legal or regulatory standpoint cannot be determined unless stormwater controls are considered to be appropriate for consideration under the General Stream Adjudication or other water rights proceedings. This includes any impacts to downstream water rights holders on the Gila River, including the San Carlos Irrigation and Drainage District, which lies beyond the groundwater and surface water analysis area but diverts surface water from the Gila River near Florence.

Additional discussion was added to section 3.7.3 of the FEIS on surface water rights.

One comment also discusses inconsistencies of spring loss from the project with Forest Service groundwater policy. The Forest Service has multiple mandates expressed by Congress through a number of laws. The appropriate execution of these mandates is further detailed in regulation and in policy documents (like Forest Service Handbook issuances). Where conflicts occur, the Forest Service must balance these mandates when arriving at a decision.

Comment response: WT20 Potential inconsistency	Page 1 of 1

Responsive to these comments:

1158-34

This comment identifies a potential inconsistency in reported drops in water levels near Superior.

The first mention of a drop of "50 feet since 2009" is found on p. 306 of the DEIS, as noted in the comment. This reference is specific to the values shown in table 3.7.1-1, which looks at four specific wells that are representative of water levels in the deep groundwater system outside of the Resolution Graben.

The second mention of a drop of "20 to 90 feet since 2009" is found on p. 312 of the DEIS, as noted in the comment. This reference is meant to be a more encompassing statement—not specific to the four specific wells in table 3.7.1-1, but representative of all water levels monitored around Superior.

Comment response: WT21 Water sources analyzed; inadequate analysis of water drawdown impacts	Page 1 of 2

Responsive to these comments:

1158-52, 1301-15, 8032-297, 8032-97, 8032-98

This comment indicates perceived inadequacies in the analysis of water sources and impacts.

The first comment is regarding water sources for the mine. There is some potential for renewable water sources to be brought to bear, to reduce groundwater pumping, as described in chapter 2. "Resolution Copper proposes to use water either directly from the CAP [Central Arizona Project] canal or through wells along the MARRCO corridor in the East Salt River Valley" (DEIS, p. 59). This also includes credits for water already recharged to the aquifer: "Currently, Resolution Copper has acquired approximately 313,000 acre-feet of renewable long-term storage credits within the Phoenix and Pinal Active Management Areas (AMAs)" (DEIS, p. 59).

However, the DEIS acknowledges that the renewable supplies from the CAP may or may not be available: "Resolution Copper has also applied for an additional 2,238 acre-feet per year allocation of CAP Non-Indian Agricultural water from the U.S. Department of the Interior Bureau of Reclamation; this application is not yet approved" (DEIS, p. 59).

The CAP-NIA reallocation has been appropriately analyzed under NEPA by the Bureau of Reclamation, a process that began with scoping in November 2015 and that concluded with a signed Finding of No Significant Impact on November 8, 2019.

The reallocation action has not yet taken place. The Bureau of Reclamation requested public comments on the proposed reallocation in June 2020, and this public comment period closed in July 2020.

Our consistent goal with the EIS analysis has been to avoid underestimating impacts. With respect to uncertainty about water sources, we undertook a conservative approach to ensure that impacts caused by the mine water supply were not underestimated. That approach was to model the physical removal of necessary makeup water from the Desert Wellfield in the East Salt River valley with no offsets from either CAP water or long-term storage credits. The pumping impacts shown in the DEIS from pumping at the Desert Wellfield are found in section 3.7.1 (DEIS, pp. 317–340).

We added more discussion to chapter 2 of the FEIS to clarify the sources of water assessed.

Similarly, some comments note that permitting by the Arizona Department of Water Resources is not completed yet. This is correct. However, all groundwater that is anticipated to be physically removed from the aquifer, regardless of how ADWR chooses to permit it, has been modeled, and the impacts are disclosed in the DEIS.

Comment response: WT21 Water sources analyzed; inadequate analysis of water drawdown impacts	Page 2 of 2

Responsive to these comments:

1158-52, 1301-15, 8032-297, 8032-97, 8032-98

These comments point to insufficiency in the cumulative effects analysis for water resources, including the issue of water shortages due to overallocation, drought, and climate change. The DEIS addresses these issues in several sections, including "Ongoing Climatic Trends Affecting Water Balance" (DEIS, p. 311); "Cumulative Effects – East Salt River Valley Water Supplies" (DEIS, p. 341); "Cumulative Effects – Recharge and Recovery Credits" (DEIS, p. 341); and "Cumulative Effects – Regional Water Supplies" (DEIS, p. 342). We concluded, "Cumulatively, the total demand on the groundwater resources in the East Salt River valley is substantial and could be greater than the estimated amount of physically available groundwater" (DEIS, p. 342). We reached similar conclusions in the FEIS; however, the cumulative effects analysis (chapter 4 of the FEIS) was expanded to quantify the cumulative effects of competing water uses in the region and the ramifications of ongoing drought or climate change.

One comment notes that impacts to groundwater-dependent ecosystems were not analyzed for the Desert Wellfield. This is a correct statement. As noted in the DEIS, "Current depths to groundwater in the vicinity of the Desert Wellfield range from 400 to 600 feet below ground surface" (DEIS, p. 310). Unlike for the mine site, there are no groundwater-dependent ecosystems that access water this deep.

Comment response: WT21_A Water sources analyzed; inadequate analysis of water drawdown impacts; with addition for specific comment 8032-99	Page 1 of 1

Responsive to these comments:

8032-99

See response WT21 for response to the topic of water sources analyzed in the DEIS.

This comment specifically notes the Phoenix Active Management Area goals. Discussion of these goals was added to the FEIS in the expanded cumulative effects analysis to quantify the cumulative effects of competing water uses in the region, and the ramifications of ongoing drought or climate change.

Comment response: WT21_B Water sources analyzed; inadequate analysis of water drawdown impacts; with addition for specific comment 8032-298	Page 1 of 1

Responsive to these comments:

8032-298

See response WT21 for response to the topic of water sources analyzed in the DEIS.

This comment specifically raises the issue that the Central Arizona Project Non-Indian Agriculture (CAP-NIA) water reallocation for Resolution Copper be included as a connected action in the EIS.

The CAP-NIA reallocation has been appropriately analyzed under NEPA by the Bureau of Reclamation, a process that began with scoping in November 2015 and that concluded with a signed Finding of No Significant Impact on November 8, 2019.

The reallocation action has not yet taken place. The Bureau of Reclamation requested public comments on the proposed reallocation in June 2020, and this public comment period closed in July 2020.

In the DEIS, we acknowledged that CAP water may be a future water source but did not assume it would be available and did not incorporate it into the impacts analysis. All necessary makeup water is assumed to be physically removed from the East Salt River valley aquifer in order to avoid underestimating impacts.

We updated this discussion in the FEIS to reflect the advancement of the Bureau of Reclamation process. However, the approach remains the same. Because there are clear concerns over the physical availability of CAP water, regardless of the legal availability to Resolution Copper, we did not assume that this source was physically available. As with the DEIS, all necessary makeup water is assumed to be physically removed from the East Salt River valley aquifer in order to avoid underestimating impacts.

Comment response: WT21_C Water sources analyzed; inadequate analysis of water drawdown impacts; with addition for specific comment 30078-46	Page 1 of 1
Responsive to these comments: 30078-46	
See response WT21 for response to the topic of water sources analyzed in the DEIS. This comment indicates that "the right to use groundwater on other than the land overlying the well is dependent upon the issuance of a permit to transfer water from wells located miles away from the point of production and is inconsistent with the general law of the State of Arizona." This is an incorrect statement. The Desert Wellfield is located within the Phoenix Active Management Area. As such, the water supply must be appropriately permitted by the Arizona Department of Water Resources prior to pumping (DEIS, p. 18), and ultimately some form of groundwater right must be obtained before pumping. The ultimate type of groundwater right includes several options for which use away from the point of extraction is allowable, including Type 2 Non-Irrigation Grandfathered Rights or Type 2 Mineral Extraction Rights.	

Comment response: WT21_D Water sources analyzed; inadequate analysis of water drawdown impacts; with addition for specific comment 8032-105	Page 1 of 1
Responsive to these comments: 8032-105	
See response WT21 for response to the topic of water sources analyzed in the DEIS. This comment indicates that "Resolution Copper's water recharge and storage credits, which are 'not required under Arizona water law' and a 'voluntary measure' (DEIS p. 341) are not a requirement by definition and should not be relied upon at all in any part of the DEIS." This is indeed the approach we disclosed in the DEIS, and continue to use in the FEIS. All necessary makeup water is assumed to be physically removed from the East Salt River valley aquifer in order to avoid underestimating impacts, with no offsets for any storage or recharge credits. By acquiring these credits, Resolution Copper has theoretically already offset some impacts in the aquifer either by directly recharging water or by preventing groundwater pumping that otherwise would have occurred. Regardless, none of these potential offsets were considered in the DEIS to reduce impacts.	

Comment response: WT23 Reduction of water content in tailings	Page 1 of 1
Responsive to these comments: 562-8	
See response ALT1 for more discussion of the application of filtered tailings to alternatives other than Alternative 4 – Silver King. One of the key differences between alternatives in the DEIS is the application of different amounts of water removal from the tailings slurry (DEIS, p. 50). All action alternatives use as a basis "thickened tailings" (50 to 70 percent solids), which contain less water than conventional slurry tailings (20 to 50 percent solids). Alternatives 3 and 4 use techniques that reduce water content even further. Alternative 4 uses filtered tailings, which generally represent the least water content possible with tailings material (85 percent solids).	

Comment response: WT24 Power use by project	Page 1 of 1
Responsive to these comments: 122-4, 1235-12, 1301-12, 1301-2, 1454-18, 1544-14, 30143-2 (Emerman2), 30143-3 (Emerman2), 30143-4 (Emerman2), 30143-5 (Emerman2), 8032-295, 8032-296, 8032-301, 910-2	
These comments question the power use estimates for the mine. This concern is handled in the most detail in two technical reports (attached to comment letter #8032 as B2 and B3), authored by Dr. S. Emerman. In general, the arguments raised suggest that the amount and temperature of geothermal water that would be encountered during mining is underestimated or undisclosed by Resolution Copper, and therefore the power requirements to pump the water and cool the mine are underestimated. See response WT6 for discussion of the geothermal water amount and temperature. As noted there, when taken in the context of the entire project and all available information, the conclusions drawn by Emerman are not valid; neither the groundwater amounts nor the temperatures were unexpected or unanticipated in the design and analysis. The extrapolations of power use based on these erroneous estimates are equally invalid (Garrett 2020c). Partially in response to these comments, SRP conducted an independent load study for the project and concluded the following: "The total maximum combined load proposed by RC is 273 to 315 MW, which represents 3.7 to 4.3 percent of SRP's 2019 peak demand. SRP is well suited to provide the needed power just as it has done with other large power users across the state. SRP does not see any limitations to serving this load to the Project at the aforementioned sites, presuming the recommended system upgrades are implemented. With these system upgrades, there will be no impact on the neighboring customers as the Project site increases loads as per the estimated load levels" (1898 and Company 2020).	

Comment response: WT24_A Power use by project; with addition for specific comment 1565-3	Page 1 of 1
Responsive to these comments: 1565-3	
See response WT24 for response to the topic of power use for the project. This comment further asserts that the project "uses a tailings plan illegal in many other countries." This appears to be based on an erroneous assumption; see response TS2 for more discussion.	

Comment response: WT25 Independent hydrology study	Page 1 of 1

Responsive to these comments:

1074-1, 1185-1, 1206-2, 1210-2, 1301-8, 1406-1, 1407-1, 1539-3, 183-1, 27996-2, 28014-1, 28497-1, 28802-2, 29157-1, 376-2

These comments generally indicate that an independent hydrologic study needs to be conducted in order to analyze impacts from the project.

The professional conclusions and analysis contained in the DEIS and FEIS have been conducted by the independent third-party contractor working for the Forest Service. Conflict-of-interest management is a requirement of the third-party contract, and these issues have been actively managed by the third-party NEPA contractor since award of the contract in 2015. A consolidated description of contracting and conflict-of-interest management activities is contained in the project record (Garrett 2019g).

See also response NEPA29 for specific conflict-of-interest allegations and investigation results.

With respect to hydrologic analysis, in order to inform the analysis being conducted by the independent third-party professionals, the Tonto National Forest also convened a Groundwater Modeling Workgroup (meeting roughly between September 2017 and November 2018) to assess and discuss the mine-site groundwater model prior to the DEIS, and then an expanded Water Resources Workgroup (meeting roughly between January 2020 and July 2020) to discuss comments received on the DEIS and additional analysis for the FEIS. These workgroups are described in detail in several memoranda in the project record (BGC Engineering USA Inc. 2020b; Garrett 2020j).

These workgroups were designed to include many professional viewpoints, including Forest Service specialists, the third-party NEPA specialists, agency specialists (including representatives from the U.S. Environmental Protection Agency, Arizona Department of Environmental Quality, Arizona Department of Water Resources, Arizona Game and Fish Department, U.S. Army Corps of Engineers, and Arizona State Land Department), Resolution Copper and its contractors, and the San Carlos Apache Tribe. Several meetings included participants from the U.S. Geological Survey; see response NEPA48 for more discussion of this relationship.

In all cases, the goal of the workgroup was to review the analysis being conducted and have open discussion about technical methodologies, results, and documentation, raise concerns and questions, request clarifications or additional data, and discuss the use and portrayal of analyses in the EIS documents. The group was not intended to reach consensus on all issues. Where professional disagreements remained, the Tonto National Forest committed to documenting these and explaining the agency's decision (BGC Engineering USA Inc. 2020b).

Comment response: WT25_A Independent hydrology study; with addition for specific comment 1454-11	Page 1 of 1

Responsive to these comments:

1454-11

See response WT25 for response to the topic of independent hydrologic studies.

This comment states, "No conclusive hydrological study has been conducted for the Oak Flat/Superior, AZ area." This comment is not correct. The analysis disclosed in the DEIS is based on a groundwater model specific to the mine-site area, which in turn is based on extensive geological investigations (see BGC Engineering USA Inc. (2018a) and extensive hydrologic investigations and monitoring (in some cases since 2002). See Newell and Garrett (2018d) for lists of key background documents.

This comment also states that "no geotechnical and hydrological study was done on the Skunk Camp site prior to publication of the DEIS." This comment is not correct. The specific investigations available for the DEIS are discussed in section 3.7.2 (DEIS, pp. 356–357), as are the ramifications of any uncertain or unknown information (DEIS, pp. 350–363). Additional investigations were conducted for the FEIS that are responsive to this comment; see responses WT7 and ALT22 for more details.

Comment response: WT26 Notification of residents in East Salt River valley; incorrect statements about subsidence	Page 1 of 1
Responsive to these comments: 1544-5, 30065-3, 910-5	
These comments ask whether water users in the East Salt River valley have been notified of the water use by the mine. See responses NEPA27 and NEPA30 for more detail on the specific outreach used for the East Salt River valley. These comments also contain incorrect statements regarding the amount of subsidence. The DEIS acknowledges the potential for ground subsidence but makes no specific predictions. See response WT10 for more detail on subsidence impacts.	

Comment response: WT27 Well identity	Page 1 of 1
Responsive to these comments: 1158-37	
This comment states, “The DEIS reports that ‘Well DHRES-16 743 is used as a proxy for potential impacts on water supplies and individual wells in the area.’ In a search of the ADWR well registry, this well number is not valid.” The name “DHRES-16 743” is a project-specific name assigned by Resolution Copper, not an ADWR well registry identification. The ADWR well registry number for this well is 55-917232 (see Shelley et al. (2016)).	

Comment response: WT28 NPAG/PAG subaqueous deposition	Page 1 of 2

Responsive to these comments:

1448-3, 30140-1 (Maest), 30140-10 (Maest), 30140-2 (Maest), 30140-3 (Maest), 30140-4 (Maest), 8032-114, 8032-115, 8032-116

These comments concern the effectiveness of subaqueous deposition, particularly of the PAG tailings, to control acid generation.

The comments indicate that subaqueous deposition is the "lone proposed mitigation measure for PAG tailings." This is incorrect. The DEIS notes numerous control measures for PAG tailings, which vary by alternative. These include full lining of the PAG cells [Alternatives 2, 3, 5 and 6], full downstream embankments for the PAG cells [Alternatives 5 and 6], and extensive seepage collection systems [for all alternatives] (DEIS, pp. 381–417).

The comments indicate that no testing was conducted on the efficacy of submerging PAG tailings to prevent acid generation. This is incorrect. Column tests were conducted by Resolution Copper that measured the rate of oxygen consumption by tailings. Tests were run with variable percentages of the pyritic tailings submerged in water, up to full saturation, and the results clearly demonstrate the expected: as greater amounts of pyritic tailings are submerged, the rate of oxygen consumption—and therefore sulfide mineral oxidation—decreases (Duke HydroChem LLC 2016).

The question of the efficacy of using subaqueous deposition to control acid generation of PAG tailings was brought forward to the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS). Upon our request, additional information was submitted by Resolution Copper for consideration. Analyses from the NEPA project team on the efficacy of the PAG subaqueous deposition in an arid environment, based in part on this additional information, are found in the project record (Enos 2020; Williamson 2020), and discussion of this issue has been expanded in section 3.7.2 of the FEIS.

The comments also indicate concern that NPAG tailings, which despite predictions may have the potential for acid generation, would not be handled in a similar manner to prevent acid generation. We explored this issue through the Water Resources Workgroup and requested more information from Resolution Copper. The first part of the investigation clarified that while the design of the tailings storage facility is governed by the anticipated split between NPAG and PAG tailings, during operations, geochemical testing would also take place that would verify the actual acid-generation potential of the different tailings streams. This includes routine sampling (likely no less than monthly) for whole NPAG tailings, NPAG cyclone overflow and underflow, and PAG tailings. Sampling of the NPAG underflow cells occurs specifically to confirm that they are geochemically suitable for the outermost surface layer of tailings on the embankment slope. If they are not, amendments may be needed (i.e., limestone) prior to concurrent reclamation (Wickham 2020).

Comment response: WT28 NPAG/PAG subaqueous deposition	Page 2 of 2

Responsive to these comments:

1448-3, 30140-1 (Maest), 30140-10 (Maest), 30140-2 (Maest), 30140-3 (Maest), 30140-4 (Maest), 8032-114, 8032-115, 8032-116

The second part of the investigation clarified that the tailings storage facility design incorporated sufficient flexibility to accommodate future changes in the percentage of NPAG/PAG if the reality—as verified through operational sampling—varies from the predictions (KCB Consultants Ltd. 2020a). We added further discussion of this issue to section 3.7.2 of the FEIS.

Comment response: WT30 Hydrologic connection to San Carlos reservation	Page 1 of 1

Responsive to these comments:

235-18, 30078-40, 30078-41, 58-1, 77-2

These comments contain incorrect statements or assumptions regarding the hydrology of the project area.

Comments identify the Salt and Black Rivers and their watersheds as not being analyzed. None of the project surface water or groundwater impacts extend into any of these drainages.

We disclosed that all potential surface water impacts associated with the East Plant Site, West Plant Site, tailings storage facility for Alternatives 2, 3, and 4, and subsidence area are to stormflows in Queen Creek, which ultimately joins the Gila River downstream. Similarly, all potential surface water impacts associated with the tailings storage facility for Alternatives 5 and 6 are to stormflows to the Gila River, well downstream of the San Carlos Apache tribal boundary. We provided a figure showing the surface water quantity analysis area and potentially impacted surface watersheds in section 3.7.3 (DEIS, p. 423).

Groundwater drawdown from the mine similarly does not impact tributaries to the Salt River, such as Pinto Creek. The groundwater quantity analysis area is shown in section 3.7.1 (DEIS, p. 297) and does not extend across the groundwater basin boundary to Pinto Creek; the anticipated drawdown similarly is shown in section 3.7.1 (DEIS, p. 302) and does not reach to Pinto Creek.

Groundwater impacts would not be anticipated to extend to the San Carlos Apache tribal lands or to the town of Miami, as indicated in comments. Aside from the distance from any anticipated drawdown impacts (DEIS, p. 302), there are substantial hydrologic barriers separating project components from these areas, including the Pinal Mountains and Mescal Mountains.

Comment response: WT31 Baseline trends	Page 1 of 1

Responsive to these comments:

290-1

This comment identifies changes in hydrologic conditions for groundwater-dependent ecosystems that are not adequately captured in the affected environment description in the DEIS, specifically, the reported reductions in flow and drying of water sources.

These potential effects were specifically analyzed for the DEIS. The ongoing pumping operations by Resolution Copper to dewater mine infrastructure began in 2009 (DEIS, p. 312). The concern that this pumping might already be affecting water sources, and thus changing the baseline conditions, was brought forward during scoping and analyzed in section 3.7.1, concluding, “Most hydrologic indicators show no significant change over time in Devil’s Canyon (Garrett 2019f). A number of other water sources have been monitored on Oak Flat and show seasonal drying, but these locations have been demonstrated to be disconnected from the Apache Leap Tuff aquifer, relying instead on localized precipitation (Garrett 2018e; Montgomery and Associates Inc. 2017a)” (DEIS, p. 312).

We statistically analyzed any available hydrologic time series data to identify downward trends (see Garrett (2019f)). This included baseflow calculations at four locations in Devil’s Canyon (time period from roughly 2003 to 2015); manual flow measurements collected at four springs in Devil’s Canyon (time period from roughly 2003 to 2017); and measured saturated length of Devil’s Canyon (time period from 2002 to 2013). The memo concludes [using a p-value of 0.05 for statistical significance]: “Of the thirteen data sets analyzed, none show a statistically significant trend either upward or downward. The saturated length of Devil’s Canyon would be significant if the threshold were adjusted slightly higher (p-value of 0.10), in which case it shows an upward trend not a downward trend. Overall, none of the direct field measurements taken between roughly 2003 and 2017 of hydrologic parameters along Devil’s Canyon suggest that dewatering pumping is having a negative effect on natural stream or spring flow” (Garrett 2019:5).

In the same process memorandum (Garrett 2019f), we reviewed monitoring of 14 sites on Oak Flat, observed over three seasons between March and September 2017. From these data we concluded, “While the results were useful for determining the hydrology and seasonal dynamics of these sites, the period of monitoring is insufficient to detect any long-term trends that may be associated with ongoing pumping. The most that can be said is that pumping (which re-started in 2009) has not resulted in complete drying of the 14 locations monitored, and that the reliance on storage of precipitation in near surface alluvial veneers suggests that pumping would not affect these locations” (Garrett 2019f:5).

Comment response: WT32 Mounding below tailings storage facility and exposure at surface	Page 1 of 1

Responsive to these comments:

28449-49, 524-11

Several comments raised the possibility of seepage from the tailings storage facility causing a rise in groundwater levels that would potentially create a new surface water exposure where only ephemeral channels exist now, in Queen Creek (Alternatives 2, 3, and 4), Donnelly Wash (Alternative 5), or Dripping Spring Wash (Alternative 6).

This possibility was explored during the April 2020 meeting of the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS). The same question had been raised by a cooperating agency prior to the release of the DEIS, and a white paper documenting the estimates of anticipated mounding was provided to the workgroup for consideration (Morey 2020c). This analysis indicates that the groundwater levels are not anticipated to rise to the point of creating new surface exposure of tailings seepage.

With respect to the Preferred Alternative, the suggestion was made in the Water Resources Workgroup to confirm this analysis with the refined groundwater flow model being conducted for the Preferred Alternative (see also response WT7, for more details on the refined Skunk Camp water quality analysis). The results of the refined water quality analysis were submitted in July 2020 and confirm that groundwater levels are not anticipated to approach ground surface downstream from the Preferred Alternative tailings storage facility (Montgomery and Associates Inc. 2020c).

We added further discussion of this issue to section 3.7.2 of the FEIS.

Comment response: WT33 Specific suggested technique for estimating changes in geomorphology	Page 1 of 1

Responsive to these comments:

28449-55

DEIS section 3.7.3 contains an analysis of the potential changes in storm flows caused by the project isolating portions of the watershed, as well as the potential changes in stream geomorphology or sediment movement caused by these changes in storm flows (DEIS, pp. 433–434). This comment makes a suggestion of an alternative or supporting technique that could be used to bolster the analysis of geomorphology.

The possibility of using this technique was explored during the April 2020 meeting of the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS). After discussion with the workgroup, we further explored the issue (Garrett 2020a), including review of a new analysis conducted by Resolution Copper using the proposed technique, specifically for the Preferred Alternative (JE Fuller 2020). This new analysis concluded that the reduction in mean annual discharge caused by the proposed tailings storage facility would not adversely impact the overall channel pattern downstream of the facility. We agreed with this conclusion. We added further discussion of this issue to section 3.7.3 of the FEIS.

Comment response: WT35 Revised stormwater quality analysis	Page 1 of 1

Responsive to these comments:

1335-1, 1448-5, 30140-13 (Maest), 30140-14 (Maest), 30140-7 (Maest), 8032-113, 8032-119

We included analysis of surface water quality impacts in DEIS section 3.7.2, which can be caused by runoff contacting facilities, including tailings, or by seepage from the tailings storage facility entering downstream surface waters. The DEIS primarily focused on water quality impacts caused by seepage from the tailings storage facility. With respect to water quality of stormwater runoff, we analyzed the stormwater controls during construction, operations, and closure (DEIS, pp. 379–380), estimated the potential stormwater quality (DEIS, p. 381), and assessed the potential for discharge of stormwater (DEIS, pp. 379–380). We concluded, "At no point during construction, operation, closure, or post-closure would stormwater coming into contact with tailings, ore, or processing areas be allowed to discharge downstream. After closure, precipitation falling on the tailings facilities would interact with the soil cover, not tailings" (DEIS, p. 380).

These comments express concern that the assumption that stormwater would never be released is not realistic, and that stormwater in contact with tailings could be anticipated to be released under some extreme conditions or failure of controls. We explored this question with the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS). An initial discussion of the workgroup in February 2020 determined that indeed there are some scenarios during operations under which the tailings storage facility would allow discharge of stormwater that had contacted tailings (Johnson 2020). We requested that Resolution Copper conduct an analysis of the conditions under which this would occur, and the potential quality of that released stormwater. The analysis was conducted and further discussed with the workgroup in June 2020 (Morey 2020d), and subsequently submitted to and reviewed by the NEPA project team (Resolution Copper 2020f).

We modified section 3.7.2 of the FEIS to include analysis of the conditions under which stormwater would be released during operations, the estimated quality of that stormwater, and the potential impacts resulting from the stormwater release.

Comment response: WT36 Subsidence lake analysis	Page 1 of 2

Responsive to these comments:

1321-3, 1342-2, 1448-8, 30140-6 (Maest), 8032-112, 8032-117, 8032-176, 8032-92, 8032-93

We analyzed the potential for a lake to develop in the subsidence crater, after closure of the mine (DEIS, pp. 375–379). We acknowledged in the DEIS that several conditions exist that suggest a lake could form, including the presence of a subsidence crater estimated to be 800 to 1,100 feet deep, recovering groundwater levels in the deep groundwater system after dewatering ends, and a block-cave zone that would hydraulically connect the deep groundwater system to the surface. In the DEIS we compared the elevations of the subsidence crater and modeled elevations of groundwater during recovery and found that even after a period of 1,000 years they did not intersect. The DEIS concludes, "Ultimately the Forest Service determined that the presence of a subsidence lake was speculative and not reasonably foreseeable, and as such it would therefore be inappropriate to analyze in the EIS" (DEIS, p. 376).

These comments disagree with this conclusion, indicating that creation of the subsidence lake is inevitable.

This issue was discussed with the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS). The discussion took place during the January 2020 meeting (Morey 2020a), and the general conclusions reached during that meeting were recapped for the Workgroup in February 2020 as such: "We need to modify the language we use to describe the potential for a crater lake ("remote and speculative"); however, the analysis of the impacts of a subsidence lake >1000 years in the future remains inappropriate" (Johnson 2020).

The suggested change in language was based on an acknowledgement that there are trends present that if they persisted over a long period of time (greater than 1,000 years), they could indeed form a subsidence lake. In this sense, such a lake could be considered "reasonably foreseeable." The terms "remote and speculative" were determined to be more descriptive of the situation, which would take place at a point so far in the future as to prevent a viable analysis. We modified the discussion in section 3.7.2 to reflect this language.

One comment raised the argument that the groundwater levels were likely to return to pre-mining levels, and this would form a subsidence lake. The workgroup explored this issue, along with many other groundwater modeling issues, in June and July 2020 (Morey 2020d). We concluded that this assumption is fundamentally incorrect. The changes wrought to the aquifer by the block caving fundamentally change the hydrologic and geological framework of the system. A return to pre-mining hydrologic conditions is not anticipated, and a return to pre-mining groundwater levels is not inevitable.

Comment response: WT36 Subsidence lake analysis	Page 2 of 2

Responsive to these comments:

1321-3, 1342-2, 1448-8, 30140-6 (Maest), 8032-112, 8032-117, 8032-176, 8032-92, 8032-93

Similar comments also raised the issue of groundwater modeling uncertainty, noting that while a range of values was given for the ultimate depth of the subsidence crater, a similar range of values was not given for the ultimate modeled groundwater levels, and noting that doing so would better reflect the uncertainty inherent in the modeling analysis. We requested this output from Resolution Copper and incorporated it into the analysis.

We revised the subsidence lake analysis in section 3.7.2 of the FEIS to incorporate the uncertainty inherent in the groundwater model. The conclusions remain similar to those stated in the DEIS.

Comment response: WT37 Comments concerning water quality predictions for the block-cave zone	Page 1 of 3

Responsive to these comments:

30140-11 (Maest), 30140-12 (Maest), 30140-15 (Maest), 30140-5 (Maest), 30140-8 (Maest), 524-8, 8032-111, 8032-118

These comments raise concerns over the predictions in the DEIS for potentially poor water quality in the block-cave zone after closure.

We presented two different modeling approaches for estimating potential water quality in the block-cave zone (DEIS, pp. 349–352). The comments received on these modeling approaches were brought forward to the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS). Discussion in March 2020 (Loomis 2020) clarified the use of these two models and whether they are appropriate for estimating post-closure water quality in the block-cave zone. It became clear that the two models shown in the DEIS (table 3.7.2-1, p. 349) were misconstrued by the NEPA team. These two models were both created for a specific purpose: to estimate the load of pollutants entering the West Plant Site from the East Plant Site. These models largely calculate the same chemical load, but differ in how that load is delivered to the West Plant Site. The earlier "Eary" model assumed that all oxidation products associated with the fractured ore were rinsed into the sump water. The later "Hatch" model assumed that all oxidation products associated with the fractured ore remain with the ore and do not report to the sump, but are instead retained in ore moisture. In both cases, the mass of oxidation products is consistent and enters the West Plant Site, ultimately becoming one source contributing to elevated metals in the tailings seepage.

Neither of these models is a proper analog for the physical and chemical actions that take place when the block-cave zone is reflooded after closure. Discussion of these models was removed from section 3.7.2 of the FEIS.

We replaced these inappropriate estimates with different and more appropriate methods of estimating post-closure block-cave water quality impacts in the FEIS (Williamson 2020). Physically, oxygen is anticipated to be present in the unsaturated block-cave zone, but in limited quantities. Some oxygen arrives in groundwater that must travel through overlying caved ore, either from the surrounding aquifer or percolating from the subsidence crater at the surface. At the end of mining, oxygen would also be present within the fractured mineralized ore around the draw points, where ventilation actively replenishes oxygen to the extent air flow can reach into the fractured ore body (estimated to be from tens to hundreds of feet, but overall not known with any certainty).

Conceptually, what happens to water quality upon closure is described succinctly in Borden (2014) (also appendix R of the GPO): "The first flush of water which accumulates in the underground workings will release any residual sulfide oxidation products into solution. The first water which accumulates at the production level is thus likely to have the poorest quality within the caved zone. Subsequent reflood waters which accumulate above this in the mineralized rock zone will have progressively better water quality as saturation progresses upward."

Comment response: WT37 Comments concerning water quality predictions for the block-cave zone	Page 2 of 3

Responsive to these comments:

30140-11 (Maest), 30140-12 (Maest), 30140-15 (Maest), 30140-5 (Maest), 30140-8 (Maest), 524-8, 8032-111, 8032-118

At closure, both ventilation and pumping systems are turned off. As the groundwater level recovers and rises, it submerges ore and effectively halts oxidation. This is the same process by which acid generation will be controlled in the PAG tailings cell, by maintaining saturation and a water cap (see response WT28).

The above description, based on the anticipated physical and chemical effects, indicates that oxidation would not persist in the block-cave zone after reflooding, but does not provide any reliable estimate of post-closure water quality. To that end, Resolution Copper also conducted a number of geochemical tests intended to specifically address the potential flooding of the block-cave zone.

Resolution Copper conducted a number of humidity cell tests to characterize the geochemistry and acid generation potential of mined rock. These are known as “kinetic” tests, as they track the changes over time in the quality of water in contact with ore or rock samples. Humidity cell tests are typically run for at least 20 weeks, and many are run longer.

Resolution Copper converted 14 of the humidity cell tests into saturated column tests upon completion, in order to analyze how reflooding might affect water quality. The saturated column tests were run for 12 weeks (MWH Americas Inc. 2013). The results for all 14 saturated column tests support the conceptual description that the initial reflooding removes most of the oxidation products from oxygenated fractured ore (primarily around the draw points), and then gradually water quality improves. The concentrations from the first week of the saturated column test (initial reflooding) are substantially greater than the last week of the humidity cell test, and then concentrations substantially decline by the final week of the saturated column test. Using sulfate as an example, the median sulfate concentration at the end of the humidity cell tests is 360 mg/L. Immediately after reflooding, the median sulfate concentration increases to 1,024 mg/L. By completion of the saturated column test after 12 weeks, the median sulfate concentration has fallen to 42 mg/L. Concentrations of all of the constituents of concern followed a similar pattern. Furthermore, the final concentrations from the saturated column tests are less than Arizona numeric aquifer water quality standards, suggesting that long-term water quality in the block-cave zone after closure may not represent an environmental concern, though uncertainty still exists. A discussion of the anticipated physical and chemical effects of reflooding of the block-cave zone after closure, along with the results of the saturated column tests, was added to section 3.7.2 of the FEIS.

Comment response: WT37 Comments concerning water quality predictions for the block-cave zone	Page 3 of 3

Responsive to these comments:

30140-11 (Maest), 30140-12 (Maest), 30140-15 (Maest), 30140-5 (Maest), 30140-8 (Maest), 524-8, 8032-111, 8032-118

The comments also focus on the uncertainty of these estimates. The primary uncertainty lies with the amount of oxygen that can infiltrate the block-cave zone, both during active ventilation and afterward. Regardless of the uncertainty, we also explored whether there are any foreseeable points at which this potentially poor-quality water would be exposed to the environment (DEIS, pp. 375–379). Neither development of a subsidence crater nor exposure through other pathways is anticipated.

In March 2020, the Water Resources Workgroup also further explored the potential for exposure of poor-quality water within the block cave. We requested additional information from Resolution Copper (Meza-Cuadra and Pantano 2020), which confirmed that hydraulic gradients will persist for centuries that prevent movement of any potentially poor-quality water—which may not exist based on the saturated column tests—out of the block-cave zone. Further effort was also put into assessing the potential for subsidence lake development (see response WT36). The discussion of potential exposure pathways, including subsidence lake development, mine workings or natural caves, and lateral movement of groundwater, was updated in section 3.7.2 of the FEIS.

Comment response: WT39 Request for revised DEIS, based on geochemistry analysis concerns	Page 1 of 1

Responsive to these comments:

8032-120

This comment points to perceived uncertainty with respect to many of the geochemical analyses, including the efficacy of managing PAG tailings using subaqueous deposition, the quality of water in the block-cave zone, the formation of a subsidence lake, and water use, and requests that a revised DEIS be completed.

Other detailed comments were received concerning all of the items listed above. In each case, we undertook additional investigation and analysis in order to consider the comment, much of it under the auspices of the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS): for efficacy of PAG tailings management, see response WT28; for block-cave water quality, see response WT37; for formation of the subsidence lake, see response WT36; for water use, see response WT1.

For many of these points, the additional analysis conducted has led to refined presentations and discussions in the FEIS. However, none of the items mentioned have led us to fundamentally change our conclusions contained in the DEIS and the FEIS.

The comment is not correct that refined analysis in response to comments should result in a revised DEIS rather than an FEIS. This contradicts the NEPA process; modifications are anticipated to be made between the DEIS and FEIS in response to public comments (40 CFR 1502.9(b)).

Comment response: WT41 Criticism of analysis method	Page 1 of 1

Responsive to these comments:

30140-9 (Maest), 8032-110

This comment raises concerns about the specific tests used to estimate stormwater quality disclosed in the DEIS.

One specific concern is the use of an older version of the Sobek method. We investigated this concern and determined that “the use of the original or modified Sobek method does not functionally affect the outcome of characterization to any meaningful extent” (Williamson 2020:2).

Another concern raised was about the use of the synthetic precipitation leaching procedure tests to estimate stormwater quality. Synthetic precipitation leaching procedure results are shown as one of three methods for estimating potential stormwater quality (DEIS, pp. 381–383). However, as described in the text, we assumed that no stormwater was anticipated to be released and that none of these tests were pertinent to the DEIS analysis. We revised our approach to disclosing potential stormwater releases in section 3.7.2 of the FEIS; see response WT35 for more details.

Comment response: WT42 Draining of Apache Leap Tuff	Page 1 of 1

Responsive to these comments:

30078-14, 8032-266

These comments suggest that as a result of the block cave, "all groundwater in the [Apache Leap Tuff], and underlying geologic structure affected by block cave mine subsidence and fracturing will permanently drain to the mine."

The general concept and mechanisms are correct, as described in section 3.7.1:

> *"The block-caving conducted to remove the ore body would unavoidably result in fracturing and subsidence of overlying rocks. These effects would propagate upward until reaching the ground surface approximately 6 years after block-caving begins (Garza-Cruz and Pierce 2017). It is estimated that the subsidence area that would develop at the surface would be approximately 800 to 1,100 feet deep (see Section 3.2, Geology, Minerals, and Subsidence). Fracturing and subsidence of rock units would extend from the ore body to the surface. This includes fracturing of the Whitetail Conglomerate that forms a barrier between the deep groundwater system and the Apache Leap Tuff aquifer. When the Whitetail Conglomerate fractures and subsides, a hydraulic connection is created between all aquifers. Effects of dewatering from the deep groundwater system would extend to the Apache Leap Tuff aquifer at this time."* (DEIS, p. 328)

While the mechanism as stated is generally correct, it does not mean that "all" groundwater in the Apache Leap Tuff drains into the mine. This statement is an overly simplistic representation of a complex system. Identifying how much groundwater would drain from the Apache Leap Tuff, how fast, and how long it would take to recover after cessation of pumping requires sophisticated tools to model the complex hydrologic properties of the groundwater system. A specific example of such complexity is the effect of the faults that bound the Resolution Graben; these faults have demonstrably prevented propagation of dewatering impacts of the deep groundwater system (DEIS, pp. 304–309). We determined that the numeric groundwater model was the appropriate tool with which to assess this system based on several specific factors listed in section 3.7.1 (DEIS, p. 295). The results of the groundwater model show that the Apache Leap Tuff does not completely drain, but that drawdown varies over time and space (see DEIS, pp. 317–334 and appendix H), and that recovery eventually also happens (DEIS, pp. 333, 375–378).

Comment response: WT43 Generic concerns about water quality	Page 1 of 2

Responsive to these comments:

1043-1, 1180-4, 1237-3, 1276-3, 1368-1, 27436-1, 286-1, 555-1, 555-10, 555-28, 555-4, 56-1, 63-1, 82-2, 837-1, 839-2, 844-1

These comments express concerns about potential changes to water quality as a result of the mine.

In the DEIS, we disclosed whether there would be potential impacts to water quality in three areas: 1) oxidation and subsequent acid drainage of mineralized ore in the block-cave zone after closure; 2) seepage from the tailings storage facility that enters groundwater and eventually perennial surface water; and 3) the potential for stormwater runoff to contact tailings or processing facilities.

The analysis of block-cave water quality, including potential exposure routes, can be found in section 3.7.2 (DEIS, pp. 375–379). See also response WT37 regarding changes to this analysis in the FEIS in response to public comments.

The analysis of stormwater quality can be found in section 3.7.2 (DEIS, pp. 379–381). See also response WT35 regarding changes to this analysis in the FEIS in response to public comments.

The analysis of the potential for seepage from the tailings storage facility to enter groundwater and surface water can be found in section 3.7.2 (DEIS, pp. 381–419). This section includes analysis of the potential water quality of seepage, the design and efficacy of seepage controls, and predictions of changes in groundwater quality resulting from seepage, and predictions of changes in surface water quality in downstream perennial waters resulting from seepage.

Comments also are concerned with potential impacts of water quality on wildlife species. This analysis can be found in section 3.8 (DEIS, pp. 460–463).

Specific comments were made on the potential to impact community water supplies, including Queen Valley, and Arizona Water Company wells serving Apache Junction, Superior, Winkelman, and Pinal Valley.

The issue of the hydrologic connection of Queen Valley with Queen Creek, and the potential for impact from tailings seepage associated with Alternatives 2, 3, and 4, was discussed as part of the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS). Analysis was added to section 3.7.2 of the FEIS to further evaluate potential impacts on water resources in Queen Valley. See response WT59 for more detailed discussion of this issue.

Analysis was also added to section 3.7.2 of the FEIS to further discuss the potential impacts to community water systems, including the water systems of Apache Junction, Superior, Winkelman, and Pinal Valley. The Arizona Water Company supply wells for Superior, Pinal Valley, and Apache Junction are located in the East Salt River valley. No water quality changes are anticipated due to the mine in these areas.

Comment response: WT43 Generic concerns about water quality	Page 2 of 2

Responsive to these comments:

1043-1, 1180-4, 1237-3, 1276-3, 1368-1, 27436-1, 286-1, 555-1, 555-10, 555-28, 555-4, 56-1, 63-1, 82-2, 837-1, 839-2, 844-1

The DEIS disclosed the effects of a potential tailings facility failure in section 3.10.1. This included potential impacts to public water supplies, which vary by alternative but do include these service areas (DEIS, pp. 531, 544, 547, 548, 550, 552). While these impacts were disclosed in the DEIS and have high consequences, the probability of their occurring is low and minimized by required adherence to Federal and Arizona design standards and by applicant-committed environmental protection measures. See response TS1 for more details on the process undertaken to minimize risks in the tailings facility design.

The Arizona Water Company Winkelman system is located on the Gila River downstream from Alternative 6 – Skunk Camp. Seepage from the tailings storage facility is anticipated to enter the aquifer along Dripping Spring Wash and eventually to enter the Gila River. The analysis of impacts to water quality in the Gila River is found in section 3.7.2 (DEIS, pp. 411–417). This analysis was refined in the FEIS. For both the DEIS and FEIS, we disclose that no numeric surface water quality standards would be exceeded in the Gila River, and increases of constituents without numeric standards (TDS, sulfate) are negligible.

Comment response: WT44 Impaired waters analysis including AZPDES discharge permit	Page 1 of 1

Responsive to these comments:

30075-32, 30075-35, 30075-38, 30075-42, 30075-43, 8031-60, 8031-61

These comments contain criticisms of perceived errors in the analysis of where discharges from the project may impact waters listed as impaired by the State of Arizona. Many of these comments are based on an incorrect assessment of where discharges would occur from the project.

Discharges associated with the project as analyzed in the DEIS were restricted to seepage from the tailings storage facility, entering groundwater, and then entering surface water some distance downstream. The impaired waters selected and described in section 3.7.2 (DEIS, pp. 369–370) were appropriately chosen as those waters downstream from the various tailings storage facility alternative locations: Queen Creek from the Superior WWTP to Whitlow Ranch Dam, impaired for copper, which would be potentially impacted by Alternative 2 (DEIS, p. 392), Alternative 3 (DEIS, p. 398), and Alternative 4 (DEIS, pp. 404–405); and the Gila River from the San Pedro River to Mineral Creek, impaired for suspended sediment, which would be potentially impacted by Alternative 6 (DEIS, p. 417). Comments identified upper Queen Creek and Arnett Creek as appropriate for analysis; however, these do not have the potential to receive potential discharge from tailings storage facilities.

Comments also identify an existing AZPDES discharge permit that Resolution Copper holds for the West Plant Site, which involves two outfalls that could indeed affect the upper Queen Creek reach. These are permitted for stormwater discharges over the 100-year, 24-hour storm, and for discharge of treated effluent from the water treatment plant. However, while permitted, these discharges do not occur regularly. They have not occurred at the site since Resolution Copper began operating at the West Plant Site in 2004, nor are these discharges proposed as part of the project. Rather, all treated water is anticipated to be required for use in processing. Further discussion of the status and use of the AZPDES permits has been added to section 3.7.2; however, the analysis of discharges under these permits and their impact on impaired waters remains inappropriate and was not included in the FEIS.

Discharge of stormwater was not anticipated or analyzed in the DEIS, as described in section 3.7.2 (DEIS, pp. 379–381). This analysis was revised in section 3.7.2 of the FEIS, including potential impact on impaired waters; see response WT35 for more details.

Comment response: WT45 Overall response to report by Dr. B. Prucha, on groundwater modeling	Page 1 of 1

Responsive to these comments:

8031-59

These comments are specific to the groundwater model completed for the mine site. Detailed comments related to this topic were submitted with comment letter #8032 in the form of a report from Dr. B. Prucha titled "Review of Hydrologic Impacts In the Draft Environmental Impact Statement Resolution Copper Project and Land Exchange August 2019."

With respect to the hydrologic analysis and the groundwater model, in order to inform the analysis being conducted by the independent third-party professionals, we convened a Groundwater Modeling Workgroup (meeting roughly between September 2017 and November 2018) to assess and discuss the mine-site groundwater model prior to the DEIS. This was followed by an expanded Water Resources Workgroup (meeting roughly between January 2020 and July 2020) to discuss comments received on the DEIS and additional analysis for the FEIS. These workgroups are described in detail in several memoranda in the project record (BGC Engineering USA Inc. 2020b; Garrett 2020j).

These workgroups were designed to include many professional viewpoints, including Forest Service specialists, the third-party NEPA specialists, cooperating agency specialists (including representatives from the U.S. Environmental Protection Agency, Arizona Department of Environmental Quality, Arizona Department of Water Resources, Arizona Game and Fish Department, U.S. Army Corps of Engineers, and Arizona State Land Department), Resolution Copper and its contractors, and specialists representing other stakeholders such as the San Carlos Apache Tribe.

The general goal of the workgroup was to review the modeling analysis being conducted and have open discussion about technical methodologies, results, and documentation; raise concerns and questions; request clarifications or additional data from the modeling contractors; and discuss the use and portrayal of the model in the EIS documents. The group was not convened for the purpose of reaching consensus on all topics considered. We did commit to documenting any professional disagreement with the Forest Service course of action, along with a clear rationale for why a different course was taken (BGC Engineering USA Inc. 2020b).

The detailed modeling comments by Dr. Prucha were brought forward and reviewed by the Water Resources Workgroup between January 2020 and July 2020. Specific input in response to these comments was obtained from the NEPA third-party groundwater modelers and Resolution Copper's modeling contractors. This included requests for additional output and analyses (see Garrett (2020j)). Full details of the discussion and conclusions specific to the groundwater modeling comments are contained in the project record (Garrett 2020e).

Comment response: WT45 Overall response to report by Dr. B. Prucha, on groundwater modeling	Page 2 of 8
Responsive to these comments: 8031-59	

Ultimately, the Prucha comments were considered as 15 separate issues:

1. Modeling process, characterization, conceptualization
2. Model code selection
3. Groundwater-dependent ecosystems
4. Baseline conditions
5. Decisions on use of model output (200 years, 10 feet)
6. Skunk Camp modeling
7. Surface water/groundwater
8. Choice of calibration wells and targets
9. Calibration
10. Uncertainty analysis
11. Geothermal effects
12. Subsidence crater lake analysis
13. Subsidence effects in the model
14. Desert Wellfield model
15. Inappropriate modeling choices for faults, recharge, evapotranspiration (ET), and boundary conditions

A summary of the comments and discretionary actions that we made is described below; see Garrett (2020e) for more details.

1. Modeling process, characterization, conceptualization

These comments raised concerns that the overall modeling process did not follow industry standards, including in the characterization and conceptualization of the groundwater system. The NEPA team determined: a) that industry-standard processes were followed and are clearly documented in the project record (BGC Engineering USA Inc. 2018d:appendix A); b) that specific questions/issues were appropriately considered and documented prior to modeling; c) that the conceptualization of the groundwater system incorporated substantial data collection, that the field efforts included feedback loops to identify and fill data gaps, and ultimately that these efforts resulted in an adequate basis for modeling; d) that alternative conceptual models were considered and incorporated into the modeling analysis; and e) that the aquifer test data set was substantial and adequate for supporting the model characterization. The NEPA team identified that some project record material required updating, but no changes to the modeling approach or FEIS text were warranted based on these comments.

Comment response: WT45 Overall response to report by Dr. B. Prucha, on groundwater modeling	Page 3 of 8
Responsive to these comments: 8031-59	

2. Model code selection

These comments raised concerns that the model code selection was not fully vetted, or that the wrong model code was used. The NEPA team determined that: a) the code was selected for specific reasons, b) the model code selection was appropriate (MODFLOW-SURFACT) and the appropriateness was a specific topic of discussion in the Groundwater Modeling Workgroup, c) the rationale for selection was appropriately documented, and d) that the specific alternative model codes identified in the comments do not override the specific reasons why MODFLOW-SURFACT was selected and approved in the first place. The NEPA team identified that additional text was needed to describe the model code selection and criteria; this text was added to section 3.7.1 of the FEIS.

3. Groundwater-dependent ecosystems

As part of the Groundwater Modeling Workgroup, any springs, streams, or other potentially groundwater-dependent ecosystems (GDEs) were evaluated for the most likely source of water; the intent of this evaluation was to identify those GDEs connected to the regional aquifers that would be impacted by mine-related drawdown. These comments express disagreement with the conclusions reached, characterizing several of the GDE-determinations used in the DEIS as "unconvincing." The NEPA team determined that these comments contain errors and contain little specificity for why the GDE determinations were lacking, in light of the substantial lines of evidence brought forward to evaluate the GDEs. The GDE evaluations used for the DEIS (Garrett 2018e) were based on multiple lines of evidence, with a clear methodology and framework identified for how each line of evidence would be evaluated. Based on these comments, the NEPA team identified no changes that were necessary to the approach, the project record, or the FEIS.

4. Baseline conditions

These comments express criticism of the choice of baseline conditions used for the model and NEPA analysis, particularly in light of mine pumping currently ongoing. The decision regarding which baseline conditions were appropriate for both the groundwater model and the NEPA analysis was the subject of specific and lengthy discussion prior to the DEIS, including discussions in the Groundwater Modeling Workgroup. Full consensus was not reached. The rationale for our ultimate decision on the appropriate baseline conditions has been clearly articulated in the EIS (DEIS, pp. 299–300) and the project record (see Garrett (2018d)); dissenting opinions have been fully articulated and considered as well (see BGC Engineering USA Inc. (2018d:section 5.1)). From these comments, we recognized that additional information was needed in the EIS and project record to fully describe the baseline information incorporated into the model; this text was added to section 3.7.1 of the FEIS.

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Responsive to these comments:

8031-59

5. Decisions on the use of model output, including limiting quantification to 200 years and 10 feet

Two key decisions that resulted from discussions in the Groundwater Modeling Workgroup were to limit quantification of modeled drawdown to 200 years and 10 feet. These comments describe these decisions as arbitrary and uninformed. As with baseline conditions, the consideration of the limitations of quantified model output, and the decision to limit quantification of drawdown to 200 years and 10 feet, was the subject of specific and lengthy discussion in the Groundwater Modeling Workgroup prior to the DEIS. Full consensus was not reached. The rationale for choosing the model limitations for our analysis approach was clearly articulated in the EIS (DEIS, pp. 300–301). A dissenting opinion from a workgroup member was fully articulated and considered as well (see BGC Engineering USA Inc. (2018d:section 5.1)). Additionally, the comments incorrectly characterize the analysis contained in the DEIS in three ways. First, the characterization that GDEs were excluded from monitoring because of the 10-foot drawdown threshold is incorrect. As a specific remedy to the uncertainties inherent in modeling, the proposed mitigation and monitoring program includes all GDEs identified with a connection to the regional aquifers—regardless of their anticipated impacts as predicted by the groundwater modeling (DEIS, pp. 301–303, 343–344). Second, impacts beyond 200 years were not ignored. The EIS does include qualitative descriptions of long-term trends beyond 200 years (DEIS, pp. 333–334). Third, impacts less than 10 feet were also not ignored. The EIS graphically shows impacts less than 10 feet (DEIS, appendix L). We determined from these comments that some clarification in the text is required to better explain that these analyses exist; such changes were added to section 3.7.1 of the FEIS.

6. Skunk Camp modeling

These comments raise issues that a conceptual model was not provided for the Alternative 6 water analysis, and that hydrogeologic characterization associated with Alternative 6 is missing. Neither of these assertions are correct: the conceptual model of Alternative 6 was clearly documented in the project record, and the level of hydrogeologic characterization and the effect it has on modeling uncertainty and comparison between alternatives was specifically assessed in section 3.7.2 (DEIS, pp. 357–361). Between DEIS and FEIS, we reviewed further field investigations for Alternative 6, which are responsive to these comments. See responses ALT22 and WT7 for further discussion. Additions to text in section 3.7.2 were added to reflect the new information collected.

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Responsive to these comments:

8031-59

7. Modeling of surface water/groundwater interaction

These comments raise issues that the model code selection was inappropriate and that a fully coupled surface water/groundwater model would have been more appropriate, or alternatively state that the wrong techniques or packages within the existing model were used to model surface water/groundwater interaction. We determined that the choice of modeling techniques to simulate the physical processes of recharge or discharge in stream channels fundamentally is a professional choice, not an error. As with baseline conditions and use of model output, consideration of the appropriate methods to model surface water and groundwater interaction was the subject of specific and lengthy discussion in the Groundwater Modeling Workgroup prior to the DEIS. Full consensus was not reached. The rationale and dissenting opinions have been documented in the project record (see BGC Engineering USA Inc. (2018d:section 5.1)). Further, the combined impacts of surface water changes and groundwater drawdown were indeed analyzed together, as desired in the comment, for the one location where both types of impact occur—Devil's Canyon (DEIS, p. 329). No impacts were ignored as a result of the techniques chosen, even if there were other methods available that could have been used to analyze them. Based on these comments, the NEPA team identified no changes that were necessary to the approach, the project record, or the FEIS.

8. Choice of calibration wells and targets

These comments criticize the choice to not analyze impacts at individual wells, but to rely instead on representative wells for key locations where private wells provide water supplies (Top-of-the-World, Superior, Boyce Thompson Arboretum). The rationale for this choice not to analyze individual wells was clearly articulated, with several specific reasons noted (Newell and Garrett 2018d). The alternative choice expressed in these comments in no way would overcome the obstacles that drove the choice made by the NEPA team. Further, the fundamental type of analysis desired in the comment—the ability to analyze the potential impacts at any point in the aquifer—already exists in the DEIS analysis through the drawdown figures (DEIS, pp. 298, 302, 323). The NEPA team determined that based on these comments some clarification is necessary to clarify how impacts can be assessed using the existing analysis; this clarification was added to section 3.7.1 of the FEIS.

Comment response: WT45 Overall response to report by Dr. B. Prucha, on groundwater modeling	Page 6 of 8
Responsive to these comments: 8031-59	

9. Calibration

These comments indicate that the groundwater model calibration process was flawed and inappropriate. We determined that a) the calibration data set covered an appropriate area, b) the calibrated hydraulic conductivity match the substantial real-world data collected in the field, c) the claim made in the comments that water levels represented the sole calibration target was incorrect, d) the concentration of head targets near the mine site is acknowledged and unavoidable, but also is not inappropriate, as this represents the area to experience the greatest stresses and the area with highly sensitive GDEs (Devil's Canyon), and e) generic references to other data sets are inappropriate, as no other specific data set exists that would have improved upon those used. In this case, we did identify additional model output that was needed in response to these comments; this output was requested and received (Garrett 2020j).

10. Uncertainty Analysis

These comments criticize the approach taken to assess uncertainty in the modeling, suggesting that such an approach contradicts industry standards. In fact, we concluded that this is a difference of professional opinion that actually is explicitly discussed in modeling guidance, with the approach identified in the comments being suggested in some guidance, but expressly disagreed with in other guidance. The comments also criticize the disclosure of the uncertainty analysis that was conducted. We assert that the disclosure of the full suite of model runs (87 in all) was properly disclosed. As a more general concern, the comments suggest that risk and uncertainty were not adequately assessed in the decision-making process or analysis. We found this also to be unsupported, as uncertainty of the model is explicitly addressed in numerous places in the documentation and clearly was a fundamental part of our Forest Service decision making (see for instance, "Key Decision on Use of Model Results – Strategies to Address Uncertainty" (DEIS p. 301)). In response to these comments, we did not identify any changes to our analysis approach or to text in the EIS, but did identify some additional discussion needed in project record material.

11. Geothermal Effects

These comments indicate that geothermal effects were not included in the model, as would be appropriate. In this case, we found that the comments had merit. There is a reasonable rationale for not including geothermal effects, but none of the DEIS or Groundwater Modeling Workgroup documentation captured this rationale. We determined that additional documentation was necessary in response to this comment, though the overall modeling approach remained appropriate.

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Responsive to these comments:

8031-59

12. Subsidence crater lake analysis

One fundamental outcome of our DEIS analysis is that a subsidence crater lake is not likely to develop, and therefore would be inappropriate to attempt to analyze. These comments criticize that decision, indicating that development of a subsidence crater lake is reasonably foreseeable and that the methodology we used to determine otherwise was flawed. This topic is discussed in greater detail in response WT36. In response to these comments, we revised the methodology approach used in the DEIS and requested additional model output in order to execute that revised approach (Garrett 2020j). However, our conclusions in the FEIS based on the revised approach remains the same; the creation of a lake in the subsidence crater is remote and speculative and would be inappropriate to analyze.

13. Subsidence effects in the model

These comments indicate that subsidence effects were not explicitly incorporated into the groundwater flow model and that the model was inappropriate. We found that this is a correct interpretation, but that the modeling of a change in elevation of land surface above the regional aquifer has no bearing on the outcome of the groundwater model, and we also found that the approaches used to assign hydraulic conductivity in the block-cave zone were appropriate and would not lead to any substantial change in model outcomes. Based on these comments, we determined that additional explanation in the project record was necessary to capture how the block-cave zone is modeled.

14. Desert Wellfield model

These comments indicate that the separate groundwater model used to predict impacts from the Desert Wellfield was not scrutinized or vetted by the NEPA team, as was the mine-site groundwater model. This is a correct statement. Because the model used for the Desert Wellfield is a standard regulatory model prepared and used by the Arizona Department of Water Resources, the same level of evaluation was not deemed necessary. These comments were discussed with the Water Resources Workgroup, and ultimately there was consensus that the comments were valid and that some level of vetting of the Desert Wellfield model would be appropriate. This analysis was completed (Walser 2020a), included in the project record, and disclosed in section 3.7.1 of the FEIS.

Comment response: WT45 Overall response to report by Dr. B. Prucha, on groundwater modeling	Page 8 of 8

Responsive to these comments:

8031-59

15. Inappropriate modeling choices for faults, recharge, ET, and boundary conditions

These comments are extensive and detailed, but in general they criticize various modeling choices made with respect to modeling faults, recharge, ET, and setting boundary conditions. We noted that there are many modeling tools and techniques available, and modelers have to make choices about which tools and techniques to use. There are always other tools that could have been used. That the comments raise other possible approaches is a moot point.
The appropriate threshold for concern is whether the comments make a valid argument that the existing method is actually in error, or that the rationale for using the existing method is incorrect.

The NEPA team reviewed each individual criticism and determined in all cases that adequate information and rationale exists to justify the choices made, and that in many cases alternative methods were investigated to determine the potential effect on the model (such as changing fault properties, changing recharge, or changing boundary conditions). In every case, the existing approaches not only are valid options, but they are demonstrated in various ways to accurately predict real-world conditions. Or, where uncertainty exists, it was properly incorporated into the uncertainty analysis and disclosed in the DEIS. We identified some additional output needed on one topic (springs), and that some additional explanation in the FEIS is needed, but no overall change in modeling approach is warranted.

Comment response: WT45_A Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30145-1; 8032-70; 8032-68	Page 1 of 1
Responsive to these comments: 30146-1 (Prucha), 8032-68, 8032-70	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issue #3 in WT45.	

Comment response: WT45_B Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-2	Page 1 of 1
Responsive to these comments: 30146-2 (Prucha)	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issue #12 in WT45.	

Comment response: WT45_C Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-3; 8032-75	Page 1 of 1
Responsive to these comments: 30146-3 (Prucha), 8032-75	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #7 and #9 in WT45.	

Comment response: WT45_D Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-4	Page 1 of 1
Responsive to these comments: 30146-4 (Prucha)	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #3, #4, #5, and #7 in WT45.	

Comment response: WT45_E Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-5	Page 1 of 1
Responsive to these comments: 30146-5 (Prucha)	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #1, #7, and #10 in WT45.	

Comment response: WT45_F Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-6	Page 1 of 1
Responsive to these comments: 30146-6 (Prucha)	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #1, #6, #11, and #15 in WT45.	

Comment response: WT45_G Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-7	Page 1 of 1
Responsive to these comments: 30146-7 (Prucha)	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #2, #11, and #15 in WT45.	

Comment response: WT45_H Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-8; 8032-73	Page 1 of 1
Responsive to these comments: 30146-8 (Prucha), 8032-73	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issue #6 in WT45.	

Comment response: WT45_I Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-9; 8032-74	Page 1 of 1
Responsive to these comments: 30146-9 (Prucha), 8032-74	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #5, #7, #8, #12, and #15 in WT45.	

Comment response: WT45_J Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-10	Page 1 of 1
Responsive to these comments: 30146-10 (Prucha)	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #4, #7, and #9 in WT45.	

Comment response: WT45_K Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-11; 8032-81; 8032-82; 8032-83; 8032-85	Page 1 of 1
Responsive to these comments: 30146-11 (Prucha), 8032-81, 8032-82, 8032-83, 8032-85	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issue #9 in WT45.	

Comment response: WT45_L Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-12	Page 1 of 1
Responsive to these comments: 30146-12 (Prucha)	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #1, #4, #6, and #9 in WT45.	

Comment response: WT45_M Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-13	Page 1 of 1
Responsive to these comments: 30146-13 (Prucha)	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #5, #11, and #13 in WT45.	

Comment response: WT45_N Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-14; 8032-91	Page 1 of 1
Responsive to these comments: 30146-14 (Prucha), 8032-91	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #5, #10, #12, and #13 in WT45.	

Comment response: WT45_O Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 30146-15; 8032-95	Page 1 of 1
Responsive to these comments: 30146-15 (Prucha), 8032-95	
For full response, see response WT45. This concerns raised in this comment are addressed specifically by issues #5, #9, #10, and #14 in WT45.	

Comment response: WT45_P Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 8032-72	Page 1 of 1
Responsive to these comments: 8032-72	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #2, #7, #11, and #15 in WT45.	

Comment response: WT45_Q Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 8032-78	Page 1 of 1
Responsive to these comments: 8032-78	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issue #10 in WT45.	

Comment response: WT45_R Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 8032-71	Page 1 of 1
Responsive to these comments: 8032-71	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #1, #2, #7 and #10 in WT45.	

Comment response: WT45_S Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 8032-87	Page 1 of 1
Responsive to these comments: 8032-87	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issue #13 in WT45.	

Comment response: WT45_T Overall response to report by Dr. B. Prucha, on groundwater modeling; with addition for specific comment 8032-76; 8032-77	Page 1 of 1
Responsive to these comments: 8032-76, 8032-77	
For full response, see response WT45. The concerns raised in this comment are addressed specifically by issues #9 and #15 in WT45.	

Comment response: WT46 Nitrogen analysis	Page 1 of 1
Responsive to these comments: 524-14	
We added further discussion of the assumptions and calculations used for nitrogen loading in the block-cave zone due to blasting in section 3.7.2 of the FEIS.	

Comment response: WT47 Chromium analysis	Page 1 of 1
Responsive to these comments: 524-13	
This comment concerns the appropriate speciation of chromium to include in the water quality analysis. Based on this comment, we modified the approach used in section 3.7.2 of the FEIS to incorporate standards for chromium III and VI where appropriate.	

Comment response: WT48 Need for water quality analysis	Page 1 of 1
Responsive to these comments: 1329-4, 30075-33	
Potential impacts on surface water and groundwater, as requested in the comment, are disclosed in section 3.7.2, including the following: • potential stormwater quality (DEIS, pp. 379–383), • potential impacts of tailings seepage to surface water and groundwater quality (DEIS, pp. 387–390 [Alt 2], pp. 395–397 [Alt 3], pp. 401–404 [Alt 4], pp. 408–410 [Alt 5], pp. 414–416 [Alt 6]) • post-closure ramifications on water quality (DEIS, p. 391 [Alt 2], p. 398 [Alt 3], p. 404 [Alt 4], p. 411 [Alt 5], p. 417 [Alt 6]) • potential impacts on impaired waters (DEIS, p. 392 [Alt 2], p. 398 [Alt 3], pp. 404–405 [Alt 4], p. 411 [Alt 5], p. 417 [Alt 6]) • potential impacts on assimilative capacity (DEIS, p. 392 [Alt 2], p. 398 [Alt 3], p. 405 [Alt 4], p. 411 [Alt 5], p. 417 [Alt 6]) • potential for processing chemicals to persist in tailings seepage (DEIS, pp. 417–418) • potential for technologically enhanced naturally occurring radioactive materials (DEIS, pp. 418–419) • potential for asbestiform materials (DEIS, pp. 419–420) • cumulative impacts (DEIS, pp. 419–420) In addition to the impacts disclosed in section 3.7.2, the potential impacts to water quality from a catastrophic failure of the tailings storage facility or the failure of a slurry or concentrate pipeline are analyzed in section 3.10.1 (DEIS, pp. 535–558).	

Comment response: WT49 Issue of oxygenation from infiltrating stormwater in subsidence crater	Page 1 of 1

Responsive to these comments:

30075-31, 30075-36, 30078-33

The analysis of potential block-cave water quality was revised in the FEIS; see response WT37 for more details.

These comments raise the question of oxygenation within the block-cave zone and the impact this would have on water quality. Oxygenation has been incorporated into the operational analysis of water quality, and the oxygenation products associated with mineralized rock are appropriately carried through into the processing plant and ultimately the tailings seepage, as further described in section 3.7.2.

During closure, we determined that the models used in the DEIS were inappropriate (see response WT37). A more appropriate approach was used in section 3.7.2 in the FEIS, based on saturated column testing conducted by Resolution Copper, specifically intended to estimate the water quality associated with submerged mineralized rock. While oxygenated precipitation would enter the subsidence crater and likely would indeed infiltrate and contribute to aquifer recharge, the remnants of the mineralized ore body are located thousands of feet below ground and would be the first material submerged upon closure once dewatering has ceased. Some level of dissolved oxygen is associated with any source of groundwater submerging the mineralized ore, whether recharged precipitation or groundwater flowing into the block-cave zone from the surrounding aquifer. The use of this dissolved oxygen immediately available within the submerged block-cave zone is replicated by the saturated column tests we use in the FEIS to assess post-closure block-cave water quality.

Comment response: WT50 Community water supplies	Page 1 of 1

Responsive to these comments:

235-23

This comment indicates that the "DEIS fails to address the loss and contamination of water in communities surrounding the proposed project area including Globe, Superior, Miami, San Carlos, Kearny, Florence, Queen Valley and other surrounding areas." This is an incorrect statement.

The potential for groundwater drawdown to impact water supplies is addressed in section 3.7.1, specifically for water supplies around the mine site (DEIS, p. 333) and around the Desert Wellfield (DEIS, pp. 335–340, varies by alternative).

At the mine site, these specifically include analysis of wells that are representative of impacted community water supplies corresponding to Superior, Top-of-the-World, and Boyce Thompson Arboretum (DEIS, p. 326). As shown in figure 3.7.1-3 (DEIS, p. 302), Globe, Miami, San Carlos, Kearny, Florence, and Queen Valley are beyond the limits of anticipated impact caused by drawdown at the mine site.

Similarly, as shown in figure 3.7.1-2 (DEIS, p. 298), Globe, Miami, San Carlos, Kearny, and Queen Valley are beyond the limits of anticipated impact caused by drawdown from the Desert Wellfield. Florence is located just outside the analysis area shown in figure 3.7.1-2, and some drawdown might indeed reach the town of Florence, as well as other communities in the East Salt River valley not mentioned specifically in the comment. See response WT4 for more discussion of how regional water supplies and competing water uses have been analyzed, with additional discussion in the FEIS.

With respect to potential water contamination from seepage entering downstream surface waters, this is described in section 3.7.2. As shown in figure 3.7.2-1 (DEIS, p. 347), Globe, Miami, San Carlos, and Florence are outside of the area of analysis where water impacts potentially could occur.

Kearny is located along the Gila River, downstream from where seepage from the tailings storage facility at the Skunk Camp location (Alternative 6) could affect the Gila River. As described in section 3.7.2, all numeric surface water quality standards are anticipated to be met in the Gila River; thus, impacts to water supplies are unlikely downstream at Kearny. Additional analysis was added to the FEIS with respect to seepage impacts from Alternative 6; see response WT7 for more details.

Queen Valley is located downstream from Whitlow Ranch Dam, where seepage from the tailings storage facilities at Alternatives 2, 3, and 4 enters surface water. The issue of the hydrologic connection of Queen Valley with Queen Creek, and the potential for impact from tailings seepage associated with Alternatives 2, 3, and 4 was discussed as part of the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS). Analysis was added to section 3.7.2 of the FEIS to further evaluate potential impacts on water resources in Queen Valley. See response WT59 for more detailed discussion of this issue.

Comment response: WT51 Sodium selenite	Page 1 of 1

Responsive to these comments:

1231-1, 281-1

This comment refers to sodium selenite specifically, and water quality impacts in general. Sodium selenite is one of many compounds that can contribute to dissolved selenium concentrations in water. The analysis and disclosure in the EIS are applicable to any impacts specific to sodium selenite.

Selenium is a specific constituent of concern identified for the water quality analysis (DEIS, p. 365). Predicted concentrations of selenium in groundwater and surface water as a result of tailings seepage are compared with Arizona numeric water quality standards as a threshold of concern (DEIS, pp. 387–390 [Alt 2], pp. 395–397 [Alt 3], pp. 401–404 [Alt 4], pp. 408–410 [Alt 5], pp. 414–416 [Alt 6]). Predicted concentrations of selenium in stormwater are similarly compared with Arizona numeric water quality standards (DEIS, pp. 379–383). Arizona numeric water quality standards compared for selenium include for aquifers, body contact, agricultural use, and chronic wildlife exposure (DEIS, appendix N, table N-5).

Comment response: WT52 Water quality-related comments by Dr. Maest	Page 1 of 1

Responsive to these comments:

8032-109

This comment references a number of specific water quality comments that were submitted in a report titled "Review of Geochemical Issues of Resolution Copper's Draft Environmental Impact Statement, August 2019," authored by Dr. A. Maest. The following responses are applicable to this report:

- Response WT28, regarding concerns with subaqueous deposition of potentially acid generating tailings
- Response WT35, regarding analysis of stormwater quality
- Response WT36, regarding the potential for the development of a lake in the subsidence crater
- Response WT37, regarding anticipated water quality within the block-cave zone
- Response WT41, regarding the use of specific analytical techniques

Comment response: WT54 Contribution to regional water quality from impacted springs	Page 1 of 1

Responsive to these comments:

30078-45

The springs and perennial streams potentially impacted by dewatering represent discharge points from the regional aquifers, either the deeper groundwater system or the Apache Leap Tuff aquifer. These springs and streams do not represent recharge points for these aquifers, but discharge points.

Once exposed at the surface, in some cases these high-quality waters contribute to stream runoff and ultimately may form a small component of recharge to the larger region. An example is spring DC-6.6W, which is anticipated to be impacted by drawdown and forms 0 to 5 percent of flow in Devil's Canyon (DEIS, p. 329). In most cases, however, the springs in question do not flow far enough to contribute to surface runoff and are likely consumed locally through evaporation or transpiration by riparian plants.

The baseflow of perennial streams in the area (Devil's Canyon and Mineral Creek) is not anticipated to be impacted by drawdown; contribution to regional recharge from these sources would remain unchanged.

Comment response: WT55 Impacts to water quality from copper	Page 1 of 1

Responsive to these comments:

555-5

The comment correctly identifies that concentrations of copper in stormwater—at least for stormwater contacting the filtered tailings on Alternative 4—are predicted to be 3,294 mg/L (DEIS, p. 382). The comment compares this with the MCL for copper of 1.3 mg/L. This number is correct, but MCL are regulations specific to drinking water. The EIS disclosure uses different thresholds for analysis.

Copper is a specific constituent of concern identified for the water quality analysis (DEIS, p. 365). Predicted concentrations of copper in groundwater and surface water as a result of tailings seepage are compared with Arizona numeric water quality standards as a threshold of concern (DEIS, pp. 387–390 [Alt 2], pp. 395–397 [Alt 3], pp. 401–404 [Alt 4], pp. 408–410 [Alt 5], pp. 414–416 [Alt 6]). Predicted concentrations of copper in stormwater are similarly compared with Arizona numeric water quality standards (DEIS, pp. 379–383). Arizona numeric water quality standards compared for copper include those for aquifers, body contact, agricultural use, and wildlife exposure (DEIS, appendix N, table N-5).

The MCL of 1.3 mg/L referenced in the comment is the least restrictive of these standards used as impact thresholds in the EIS. The most restrictive is 0.0191 mg/L (DEIS, appendix N, table N-5).

The potential concentrations in stormwater identified by the comment (DEIS, p. 365) would not be released to the environment, as discussed in section 3.7.2 (DEIS, pp. 379–381). However, we revised the stormwater analysis in section 3.7.2 of the FEIS to reflect possible release scenarios; see response WT35 for more details.

Comment response: WT56 Additional spring sources not analyzed	Page 1 of 2

Responsive to these comments:

8032-200, 8032-202

These comments raise the issue of potential springs either on Oak Flat or within the footprints of the tailings storage facilities that have not been analyzed in the DEIS. Specifically, four appendices to comment letter #8032 provide specific information.

Appendix M-1 provides a map of purported spring locations. A similar exercise was conducted by the NEPA team early in the analysis process, compiling potential spring locations from all available sources (Rietz 2017). The vast majority of the springs identified in Appendix M-1 do not exist in a perennial form on the landscape. They may be artifacts of historic water conditions, they may be mismapped, or they may be seasonal or ephemeral seeps or springs. The types of water sources that stand to be impacted by mine drawdown are those that have persistent water on the landscape and are connected to the regional aquifer. The term that we used in the NEPA analysis is "groundwater-dependent ecosystems." Spring inventories based on historic maps and available databases are not sufficient to define springs in this way.

However, field surveys are sufficient to define those springs likely to be impacted by mine drawdown, and these surveys were conducted over the entire mine footprint, including the Federal parcel (Oak Flat), and each of the tailings storage facility locations. Perennial springs have been identified and monitored, in some cases extending back to 2002 (Montgomery and Associates Inc. and WestLand Resources Inc. 2017; WestLand Resources Inc. and Montgomery and Associates Inc. 2018, 2020). The map provided with the comment (appendix M-1) is not sufficient to determine true groundwater-dependent ecosystems.

The springs identified and monitored in these surveys were then assessed against multiple lines of evidence to determine the likely source of water (local sources, or regional sources that potentially could be impacted by mine drawdown) (Garrett 2018e) (DEIS, pp. 312–317). The springs fed by regional sources are those that the NEPA team analyzed for potential impacts, using the predictions of the groundwater model, or the disturbance footprint of the project (DEIS, pp. 317–340; see especially p. 324). These are the same springs for which monitoring will be undertaken during operations and mitigation applied to any water reductions, regardless of anticipated impacts disclosed in the DEIS (DEIS, pp. 342–344).

Appendix M-2 to comment letter #8032 contains images and details of "an unnamed cave seep." Based on the coordinates provided, this is actually the groundwater-dependent ecosystem analyzed in the DEIS as "The Grotto" (WestLand Resources Inc. and Montgomery and Associates Inc. 2020). This water feature is anticipated to be lost to the subsidence crater (DEIS, p. 324).

Comment response: WT56 Additional spring sources not analyzed	Page 2 of 2

Responsive to these comments:

8032-200, 8032-202

Appendix M-3 to comment letter #8032 contains images and details of "an unnamed Cienega." Based on the coordinates provided, this is actually the feature identified and monitored as "Anxiety Fault Pond" (Montgomery and Associates Inc. 2017a). The project record documentation describes this feature as follows: "Anxiety Fault Pond is an anthropogenic, earthen pond off of Magma Mine Road, approximately 1.5 miles from the Highway 60 turnoff (Figure 1). The pond is in a naturally flat lying area, south of the Number 9 wash drainage (Photo 11). The source of water in the pond is runoff from rain events and seepage from the jointed and fractured Tal topography above the pond." This pond is one of four persistent surface water features identified on Oak Flat that likely derive water from local sources and therefore would not be impacted by groundwater drawdown due to mine dewatering. However, these features still would be lost as they lie within the footprint of the projected subsidence crater. These features were not included in DEIS in section 3.7.1 but were added to section 3.7.1 of the FEIS as impacted features.

Appendix M-4 to comment letter #8032 contains images and details of a "Swimming Hole Spring unnamed unmapped." Based on the coordinates provided and comparison of the photos provided, this is actually the groundwater-dependent ecosystem analyzed in the DEIS as "Rancho Rio Spring" (WestLand Resources Inc. and Montgomery and Associates Inc. 2020). This water feature is anticipated to be lost to the subsidence crater (DEIS, p. 324).

Comment response: WT57 Adverse impact of assimilative capacity change	Page 1 of 1

Responsive to these comments:

30075-45

We revised the "Unavoidable Adverse Effects" section of the water quality analysis (added to section 3.7.2) in the FEIS to reflect that reduction in assimilative capacity is an adverse effect.

Comment response: WT58 Impacts to individual wells	Page 1 of 1

Responsive to these comments:

38-2, 8032-80

Note that this topic is also covered in response WT45. This concerns raised in this comment are addressed specifically by issue #8 in WT45.

These comments raise the concern that "the evaluation of future drawdown at the surrounding wells was not conducted." This is an incorrect statement. The analysis of impacts on surrounding water supply wells by drawdown was analyzed in the DEIS.

Our approach in the DEIS was to use three proxy locations for representative water supplies that could be impacted by drawdown due to the mine dewatering. The specific reasons that proxies were used instead of individual wells is articulated in the project record (Newell and Garrett 2018d).

The larger question is whether the DEIS lacks disclosure of important drawdown impacts that are not shown by the proxies. In fact, the DEIS contains the information necessary for anybody to understand the drawdown at their individual well. If the proxy wells (one for Superior, one for Top-of-the-World, one for Boyce Thompson) are deemed insufficient for this purpose, perhaps because a reader owns a well farther afield, the full spatial distribution across the landscape is still shown in the DEIS: figure 3.7.1-2 for drawdown near the Desert Wellfield (DEIS, p. 298), figure 3.7.1-3 for drawdown at the mine site under the proposed action (DEIS, p. 302), and figure 3.7.1-8 for drawdown at the mine site under the no action alternative (DEIS, p. 323). Also note that figure 3.7.1-3 does show the full range of drawdown from all the uncertainty analysis as well, not just the single best-calibrated run. Other specific representations of drawdown are also shown in DEIS appendix L, with the specific location shown in figure 3.7.1-7 (DEIS, p. 315). Any of these locations also are indicative of drawdown in the regional aquifer that could impact individual wells.

We added further discussion to section 3.7.1 of the FEIS to further describe where results specific to individual well owners can be found.

Comment response: WT59 Queen Valley water rights	Page 1 of 1

Responsive to these comments:

268-2, 8032-96

These comments indicate that the DEIS "does not recognize or discuss the existing ground and surface water rights granted and purchased by the Queen Valley Golf Course and the Queen Valley Community."

See response WT19 for a full discussion of water rights issues.

As with other surface water rights, the Queen Valley water rights are similar to other potential water rights discussed in the DEIS, such as springs. In the DEIS we conclude that while physical loss to these sources can be disclosed, "impact on any surface water rights from a legal or regulatory standpoint cannot yet be determined due to the ongoing adjudication" (DEIS, p. 332).

The physical connection of Queen Valley to the Queen Creek system, and therefore the potential for impact from project activities, was not explicitly assessed in the DEIS. This description was added to section 3.7.2 of the FEIS. Further discussion of the potential to impact water rights in Queen Valley has been added to section 3.7.3, and further discussion of the potential for contamination to impact Queen Valley has been added to section 3.7.2.

Comment response: WT60 Destruction of trees/Winters doctrine	Page 1 of 2

Responsive to these comments:

1469-1

See response NEPA14 for discussion of the Winters doctrine with respect to federally reserved water rights.

Response NEPA14 is primarily about potential loss of springs and the Federal water rights associated with those springs. This comment expands the issue more generally to include water potentially needed to sustain vegetation. Analysis of vegetation that may lose water due to the mine is focused on those water sources and associated vegetation with a connection to the regional aquifer (groundwater-dependent ecosystems). This is the primary focus of section 3.7.1 of the DEIS (pp. 317–344). Potential Federal water rights associated with these areas are disclosed as well (DEIS, pp. 332–333).

A separate question raised by this comment is the "number of trees that will be destroyed by the mining operation." From context, it would appear that this is specifically referring to loss of water as described above, not the physical destruction of trees. While a specific number of trees is not enumerated in the DEIS, the physical destruction of vegetation and habitat is described in several places in the DEIS, including the following:

- Section 3.3 for the amount of vegetation removed by each alternative (DEIS, pp. 176–178);
- Section 3.3, desired future vegetation conditions from the Tonto National Forest for riparian and xeric riparian areas, the potential to meet these conditions after reclamation, and the amount of time needed to meet these conditions (DEIS, pp. 186, 188–190, 200);
- Section 3.3, anticipated impacts to riparian vegetation extent of health due to water quantity and quality impacts (DEIS, p. 196);
- Section 3.7.1, descriptions of groundwater-dependent ecosystems, including riparian areas (DEIS, pp. 312–317);
- Section 3.7.1, impacts to groundwater-dependent ecosystems, including riparian areas, due to dewatering from the project (DEIS, pp. 317–340);
- Section 3.7.1, cumulative impacts to groundwater-dependent ecosystems, including riparian areas (DEIS, pp. 340–342);
- Section 3.7.1, mitigation, mitigation effectiveness, and unavoidable adverse effects on groundwater-dependent ecosystems (DEIS, pp. 342–345);
- Section 3.7.3, impact of changes in geomorphology on groundwater-dependent ecosystems, including riparian vegetation (DEIS, pp. 433–434); and
- Section 3.7.3, impact of reductions in storm flow on surface water systems supporting vegetation (DEIS, pp. 435–444).

Comment response: WT60 Destruction of trees/Winters doctrine	Page 2 of 2
Responsive to these comments: 1469-1	

- Section 3.8, impact on special habitat areas supporting wildlife, including riparian (DEIS, pp. 452, 459–461)
- Section 3.8, impact to specific species groups (DEIS, pp. 461–463, 472)
- Section 3.10.1, potential to impact riparian areas from tailings storage facility or pipeline failures (DEIS, pp. 527–534, 540–543)

Comment response: WT61 Prediction of streamflow impact	Page 1 of 2
Responsive to these comments: 30075-26, 30078-27	

This comment questions the ability of the groundwater model to predict impacts to streamflow in Devil's Canyon specifically, and questions the basis for the conclusions of impacts in the DEIS.

The limitations of the groundwater model with respect to predicting impacts were the subject of extensive discussion in the Groundwater Modeling Workgroup and are described in the DEIS (pp. 299–301).

Informed by these discussions, we made a reasoned decision on the quantitative use of the model output: "Based on combined professional judgment, the Groundwater Modeling Workgroup determined that to properly reflect the level of uncertainty inherent in the modeling effort, results less than 10 feet should not be disclosed or relied upon, as these results are beyond the ability of the model to predict" (DEIS, p. 301).

The DEIS also clearly notes that impacts less than 10 feet are not negligible: "The Groundwater Modeling Workgroup recognized that while the model may not be reliable for results less than 10 feet in magnitude, changes in aquifer water level much less than 10 feet still could have meaningful effects on GDEs, even leading to complete drying" (DEIS, p. 301). Understanding that these types of impacts could occur does not mean that the tools available can reasonably predict them. The decision regarding how to use model output was not based on the fact that such impacts would be negligible, but that the best available tools were insufficient to predict those impacts.

We clearly recognized the ramifications of not having tools to accurately predict impacts at fractions of a foot, hundreds of years in the future, despite applying the best available science in the form of the groundwater model, and took steps to respond to this uncertainty:

> *"The Groundwater Modeling Workgroup explored a number of other modeling techniques, including explicitly modeling the interaction between groundwater and surface water to predict small changes in streamflow, but found that these techniques had similar limitations. To address this problem, monitoring of GDEs would be implemented during mine operations, closure, and potentially beyond. . . . If monitoring identifies real-world impacts that were not predicted by the modeling, mitigation would be implemented. Mitigation is not restricted to unanticipated impacts; mitigation may also be undertaken for those GDEs where impacts are expected to occur."* (DEIS, pp. 301–303)

Comment response: WT61 Prediction of streamflow impact	Page 2 of 2

Responsive to these comments:

30075-26, 30078-27

The comment notes specifically that "the conclusions in Table 3.7.1-3 that drawdown of the wetted stream reaches in Devil's Canyon are 'unlikely' and 'not anticipated' do not appear to be supported by data or analysis." These statements are fully supported by the groundwater modeling analysis, which includes the limitations of that modeling. Specifically, the results in table 3.7.1-3 are based on 87 separate modeling runs, examining a variety of scenarios. The main stream segments of middle Devil's Canyon (DC-8.8C, DC-8.1C) show anticipated drawdown (above the 10-foot threshold) in only 1 of 87 model runs. Spring DC-6.1E shows anticipated drawdown in 0 of 87 model runs. Spring DC-6.6W shows anticipated drawdown in 76 of 87 model runs; the ramifications of spring DC-6.6W losing flow due to drawdown are described, combined with anticipated stormwater reductions due to the subsidence crater (DEIS, p. 329). These specific model runs are the "data and analysis" supporting the conclusions in table 3.7.1-3.

The wetted stream reaches in Devil's Canyon are not anticipated to be impacted based on our analysis. However, these areas will be monitored, and if flow reductions are observed due to the mine—even if unanticipated now—mitigation would be applied to replace flows (DEIS, pp. 342–344).

Comment response: WT62 Potential error in reported results	Page 1 of 1

Responsive to these comments:

30075-24

This comment references a table circulated at a Groundwater Modeling Workgroup meeting on September 12, 2018, and notes: "SWCA presented to the Groundwater Modeling Workgroup a Table containing a summary of Potential Impacts to Groundwater-Dependent Ecosystems. This Table concludes that seven locations, including springs, in Devil's Canyon will experience greater than 10 feet of groundwater drawdown caused by Resolution Mine block-caving. In addition to Spring DC-6.6W, they are: DC8.8C; DC8.2W, DC8.1C; DC7.1C, DC6.14C; DC6. 1E."

The notes from the September 12, 2018, Groundwater Modeling Workgroup meeting do include a table titled "Table X. Summary of Potential Impacts to Groundwater-Dependent Ecosystems." All of the specific locations noted in the comment are on this table. However, for each, the prediction is "<10", not greater than 10 feet. The basis for this comment appears to be a misreading of that table. Additionally, this table has been superseded by tables in the DEIS; the table that appears in the DEIS (table 3.7.1-3, pp. 318–322) is not the same. When preparing the DEIS in 2019, after conclusion of the Groundwater Modeling Workgroup, the NEPA team decided to simplify the reporting of model results. The impacts from the proposed action in the table from September 2018 are based on the concept of an impact calculation, rather than raw drawdown as output from the model. In the September 2018 table, the impact is defined as the drawdown under the no action alternative (raw output from the model) subtracted from the drawdown under the proposed action (raw output from the model).

This approach—while justifiable—led to numerous points of confusion, which were pointed out by cooperating agencies when reviewing the administrative draft of the DEIS. In response, a simpler approach was taken to report the raw output from the model for both the no action and proposed action alternatives, with no other calculations. This was felt to be more understandable and more importantly would not lead to "masking" of potential impacts. This was particularly evident for spring DC-6.6W. Under the old approach (shown on the September 2018 table), this spring would not be anticipated to be impacted. Under the revised approach that appears in the DEIS, spring DC-6.6W is anticipated to be impacted by drawdown in the range of 10 to 30 feet (DEIS, pp. 319, 329).

This change of approach, the rationale for the change, and a quantification of the ramifications of the change for every GDE is described in Newell and Garrett (2018d). Importantly, we think this revised approach avoided underestimating impacts to GDEs in our analysis.

Comment response: WT63 East Salt River valley model sufficiency	Page 1 of 1

Responsive to these comments:

8031-54, 8032-104

These comments question the use of the groundwater modeling for the East Salt River valley and state that "the DEIS makes no attempt whatsoever to model or estimate groundwater resources and thus, makes no attempt to study the cumulative impacts."

This is an incorrect statement. The analysis of potential impacts from pumping in the East Salt River valley at the Desert Wellfield is based on modeling and is discussed in section 3.7.1, including quantifications of drawdown and water use that varies by alternative (DEIS pp. 317–344). Cumulative impacts to water resources are analyzed in section 3.7.1 as well (DEIS, pp. 340–342), including specific sections on "East Salt River Valley Water Supplies" and "Regional Water Supplies."

Additional information was added to the FEIS related to these topics. While the cumulative effects analysis was thorough and documented, we acknowledge that certain aspects of the impacts analysis could have been better quantified. The FEIS contains a reworked cumulative effects analysis (chapter 4) that takes a more quantitative approach whenever possible. This includes the cumulative impacts in the East Salt River valley. After consultation with the Arizona Department of Water Resources, additional modeling was conducted to quantify the combined impact of future regional water use with the Resolution Copper project Desert Wellfield pumping, including approved assured water supplies and extraction of all accumulated long-term storage credits. The quantitative results of this model are included in chapter 4 and added to section 3.7.1 of the FEIS.

In addition, further work has been conducted on vetting the regulatory model used to predict impacts for the Desert Wellfield; this discussion was included in the project record (Walser 2020a) and in section 3.7.1 of the FEIS. See also response WT45, Issue #14.

We consider the analysis of drawdown impacts to be thorough and complete. Some of these comments ignore or indicate lack of awareness of the substantial background information, either in the project record or cited as DEIS references, that contributed to the analysis statements contained in the DEIS.

CEQ regulations indicate that not all information available has to appear in the EIS itself: "Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment" (40 CFR 1502.21).

Comment response: WT68 Request for inclusion of surface water losses in groundwater depletion	Page 1 of 1

Responsive to these comments:

1358-7

This comment focuses on the long-term impact to the Phoenix area water supply, including reductions in surface flow.

Cumulative impacts to water resources are analyzed in section 3.7.1 as well (DEIS, pp. 340–342), including specific sections on "East Salt River Valley Water Supplies" and "Regional Water Supplies."

While the cumulative effects analysis was thorough and documented, we acknowledge that certain aspects of the impacts analysis could have been better quantified. The FEIS contains a reworked cumulative effects analysis (chapter 4) that takes a more quantitative approach whenever possible. This includes the cumulative impacts in the East Salt River valley. After consultation with the Arizona Department of Water Resources, additional modeling was conducted to quantify the combined impact of future regional water use with the Resolution Copper project Desert Wellfield pumping, including approved assured water supplies and extraction of all accumulated long-term storage credits. The quantitative results of this model were included in chapter 4 and added to section 3.7.1 of the FEIS.

Comment response: WT69 Combination of modeling effects	Page 1 of 1

Responsive to these comments:

30078-24

This comment suggests that it was inappropriate to consider modeling impacts using separate models, pointing specifically to the mine site model and the Desert Wellfield model.

This comment was raised for discussion in the Water Resources Workgroup (reconvened in January 2020 to assist the Forest Service in reviewing and addressing comments on the DEIS) (Morey 2020a). The two separate models are justifiable because there is no reasonable hydrologic connection between the two domains (Queen Creek flows for approximately 4 miles through rock-dominated areas between the Superior basin and the East Salt River valley basin), nor do drawdown impacts from either model extend far enough to act in combination (DEIS, p. 298 for Desert Wellfield drawdown impacts, p. 302 for mine site drawdown impacts). The edge of the East Salt River valley model domain is shown in figure 3.7.1-2 (DEIS, p. 298).

Comment response: WT71 Concerns with use of 200-year time frame	Page 1 of 1

Responsive to these comments:

30078-23

This comment raises three issues: concerns with the use of the 200-year time frame, concerns with model domains, and statements regarding past Resolution Copper efforts.

With respect to the 200-year time frame, the comment misinterprets the use of this time frame in the DEIS. Results beyond 200 years were discussed in the DEIS, just not quantitatively. See response WT16 for more discussion, as well as response WT45, Issue #5.

With respect to model domains, see response WT69.

With respect to past Resolution Copper statements or efforts, these are immaterial to the analysis at hand. See response WT25 for more discussion about the independent hydrologic analysis.

Comment response: WT72 Subsidence in modeling	Page 1 of 1

Responsive to these comments:

8032-89, 8032-94

These comments are primarily addressed by response WT45, Issue #13. However, several auxiliary issues are also raised.

These comments indicate that Magma Mine workings were not presented or reviewed. This is an incorrect statement. The Magma Mine workings were explicitly incorporated into the groundwater model for the mine site. This detail is contained in WSP USA (2019).

These comments also indicate that “the DEIS should have also assessed impacts within the following watersheds: North of Queen Creek, including Haunted Canyon, Upper Pinto Creek, and West Fork watersheds.; Walnut Canyon to the south, which drains into the Gila River via Donnelly Wash.”

This conclusion is drawn by arbitrarily expanding the impact contours shown in the groundwater modeling results. As shown in figure 3.7.1-3 (DEIS, p. 302), the drawdown from the mine dewatering does not reach far enough to cross the groundwater basin boundary where it would affect Haunted Canyon, Upper Pinto Creek, and West Fork, nor would any surface water impacts due to reductions in stormwater occur in these areas (DEIS, p. 423).

Similarly, Walnut Canyon draining into the Gila River is not located within any areas of groundwater drawdown from the mine dewatering (DEIS, p. 302), nor would any surface water impacts due to reductions in stormwater occur in these areas (DEIS, p. 423). Note that the comment is incorrect that Walnut Canyon drains into the Gila River via Donnelly Wash; rather, this is within the Donnelly Wash subwatershed but does not actually flow into Donnelly Wash.

Neither of these areas would be reasonable to include in the analysis, either for groundwater or surface water impacts.

Comment response: WT76 Use of median flow volumes	Page 1 of 1
Responsive to these comments: 524-9	
This comment indicates that when predicting potential impacts to surface waters due to tailings seepage, the appropriate flow values should be low flow conditions instead of median flow conditions. The use of median flow values was intentional in the DEIS, as it is a common method for assessing baseflow conditions instead of conditions dominated by storm runoff. Use of base flow is a conservative approach in that it prevents the dilution of seepage by large storm events, thus leading to lower predicted concentrations in surface water, and potentially underestimating impacts (see footnote 46, DEIS, p. 365). Use of low flow values is an even more conservative approach. We added further disclosure to section 3.7.2 of the FEIS to evaluate the potential impacts if low flow values were used in lieu of base flow conditions (see "Further Assessment with Low-Flow Conditions" under each alternative in section 3.7.2 of the FEIS).	

Comment response: WT77 Incorrect statements about watershed areas	Page 1 of 1
Responsive to these comments: 1158-43	
This comment points to various watershed areas noted in the DEIS and indicates they are inconsistent. The first mention of area in the comment is the total watershed area of Queen Creek, identified as 143 square miles (DEIS, p. 425). This number is correct and specifically refers to the contributing watershed for Queen Creek, as measured at Whitlow Ranch Dam. The second mention of area in the comment is that 1.76 square miles of the watershed would be lost to subsidence (DEIS, p. 429). This number is correct. The third mention of area in the comment is from section 3.7.1: "Runoff from over 20 percent of the Queen Creek watershed above Magma Avenue Bridge would be lost to the subsidence area" (DEIS, p. 316). This sentence is indeed incorrect. It should read that 20 percent of the average flow is lost from the watershed above Magma Avenue Bridge, not that the lost area represents 20 percent of the Queen Creek watershed. We corrected this in the FEIS.	

Comment response: WT78 Scope of analysis for water quality curtailed at nearest perennial water	Page 1 of 1
Responsive to these comments: 524-12	
This comment concerns the analysis of water quality only at the nearest downstream perennial water. The rationale for this choice is described in the "Analysis Area" discussion of section 3.7.2 (DEIS, p. 346). The issue of the hydrologic connection of Queen Valley with Queen Creek and the potential for impact from tailings seepage associated with Alternatives 2, 3, and 4 below Whitlow Ranch Dam was discussed as part of the Water Resources Workgroup (reconvened in January 2020 to assist the Tonto National Forest in reviewing and addressing comments on the DEIS). We added analysis to section 3.7.2 of the FEIS to further evaluate potential impacts on water resources in Queen Valley. See response WT59 for more detailed discussion of this issue.	

Comment response: WT79 Questions on inconsistencies on impacts to groundwater-dependent ecosystems	Page 1 of 1

Responsive to these comments:

30075-18, 30075-20, 30075-22, 30075-23

These comments identify perceived inconsistencies in the DEIS disclosure of model impacts, compared with results previously reviewed by the Groundwater Modeling Workgroup.

It is important to note that the results reviewed at various points during the Groundwater Modeling Workgroup are not identical to the results displayed in the DEIS.

When preparing the DEIS in 2019, after conclusion of the Groundwater Modeling Workgroup, we deemed it necessary and prudent to simplify the reporting of model results. The impacts from the proposed action reviewed by the Groundwater Modeling Workgroup (see the September 2018 meeting notes in particular (Morey 2018e)) were based on the concept of an impact calculation, rather than raw drawdown as output from the model. With this approach, impact is defined as the drawdown under the no action alternative (raw output from the model) subtracted from the drawdown under the proposed action (raw output from the model).

This approach—while justifiable—led to numerous points of confusion, which were pointed out by cooperating agencies when reviewing the administrative draft of the DEIS. In response, a simpler approach was taken to report the raw output from the model for both the no action and proposed action alternatives, with no other calculations. We thought this would be more understandable, and more importantly would not lead to "masking" of potential impacts. This was particularly evident for spring DC-6.6W, as a key example. Under the old approach (shown on the September 2018 table), this spring would not be anticipated to be impacted. Under the revised approach that appeared in the DEIS, spring DC-6.6W is anticipated to be impacted by drawdown in the range of 10 to 30 feet (DEIS, pp. 319, 329).

Our change of approach, the rationale for the change, and a quantification of the ramifications of the change for every GDE is described in Newell and Garrett (2018d). Importantly, we assert that this revised approach avoided underestimating impacts to GDEs in the NEPA analysis.

Comment response: WT80 Request for water quality analysis document	Page 1 of 1

Responsive to these comments:

555-7

The requested document is the DEIS reference identified as Gregory and Bayley (2018b) and has been available on the project website since publication of the DEIS.

Comment response: WT81 Specific questions on Alternative 5 water quality analysis	Page 1 of 3
Responsive to these comments: 28449-155	

This comment includes a number of questions on the Alternative 5 – Peg Leg water quality modeling report.

The first question concerns the calculation of the hydraulic conductivity value (K) for the site. As noted in the report: "Hydraulic conductivity is estimated to be 2.11 feet/day (ft/d) based on total basin size, estimated recharge, and hydraulic gradient" (Gregory and Bayley 2018c). Hydraulic conductivity is a parameter that is difficult to observe in the field except through some manner of pumping test. By contrast, hydraulic gradient can be observed directly from measured water levels, and recharge in the arid Southwest can be estimated based on elevation and basin size from previous literature studies. With these parameters, the K value can be back-calculated.

The comment notes that a K value of 2.11 feet/day falls outside the normal range for alluvium. The full reference for Anderson et al. (1992) is not provided, but we believe this represents USGS Professional Paper 1406-B, "Geohydrology and Water Resources of Alluvial Basins in South-Central Arizona and Parts of Adjacent State." This is correct, but the K value of 2.11 feet/day falls well within the range for upper and lower basin fill (Anderson et al. 1992:B16), which forms part of the basin. The use of the term "alluvium" in Gregory and Bayley (2018c) should not be construed to exclude basin fill materials. Regardless of literature values, as noted in the comment, we have aquifer test data, as well, that can inform the K value. At the time of the DEIS, the Near West field study included some aquifer test data, and at this time we also have the Skunk Camp field study on Dripping Spring Wash. We believe Dripping Spring Wash is likely a better analog for Donnelly Wash (Peg Leg location). Seven constant-rate pumping tests, two injection tests, and 11 slug tests were conducted in 2019 (Montgomery and Associates Inc. 2019a). An additional five constant-rate pumping tests and six injection tests were conducted in 2020 (Montgomery and Associates Inc. 2020g). Hydraulic conductivity values from this data set of 28 field tests range from 0.002 foot/day to 24 feet/day, with a median of 3.4 feet/day, a mean of 5.4 feet day, and a geometric mean of 2.2 feet/day. The value used for the Alternative 5 – Peg Leg water quality modeling is near the middle of this range.

The second question concerns the choice of recharge parameters, particularly the split of 75 percent "focused" recharge and 25 percent "diffuse" recharge, and the lack of match with values published for the nearby San Pedro basin in (Meixner et al. 2016). The terms "diffuse" and "focused" recharge are defined in Meixner et al. (2016:126): "In this analysis, diffuse recharge is operationally defined as being sourced from precipitation and occurs as direct infiltration of precipitation followed by percolation to the water table. Focused recharge from ephemeral or perennial surface-water expressions occurs via concentration of precipitation and shallow interflow at the Earth's surface through runoff processes and subsequent infiltration, percolation, and recharge of runoff at specific locations on the landscape (e.g., ephemeral streams and playas)." This publication provides estimates for the division of diffuse, focused, mountain system, and irrigation recharge in 11 basins throughout the western United States.

Comment response: WT81 Specific questions on Alternative 5 water quality analysis	Page 2 of 3
Responsive to these comments: 28449-155	

As noted in the comment, the San Pedro basin is one of these, and an estimate of 0 percent diffuse recharge is given. The range of diffuse recharge across the west varies from 0 to 98 percent.

In this case, there is a difference of terms between Meixner et al. (2016) and Gregory and Bayley (2018c). Gregory and Bayley (2018c:6) note, "Diffuse recharge classified as groundwater underflow in the model." Meixner et al. (2016:126), by contrast, define diffuse recharge only as "direct infiltration of precipitation followed by percolation to the water table" and include a separate term, "mountain system recharge," to incorporate other aspects of recharge flowing into the basin in the subsurface: "MSR includes recharge from stream loss at mountain fronts (MFR) (also a form a focused recharge, but herein grouped with MSR), along with subsurface transfer of groundwater from the mountain block to the adjacent alluvial aquifer (mountain-block recharge, or MBR)." In other words, the "diffuse" recharge of Gregory and Bayley does not strictly match the usage by Meixner et al., and is a term that incorporates any recharge mechanisms other than focused recharge.

This comment notes that locating the tailings storage facility near the margins of the alluvium may reduce total system recharge. This capture of precipitation, preventing it from reaching ephemeral channels where focused recharge can occur, is correct, at least during operations when stormwater is not allowed to be released. The reduction in this flow has been disclosed in section 3.7.3 (DEIS, pp. 437–441). Roughly 21 percent of storm flow and potential recharge would be sequestered by the tailings storage facility. The inability for this water to recharge the aquifer was added to section 3.7.3 in the FEIS.

The comment notes that the Gregory and Bayley model report mentions two samples in the Donnelly Wash subbasin, while the DEIS only lists one (DEIS, pp. 408–409). This is a misunderstanding about what the actual modeling results use for baseline water quality. The report indeed notes that only two groundwater quality samples exist (Gregory and Bayley (2018c:9)). However, only the Tea Cup Well sample was used to define baseline water quality, as it is located immediately below the tailings storage facility footprint. This is not clear from the Gregory and Bayley report itself but is clear from the backup spreadsheets provided to the Forest Service. These files are described in Garrett (2019d).

Comment response: WT81 Specific questions on Alternative 5 water quality analysis	Page 3 of 3

Responsive to these comments:

28449-155

The comment notes that exploration wells should be used to confirm the depth of the geophysical surveys. CEQ regulations address the need for additional data collection under 40 CFR 1502.22. The ability to collect additional information needs to be addressed when "the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives." In this case, while detailed geotechnical information is indeed critical to the eventual building of a tailings storage facility, it is not a key factor in making a reasoned choice between alternatives. In each case, sufficient geotechnical information was available to provide an initial design for the tailings storage facility (Golder Associates Inc. 2018a; Klohn Crippen Berger Ltd. 2018a, 2018b, 2018c, 2018d). The information in hand and disclosed in the DEIS was sufficient to understand the distinctions between the facilities. The effect of this potential uncertainty on decision making is directly discussed for one of the analyses most crucial for differentiating among alternatives, the seepage modeling (DEIS, pp. 354–357).

The comment notes that the mixing cells used for the water quality model expand into the Gila Conglomerate instead of being confined to the alluvium. This choice was made in order to ensure that all of the embankment—and more importantly the seepage measures below the embankment like finger drains—are incorporated into the model.
The comment also notes that the mixing cells do not match the Donnelly Wash alluvium. This mismatch is only evident when comparing the surface expression of the alluvium; the mixing cells are intended to represent an idealized flow through the aquifer, with a representative thickness of alluvium. The modeling approach (a simple mixing model) does not allow for matching the complex real-world geometries of the aquifer, nor is this matching necessary to obtain a reasonable estimate of water quality.

The comment also notes that the model is deterministic (giving one outcome) and not probabilistic (given multiple outcomes). This fundamental choice of modeling was discussed in the Groundwater Modeling Workgroup in 2017. Overall, the choice was made by the Tonto National Forest to use deterministic modeling, but to also incorporate discussion of uncertainties and sensitivities where appropriate. The various uncertainties for the Alternative 5 – Peg Leg water quality model are discussed specifically in section 3.7.2 (DEIS, pp. 353–363, with a summary shown graphically on p. 362). Importantly, this discussion concludes with a rationale for why the models are considered reasonable in light of these uncertainties (DEIS, p. 363).

Comment response: WT82 Inconsistencies in Devil's Canyon	Page 1 of 1

Responsive to these comments:

30075-1

This comment states, "Spring DC-6.6W, a spring located on the wall of Middle Devil's Canyon, is predicted to experience drawdown of 10-30 feet and dry up 200 years after the start of the mine as a result of Resolution Mine's dewatering and block-cave mining. Action: The modeled prediction of the mine-related loss of this spring must be reconciled with any predictive statement that the Middle Devil's Canyon baseflow is not expected to experience drawdown."

There is no inconsistency in the results. The base flow in Middle Devil's Canyon is represented by monitoring points DC-8.8 and DC8.1 (see Newell and Garrett (2018d) for a full compilation of groundwater modeling results, which are summarized in the DEIS, table 3.7.1-3, p. 319). Simply put, the drawdown contours predicted by the groundwater model reach spring DC-6.6W on the west side of the canyon (11 feet of drawdown) but do not reach the main stem of the canyon at the thresholds the model is capable of predicting (<10 feet).

Discharge from spring DC-6.6W flows into Devil's Canyon, however, and contributes to base flow in that way. Analysis of this impact is contained in section 3.7.1 (DEIS, p. 329), in combination with anticipated stormflow reductions in Devil's Canyon.

Comment response: WT83 Various criticisms of water resource analysis	Page 1 of 1

Responsive to these comments:

8031-24, 8031-63

This comment expresses concerns that information was not available in the DEIS or in supporting documents.

We consider the analysis of impacts to water resources to be thorough and complete. Some of these comments appear to be unaware of the substantial background information, either in the project record or cited as DEIS references, that contributed to the analysis statements contained in the DEIS.

CEQ regulations indicate that not all information available has to appear in the EIS itself: "Agencies shall incorporate material into an environmental impact statement by reference when the effect will be to cut down on bulk without impeding agency and public review of the action. The incorporated material shall be cited in the statement and its content briefly described. No material may be incorporated by reference unless it is reasonably available for inspection by potentially interested persons within the time allowed for comment" (40 CFR 1502.21).

One specific criticism is the inability to find reference Newell and Garrett (2018d). This reference is correctly cited throughout the DEIS and correctly included in the Literature Cited section (DEIS, p. 753). It was available on the project website when the DEIS was released in August 2019. However, it does appear that the citation on the website was labeled 2018c, though the title was correctly stated. This was remedied when brought to our attention.

With respect to other information, not all details of a complex project can or should be included in the DEIS itself. The substantial volume of baseline data reports, analysis reports, and modeling reports cited in the DEIS contain much of the detail requested and were available for review on the website when the DEIS was released in August 2019.

Comment response: WT84 Specific questions on Alternative 6 water quality modeling	Page 1 of 1

Responsive to these comments:

524-10

See response WT32 for more detail on how the possibility of exposure of seepage in surface water was investigated, both on Dripping Spring Wash and Queen Creek.

In addition, subsequent field investigations have verified the statement in the DEIS that Dripping Spring Wash is ephemeral, with groundwater levels deep enough to prevent surface water exposure (KCB Consultants Ltd. 2019; Montgomery and Associates Inc. 2020a; WestLand Resources Inc. and Montgomery and Associates Inc. 2020).

Comment response: WT89 Reduction in precipitation from subsidence	Page 1 of 1

Responsive to these comments:

30078-39, 30078-49

This comment states that "the draft fails to consider wind rose patterns which will be affected by the vertical collapse of the mountain unit, and the resulting alteration of the related precipitation."

We do not anticipate the subsidence crater having any noticeable effect on weather patterns or climate, except at a localized scale immediately around the subsidence crater.

Geography and elevation indeed have an influence on precipitation. Orographic precipitation is rain, snow, or other precipitation produced when moist air is lifted as it moves over a mountain range. Similarly, changes in elevation are associated with changes in air pressure and temperature.

However, while the fundamental mechanisms are valid, it is not reasonable to expect that these effects would occur on the scale of the subsidence crater. These effects occur on the scale of large swaths of the landscape. For instance, summer precipitation in Arizona largely differs between the lower desert areas (approximately 1,000 feet in elevation) and the high mountain areas (approximately 5,000–7,000 feet in elevation).

Numerous analogous situations exist in Arizona. The Ray mine is located nearby and is well over 1,000 feet deep. The Lavender pit in Bisbee is 900 feet deep. We have not discovered any reports of either pit affecting local weather patterns. In Phoenix, South Mountain park and Piestewa Peak both feature elevation changes of over 1,000 feet, across miles of landscape, yet these features do not fundamentally alter the desert climate of Phoenix in the way that traveling up 1,000 feet in elevation toward the mountains might. As an example, Black Canyon City (elevation 2,000 feet above mean sea level) has annual precipitation of 14 inches, compared with Phoenix (1,080 feet above mean sea level), which has annual precipitation of 9 inches.

Comment response: WT90 Section 404 regulatory changes	Page 1 of 1

Responsive to these comments:

8031-22

This comment indicates that the U.S. Army Corps of Engineers "should have conducted a full analysis of the potential impacts of Arizona's proposed assumption of the CWA 404 Permit Program and potential changes to the WOTUS Rule."

Regulation of waters of the U.S. under the Clean Water Act is subject to specific laws and regulations. At times, these regulations are revised or interpretation of existing regulations must change due to court decisions. The permit issued by the U.S. Army Corps of Engineers must comply with these regulations. Predicting future changes in regulations is speculative and not required under NEPA or Clean Water Act permitting.

As a concrete example, the State of Arizona was considering assumption of the 404 permit program but since the publication of the DEIS has decided to discontinue this pursuit. Such decisions are not predictable.

Regarding changes in jurisdiction, Resolution Copper received an Approved Jurisdictional Delineation (AJD) for aquatic features in the Queen Creek watershed (U.S. Army Corps of Engineers 2020a) and a Preliminary Jurisdictional Delineation (PJD) for potential waters of the U.S. in the Dripping Spring Wash watershed (U.S. Army Corps of Engineers 2020b). Permit processing is underway, based on these jurisdictional determinations, which were performed consistent with Rapanos guidance that was in effect at the time at which the determinations were made. It would be speculative to consider future changes in jurisdiction, and this is not required under NEPA or Clean Water Act permitting.

Comment response: WT91 Control of seepage	Page 1 of 1
Responsive to these comments: 8032-31	
This comment notes that using the wrong materials to prevent seepage would have adverse consequences. This was considered in the DEIS. Scoping comments and initial alternatives development focused on the concept of a "liner," envisioning an artificial geomembrane as a primary means of seepage control. This vision evolved to encompass a number of materials, depending on which would be the most effective at a specific location (see Newell and Garrett (2018d), "Evolution of the Fully Lined Alternative"). As noted in section 3.7.2, "The foundation would be treated during construction to reduce seepage and encourage flow into the drain system. Foundation treatment can include a variety of techniques such as dental concrete, cut-offs, grouting, or engineered low-permeability layers such as compacted fine tailings, engineered low permeability liners, asphalt, slurry bentonite, and/or cemented paste tailings. Specific treatments would be designed based on real-world conditions encountered during site preparation" (DEIS, p. 384).	

Comment response: WT92 Closure plans for Alternative 6	Page 1 of 1
Responsive to these comments: 524-18	
This comment raises two general concerns with the closure plans for Alternative 6 – Skunk Camp. First, concerns are raised with the plan to allow post-closure drainage to cross the watershed divide and discharge to Mineral Creek. This aspect of the closure plan was dropped and is no longer being contemplated. Second, disclosure of Skunk Camp closure plans in detail is requested. These plans were received containing more detail of likely reclamation activities (KCB Consultants Ltd. 2020c; Tetra Tech Inc. 2020). We included a discussion of the specific reclamation and closure plans from these documents in section 3.3 of the FEIS.	

Appendix S. Consultation History

Introduction

As noted in chapter 5, the Forest Supervisor, Tonto National Forest, has been conducting tribal consultation related to various Resolution Copper projects, the land exchange, and management of the Apache Leap Special Management Area (SMA). These consultation activities have been guided by the laws, regulations, and executive orders identified below.

Advisory Council on Historic Preservation (ACHP) regulations for the Protection of Historic Properties (36 CFR 800): These regulations outline when Federal agencies must consult with tribes regarding a Federal undertaking, and the issues and other factors this consultation must address to be compliant with Section 106 of the National Historic Preservation Act (NHPA).

Executive Order 13175: This EO directs executive departments and agencies to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications. It calls attention to the importance of strengthening the government-to-government relationship between the United States and Indian Tribes based on three fundamental principles:

- The Federal Government has enacted numerous statutes and promulgated numerous regulations that establish and define a trust relationship with Indian Tribes.
- The United States continues to work with Indian Tribes on a government-to-government basis to address issues concerning Indian tribal self-government, tribal trust resources, and Indian tribal treaty and other rights.
- The United States recognizes the right of Indian Tribes to self-government and supports tribal sovereignty and self-determination.

Section 3003 of PL 113-291: Section 3003(c)(3) of this law directs the Secretary of Agriculture to consult with affected Indian Tribes concerning issues of concern related to the Southeast Arizona Land Exchange and any adverse effects resulting from mining and related activities on those lands.

Consultation for the Resolution Copper Project and Land Exchange has included formal and informal meetings, correspondence, sharing information, site visits, and documentation of tribal comments and concerns by the Forest Service. Consultation is ongoing and will continue for the life of the project.

Table S-1 contained in this appendix lists the consultation records between the Tonto National Forest and the Tribes, including formal and informal communications.

Table S-1. Tonto National Forest Tribal Consultation Record for the Resolution Copper Project (2003–Present)

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
11/09/03	Discussion at Western Apache Coalition	Apache	San Carlo Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	Payson, AZ	TNF staff discussed proposed land exchange and requested Apache assistance in reviewing a CR survey (cited in 7/16/09 memo)
1/27/04	Official Letter from TNF Supervisor to Tribal Chairs	Apache	San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	N/A	TNF met 11/10/03 with Resolution Copper Mining, LLC (Resolution Copper), regarding proposed land exchange and archaeological survey of area; Apache sites recorded; will send report once received; requested assistance in ethnohistoric research of area
1/23/06	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe	N/A	Request 2 CR reports on Land Exchange Area and site visit as part of consultation
2/23/06	Official Letter from Hopi CPO to Desert Archaeology	Puebloan	Hopi Tribe	N/A	Comments on Desert's research design for Oak Flat (cited in PR 571)
5/15/06	Informal meeting with cultural staff	Yavapai	Yavapai Prescott Indian Tribe	Prescott, AZ	Review of Oak Flat archaeological survey report in preparation for proposed Treatment Plan
5/22/06	Informal meeting with cultural staff	Yavapai	Fort McDowell Yavapai Nation	Fountain Hills, AZ	Review of Oak Flat archaeological survey report in preparation for proposed Treatment Plan
6/19/06	Informal meeting with cultural staff	Puebloan	Hopi Tribe CPO	Kykotsmovi, AZ	Review of Oak Flat archaeological survey report in preparation for proposed Treatment Plan
6/21/06	Informal meeting with cultural staff	O'odham	Four Southern Tribes meeting	Sells, AZ	Review of Oak Flat archaeological survey report in preparation for proposed Treatment Plan
5/19/08	Emails between TNF Archaeologist and YAN Archaeologist	Yavapai Apache	Yavapai Apache Nation	N/A	Emails regarding meeting to discuss Resolution Copper Project proposed exploratory drilling

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
6/06/08	Official Letter from TNF Supervisor to Chairs and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed Plan of Operations for Resolution Copper Project Pre-feasibility Mining Studies; requested tribal input on sensitive areas
6/23/08	Informal Meeting with Western Apache Coalition cultural staff	Apache	San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	Payson, AZ	Resolution Copper Project Pre-feasibility Studies NEPA Consultation
6/27/08	Official Letter from TNF Mesa Ranger District	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	N/A	Requesting input on proposed Resolution Copper Project water pipeline
7/07/08	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe	N/A	Response to TNF 6/06/08 letter; request 2 CR reports and information about water pipeline
7/07/08	Official Letter from Hopi CPO to TNF Mesa Ranger District	Puebloan	Hopi Tribe	N/A	Request information on any cultural resources and how this relates to Resolution Copper Project

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/11/08	Official Letter from TNF Supervisor to Chairs and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed CR report for pre-feasibility study and requested information on sensitive areas
9/29/08	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe	N/A	Request for site visit and for an ethnographic study of the project area
4/01/09	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed Resolution Copper Project Pre-feasibility Plan of Operations EA and requested comments
4/13/09	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe	N/A	Comments on Pre-feasibility Study
4/29/09	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Comments on Pre-feasibility Study
4/30/09	Letter from Sparks Law Firm on behalf of San Carlos and Tonto	Apache	San Carlos Apache Tribe	N/A	Requesting 180-day extension of comment period on Pre-feasibility Study

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
5/05/09	Letter (partial) from TNF? to Sparks Law Firm	Apache	San Carlos Apache Tribe Tonto Apache Tribe	N/A	Denying requested 180-day comment extension and requesting proof of representation for San Carlos and Tonto Apache tribes
5/11/09	Official Letter from TNF Supervisor to Leaders	Apache	Tonto Apache Tribe White Mountain Apache Tribe	N/A	Invitation to attend information sharing meeting
5/15/09	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed final version of Pre-feasibility CR Inventory Report
5/29/09	Formal Meeting* with tribal cultural staff	Apache Puebloan	Hopi Tribe San Carlos Apache Tribe White Mountain Apache Tribe	TNF S.O Phoenix, AZ	Prefeasibility study, CR Inventory, status of Land Exchange, tribal concerns
6/10/09	Official Letter from TNF Supervisor to Chairman	Apache	White Mountain Apache Tribe	N/A	Thanking for attending 5/29 meeting
6/11/09	Official Letter from TNF Supervisor to Chairman	Yavapai	Fort McDowell Yavapai Nation	N/A	Thanking for attending 5/29 meeting
6/15/09	Official Letter from TNF Supervisor to Leaders and cultural staff	Apache Puebloan	Hopi Tribe San Carlos Apache Tribe White Mountain Apache Tribe	N/A	Thanking for attending on 5/29 meeting

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
6/16/09	Official Letter from TNF Supervisor to Leaders and cultural staff	Apache O'odham Yavapai	Gila River Indian Community Pueblo of Zuni Tonto Apache Tribe Yavapai-Apache Nation Yavapai Prescott Indian Tribe	N/A	Reporting on 5/29/09 meeting
6/30/09	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe	N/A	Oppose the finding of No Adverse Effect for Pre-feasibility Study
6/30/09	TNF Consultation Tracker	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Documents Consultation on Resolution, 1/27/04 –6/30/09
7/06/09	Official Letter from San Carlos Chairman to Secretary Dept of Agriculture	Apache	San Carlos Apache Tribe	N/A	San Carlos has not been consulted on the Land Exchange
7/13/09	Official Letter from Yavapai Prescott to TNF Supervisor	Yavapai	Yavapai Prescott Indian Tribe	N/A	Defer to Fort McDowell, but wish to be kept informed on project

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
3/16/10	Official Letter from TNF Supervisor to Tribal leaders and staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Requested comment on Pre-Feasibility report for connected state and private lands
3/29/10	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe	N/A	Comments on Prefeasibility Study EA
10/20/10	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Tribe	N/A	Requested meeting to discuss upcoming forest projects and best way to consult
6/27/11	Official Letter from Secretary of Agriculture to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Discusses proposed land exchange; requirements for FS consultation
7/26/11	Copy of Official Letter from Hopi to U.S. Congressmen	Puebloan	Hopi Tribe Chairman	N/A	Opposition to Land Exchange
9/06/11	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Request meeting on all projects impacting Oak Flat region

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
10/17/11	Official Letter from TNF Globe District Ranger to Leaders and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed Resolution Copper Project Plan of Operations for a Magnetotelluric Geophysical (mT) Survey, and Cultural Resources Monitoring Plan
10/24/11	Official Letter from Hopi CPO Response to Globe District Ranger	Puebloan	Hopi Tribe CPO	N/A	Response to 10/17/11 letter: Consultation request and request for monitoring report – Resolution Copper mT Survey
10/25/11	Official Letter from Gila River THPO to TNF Supervisor	O'odham	Gila River Indian Community	N/A	Opposes mining; requested monitors during geophysical testing
12/16/11	Formal Meeting* with Tribal Leaders	Apache	San Carlos Apache Tribal Council	San Carlos, AZ	Resolution Copper Pre-feasibility Plan of Operations for mT Survey
12/19/11	Official Letter from TNF Supervisor to Chairman, A.G., cultural staff	Apache	San Carlos Apache Tribe	N/A	Thanks for meeting on 12/16/11
12/28/11	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Thanks for meeting and re-emphasized TNF's trust responsibilities to tribes
2/07/12	Official Letter from Hopi CPO to U.S. Senate Energy and Natural Resources Committee	Puebloan	Hopi Tribe	N/A	Opposing proposed Land Exchange
5/11/12	Exchange of letters between TNF and San Carlos	Apache	San Carlos Apache Tribe	Oak Flat, AZ	Re: San Carlos obtaining a non-commercial use permit for ceremony at Oak Flat
6/25/12	Email from TNF Tribal Relations Program Manager to San Carlos THPO	Apache	San Carlos Apache Tribe	N/A	Conveyed draft list of culturally sensitive plants requested by San Carlos Council; asked for comment

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/21/12	Official Letter from TNF Globe District Ranger to Leaders and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Plan of Operations for Resolution Copper's mT Survey (mT = Magnetotellurics is an electromagnetic geophysical method for inferring the earth's subsurface electrical conductivity from measurements of natural geomagnetic and geoelectric field variation at the Earth's surface.)
9/25/12	Official Letter from White Mountain Apache Tribe THPO to TNF District Ranger	Apache	White Mountain Apache Tribe	N/A	White Mountain Apache Tribe recommends an ethnohistoric study to inform the mT Survey
10/02/12	Official Letter from Hopi Tribe CPO to TNF District Ranger	Puebloan	Hopi Tribe	N/A	Reply to TNF 9/21/12 letter; want to consult and request copy of monitoring report, Resolution Copper mT Survey
10/08/12	Official Letter from Gila River Indian Community to TNF District Ranger	O'odham	Gila River Indian Community	N/A	Reply to TNF 9/21/12 letter; request copies of mT survey area archaeological reports for review (provided)
10/26/12	Official Letter from San Carlos Apache Tribe Chairman to TNF District Ranger	Apache	San Carlos Apache Tribe	N/A	mT Survey Decision Memo: environmental assessment insufficient; project merits EIS
11/23/12	Official Letter from San Carlos Apache Tribe A.G. to District Ranger	Apache	San Carlos Apache Tribe	N/A	Objection to Categorical Exclusion: cumulative impacts merit EIS
3/13/13	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Comments in 10/26/12 letter referred to EIS; 9/21/12 letter asked for comments on mT proposal, copy enclosed; Apache plant list provided again; still seek comment; contact if want to meet

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
3/27/13	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Invitation to participate in Superior Area Ethnographic Study
4/08/13	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Accept Invitation to Participate in Ethnographic Study
4/17/13	Copy of San Carlos Apache Tribe Executive Memo	Apache	San Carlos Apache Tribe	N/A	Designate San Carlos Apache Tribe staff to work on the Superior Area Ethnographic Study
4/17/13	Letter from San Carlos THPO to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Invitation to attend sunrise ceremony in Oak Flat to educate Forest staff on a place that is sacred
4/18/13	Formal Meeting* with Tribal Staff	Pueblo	Hopi Tribe CPO	Kykotsmovi, AZ	Superior Area Ethnographic Study
4/26/13	Official Letter from San Carlos Chairman to Secretary of Agriculture and TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Request to consult on land exchange and to receive associated documents
6/26/13	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Designating project leads for Superior Area Ethnographic Study and provide copy of Oak Flat archaeological report
7/31/13	Official Letter from TNF Supervisor to Gila River THPO	O'odham	Gila River Indian Community	N/A	Comments received; archaeological monitor will be present during mT survey
7/31/13	Official Letter from TNF Supervisor to Hopi CPO	Puebloan	Hopi Tribe	N/A	Comments received; archaeological monitor will be present during mT survey
7/31/13	Official Letter from TNF Supervisor to WMAT THPO	Apache	White Mountain Apache Tribe	N/A	Comments received; archaeological monitor will be present during mT survey
6/20/13 (final signature 8/16/13)	Executed MOU between TNF and San Carlos	Apache	San Carlos Apache Tribe	N/A	Protocols for San Carlos participation in Ethnohistoric/Ethnographic Study
11/15/13	GPO submitted to TNF by Resolution Copper	N/A	N/A	N/A	Resolution Copper submits GPO for Resolution Copper Mine
11/15/13	FOIA request by San Carlos	Apache	San Carlos Apache Tribe	N/A	[Letter not located, but is mentioned in TNF 12/06/13 letter and 1/29/14 FOIA response]

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
11/15/13	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Requested copy of Resolution Copper Project Mining Plan of Operations and TNF's analyses [Response 1/29/14 suggests the 11/15/13 letter was a FOIA request, but this letter makes no mention of FOIA]
12/6/13	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache	N/A	Acknowledged receipt of FOIA request in 11/15/13 letter [letter not located]; stated Forest Service/TNF cannot consult on Congressional action (SE AZ Land Exchange) but is available to consult on Resolution Copper Project proposed mine plan
1/29/14	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache	N/A	Cover letter with response to 11/15/13 FOIA request with enclosed CD
5/13/14	Official Letter from TNF Supervisor	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Request meeting to consult on Resolution Copper's Baseline Hydrologic and Geotechnical Data Gathering Activities Project, and Superior Area Ethnographic Study
5/27/14	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe	N/A	Response to 5/14/14 TNF letter; support EIS for the proposed data gathering and request consultation meeting
5/28/14	Official Letter from TNF Supervisor to Chairman	Yavapai	Ft. McDowell Yavapai Nation	N/A	Request meeting to confer on TNF NEPA Proposed Activities, including Resolution Copper Project Baseline request
5/28/14	Official Letter from TNF Supervisor to Chairman	Yavapai	Yavapai-Prescott Indian Tribe	N/A	Request meeting to confer on TNF NEPA Proposed Activities, including Resolution Copper Project Baseline request

* = Forest Service line officer present.

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
5/30/14	Official Letter from GRIC THPO to TNF Supervisor	O'odham	Gila River Indian Community	N/A	Reviewed mT archaeological report and considers adequate; remain opposed to project
6/16/14	Official Letter from YPIT Cultural Research Director to TNF Supervisor	Yavapai	Yavapai-Prescott Indian Tribe	N/A	Response to TNF 5/13/14 letter re: Baseline testing CR report; support avoidance of historic properties
6/20/14	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Request extension of deadline for comments on Baseline testing report
6/23/14	Official Letter from Fort McDowell President to TNF Supervisor	Yavapai	Fort Mc Dowell Yavapai Nation	N/A	Regarding Baseline Hydrological and Geotechnical Data Gathering and clarifying proper consultation procedure for Fort McDowell
6/23/14	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Comments on Resolution Copper Project Baseline study
7/01/14	Email from TNF Tribal Relations Program Manager to Fort McDowell Director of Governmental Relations	Yavapai	Fort McDowell Yavapai Nation	N/A	Response to 6/23/14 letter forthcoming; attempting to set up meeting
7/23/14	Formal Meeting* of TNF Leaders and CPO Staff	Puebloan	Hopi Tribe CPO	N/A	Comments on Resolution Copper Project Baseline study and Land Exchange
8/04/14	Emails between Fort McDowell Director of Government Relations and TNF Tribal Relations Program Manager	Yavapai	Fort McDowell Yavapai Nation	N/A	Communication protocol and attempt to set meeting
8/21/14	Official Letter from TNF Supervisor to Fort McDowell President	Yavapai	Fort McDowell Yavapai Nation	N/A	Response to Fort McDowell 6/23/14 letter with comments on Baseline
8/21/14	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Receipt of 6/20 and 6/23 letters re: Baseline Plan; some comments pertain to General Plan; response to Baseline comments
8/21/14	Official Letter from TNF Supervisor to Hopi CPO	Puebloan	Hopi Tribe	N/A	Conveyed draft MOU for government-to-government consultation [missing attachment]

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
2014-2015	Ethnographic/ Ethnohistoric Study fieldwork and report	All Tribes (10) invited	Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	Superior, AZ	Cultural Landscapes and Traditional Cultural Properties within the Resolution Copper project area
2/17/15	AZ Mining Reform to Forest Service	Apache	San Carlos Apache Tribe	N/A	Provided copy of letter and statement from San Carlos and AZ Mining Reform re: Oak Flat
2/18/15	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache	N/A	Request TNF obtain return of TCP form released by SHPO to Resolution Copper
3/12/15	Official Letter from TNF Supervisor to Tribal leaders and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Requested comments on Baseline EA
3/30/15	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe	N/A	Comments on Resolution Baseline EA
3/31/15	Official Letter from TNF Supervisor to Apache Stronghold	Apache	San Carlos Apache Tribal Council	N/A	Thanking for 2/17/15 Joint Statement and TNF will not remove crosses

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
3/31/15	Official Letter from Yavapai-Apache Nation Chairman and cultural staff to TNF Supervisor	Yavapai	Yavapai-Apache Nation	N/A	Comments on Resolution Baseline Plan EA
4/13/15	Official Letter from Fort McDowell Yavapai Nation Governmental Relations Director to TNF Supervisor	Yavapai	Fort McDowell Yavapai Nation	N/A	Comments on Resolution Baseline Plan EA
4/13/15	Official Letter from San Carlos Apache Tribe A.G. to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Response to TNF 3/12/15 letter requesting comments on Resolution Baseline EA; requests TNF send letters to Chair and provide POCs for consultation
4/22/15	Formal Meeting* of TNF and Tribal Staffs	Apache	Tonto Apache Tribe White Mountain Apache Tribe	TNF S.O., Phoenix, AZ	Forest projects update, including Resolution
4/23/15	Official Email from Region 3 Tribal Relations to TNF and San Carlos	Apache	San Carlos Apache Tribe	N/A	Correspondence re: MOU process
4/27/15	Formal Meeting* with Tribal Leaders	Apache	San Carlos Apache Tribe	San Carlos, AZ	Deputy Undersecretary Blazer and Bosworth met with San Carlos Apache Tribe Vice Chair and A.G. re: Land Exchange
4/30/15	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Invited to meet re: Baseline EA; Second invitation issued 06/29/15
6/01/15	Official Letter from Tonto Apache Tribe Vice Chairman to TNF Supervisor	Apache	Tonto Apache Tribe	N/A	Comments on Baseline Plan – there are TCPs in the project area
6/11/15	Official Letter from TNF Supervisor to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Response to 4/2/15 FOIA request
6/19/15	Official Letter from San Carlos Chairman to U.S. Secretary of Agriculture	Apache	San Carlos Apache Tribe	N/A	Request for government-to-government consultation on NDAA
6/19/15	TNF Tribal Liaison	Apache	San Carlos Apache Tribe	N/A	Telephone log documenting attempts to set meeting with San Carlos (see also 8/24/15)

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
6/24/15	Official Letter from Gila River THPO to TNF Supervisor	O'odham	Gila River Indian Community	N/A	Comments on Baseline EA
7/09/15	Official Letter from TNF Supervisor to Tonto Chairman	Apache	Tonto Apache Tribe	N/A	Response to Tonto 6/01/15 comments on Baseline Plan
7/15/15	Official Letter from TNF Supervisor to GRIC Governor	O'odham	Gila River Indian Community	N/A	Invitation to Gila River Indian Community Governor to consult on the TCP nomination
7/30/15	Official Letter from National Park Service	N/A	N/A	N/A	Notified TNF of technical errors in TCP nomination
7/31/15	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Invitation to consult about the TCP nomination and Oak Flat
8/04/15	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Invitation to consult about the NDAA Land Exchange

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
8/14/15	Formal Meeting* with Tribal staffs	Apache	Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	Payson, AZ	Notes: Land Exchange, Resolution Copper's Baseline Plan
8/17/15	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe	N/A	Response to invitation to consult re: SE AZ Land Exchange
8/24/15	Phone Log and Email from TNF Tribal Liaison to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Attempting to set up meeting
9/18/15	Official Letter from TNF Supervisor to Fort McDowell Government Relations	Yavapai	Fort McDowell Yavapai Nation	N/A	Response to 4/13/15 comments from Fort McDowell Government Relations
9/18/15	Official Letter from TNF Supervisor to YAN Chairman and cultural staff	Apache Yavapai	Yavapai-Apache Nation	N/A	Response to YAN's 3/31/15 comments on Baseline Plan
9/22/15	Formal Meeting* with Hopi CPO staff	Puebloan	Hopi Tribe	Kykotsmovi, AZ	Update on Forest projects, including Resolution
9/24/15	Formal Meeting* with Tribal staffs	Apache	Mescalero Apache Tribe San Carlos Apache Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (Apache representative)	Payson, AZ	Resolution Copper Baseline Plan, TCP Mitigation Plan, Avoidance of Springs
9/28/15	TNF Tribal Liaison attempts to contact THPO	Apache	San Carlos Apache Tribe	N/A	–

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/30/15	Official Email from TNF Supervisor to Leaders and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	N/A	Provided Superior Area Ethnographic Study and thanked for their participation
10/02/15	Formal Meeting* with Zuni Leaders	Pueblo	Pueblo of Zuni	Zuni, NM	Update on Forest projects, including Resolution Copper EIS and Land Exchange
10/15/15	Formal Meeting* with Tribal staffs	O'odham	Gila River Indian Community Salt River Pima-Maricopa Indian Community	TNF S.O., Phoenix, AZ	Notes: Land Exchange, Baseline Plan of Operations, Oak Flat Traditional Cultural Properties
10/21/15	Formal Meeting* with Tribal staffs	Apache	Mescalero Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	Payson, AZ	Notes: Baseline Plan, Traditional Cultural Properties Mitigation Plan, Avoidance of Springs
10/22/15	Email from TNF Tribal Liaison to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Provided redacted copy of Ethnography as example of FOIA response, and unredacted copy
10/22/15	TNF Tribal Liaison to San Carlos THPO	Apache	San Carlos Apache Tribe	N/A	Telephone log of attempts to set meeting
10/27/15	Official Letter from San Carlos A.G. to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Decline consulting on Resolution Copper Mine as unaware that TNF has been delegated the responsibility
11/02/15	Email from TNF Tribal Liaison to GRIC THPO	O'odham	Gila River Indian Community	N/A	Provided information prior to 11/6/15 meeting

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
11/04/15	Official Letter from USDA Secretary to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Response to 6/19/15 San Carlos letter re: consultation about Land Exchange
11/06/15	Formal Meeting* with Tribal staff	O'odham	Gila River Indian Community Salt River Pima-Maricopa Indian Community	TNF S.O., Phoenix, AZ	Baseline Plan and proposed mitigations for TCPs
11/16/15	Formal Meeting* with Tribal staff	Yavapai	Fort McDowell Yavapai Nation	Fountain Hills, AZ	Land Exchange, Baseline EA
11/30/15	Formal Meeting* with Tribal staffs	Yavapai	Fort McDowell Yavapai Nation Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	Prescott, AZ	Resolution Copper Baseline Plan, Land Exchange, Apache Leap SMA
12/18/15	Formal Meeting* with Tribal staffs	O'odham	Gila River Indian Community Salt River Pima-Maricopa Indian Community	Sacaton, AZ	Notes: Land Exchange, Superior Area Ethnographic Study, Resolution Copper's Baseline Plan – Traditional Cultural Properties Mitigations, Oak Flat Traditional Cultural Property
1/13/16	Formal Meeting* with Tribal staffs	Apache	Mescalero Apache Tribe San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	Payson, AZ	Notes: Baseline EA draft decision notice
1/15/16	Official Letter from TNF Supervisor to Leaders and cultural staff	Apache Pueblo Yavapai	Hopi Tribe San Carlos Apache Tribe White Mountain Apache Yavapai-Prescott Indian Tribe	N/A	Regarding EA on Hydro/geo baseline study
2/29/16	Official Letter from San Carlos Chairman to Regional Forester	Apache	San Carlos Apache Tribe	N/A	Objections to Baseline Hydrological and Geotechnical Data Gathering FONSI
3/01/16	TNF Tribal Liaison and San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Telephone log re: attempts to set meeting

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
3/04/16	NRHP Listing	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	Superior area	Oak Flat Traditional Cultural Property, Superior Area Ethnographic Study
3/08/16	Official Letter from Region 3 Forester to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Acknowledge receipt of objections to Baseline EA
3/16/16	Email from Ft McDowell Governmental Relations to TNF Supervisor	Yavapai	Fort McDowell Yavapai Nation	N/A	Five questions regarding TCP, ALSMA mgmt. plan, mtg notes, timelines, next mtg
3/16/16	Official email from TNF Supervisor to Leaders and cultural staff	All Tribes (10)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	N/A	Official start of environmental review for Resolution Copper Project and land exchange
3/17/16	Email from TNF Tribal Liaison to Salt River Chairman	O'odham	Salt River Pima-Maricopa Indian Community	N/A	Resent 3/16/16 email that bounced
3/21/16	Official Letter from San Carlos Chairman to USDA Secretary and TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Conveyed draft proposed Land Exchange Memorandum of Understanding (MOU)

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
4/01/16	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Requesting comment on scope of EIS
4/01/16	Email from TNF Deputy Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Regarding the MOU
4/01/16	Email from TNF Tribal Liaison to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Draft MOU revisions
4/06/16	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe	N/A	Response on scope of the EIS
4/06/16	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Resolution Copper's Baseline Finding of No Significant Impact
4/06/16	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Initiate government-to-government consultation and MOU
4/06/16	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Request for extension to scoping period
4/06/16	Formal Meeting* with Tribal Leaders	Apache	San Carlos Apache Tribe	TNF S.O., Phoenix, AZ	Update on Forest projects, including Resolution Copper EIS, Baseline Study, and Land Exchange
4/12/16	Formal Meeting* with Tribal Leaders	Puebloan	Pueblo of Zuni	Zuni, NM	Discussed Resolution Copper Project, requested video of elders visiting project area

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
4/19/16	Email from San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Additional requests for information
4/22/16	Official Letter from TNF Supervisor to Hopi CPO	Puebloan	Hopi Tribe	N/A	Responding to 4/6/16 Hopi letter re: the EIS process
4/26/16	Presentation by TNF Staff	O'odham	Ak-Chin Indian Community Gila River Indian Community Salt River Pima-Maricopa Indian Community	Scottsdale, AZ	Update on Forest projects including Resolution Copper Project EIS and Land Exchange, for Four Southern Tribes Cultural Group
4/26/16	Official Letter from Acting Regional Administrative Review Coordinator to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	[mentioned in 4/29/16 San Carlos letter]
4/29/16	Official Letter from San Carlos Chairman to Acting Regional Administrative Review Coordinator	Apache	San Carlos Apache Tribe	N/A	Oppose Baseline activities plan
5/04/16	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Comments received on Baseline Plan
5/04/16	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Extension of Scoping period; other issues to be discussed at 5/18/16 meeting in San Carlos
5/04/16	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Confirmed action items from 4/06/16 meeting regarding the NDAA MOU and the meeting set for 5/18/16
5/13/16	Official Letter from San Carlos Chairman to Regional Forester	Apache	San Carlos Apache Tribe	N/A	San Carlos objections to Baseline Plan Finding of No Significant Impact
5/16/16	Official Letter from Regional Forester to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Analysis of San Carlos objections; approval of Baseline Plan
5/17/16	Emails between San Carlos and TNF	Apache	San Carlos Apache Tribe	N/A	Cancelled 5/18/16 meeting

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
6/17/16	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Provided TNF Points of Contact for Land Exchange MOU and invitation to tour
6/21/16	Email from TNF Tribal Liaison to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Provided TNF Points of Contact for Land Exchange MOU
7/14/16	Official Letter from White Mountain Apache THPO to TNF Mine Specialist	Apache	White Mountain Apache Tribe	N/A	White Mountain Apache Tribe provided comments on Resolution public scoping
7/18/16	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	San Carlos Apache Tribe provided comments on Resolution public scoping
8/25/16	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Decision Notice: Finding of No Significant Impact for Baseline Plan of Operations

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/29/16	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Requesting consultation re: Apache Leap SMA Management Plan
10/31/16	Email from San Carlos A.G. to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Conveyed draft MOU
11/02/16	Email from TNF Tribal Liaison to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Acknowledge receipt of draft MOU
11/03/16	Formal Meeting* USDA and San Carlos Chairman	Apache	San Carlos Apache Tribe	Washington, DC	Notes from San Carlos/USDA Meeting (author unknown)
11/23/16	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Will meet 12/14/16 to discuss MOU and other Land Exchange issues
11/29/16	Formal Meeting* with Tribal cultural staff	Yavapai	Fort McDowell Yavapai Nation Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	TNF S.O., Phoenix, AZ	Land Exchange, Resolution Copper Project (EIS), Apache Leap SMA
12/01/16	Email from TNF Tribal Liaison to San Carlos Chairman and A.G.	Apache	San Carlos Apache Tribe	N/A	Provided agenda for Apache Cultural meeting 12/09/16
12/09/16	Formal Meeting* with Tribal cultural staff	Apache	Mescalero Apache Tribe San Carlos Apache Tribe Tonto Apache Tribe	Payson, AZ	Land Exchange, EIS, Apache Leap SMA
12/12/16	Email from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Conveyed Land Exchange MOU with proposed edits

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
12/13/16	Formal Meeting* with Tribal Leaders	Pueblo	Pueblo of Zuni	Zuni, NM	Land Exchange, EIS, Apache Leap SMA
12/14/16	Formal Meeting* with Tribal Leader and staff	Apache	San Carlos Apache Tribe	TNF S.O., Phoenix, AZ	Land Exchange, EIS, Apache Leap SMA, MOU re: government-to-government consultation
12/20/16	Formal Meeting* with Tribal cultural staff	Yavapai	Fort McDowell Yavapai Nation	TNF S.O., Phoenix, AZ	Land Exchange, EIS, Apache Leap SMA
12/30/16	Formal Meeting* with Tribal cultural staff	O'odham	Salt River Pima-Maricopa Indian Community Gila River Indian Community	TNF S.O., Phoenix, AZ	Land Exchange, EIS, Apache Leap SMA
1/10/17	Field Trip	O'odham	Salt River Pima-Maricopa Indian Community Gila River Indian Community	Superior, AZ	Land Exchange and Proposed Tailings Location
1/11/17	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	MOU re: government-to-government consultation
2/16/17	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	MOU re: government-to-government consultation
2/16/17	Informal Meeting TNF Tribal Relations Program Manager and Tribal staff	Apache	Yavapai-Apache Nation (Apache Cultural representatives)	Camp Verde, AZ	Apache Leap SMA and Resolution EIS
3/07/17	Formal Meeting* with Tribal leaders and staff	Apache	Mescalero Apache Tribe	Mescalero, NM	Update on Forest projects, including Apache Leap SMA and Resolution EIS
3/20/17	Email from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Invitation to meetings on 4/27 and 4/28

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
3/20/17	Email from TNF Tribal Relations Program Manager to cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Invitation to meetings and tour, 4/27 and 4/28
3/29/17	Formal Meeting* with Hopi CPO	Puebloan	Hopi Tribe	Kykotsmovi, AZ	Land Exchange, EIS, Apache Leap SMA
4/07/17	Email from TNF Tribal Relations Program Manager to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Apache Leap SMA brochure and draft agenda for April 27 meeting and field visits
4/27/17	Formal Meeting* and field tour with Tribal Leaders and cultural staff	All Tribes (11) invited	Ak-Chin Indian Community Gila River Indian Community Mescalero Apache Tribe Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (Apache and Yavapai representatives)	Superior, AZ	Meeting: EIS and addressing adverse effects Tour: JI Ranch as possible mitigation
4/27/17	Comment Form	Apache	San Carlos Apache Tribe	Superior, AZ	Chairman Rambler provided written comments at All Tribes meeting

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
4/28/17	Field Trip	All Tribes (11) invited	Ak-Chin Indian Community Gila River Indian Community Mescalero Apache Tribe Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (Yavapai representatives)	Superior area	Tour of Mine and Proposed Facilities areas
5/01/17	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Comments on Apache Leap SMA plan and EA
5/15/17 and 5/16/17	Field Trips	All Tribes invited (11)	Ak-Chin Indian Community Mescalero Apache Tribe	Superior, AZ	Hike to top of Apache Leap and tour of Resolution Mine shaft
5/18/17	Official Email from TNF Supervisor to Leaders and staff	All Tribes (11)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed minutes from 4/27 and 4/28 all tribes mtg, provided link to Apache Leap draft management plan, asked for comments by June 16
6/30/17	Official Letter from TNF ALSMA Project Manager to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Requested comments on ALSMA management plan
7/05/17	Formal Meeting* with Tribal Leader and Staff	Apache	Yavapai Apache Nation (Apache cultural representatives)	Camp Verde, AZ	Tailings Alternatives

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
7/07/17	Email from TNF Deputy Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Re: Apache Leap Special Management Area Management Plan
7/10/17	Email from TNF Tribal Relations Program Manager to YAN Chairman and staff	Apache Yavapai	Yavapai-Apache Nation	N/A	Provided items requested in 7/05/17 meeting
7/13/17	Formal Meeting* of TNF and SHPO		Arizona State Historic Preservation Officer	TNF S.O., Phoenix, AZ	Section 106 process, PA, tribal consultation
7/20/17	Official Letter from TNF Supervisor to Tribal Leaders and cultural staff	All Tribes invited	Ak-Chin Indian Community Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	TBD	Invitation to All Tribes meeting October 5, 2017
7/31/17	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Comments on modified Apache Leap SMA Management Plan
8/02/17	Official Letter from TNF Supervisor to San Carlos Apache Tribal Council	Apache	San Carlos Apache Tribe	N/A	Request to engage in formal government-to-government meeting with tribal council re: Apache Leap SMA

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
10/05/17	Formal Meeting* with Tribal Leaders and Staffs	All Tribes (11) invited	Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	Payson, AZ	Apache Leap SMA, EIS, Tailings Alternatives, SHPO Consultation
10/06/17	Field Trip	All Tribes (11) invited	Mescalero Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (Yavapai) Yavapai Prescott Indian Tribe Pueblo of Zuni	Superior area	Field Trip to Peg Leg Tailings Alternative
10/10/17	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Letter to Regional Forester Objecting to Final Apache Leap EA
10/23/17	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes Invited	Ak-Chin Indian Community Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Requesting Tribal Input on Tailings Alternatives
11/29/17 and 11/30/17	Field Trips	Apache	Mescalero Apache Tribe San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (Apache representatives)	Superior area	Field Trip to Peg Leg Tailings Alternative and Mine Tour

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
12/06/17	Official Letter from White Mountain THPO to TNF Supervisor	Apache	White Mountain Apache Tribe	N/A	Comment on their preferred Tailings Alternatives; restate opposition to project
12/06/17	Official Letter from Tonto Apache Chairwoman and cultural staff to TNF Supervisor	Apache	Tonto Apache Tribe	N/A	Comment on their preferred Tailings Alternatives; restate opposition to project
12/06/17	Official Letter from Yavapai-Apache Nation Chairwoman and cultural staff to TNF Supervisor	Apache	Yavapai-Apache Nation (Apache representatives)	N/A	Comment on their preferred Tailings Alternatives; restate opposition to project
12/08/17	Official Letter from Mescalero Apache Present and THPO to TNF Supervisor	Apache	Mescalero Apache Tribe	N/A	Comment on their preferred Tailings Alternatives; restate opposition to project
1/08/18	Official Letter from Hopi CPO	Puebloan	Hopi Tribe	N/A	Note: Letter written but never mailed by Hopi (confirmed by Hopi CPO)
1/09/18	Formal Meeting* of TNF Supervisor with San Carlos Chairman and Staff	Apache	San Carlos Apache Tribe	San Carlos, AZ	Tailings Alternatives/Mining Technique
1/23/18	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Support for Peg Leg and request for additional data
1/25/18–2/02/18	Tribal Monitor Training	All Tribes invited	Ak-Chin Indian Community Gila River Indian Community Hope Tribe Mescalero Apache Tribe Pueblo of Zuni San Carlos Apache Tribe Salt River Pima-Maricopa Indian Community White Mountain Apache Tribe Yavapai-Apache Nation	Chandler and Globe, AZ	First training of Tribal Monitors
2/09/18	Email from TNF Supervisor to San Carlos Chairman (and email from Lyndon w/corrected attachment)	Apache	San Carlos Apache Tribe	N/A	Asked if TNF had any outstanding items from mtg, sent mtg notes, and asked for San Carlos' promised mine deposit characterization

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
2/12/18	Email from SWCA to San Carlos Chairman with link to requested data	Apache	San Carlos Apache Tribe	N/A	Provided additional data requested at Jan 10, 2018, meeting
3/13/18	Email from TNF Tribal Relations Program Manager to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Provided digital copy of mailed invitation to May 2 meeting
3/14/18	Official Letter from TNF Supervisor to Tribal Leaders and Staff	All Tribes (11) invited	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Invitation to 3rd All Tribes meeting on Resolution Copper Mine, May 2
3/14/18	Emails TNF Tribal Relations Program Manager and San Carlos THPO	Apache	San Carlos Apache Tribe	N/A	Regarding 5/03/18 Apache meeting
3/21/18	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache	N/A	Will attend 5/02/18 All Tribes; requested agenda materials 2 weeks prior to meeting; thanked for materials sent by SWCA

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
4/09/18	Email from TNF Tribal Relations Program Manager to Tribal Leaders and cultural staff	All Tribes (11) and TNF leaders	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Sent draft agenda for 5/02/18 All Tribes meeting and invitation to participate in development of PA (version 3); attachments included Section 106 Status Report; Resurvey/TCP of Oak Flat outline; and Oak Flat HPTP outline; and SharePoint link to file containing inventory reports
4/27/18	Formal Meeting* with Tribal Staffs	O'odham	Ak-Chin Indian Community Gila River Indian Community Salt River Pima-Maricopa Indian Community	TNF S.O., Phoenix, AZ	Update on Forest projects and Resolution EIS; provided PA outline
5/01/18	Formal Meeting* with Tribal Staffs	Apache	Mescalero Apache Tribe San Carlos Apache Tribe Tonto Apache Tribe Yavapai-Apache Nation (Apache representatives) White Mountain Apache Tribe	Flagstaff, AZ	Update on Forest projects and Resolution EIS; provided PA outline

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
5/02/18	Formal Meeting* with Tribal Leaders and Staffs	All Tribes invited	Ak-Chin Indian Community Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	Flagstaff, AZ	Update on Resolution Copper Project; discuss Oak Flat treatment; provided PA outline
5/03/18	Formal Meeting* with Tribal Staffs	Puebloan	Hopi Tribe Pueblo of Zuni	Flagstaff, AZ	Update on Forest projects and Resolution EIS
5/10/18	SWCA provided maps requested at All Tribes meeting	Apache	Mescalero Apache San Carlos Apache	N/A	Large format map of Oak Flat archaeology sites sent to both tribes; pdf of Alternatives map, Springs map, and Alt 8 map to San Carlos
5/23/18	Formal Meeting of Agencies	N/A	TNF BLM SHPO	TNF S.O, Phoenix, AZ	TNF's April 2018 Section 106 report; PA
5/29/18 and 5/30/18	Field Tour and Discussions with Elders	All Tribes (11) invited	Gila River Indian Community Hopi Tribe Pueblo of Zuni San Carlos Apache Tribe White Mountain Apache Tribe	Peg Leg Tailings Alternative	Tour and Discussion of TCPs recorded by Tribal Monitors

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
6/05/18	Email from TNF Tribal Relations Program Manager to Tribal cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Announced second Tribal Monitor Training and requested nominations
6/07/18	Formal Meeting* with Tribal Staffs	Yavapai	Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	TNF S.O., Phoenix, AZ	Update on Forest projects and Resolution EIS
6/13/18	Programmatic Agreement (PA) Public Workshop	All Tribes	Tohono O'odham Nation	Tucson, AZ	PA Contents
6/14/18	Formal Meeting* with Tribal Council Executive Committee and Staff	Apache	Mescalero Apache Tribe	Mescalero, NM	Discussion on Resolution Copper Mine
9/04/18	Formal Meeting* with Tribal Council	Puebloan	Pueblo of Zuni	Zuni, NM	Discussion on Resolution Copper Mine
9/18/18	Emory Oak meeting	Apache	San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Tribe	Camp Verde, AZ	Kickoff meeting to set objectives and identify potential groves for restoration

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/28/18	Official Letter from TNF Supervisor to Tribal Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Request for comment on draft HPTP and PA version 3 (provided on share drive 4/9/18); due Nov 9
10/1/18–10/10/18	Tribal Monitor Training	All Tribes (11) invited	Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni San Carlos Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	San Carlos, AZ	Second Tribal Monitor Training
10/15/18	Email from TNF Tribal Relations Program Manager to cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Request for comment on Peg Leg Tailings Alternative Tribal Perspectives Report, due Nov. 9, 2018 CONFIDENTIAL [report not included in PR]

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
10/25/18	Emails between Zuni Governor and TNF Tribal Relations Program Manager	Puebloan	Pueblo of Zuni	N/A	Requested extension of deadline for identifying NDAA mitigation measures
11/13/18	Official Letter from Hopi CPO	Puebloan	Hopi Tribe	N/A	Comment on Peg Leg Tailings TM Report
11/? /18	Email from TNF Tribal Relations Program Manager to BLM Cultural Resources Specialist	Cooperating Agency			Conveyed Hopi comment on Peg Leg TM report
11/14/18 and 11/15/18	Field Tours and Discussions with Elders	All Tribes (11) invited	Gila River Indian Community Hopi Tribe Pueblo of Zuni	Near West and Silver King areas	Tour and Discussion of TCPs recorded by Tribal Monitors
11/19/18	Email from TNF Tribal Relations Program Manager	All Tribes (11) invited	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Invitation to attend 11/26/18 meeting to discuss draft PA
11/26/18	Formal Meeting* with Cooperating Agencies and Consulting Tribes	All Tribes (11) invited	Gila River Indian Community Salt River Pima-Maricopa Indian Community ACHP, BLM, AZ SHPO, ASLD	TNF S.O., Phoenix, AZ	Discussion of proposed changes to draft PA version 3
11/28/18	Emory Oak Field Trip	Apache	San Carlos Apache Tribe Yavapai-Apache Nation (Apache representatives)	Camp Verde area	Examined potential groves

* = Forest Service line officer present.

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
12/03/18	Official Letter Signed by TNF and BLM	Apache O'odham Yoeme	Ak-Chin Indian Community Fort Sill Apache Tribe Pascua Yaqui Tribe Tohono O'odham Nation	N/A	Invitation to 4 additional tribes BLM consults, to consult regarding the Peg Leg Alternative area
2/05/19	Emory Oak Field Trip	Apache	Tonto Apache Tribe	Payson, AZ	Examined potential groves
2/13/19	Official Email from TNF Tribal Relations Program Manager	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed PA version 4, asking for comments by March 15, 2019, and informing of meeting to discuss on March 27 or 28, 2019
2/28/19	Official Letter from TNF Supervisor to Chairs and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Invitation to Discuss Draft PA on 3/28 and to Attend All Tribes Consultation Meeting on 3/29; conveyed PA version 4
3/08/19	Email from Hopi Tribe to TNF Tribal Relations Program Manager	Puebloan	Hopi Cultural Preservation Office Program Manager	N/A	Comments on PA version 4

* = Forest Service line officer present.

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
3/11/19	Formal Meeting* of TNF Supervisor with Mescalero Leaders, staff, and elders	Apache	Mescalero Apache Tribe	Superior, AZ	Annual consultation meeting: and update on Resolution Copper Project EIS; PA version 4 with comments due 3/28/19; viewed Oak Flat from Mine East Plant
3/15/19	Official Letter from San Carlos	Apache	San Carlos Apache Tribe	N/A	Comments on PA draft version 4 and request for informal staff meeting and formal presentation to Council
3/25/19	Email from San Carlos THPO to TNF	Apache	San Carlos Apache Tribe	N/A	Requested large format maps on paper [provided by SWCA via mail]
3/25/19	Emory Oak - Red Rock IDT Meeting	Apache	Tonto Apache Tribe Yavapai-Apache Nation (Apache representatives)	Red Rock Ranger Station	Discussed objectives, potential treatments, and NEPA status of groves examined in Red Rock District of Coconino NF
3/28/19	Formal Meeting* with Cooperating Agencies and Consulting Tribes	All Tribes (11) invited	Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe	Phoenix, AZ	Discussion of PA Version 4
3/28/19	Tour of Huhugam Curation Facility	All Tribes (11) invited	Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe	Wild Horse Pass	Tour of proposed curation facility for project archaeological collections
3/29/19	Formal Meeting* with All Tribes	All Tribes (11) invited	Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe	Phoenix, AZ	Update on status of Resolution Copper EIS, PA, HPTPs, and discussion

* = Forest Service line officer present.

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
4/02/19	Email from TNF Tribal Relations Program Manager to All Tribes	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Thanked for attending All Tribes mtg and advised of Skunk Camp Elders Tour May 6 and 7 and TM Training Aug/Sep
4/03/19	Official Email from TNF Tribal Relations Program Manager	Puebloan	Hopi Tribe CPO	N/A	Response to Hopi comments on draft PA
4/04/19	Formal Meeting* with Tribal Staffs	O'odham	Gila River Indian Community Salt River Indian Community	TNF S.O., Phoenix, AZ	Annual consultation; focus on Resolution Copper Mine
4/10/19	Emory Oak – FS planning meeting	N/A	None	Tele meeting	Forest staff planning for NEPA and NHPA requirements for groves identified on Coconino National Forest
4/12/19	Official Letter from TNF Supervisor to Chairs and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Invitation to Chair and Staff to attend Elders Tour of Skunk Camp Tailings Alternative

* = Forest Service line officer present.

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
4/12/19	Email from TNF Tribal Relations Program Leader to San Carlos Chair, A.G., and cultural staff	Apache	San Carlos Apache Tribe	N/A	Provided digital copy of TNF Supervisor's 4/12/19 invitation to tour Skunk Camp
4/15/19	Formal Meeting* with Tribal Leaders and Staff	Apache Yavapai	Yavapai-Apache Nation	Camp Verde, AZ	Annual consultation and discussion of mitigation for Resolution Copper Project
4/18/19	Emory Oak Field Trip	Apache	Yavapai-Apache Nation	Fossil Creek, AZ	Examined potential groves identified by YAN-Apache elders near Fossil Creek
4/24/19	Formal Meeting* with Tribal Leaders and Staff	Puebloan	Pueblo of Zuni	Zuni	Annual consultation and discussion of mitigation for Resolution Copper Project
4/25/19	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Response to SC letter of 3/15/19 re: PA
4/25/19 and 5/02/19	Emails between TNF Tribal Relations Program Manager and San Carlos THPO	Apache	San Carlos Apache Tribe	N/A	Response to request for TM assistance in San Carlos archaeology training; thank you from San Carlos THPO for TM good job speaking with trainees
4/30/19	Email from TNF Tribal Relations Program Manager to Chairs and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided agenda for May 6 and 7 tour of Skunk Camp
5/02/19	Email from TNF Tribal Relations Program Manager to Zuni Governor	Puebloan	Pueblo of Zuni	N/A	Conveyed 4/24/19 meeting notes

* = Forest Service line officer present.

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
5/06/19 and 5/07/19	Field Trip with Tribal Leaders, Staff, and Elders	All Tribes (11) invited	Gila River Indian Community Mescalero Apache Tribe Pueblo of Zuni San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Yavapai-Apache Nation (Apache)	Skunk Camp area	Tour and discussion of Skunk Camp Tailings Alternative led by Tribal Monitors
5/14/19	Formal Meeting* with Tribal Leader and Staff	Apache	San Carlos Apache Tribe	San Carlos, AZ	Discussion of PA, mining technique, and water analyses
5/16/19	Email from TNF Tribal Relations Program Manager to San Carlos THPO Office	Apache	San Carlos Apache Tribe	N/A	Provided status of TM plant guide
5/17/19	Email from San Carlos A.G. to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Requested information regarding EIS analyses
5/30/19	Formal Meeting* with Tribal Staff	Puebloan	Hopi Tribe	Flagstaff, AZ	Annual consultation update and PA version 4.9
6/05/19	Emory Oak Elders Advisory Meeting and Field Trip	Apache	San Carlos Apache Tribe White Mountain Apache Tribe	Globe Ranger District	Discussed project approaches, examined potential groves in Globe Ranger District, and discussed potential groves on WMAT and SCAT
6/11/19	Email from TNF Tribal Relations Program Manager to cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided PA version 5 (no appendices) as attachment; hardcopies to follow; requested comments by 6/21/19; notified of PA signatories teleconference on 6/25/19; tribes contact Tribal Relations Program Manager if want to attend

* = Forest Service line officer present.

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
6/12/19 (letter dated 5/20/19, not mailed until 6/12 due to closure of TNF S.O. Bldg)	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided flash drive with: PA version 5 and appendices (requested comments by June 19, 2019), Oak Flat HPTP with Burial Plan of Action (requested comments by June 28, 2019)
6/14/19-6/15/19	Emails between TNF Tribal Relations Program Manager and San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Regarding information requested by San Carlos and providing PA version 5 Appendices requested in 6/14/19 email from A.G.
6/17/19	Email from TNF Tribal Relations Program Manager to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Provided Items 1 and 3 requested 5/17/19 after 5/14/19 meeting between TNF and San Carlos; Items 2 and 4 anticipated in July
6/18/19	Emory Oak – Red Rock District IDT Meeting	Apache	Yavapai-Apache Nation	Red Rock Ranger District	Discussed NEPA status of identified groves
6/25/19	Teleconference regarding PA	All Tribes (11) invited	No tribe attended; only PA signatories	N/A	Discussed PA version 5
7/08/19–7/09/19	Emory Oak Elders Advisory Council Meeting and Field Trip	Apache	San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	Payson/ Young	Discussed project objectives and approaches; examined potential groves
7/10/19	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Comments on PA version 5

* = Forest Service line officer present.

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
7/25/19	Email from TNF Tribal Relations Program Manager to Apache cultural staff	Apache	San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	N/A	Coordinating August 2 tour of newly discovered Apache Rockshelter at Oak Flat
7/26/19	Emails between TNF Tribal Relations Program Manager and Zuni THPO	Puebloan	Pueblo of Zuni	N/A	Provided PA version 5 for review; discussed project history via telephone
7/26/19	Copy of letter from San Carlos Chairman to AZ Tribes, NCAI, and PA Signatories	All SW Tribes	Ak-Chin Indian Community Cocopah Indian Tribe Colorado River Indian Tribe Fort McDowell Yavapai Nation Fort Mojave Indian Tribe Fort Sill Apache Tribe Fort Yuma Quechan Tribe Gila River Indian Community Havasupai Tribe Hopi Tribe Hualapai Tribe Kaibab Paiute Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Juan Paiute Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	N/A	Criticized TNF PA Consultation
8/02/19	Field visit by Apache Tribes to Oak Flat	Apache	San Carlos Apache	Oak Flat, AZ	All Apache tribes cultural staff were invited; only San Carlos THPO staff and their family members attended

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
8/05/19 and 8/06/19	Email from TNF Tribal Relations Program Manager to Zuni THPO	Puebloan	Pueblo of Zuni	N/A	Discussed project background on phone 8/05/19 and sent requested Superior Area Ethnography in 8/06/19 email
8/09/19	Official Letter from TNF Supervisor to Chairs and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Announcing publication of DEIS, invitation to public meetings, and to consult
8/12/19	Email from TNF Tribal Relations Program Manager to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Conveyed items 2 and 4 of 5/17/19 request; release of DEIS and comment period; and imminent release of PA version 6
8/16/19	Official Email from TNF Tribal Relations Program Manager to Tribes cultural staff	All Tribes (11) (except San Carlos)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed PA version 6 and requested comments by 9/13/19
8/16/19	Email from TNF Tribal Relations Program Manager to San Carlos leaders and staff	Apache	San Carlos Apache	N/A	Conveyed PA version 6 and clarified comments due 9/13/19

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
8/16/19	San Carlos THPO to TNF Tribal Relations Program Manager	Apache	San Carlos Apache	N/A	Provided Tribal Consultation Response form re: DEIS comments; deferred to San Carlos A.G.
8/16/19	Email from TNF Heritage Program Manager to PA Signatories	N/A	N/A	N/A	Conveyed PA version 6, appendices, and comments crosswalk
8/19/19	Email from TNF Tribal Relations Program Manager to White Mountain Chair	Apache	White Mountain Apache Tribe	N/A	Seeking protocol for obtaining approval for EOCTRI program on WMAT reservation
8/20/19	Email from San Carlos THPO Office to TNF Tribal Relations Program Manager	Apache	San Carlos Apache Tribe	N/A	San Carlos consultation form requesting face-to-face mtg re: DEIS
8/20/19	Email reply from TNF Tribal Relations Program Manager to San Carlos THPO Office	Apache	San Carlos Apache Tribe	N/A	Offer to work with San Carlos THPO to set up meeting
8/23/19	Emory Oak Meeting and Field Trip	Apache	White Mountain Apache Tribe	Cibecue, AZ	Examined groves and discussed steps to restore on tribal land
8/26/19	Email from San Carlos A.G. to TNF Tribal Relations Program Manager and response	Apache	San Carlos Apache Tribe	N/A	Questions about EOCTRI program answered by TNF
8/29/19	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Response to 7/26/19 San Carlos letter about PA process
8/29/19	Email from TNF Tribal Relations Program Manager to Chairman	Apache	San Carlos Apache Tribe	N/A	Conveyed Bosworth 6/12/19 letter with PA version 6
8/29/19	Email from TNF Tribal Relations Program Manager to Chairman	Apache	San Carlos Apache Tribe	N/A	Sent attachment missing from earlier 8/29/19 email
8/29/19	Formal Meeting TNF/SHPO	N/A	N/A	SHPO, Phoenix, AZ	Discussed consultation and PA
9/04/19	Official Letter from Chairman to TNF Supervisor	Yoeme	Pascua Yaqui Tribe	N/A	Comments on consultation process, tribal monitor program, and PA in present form

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/09/19–9/16/19	Tribal Monitor Training	All Tribes	Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both)		Third Tribal Monitor Training
9/17/19	Email from TNF Tribal Relations Program Manager	PA Signatories	N/A	N/A	Provided TNF's 8/29/19 response to San Carlos' 7/10/19 letter
9/17/19	Email from TNF Tribal Relations Program Manager to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Requested meeting with Tribal Council
9/17/19	Phone call from TNF Tribal Relations Program Manager to Pascua Yaqui THPO	Yoeme	Pascua Yaqui Tribe	N/A	Requested meeting with Tribal Council
9/17/19	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Requested extension of comment period on DEIS; SO mtg re: Tribal Monitor Program; and field visit to Skunk Camp
9/18/19	Email from TNF Tribal Relations Program Manager to PA Signatories	N/A	N/A	N/A	Provided copy of 6/12/19 Bosworth Letter conveying PA version 6 to tribes
9/18/19	Email from TNF Tribal Relations Program Manager to Tohono O'odham THPO	O'odham	Tohono O'odham Nation	N/A	Follow-up on telephone call to inquire if TO want to consult on Resolution Copper Mine

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/23/19	Email from TNF Tribal Relations Program Manager to All Tribes chairs and cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Save the date for next All Tribes meeting October 28, 2019
9/25/19	Official Letter from TNF Supervisor to All Tribes chairs and cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed flash drive with GPO SIR Vol I: Summary of Findings and Vol II: Site Descriptions and reports dated 2003–2017

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/27/19	Email from TNF Heritage Program Manager to ACHP	N/A	N/A	N/A	Provided copy of 9/25/19 TNF Official Letter to tribes
9/30/19	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Comments on PA Ver 6; cc: to SHPO, USACE, ACHP, BLM and all Arizona tribes
10/01/19	Email from San Carlos A.G. Office to TNF Tribal Relations Program Manager	Apache	San Carlos Apache Tribe	N/A	Conveyed copy of Rambler's 9/30/19 letter
10/01/19	Email from TNF Tribal Relations Program Manager to San Carlos A.G. Office	Apache	San Carlos Apache Tribe	N/A	Requested meeting for Bosworth with Chairman and invited to October 28–29 meetings
10/02/19	Email from TNF Tribal Relations Program Manager to WMAT Tribal Council Administration	Apache	White Mountain Apache Tribe	N/A	Requested time to present information about TM Program to Tribal Council
10/02/19	Email from TNF Tribal Relations Program Manager to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Reply to 9/17/19 request for extension on DEIS comments, public mtg at SC, TM Program discussion, CR data, Skunk Camp tour
10/02/19	Email from San Carlos A.G. to TNF Supervisor and TNF Tribal Relations Program Manager	Apache	San Carlos Apache Tribe	N/A	Inquired whether TNF would provide formal response on SC's 9/30/19 PA comments
10/02/19	Email from TNF Tribal Relations Program Manager to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Bosworth travelling this week; will respond to SC 9/30/19 letter upon return
10/03/19	Email from TNF Tribal Relations Program Manager to San Carlos Chairman's Office and A.G.	Apache	San Carlos Apache Tribe	N/A	Conveyed cultural documents sent to USACE

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
10/04/19	Email from TNF Tribal Relations Program Manager to All Tribes chairs and cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Tribe Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Sent draft agenda and RSVP form for 10/28 All Tribes and 10/29 PA meetings
10/04/19	Email from San Carlos A.G. to TNF Tribal Relations Program Manager	Apache	San Carlos Apache Tribe	N/A	Could not open attachment in 10/03/19 Tribal Relations Program Manager email replying to San Carlos' 9/17/19 letter
10/07/19	Email from TNF Tribal Relations Program Manager to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Sent zipped version of 2018 Section 106 report that was provided to USACE (and attached to 10/04/19 Tribal Relations Program Manager email)
10/07/19	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Thanked TNF for DEIS comments extension and invited to Council meeting 10/21/19
10/07/19	Official Letter from Hopi CPO to TNF Supervisor	Puebloan	Hopi Tribe Cultural Preservation Office	N/A	NDAA mitigation request

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
10/09/19 (letter dated 10/8/19)	Official Letter from TNF Supervisor to chairs and cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Tribe Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Invitation to All Tribes and PA meetings, 10/28/19 and 10/29/19 (GRIC letter returned – incorrect PO Box; resent)
10/10/19	Email from TNF Tribal Relations Program Manager	Apache	Mescalero Apache Tribe	N/A	Asking new President if November 5 meeting is still on [no response]
10/15/19	Official Letter from TNF Supervisor to Chairman	Apache	San Carlos Apache Tribe	N/A	Response to San Carlos letter dated 9/17/19: DEIS comment extension, public meeting in San Carlos, meet in Phoenix to discuss TM Program, info shared with USACE, visits to Dripping Springs
10/15/19	Email from TNF Tribal Relations Program Manager	Apache	San Carlos Apache Tribe	N/A	Conveyed electronic version of TNF Supervisor 10/15/19 letter and available dates to meet

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
10/23/19	Official Email from TNF Tribal Relations Program Manager to tribal cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Tribe Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Extension of DEIS comment deadline to 12/22/19 for all tribes
10/24/19	Email from TNF Tribal Relations Program Manager to BLM Cultural Resources Specialist	N/A	Kim Ryan	N/A	Provided electronic copy of Revised Peg Leg TM Report
10/25/19	Official Letter from ACHP to TNF Supervisor	N/A	N/A	N/A	Commented on PA, Tribal consultation, and resolution of adverse effects

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
10/27/19	Official Email from TNF Tribal Relations Program Manager	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Tribe Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed electronic version of Tribal Consultation Summary and Plan (PR 3479)
10/28 and 10/29/19	Formal Meeting*	All Tribes (15) invited	Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	Phoenix, AZ	Discussed consultation plan, status of historic properties inventories and Oak Flat HPTPs, Tribal Monitor Program and Signatories Listening Session Morning of Day 2
10/29/19	Formal Meeting* of PA Signatories (tribes invited to attend)	All Tribes (15) invited	Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe White Mountain Apache Tribe	Phoenix, AZ	Discussed PA version 6
11/06/19	Emory Oak Elders Advisory Council Meeting	Apache	White Mountain Apache Tribe Yavapai-Apache Nation	Payson, AZ	Update on grove status; TM cultural surveys

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
11/06/19	Official Letter from White Mtn Apache Vice Chair	Apache	White Mountain Apache Tribe	N/A	Will continue to consult on Resolution Copper Mine
11/07/19	Email from TNF Tribal Relations Program Manager to THPO	O'odham	Salt River Pima-Maricopa Indian Community	N/A	Follow-up regarding tribal resolution mentioned by Angela Garcia-Lewis at 10/28/19 meeting
11/07/19	Copy of Official Letter from San Carlos Chairman to USACE	Apache	San Carlos Apache Tribe	N/A	Requests USACE lead PA for Skunk Camp and not issue 404 Permit
11/07/19	Official Letter from YAN Chairman to TNF Tribal Relations Program Manager	Apache Yavapai	Yavapai-Apache Nation	N/A	Thanked TNF for consulting; wants to continue consulting on tailings
11/08/19	Official Email from White Mountain Apache Vice Chairman to TNF Tribal Relations Program Manager	Apache	White Mountain Apache Tribe	N/A	NDAA Mitigation requests for SE AZ Land Exchange CONFIDENTIAL
11/12/19	Email from TNF Tribal Relations Program Manager to WMAT Legislative Advisor	Apache	White Mountain Apache Tribe	N/A	Asked for POC for mitigation discussions
11/12/19	Email from TNF Tribal Relations Program Manager to WMAT Legislative Advisor	Apache	White Mountain Apache Tribe	N/A	Thanked for comments on consultation
11/13/19	Email from BLM Cultural Resources Specialist to TNF Tribal Relations Program Manager			N/A	Provided comments on draft Consultation Summary and Plan
11/15/19	Formal Meeting*, TNF and YAN Tribal Council	Apache Yavapai	Yavapai-Apache Nation	Camp Verde, AZ	Discussion of Resolution Copper Project and mitigations

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
11/19/19	Email from TNF Tribal Relations Program Manager to PA Signatories and Tribes	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Reminder to provide comments on attached Consultation Plan by Nov 29, 2019
11/22/19	Formal Meeting* TNF and San Carlos Tribal Council	Apache	San Carlos Apache Tribal Council	San Carlos, AZ	Updated status of EIS process, answered questions; presentation by San Carlos water consultant

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
12/03/19	Email from TNF Tribal Relations Program Manager	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Forwarded invitation to PA workshop and provided PA version 7
12/03/19	Emails between Zuni THPO and TNF Tribal Relations Program Manager	Puebloan	Pueblo of Zuni	N/A	Tribal Relations Program Manager response to 3 questions from Dongoske re: TM Program: treatments for sites NRHP eligible under Criteria A,B,C; and need to address tribal spiritual impacts; provided TM protocols
12/03/19 and 12/04/19	Email from San Carlos A.G. to TNF Tribal Relations Program Manager and reply	Apache	San Carlos Apache Tribe	N/A	A.G. provided list of items requested by San Carlos; Tribal Relations Program Manager responded that TNF will provide them shortly
12/03/19 and 12/04/19	Email from San Carlos A.G. to Buckles, WestLand Resources	Apache	San Carlos Apache Tribe	N/A	Requested copies of WRI 10/28/19 meeting power point presentations; WRI provided by email 12/4/19
12/04/19	Presentation to White Mountain Tribal Council	Apache	White Mountain Apache Tribe	Whiteriver, AZ	TNF's Tribal Relations Program Manager and WMAT's THPO Altaha presented on Tribal Monitor Program and EOCTRI project proposed for Cibecue
12/05/19	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Response to San Carlos 9/30/19 letter re: PA version 6; also provided Oak Flat HPTP Addendum

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
12/05/19	Email from TNF Tribal Relations Program Manager to San Carlos Chair and staff	Apache	San Carlos Apache Tribe	N/A	Provided digital version of TNF 12/5/19 letter and attachments
12/05/19	Email from TNF Tribal Relations Program Manager to San Carlos THPO	Apache	San Carlos Apache Tribe	N/A	Provided GPS locations of 5 SIs visited in May 2019 Tribal Monitors' Tour of Skunk Camp
12/07/19	Email from WMAT THPO to TNF Tribal Relations Program Manager	Apache	White Mountain Apache Tribe	N/A	Provided comments on PA version 7
12/09/19	Email from TNF Tribal Relations Program Manager to PA Signatories		ACHP Arizona State Land Department BLM Resolution Copper State Historic Preservation Office USACE Forest Service Region 3	N/A	Provided copy of TNF 12/05/19 response to San Carlos 9/30/19 letter
12/09/19	Email from TNF Tribal Relations Program Manager to WMAT Vice Chairman	Apache	White Mountain Apache Tribe	N/A	Invitation to PA Workshops; provided PA version 7
12/09/19	Email from TNF Tribal Relations Program Manager to WMAT Legis. Advisor	Apache	White Mountain Apache Tribe	N/A	Invitation to PA Workshops; provided PA version 7

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
12/10/19	Official Email from TNF Tribal Relations Program Manager to Signatories and Tribes	All Tribes (15) and Signatories (ACHP, ASLD, BLM, Resolution Copper, SHPO, USACE, Forest Service Reg 3)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided revised Consultation Plan
12/10/19	Official Letter from TNF Supervisor to PYT Chair	Yoeme	Pascua Yaqui Tribe	N/A	Response to PYT comments on PA version 6
12/10/19	Email from TNF Tribal Relations Program Manager to PYT Chairman	Yoeme	Pascua Yaqui Tribe	N/A	Provided digital copy of 12/10/19 Letter from Bosworth with response to PA Comments
12/10/19	Official Letter from TNF Supervisor to Zuni Governor	Puebloan	Pueblo of Zuni	N/A	Response to Zuni Comments on PA version 6
12/10/19	Email from TNF Tribal Relations Program Manager to Zuni THPO	Puebloan	Pueblo of Zuni	N/A	Conveyed digital copy of TNF Supervisor 12/10/19 letter to Zuni
12/10/19	Official Letter from TNF Supervisor to WMAT Vice Chairman	Apache	White Mountain Apache Tribe	N/A	Thanked for 11/6/19 commitment to consult, 11/8/19 mitigation request, and hosting TNF staff 12/4/19 presentation to Council
12/10/19	Email from TNF Tribal Relations Program Manager to WMAT Legislative Advisor	Apache	White Mountain Apache Tribe	N/A	Conveyed digital copy of 12/10/19 letter from TNF Supervisor to Vice Chairman

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
12/10/19	Email from TNF Tribal Relations Program Manager to PA Signatories		ACHP Arizona State Land Department BLM Resolution Copper SHPO USACE Forest Service Region 3	N/A	Provided email copy of 12/10/19 response letter to Zuni
12/11/19	TNF Public Meeting	All Tribes (15) invited	San Carlos Apache Tribe White Mountain Apache Tribe	Phoenix Airport Hotel	Public discussion on PA version 7; Staff from 2 tribes attended
12/12/19	Formal Meeting* of TNF and PA Signatories (tribes invited)	All Tribes (15) invited	San Carlos Apache Tribe White Mountain Apache Tribe	SWCA Office, Phoenix, AZ	PA version 7
12/13/19	Official Letter from Chairman to TNF Supervisor	Apache Yavapai	Yavapai-Apache Nation	N/A	Comments on Resolution Copper Project EIS, TM program, and process
12/15/19 and 12/16/19	Emails between San Carlos A.G. and TNF Tribal Relations Program Manager	Apache	San Carlos Apache Tribe	N/A	Clarifying due date and format for DEIS comments; TNF responded: Dec 23 and flash drive are acceptable; S.O. staffing hours on Dec 23
12/16/19	Official Letter from TNF Supervisor to YAN Chairman	Apache Yavapai	Yavapai-Apache Nation	N/A	Thanking for mitigation requests and continuing government-to-government consultation on Resolution Copper Project
12/16/19	Emails between TNF Tribal Relations Program Manager and San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Re: items outstanding from 12/3/19 request
12/16/19	Emails between TNF Tribal Relations Program Manager and San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Re: items outstanding from 5/17/19 request
12/16/20	Email from TNF Resolution Copper Project Lead to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Clarifying 12/23/19 due date for DEIS comments and S.O. hours of operation
12/16/19	Email from San Carlos Asst. A.G. to TNF Tribal Relations Program Manager	Apache	San Carlos Apache Tribe	N/A	Requested copies of sign-in sheets and notes for 12/11/19 and 12/12/19 PA meetings (see 1/23/20)

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
12/19/19	Email from TNF Tribal Relations Program Manager to PA Signatories		N/A	N/A	Provided YAN 's 12/13/19 comments on Resolution Copper Project consultation process
12/23/19	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Conveyed comments on DEIS (letter via webform; comments via flash drive delivered to TNF SO)
12/30/19	Annual Report	Apache	San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	N/A	Provided copy of EOCTRI 2019 Annual Report
1/07/20	Formal Meeting TNF and Pascua Yaqui Council	Yoeme	Pascua Yaqui Tribe	Tucson, AZ	TNF and BLM met with Tribal Council to discuss consultation going forward
1/09/20	Official Letter from TNF Supervisor to leaders and cultural staff	All Tribes (15)	Ak Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed hard copy of Peg Leg TM Report and Review Form CONFIDENTIAL

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
1/10/20	Email from TNF Tribal Relations Program Manager to tribal cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided pdf of Peg Leg TM Report Final Draft and Review Form CONFIDENTIAL
1/13/20 (letter dated 1/07/20)	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed GPO Research Design on flash drive

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
1/13/20	Email from Hopi CPO to TNF, tribal leaders, and cultural staff	Puebloan	Hopi Tribe	N/A	Kudos on TM Program
1/14/20	Email from YAN Archaeologist to TNF, tribal leaders, and cultural staff	Apache Yavapai	Yavapai-Apache Nation	N/A	Kudos on TM Program
1/14/20	Email from Zuni Cultural Resources Advisory Team to TNF, tribal Leaders, and cultural staff	Puebloan	Pueblo of Zuni	N/A	Kudos on TM Program
1/14/20	Official Letter from TNF Supervisor to BLM		BLM state and field office staff	N/A	Conveyed Peg Leg TM Report and copies of letters to tribes CONFIDENTIAL
1/15/20	Email TNF Tribal Relations Program Manager to SRPMIC cultural representatives	O'odham	Salt River Pima-Maricopa Indian Community	N/A	Conveyed requested PDF of PA version 7 and comment matrix
1/16/20	Emory Oak Elders Advisory Council Meeting	Apache	White Mountain Apache Yavapai-Apache Nation	Payson Ranger District	Discussed findings of CR/TM surveys of Payson groves, and steps to treat groves on WMAT
1/21/20	Tribal Consultation Response Form from San Carlos	Apache	San Carlos Apache Tribe	N/A	Defer to A.G. for comments on GPO Research Design
1/22/20	Email from White Mountain Apache THPO to TNF Tribal Relations Program Manager	Apache	White Mountain Apache Tribe	N/A	Provided comments on Tribal Evaluation Form for Peg Leg Tribal Monitor Report CONFIDENTIAL
1/23/20	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Provided materials requested after meeting with Tribal Council and itemized in Ritchie 12/3/19 email; questions answered in letter and additional materials provided on flash drive
1/23/20	Email from TNF Tribal Relations Program Manager to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Conveyed digital copy of 1/23/20 letter and notice of hard copy in mail

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
1/23/20	Email from TNF Tribal Relations Program Manager to BLM and TNF Heritage Resources Program Manager	Apache	White Mountain Apache Tribe	N/A	Provided WMAT comments on Peg Leg TM Report confirming TCPs CONFIDENTIAL
1/27/20	Copy of Official Letter from San Carlos to USACE (sent via email from Chairman's office)	Apache	San Carlos Apache Tribe	N/A	Requested consultation re: Skunk Camp and groundwater modeling
1/29/20	Copy of Official Letter from San Carlos to BLM (sent via email from Chairman's office)	Apache	San Carlos Apache Tribe	N/A	Requested clarification of BLM's responsibilities and commencement of consultation
1/29/20	Correspondence Form from San Carlos THPO	Apache	San Carlos Apache Tribe	N/A	Thanked for response to A.G.'s questions from 11/22/19 and 12/3/19 meetings
1/31/20	Emails (2) from Morey, SWCA to attendees of PA meetings	Apache O'odham	Signatories Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe White Mountain Apache Tribe	N/A	Provided copies of 12/11/19 meeting notes; and 12/12/19 meeting notes
2/04/20	Email from Griset, SWCA to cultural reps on behalf of TNF ID Team Leader	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Reminder to submit comments on GPO Research Design and Peg Leg TM Report by 2/14/20

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Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
2/04/20	Official Email from TNF Tribal Relations Program Manager to tribal cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided list of potential natural resources in Oak Flat and Request Form; requested response by 3/6/20
2/05/20	Email from YAN Archaeologist to TNF Tribal Relations Program Manager	Apache Yavapai	Yavapai Apache Nation	N/A	Comments on Peg Leg TM Report and Resolution Copper Project GPO Research Design CONFIDENTIAL (TM Report)
2/05/20	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Rumored cutting of Oak Trees in Oak Flat
2/06/20	Comment Form from San Carlos THPO	Apache	San Carlos Apache Tribe	N/A	Acknowledged receipt of info requested at 11/22/19 meeting
2/11/20–2/13/20	Emory Oak project interviews for video	Apache	San Carlos Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	Camp Verde, Payson, and Cibecue	Interviewed elders, tribal council members, Forest staff participating in project
2/18/20	Official Letter from TNF Supervisor to Pascua Yaqui Chairman	Yoeme	Pascua Yaqui Tribe	N/A	Thanked for meeting and provided requested data

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
2/20/20	Official Email from TNF Tribal Relations Program Manager to Tribal Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided memo on HHRD survey at Oak Flat
2/20/20	Official Letter from TNF Supervisor to San Carlos Chairman	Apache	San Carlos Apache	N/A	Responded to San Carlos 2/5/20 letter regarding trees in Oak Flat
2/21/20	Email from TNF Project Lead to San Carlos	Apache	San Carlos Apache	N/A	Conveyed electronic copy of Bosworth's 2/20/20 letter
2/25/20	Official Emails from White Mountain THPO to TNF Tribal Relations Program Manager	Apache	White Mountain Apache Tribe	N/A	Concerns about HPTP and Research Design
3/03/20	Email from Tribal Relations Program Manager to Hopi CPO	Puebloan	Hopi Tribe	N/A	Set next meeting date to consult re: Resolution Copper Mine
3/04/20	Formal Meeting* with Zuni cultural staff	Puebloan	Pueblo of Zuni	N/A	NDAA Mitigations
3/04/20 and 3/18/20	Emails between WMAT THPO and TNF Tribal Relations Program Manager	Apache	White Mountain Apache	N/A	PA provision for Tribal Intellectual Property Rights
3/05/20	Formal Meeting* with Leaders	Apache Yavapai	Yavapai-Apache Nation	Camp Verde, AZ	Opportunity to gather natural resources from Oak Flat area

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
3/20/20	Official Email from TNF Tribal Relations Program Manager	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	N/A	Provided upcoming schedule of Tribal Monitor projects, and reminder to request O.F. natural resources
3/30/20	Official Email from TNF Tribal Relations Program Manager to tribes to Tribal Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed Oak Flat HPTP Addendum and asked for input on consultation

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
3/31/20	Official Email from TNF Tribal Relations Program Manager to Tribal Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed Near West Tribal Monitor survey report and requested TCP identification (mailed hard copies to GRIC and YAN) CONFIDENTIAL
4/06/20	Official Email from TNF Tribal Relations Program Manager to tribes	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed link to Silver King TM Report and eligibility form CONFIDENTIAL
4/16/20	Official Letter from USACE Colonel to San Carlos chairman	Apache	San Carlos Apache Tribe	N/A	Response to San Carlos 11/07/19 letter requesting to consult; documents attempts to meet; requests to teleconference
5/01/20	Email from TNF Resolution Copper Project Archaeologist summarizing 4/31/20 telephone conversation with WMAT THPO	Apache	White Mountain Apache Tribe	N/A	Concerned about sensitive ethnographic information in Research Design; agreed to inclusion of cautionary statement

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
5/07/20	Emory Oak Elders Advisory Council meeting	Apache	White Mountain Apache Tribe Yavapai-Apache Nation	Tele-meeting	Discussed status of CR surveys and NEPA for Payson and Coconino groves, EO video, and youth activity changes due to COVID-19
5/21/20	Email from TNF Tribal Relations Program Manager to Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Save the Date for 6/9/20 meeting to discuss NDAA mitigations
6/01/20–6/05/20	Tribal Monitor Refresher Training	All Tribes (11) invited	Monitors from: Ak-Chin Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Yavapai-Apache Nation	Tele-meeting	Additional skills and techniques for current TMs
6/02/20	Email from TNF Tribal Relations Program Manager to Chair and Vice Chair	Apache Yavapai	Yavapai-Apache Nation	N/A	Invitation to attend June 9 meeting on mitigations

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
6/02/20	Email from TNF Tribal Relations Program Manager to Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided agenda for June 9 online meeting on mitigations
6/09/20	Formal Meeting* with Tribes, Resolution Copper, NFF	All Tribes (11) invited	Gila River Indian Community Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation	Tele-meeting	Discussed potential mitigations for the NDAA and requested input
6/10/20	Email from TNF Tribal Relations Program Manager to 6/9/20 meeting attendees	All Tribes (11) TNF Staff Resolution Copper NFF	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	N/A	Provided two PowerPoint presentations from 6/9/20 All Tribes meeting

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
6/11/20	Email from YPIT CR Dept Director to TNF Tribal Relations Program Manager	Yavapai	Yavapai-Prescott Indian Tribe	N/A	Submitted TCP form for Perlite Spring in Near West Tailings Alternative CONFIDENTIAL
6/16/20	Official Email from TNF Tribal Relations Program Manager	All Tribes (11) TNF Staff Resolution Copper NFF	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided notes from 6/9/20 meeting and request for Advisory Board volunteers
6/16/20	Official Letter from San Carlos Chair to TNF Supervisor and Tribal Relations Program Manager	Apache	San Carlos Apache Tribe	N/A	Requested digital copy of 6/9/20 teleconference, a government-to-government meeting, and ceasing work on DEIS
6/18/20	Email from TNF Tribal Relations Program Manager to San Carlos leaders	Apache	San Carlos Apache Tribe	N/A	Provided video of 6/9/20 teleconference
6/26/20	Official Email from TNF Tribal Relations Program Manager to YAN Archaeologist	Apache	Yavapai-Apache Nation	N/A	Responded to YAN comments on Peg Leg TM report and Research Design
6/29/20	Email from TNF Tribal Relations Program Manager to WMAT Tribal Administrator	Apache	White Mountain Apache Tribe	N/A	Request to meet with Tribal Council
6/29/20	Email from TNF Tribal Relations Program Manager to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Request to meet with Tribal Council

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
7/02/20 (letter mailed 7/06/20)	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed flash drive with SIR Vol III: Tailings Alternatives and Oak Flat, and additional smaller reports; requested comments by 9/7/20 [GRIC letter to Chair refused for missing postage; THPO letter shredded in post office due to flash drive; resent to both 8/10/20 along with the 7/27/20 letter and PA version 8]
7/09/20	Official Letter from San Carlos Chairman to ACHP President	Apache	San Carlos Apache Tribe	N/A	Request for final PA and for review of Section 106 compliance by Forest Service
7/16/20	Email from TNF Tribal Relations Program Manager to Cultural Staff	O'odham	Ak-Chin Indian Community Gila River Indian Community Salt River Pima-Maricopa Indian Community Tohono O'odham Nation	N/A	Informed that would be presenting on Resolution Copper Project at next day's 4 Southern Tribes meeting and provided TNF Schedule of Proposed Activities (SOPA)
7/17/20	Presentation to Four Southern Tribes by TNF Tribal Relations Program Manager	O'odham	Ak-Chin Indian Community Gila River Indian Community Salt River Pima-Maricopa Indian Community Tohono O'odham Nation	N/A	PowerPoint presentation on Resolution Copper Project status, and SOPA
7/21/20	Official Letter from ACHP to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Response to San Carlos 7/9/20 letter: PA is imminent; will request that OFAP review TNF Section 106 process

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
7/24/20	Official Letter from TNF Supervisor (signed by Torres) to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Response to San Carlos 6/16/20 letter: lists items sent already; mentions Resolution Copper Project mitigations; offers to meet virtually; cannot cease work on DEIS; will be sending PA and Oak Flat NAGPRA POA next week
7/24/20	Email from TNF Tribal Relations Program Manager to San Carlos Chairman, A.G., and cultural staff	Apache	San Carlos Apache Tribe	N/A	Conveyed digital copy of 7/24/20 letter from Bosworth
7/27/20 (mailed 7/29/20)	Official Letter from TNF Supervisor to Tribal Leaders and cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed PA version 8 draft final and appendices, on flash drive with a blank comment form; requested comments by September 4, 2020 [Also mailed to non-tribal consulting parties and emailed by M. Hangan to Resolution Copper, BLM, SHPO, ITCA, Region 3, Doug Stephens WO, and WRI] [GRIC Chair and THPO received another copy to replace the first that was lost in mail; added to the replacement 7/2/20 flash drive that was mailed 8/10/20]

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
7/28/20	Official Email from TNF Tribal Relations Program Manager to cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed digital copy of Oak Flat TM Report CONFIDENTIAL
7/29/20	Email from TNF Tribal Relations Program Manager to Chair and Vice Chair	Apache Yavapai	Yavapai-Apache Nation	N/A	Conveyed digital copy of Oak Flat TM Report CONFIDENTIAL
7/29/20	Official Email from TNF Tribal Relations Program Manager to cultural staff and all San Carlos POCs	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed Oak Flat POA (dated 7/27/20) and notice that Oak Flat data recovery set to start week of October 12; invited to visit before, during or after field work; suggested field tours later in October or November
7/29/20	Email from SWCA Donna Morey to WMAT PA meeting attendees	WMAT ITCA	Brannen Parrish Shan Lewis Maria Dadgar	N/A	Conveyed PA draft version 8

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
8/12/20	Emory Oak Elders Advisors Quarterly Meeting	Apache	San Carlos Apache Tribe Yavapai-Apache Nation	Tele-meeting	Update on status of identified groves; discussion of EO blueprint for continuing program as part of Resolution Copper Mine mitigation
8/19/20	Emory Oak – Cibecue planning meeting	Apache	White Mountain Apache Tribe	Tele-meeting	Planning meeting for cultural resource surveys of three groves in Cibecue District of WMAT
8/21/20	Email from TNF Tribal Relations Program Manager to San Carlos	Apache	San Carlos Apache Tribe	N/A	Follow up to 7/24/20 letter from Bosworth requesting consultation on the Resolution Copper Project
8/25/20	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Request clarification on NDAA mitigation process and NAGPRA Plan of Action
8/28/20 (mailed 8/31/20)	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Introducing ACF who will craft blueprint for Education and Cultural Preservation Funds. [Tonto certified letter rejected by PO; digital copy provided 8/31/20; mailed hard copy w/o certified, 9/2/20]

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
8/31/20	Email from TNF Tribal Relations Program Manager to Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Conveyed digital copy of 8/28/20 letters from Bosworth
8/31/20	Emails between San Carlos A.G. and TNF Tribal Relations Program Manager	Apache	San Carlos Apache Tribe	N/A	Invited TNF to safe-distanced meeting at Apache Gold on 9/9/20; also stated their comments on PA version 8 will be submitted by September 4
8/31/20	Email from WMAT THPO to TNF Tribal Relations Program Manager	Apache	White Mountain Apache	N/A	Questions regarding Oak Flat HPTP and tribal site visits
9/02/20	Email from TNF Tribal Relations Program Manager to Hopi THPO	Puebloan	Hopi Tribe CPO	N/A	Apologized for incorrect address, sent revised 8/28/20 letter regarding ACF role in planning mitigation funding and asked for Chair email
9/02/20	Email from TNF Tribal Relations Program Manager to Hopi Chairman	Puebloan	Hopi Tribe	N/A	Provided digital copy of revised 8/28/20 letter with apology for erroneous last name used in letter mailed 8/31/20
9/03/20	Official Letter from San Carlos Chair to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Objections to proposed mitigations; need for Supplemental EIS; notice that PA version 8 comments coming separately
9/03/20 [received by TNF 9/30/20 via ACHP]	Official Letter from San Carlos Chair to TNF Supervisor	Apache	San Carlos Apache Tribe	N/A	Provided comments on PA version 8. [attached to 9/08/20 letter to ACHP conveying 9/03/20 letter to Bosworth and the PA comments]

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/04/20	Official Email from WMAT THPO to TNF Tribal Relations Program Manager	Apache	White Mountain Apache Tribe	N/A	Provided comments on PA version 8
9/08/20	Official Letter from San Carlos Chair to ACHP Executive Director	Apache	San Carlos Apache Tribe	N/A	Provided copy of 9/03/20 letter to TNF with comments on PA version 8
9/08/20	Email from San Carlos A.G. to TNF Tribal Relations Program Manager and TNF staff	Apache	San Carlos Apache Tribe	N/A	Canceled meeting scheduled for 9/9/20
9/08/20 (mailed 9/10/20)	Official Letter from TNF Supervisor to Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided blueprints for Tribal Monitor, Emory Oak, and Youth mitigation programs; requested comment by October 9, 2020
9/08/20	Official Letter from Fort McDowell President to TNF Supervisor	Yavapai	Fort McDowell Yavapai Nation	N/A	Echoes San Carlos request to defer FEIS

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/09/20	Email from TNF Tribal Relations Program Manager to Leaders and cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided digital copy of 9/8/20 letter
9/11/20	Letter from WMAT Cultural Resource Director to AZ Tribal Leaders	All Arizona Tribes (22)		N/A	Urged all tribes to oppose Resolution Copper Project and not work with TNF
9/15/20	Official Letter from ACHP to TNF re: Sec 106	All Tribes (15) FS Region 3 Other Interested Parties	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided comments on PA version 8; requested updates on consultation process

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/15/20 [received 9/30/20 by TNF from ACHP]	Email from San Carlos A.G. Secretary to ACHP Executive Director	Apache	San Carlos Apache Tribe	N/A	Provided to ACHP a copy of San Carlos' 9/03/20 letter to TNF Supervisor with comments on PA version 8 [it was missing from their 9/08/20 letter to ACHP]
9/17/20	Official Letter from YAN to TNF Tribal Relations Program Director	Apache Yavapai	Yavapai-Apache Nation	N/A	Urged TNF not to delay process due to request from single tribe
9/24/20	Official Letter from TNF Supervisor to Fort McDowell President	Yavapai	Fort McDowell Yavapai Nation	N/A	Response to 9/08/20 letter comments on PA and Tribal Monitor program
9/24/20	Email from TNF Tribal Relations Program Manager to Fort McDowell President	Yavapai	Fort McDowell Yavapai Nation	N/A	Conveyed digital copy of TNF 9/24/20 Letter from TNF Supervisor
9/24/20	Emails between San Carlos A.G. and TNF Tribal Relations Program Manager	Apache	San Carlos Apache Tribe	N/A	Informed TNF that Chairman Rambler available to meet on 10/08/20; Lyndon replied that new tribal program manager would be in touch to make COVID-safe arrangements
9/25/20 (mailed 9/28/20)	Official Letter from TNF Supervisor to Tribal Leaders and Staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Provided flash drive with revised GPO Research Design and comments matrix for January 2020 version; 9 survey reports, and technical memo on built environment; requested comments by 10/23/20

* = Forest Service line officer present.

Note: Shaded cells denote meetings between Tonto National Forest and other agencies that did not involve Tribes, but still involved specific Section 106 or tribal issues.

Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
9/28/20	Email from TNF Tribal Relations Program Manager to San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Accepted proposed meeting date/time and asked if teleconferencing would be provided
9/30/20 [received via email from ACHP]	Official Letter dated 9/08/30 from San Carlos to ACHP	Apache	San Carlos Apache Tribe	N/A	Included copy of San Carlos 9/3/20 letter to TNF Supervisor and comments on PA version 8 (which were not received directly by TNF)
9/28/20-10/5/20	Emails between TNF Tribal Relations Program Manager and San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Discussions regarding arrangements for 10/08/20 meeting and requesting agenda from tribe
9/30/20	Official Letter from TNF Acting Supervisor to YAN Chair	Apache Yavapai	Yavapai-Apache Nation	N/A	Thanked for 9/17/20 letter and informed of Tribal Relations staffing change
10/01/20	Email from TNF Tribal Relations Program Manager to YAN Chair	Apache Yavapai	Yavapai-Apache Nation	N/A	Conveyed digital copy of 9/30/20 letter from TNF Acting Supervisor responding to YAN 9/17/20 letter
10/01/20-10/05/20	Email from TNF Tribal Relations Program Manager to San Carlos THPO	Apache	San Carlos Apache Tribe	N/A	Regarding proposed sunrise ceremony at Oak Flat
10/05/20	Emails between TNF Tribal Relations Program Manager and San Carlos A.G.	Apache	San Carlos Apache Tribe	N/A	Regarding topics for 10/08/20 meeting; request for Adkins' vitae; requested that A.G. be cc'd on any correspondence to San Carlos Chair and THPO
10/07/20	Official Letter from TNF Supervisor to San Carlos Chair and staff	Apache	San Carlos Apache Tribe	N/A	Response to 8/25/20 letter regarding NDAA mitigations and process
10/07/20	Email from TNF Tribal Relations Program Manager to Chairman and Staff	Apache	San Carlos Apache Tribe	N/A	Conveyed digital copy of response to 8/26/20 letter re: NDAA
10/07/20	Official Letter from TNF Supervisor to San Carlos Chair and staff	Apache	San Carlos Apache Tribe	N/A	Response to 9/0320 letter requesting a Supplemental EIS

* = Forest Service line officer present.

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
10/07/20	Email from TNF Tribal Relations Program Manager to Chairman and Staff	Apache	San Carlos Apache Tribe	N/A	Conveyed digital copy of response to 9/03/20 letter #1 re: Supplemental EIS
10/07/20	Official Letter from TNF Supervisor to San Carlos Chair and staff	Apache	San Carlos Apache Tribe	N/A	Response to 9/03/20 letter (received 9/30/20) with comments on PA version 8
10/07/20	Email from TNF Tribal Relations Program Manager to Chairman and Staff	Apache	San Carlos Apache Tribe	N/A	Conveyed digital copy of response to 9/03/20 letter re: PA 8
10/08/20	Formal Meeting of TNF Acting Supervisor and staff with San Carlos Vice Chairman and staff	Apache	San Carlos Apache Tribe	San Carlos, AZ	Meeting requested initially by TNF 7/24/20; (canceled twice because of COVID-19); discussed PA
10/13/20	Email from TNF Tribal Relations Program Manager to Chair and Staff	Apache	San Carlos Apache Tribe	N/A	Thanked for hosting government-to-government consultation meeting
10/21/20	Official Program Manager to Tribal cultural staff and all San Carlos contacts	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation (representatives of both) Yavapai-Prescott Indian Tribe	N/A	Asked tribes to request Oak Flat site visits and to conduct blessing before data recovery begins November 30, 2020
10/22/20	Official Letter from AZ SHPO to San Carlos Chairman	Apache	San Carlos Apache Tribe	N/A	Reply to San Carlos 9/14/20 letter to SHPO re: TNF PA version 8 comments

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
10/29/20 (mailed 11/3/20)	Official Letter from TNF Supervisor to San Carlos Chairman and other staff	Apache	San Carlos Apache Tribe	N/A	Reply to San Carlos's 9/03/20 comments on PA version 8 [cc: to SHPO and ACHP]
11/02/20	Email from Tribal Relations Program Manager to San Carlos contacts	Apache	San Carlos Apache Tribe	N/A	Conveyed digital copy of 10/29/20 letter to Chairman Rambler; A.G. acknowledged receipt [cc: to SHPO and ACHP]
11/03/20	Official Email from Tribal Relations Program Manager to Tribal cultural staff	All Tribes (11)	Fort McDowell Yavapai Nation Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	N/A	Conveyed digital copy of Preliminary Report of Oak Flat Natural Resources Survey and reiterated invitation to collect resources
11/05/20	Emails from Tribal Relations Program Manager to Cultural staff	O'odham Pueblo	Gila River Indian Community Pueblo of Zuni	N/A	Inquiring whether they wish to do a blessing at Oak Flat
11/06/20	Email from WRIT to TNF Tribal Relations Program Manager	O'odham	Gila River Indian Community	N/A	GRIC THPO office will conduct a blessing of Oak Flat prior to 11/30/20
11/09/20	Statement from White Mountain Apache Tribe Cultural Resource Director	Apache	White Mountain Apache Tribe	N/A	Statement opposing Resolution Copper Mine; sent to U.S. Federal Government Trustees and Tribal leaders [list not provided]
11/13/20	Letter from Apache Stronghold to ACHP	N/A	Interested party	N/A	Comments on Forest Service consultation; attached 9/11/20 and 11/9/20 letters from Ramon Riley, WMAT Culture Resource Director
11/18/20	Official Letter from TNF Acting Supervisor to Archaeology Southwest	N/A	Interested party	N/A	Response to comments on PA version 8 regarding SRP, Tribal Consultation, and Public Involvement

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
11/25/30 and 11/30/20	Emails between TNF Tribal Relations and White Mountain Cultural Resources Director	Apache	White Mountain Apache Tribe	N/A	Questions regarding the EOCTRI program
12/14/20	Email from TNF Mitigation Tribal Liaison to WMAT Repatriation Specialist	Apache	White Mountain Apache Tribe	N/A	Response to Ramon Riley's questions about the EOCTRI program and proposed mitigation fund; cc: to THPO and Cibecue
12/15/20	Official Letter from ACHP to TNF	N/A	Programmatic Agreement Signatory	N/A	Results of 36 CFR 800.9(a) compliance review
12/21/20	Official Letter from TNF Acting Supervisor to Tribal leaders and cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	N/A	Conveyed digital copies of Skunk Camp and Peg Leg Corridors cultural resource survey reports
12/22/20	Official Letter from San Carlos Chairman to TNF Supervisor	Apache	San Carlos Apache Tribe	n/a	Notice of additional information on water resources analysis and request for SEIS; information to follow in mail
12/23/20	Email from TNF Acting Supervisor to San Carlos Chair	Apache	San Carlos Apache Tribe	n/a	Thanked for 12/22/20 letter sent via email; TNF will respond once information is received

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
12/23/20	Official Letter from San Carlos THPO to TNF Acting Supervisor	Apache O'odham Yavapai	Fort McDowell Yavapai Apache Gila River Indian Community Salt River Indian Community San Carlos Apache Tohono O'odham Nation	n/a	Advised TNF that members of Apache Stronghold and listed tribes will tour Skunk Camp 12/31/20 to offer prayers
12/23/20 (mailed and emailed notice 12/24/20)	Official Letter from Acting TNF Supervisor to Tribal leaders and cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	n/a	Conveyed digital copies of Skunk Camp and Peg Leg Corridors cultural resource survey reports; requested comment by February 24, 2021

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Date	Type of Interaction	Cultural Group(s)	Tribes Participating	Location	Subject(s) Discussed
12/23/20 (mailed 12/28/20)	Official Letter from Acting TNF Supervisor to Tribal leaders and cultural staff	All Tribes (15)	Ak-Chin Indian Community Fort McDowell Yavapai Nation Fort Sill Apache Gila River Indian Community Hopi Tribe Mescalero Apache Tribe Pascua Yaqui Tribe Pueblo of Zuni Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tohono O'odham Nation Tonto Apache Tribe White Mountain Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Indian Tribe	n/a	Conveyed Final PA, comment matrix, and concurring party signatory page; offer to meet

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