United States Department of Agriculture

Forest Service

November 2017

Resolution Copper Project and Land Exchange Environmental Impact Statement

FINAL Summary of Issues Identified Through Scoping Process

Tonto National Forest

FINAL
SUMMARY OF ISSUES IDENTIFIED THROUGH SCOPING PROCESS

Prepared for

U.S. Forest Service
Tonto National Forest
2324 East McDowell Road
Phoenix, Arizona 85006
Attn: Mary Rasmussen
(602) 225-5246

Prepared by

SWCA Environmental Consultants
3033 North Central Avenue, Suite 145
Phoenix, Arizona 85012
(602) 274-3831
www.swca.com

November 2017

TABLE OF CONTENTS

Appendices

1.0 INTRODUCTION

1.1 Background

The Tonto National Forest (TNF), an administrative unit of the U.S. Forest Service (Forest Service), is completing an environmental impact statement (EIS) to evaluate the Resolution Copper Project and Land Exchange proposal. The project is located in the Globe and Mesa Ranger Districts, Tonto National Forest, Arizona. The TNF is evaluating the proposed action at this time to comply with its statutory and regulatory obligations to respond to a proposed plan of operations submitted by Resolution Copper Mining, LLC (Resolution Copper), and to comply with Section 3003 of the Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for Fiscal Year 2015 (NDAA).

The need for this project is to comply with the regulations of the Forest Service that govern the use of surface resources in conjunction with mining operations on National Forest System (NFS) lands as set forth under 36 Code of Federal Regulations (CFR) 228; and to comply with Section 3003 of the NDAA.

The purpose of this project is to analyze the proposed action as required by the regulations at 36 CFR 228.5(a) and Section 3003 of the NDAA, including:

- To facilitate the orderly exploration, development, and production of mineral resources on NFS lands open to these activities.
- To respond to the proposed "General Plan of Operations" (GPO) submitted by Resolution Copper, which would govern surface disturbance on NFS lands from mining operations that are reasonably incident to extraction, transportation, and processing of copper and molybdenum.
- To exchange lands between Resolution Copper and the United States as directed by Section 3003 of the NDAA.
- To ensure that the selected alternative would comply with other applicable Federal and state laws and regulations;
- To ensure that the selected alternative, where feasible, would minimize adverse environmental impacts on NFS surface resources; and
- To ensure that measures would be included that provide for reclamation of the surface disturbance.

The TNF is evaluating the proposed action at this time in order to comply with its statutory obligations to respond to Resolution Copper's preliminary GPO in a timely manner. An amendment to the "Tonto National Forest Land and Resource Management Plan" (forest plan) (1985, as amended) may be required.

The proposed action is to approve the proposed GPO as submitted by Resolution Copper[1] and to complete the land exchange as directed by Congress under Section 3003 of the NDAA. As proposed in the GPO, the Resolution Copper mine would affect Federal, state, and private lands. The proposed action by the Forest Service would only approve mining operations on NFS lands, because the Forest Service does not have jurisdiction to regulate mining operations that occur on private or state land. However, the EIS will consider and disclose environmental effects that would occur on Federal, private, or state lands associated with the proposed mine and the land exchange. Connected actions related to the GPO and amendment of the forest plan will also be analyzed. Impacts of reasonably foreseeable actions in the project area will be

[1] The GPO to be analyzed through the National Environmental Policy Act (NEPA) analysis, with corrections and amendments, is dated May 2016.

considered in combination with the impacts of the project to estimate the potential cumulative impacts of project implementation.

Substantial mining activities described in the GPO would affect a 2,422-acre parcel of land known as the Oak Flat Parcel. Section 3003 of the NDAA directs the conveyance of the Oak Flat Parcel to Resolution Copper. In exchange for the Oak Flat Parcel, Resolution Copper would transfer eight parcels located throughout Arizona, totaling 5,344 acres, to the United States. The Forest Service will not have jurisdiction to regulate mining activities on the Oak Flat Parcel, which is to be conveyed to Resolution Copper, because by law (i.e., the NDAA) it will be private land. The Forest Service will need to approve a plan of operations only for related operations that are proposed on NFS land outside the Oak Flat Parcel.

1.2 Scoping and Issue Identification

This document summarizes relevant issues for analysis that were identified during the scoping process for the project. The purpose of the scoping process is to provide agencies, members of the public, and members of the internal interdisciplinary (ID) team with an opportunity to provide input on the scope of the proposed project and analysis of relevant issues in the EIS. The 120-day public scoping period for the Resolution Copper Project and Land Exchange EIS began on March 18, 2016, with publication in the *Federal Register* of a Notice of Intent to prepare an EIS, and the scoping period ended on July 18, 2016. The Forest Service announced the EIS project and advertised and held five public scoping meetings during the scoping period. The comments received during the public scoping period, input received from the Forest Service ID team and SWCA Environmental Consultants (SWCA) supporting specialists, and input received from cooperating agencies form the raw material from which the concise issue statements in Section 4.0 of this report were distilled.

1.3 Document Organization

This document contains a summary of the EIS issue development process, including:

- Summary of the purpose and goal for identification of relevant issues for detailed analysis;
- Process for developing the list of relevant issues from scoping comments; and
- Concise issue statements, organized by resource.

2.0 ISSUE IDENTIFICATION

The Council on Environmental Quality (CEQ) regulations have specific direction for issues in EISs. Agencies shall determine the scope and the significant issues to be analyzed in depth in the EIS (40 CFR 1501.8(a)(2)), and identify and eliminate from detailed study the issues that are not significant or that have been covered by prior environmental review (40 CFR 1506.3), narrowing the discussion of these issues in the statement to a brief presentation of why they will not have a significant effect on the human environment or providing a reference to their coverage elsewhere (40 CFR 1501.7(a)(3)).

Issues serve to highlight effects or unintended consequences that may occur from the proposed action and alternatives, giving opportunities during the analysis to reduce adverse effects and compare trade-offs for the decision-maker and public to understand. Issues help set the scope of the actions, alternatives, and effects to consider in our analysis (Forest Service Handbook 1909.15.12.4).

Comments from the tribes, public, and other agencies submitted during the scoping period were used to formulate issues concerning the proposed action. An issue is a point of dispute or disagreement with the

proposed action based on some anticipated environmental effect. The ID team separated the issues into two groups: significant and nonsignificant. Significant issues were defined as those that would be directly or indirectly caused by implementing the proposed action. Nonsignificant issues were identified as those:

- Outside the scope of the proposed action;
- Already decided by law, regulation, policy, the forest plan, or other higher level decision;
- Irrelevant to the decision to be made; or
- Conjectural and not supported by scientific or factual evidence.

Section 4.0 of this document summarizes what issues were heard and how they will be addressed in the environmental analysis process.

3.0 ISSUE DEVELOPMENT PROCESS

Scoping for the Resolution Copper Project and Land Exchange EIS consisted of gathering comments at public meetings; through a public comment period; through internal Forest Service ID team and supporting SWCA specialist scoping; and through cooperating agency scoping. This information is all described in the "Resolution Copper Project and Land Exchange Environmental Impact Statement Scoping Report," dated March 2017. Comments from each of these sources were considered in the issue development process, which consisted of the following steps:

1. The scoping report summarizes the comments from the sources noted. It is important to note that every comment received during each scoping process step was individually reviewed during preparation of these scoping memoranda. As part of the issue development process, each source listed above was reviewed, and summary statements were brought forward for consideration as a potential relevant issue. Periodic checks against the original comments[2] that are summarized in the scoping report were conducted as needed to ensure the validity of the summaries.
2. Comments were processed using a flow chart as a guide to help determine whether a specific comment summary: (a) raised a potentially significant issue; (b) offered suggestions for analysis; (c) recommended potential alternatives or components of alternatives; (d) requested specific types of mitigation and/or monitoring; (e) cited reasonably foreseeable actions; (f) requested clarifications to the GPO; or (g) met none of these criteria and was dismissed from further consideration. See Appendix A for the flow chart that was developed to guide this process.
3. Comments meeting (a) through (g) above were combined into subject lists. The list of potential significant issues (item a) was again reviewed, combined into like topics, and further refined into issue statements. These synthesized issue statements are presented in Section 4.0 of this document. The comments placed in categories (b) through (f) may not constitute significant issues, but they will be considered in the EIS process in a variety of ways to help guide the analysis of relevant issues. For instance, those comments in category (b) may be used to help develop analysis techniques, while those in category (d) may be used to help develop mitigation strategies. See Appendices A through F of this document for further detail. Appendix G identifies those issues that were dismissed from detailed analysis in the EIS because they addressed topics that were determined to be (1) outside the scope of the proposed action; (2) already decided by law, regulation, forest plan, or other higher level decision; (3) irrelevant to the decision to be made; or (4) conjectural and not supported by scientific or factual evidence.

[2] The full database of public scoping comments was made available to the EIS team on the project SharePoint site, for consideration during the internal scoping and issues development processes.

The goals of the issue development process are to ensure that every comment is considered, identify the concerns raised by 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 Forest Service's consideration of comments in the EIS process. It is important to note that the content analysis process is not and should not be considered a vote. All comments were treated evenly and were not weighted by number, organizational affiliation, "status" of the commenter, or other factors. Emphasis was on the content of a comment, rather than on who wrote it or the number of submitters who agreed with it.

3.1 Public Concern Statement Report

It is important to note that it is not the purpose of this issues report to include every comment, verbatim, that was made available to the TNF during scoping. Although Appendices B through G contain some verbatim comments that concisely summarize a concern, many of the comments in these appendices are restated or consolidated. Further, Appendices B through G do not contain the most critical comments; the most critical comments are those from category (a) described above, which were used to develop the issue statements.

A separate process has been conducted that allows each individual comment to be linked to the issue statements in this issues report, or alternatively to document a rationale for why a comment does not link to an issue statement.[3] Public concern statements are succinct statements that summarize the public's viewpoints and rationales for concerns. A total of 6,948 unique comments was identified from the 133,653 submittals received during scoping. These unique comments were then assigned to one of 474 public concern statements. Each of these public concern statements was then linked to one of the 12 issue statements presented in this issues report, or the rationale was documented for why that comment did not link to an issue statement. The public concern statement document can be used by a commenter to tell how the commenter's submittal (using unique letter numbers and comment numbers assigned during the scoping comment analysis) was addressed by the TNF in developing this issues report.

4.0 LIST OF RELEVANT ISSUES TO BE CONSIDERED FOR DETAILED ANALYSIS IN THE EIS

The issues considered relevant for detailed analysis in the EIS are listed below. Each relevant issue includes a cause-and-effect statement that relates the actions under consideration to the expected effects or unintended consequences that may occur from the proposed action and alternatives, thereby providing opportunities during the analysis to identify means to reduce adverse effects. Each identified issue also presents a summary of specific factors, such as readily quantifiable metrics or other indicators of change, which may be used to compare anticipated effects under different alternatives and management scenarios.

The detailed analysis contained in the EIS for each resource will focus on these specific factors or indicators and will allow for a concise comparison of impacts. These indicators or factors may be quantitative or qualitative, but each provides a specific point of comparison either between different alternatives, or with established regulatory thresholds. For example, air quality could include the factor "Compliance with National Ambient Air Quality Standards (NAAQS) at the perimeter fence line," which would allow both a quantitative comparison of the predicted air impacts for a given alternative with a regulatory standard and a quantitative comparison of the air quality impacts between various alternatives. These factors will be developed further by the resource specialists and included in the final version of this report.

[3] See "Public Concern Statements," May 2017.

4.1 Issue 1: Impacts to Tribal Values and Concerns

4.1.1 Issue 1A: Disturbance to Tribal Values and Practices from Combined Resource Disturbance

Throughout scoping and the tribal consultation process, tribes voiced concern about the impacts to tribal values that would result from the project's adverse effects on a wide range of resources in the natural and human environments. Resources valued by tribal communities include physical resources like groundwater and surface water, air, plants and animal life, landscapes, and geological features, as well as intangible resources such as sense of place and solitude. As addressed in various other issue statements, specific project impacts concerning tribes include the following:

- Groundwater and surface water availability and quality
- Drought and climate change
- Air pollution
- Habitat loss and changes in vegetation communities
- Landscape and geological alterations
- Destruction of culturally significant sites and resources
- Loss of access to culturally significant areas
- Loss of recreation areas
- Risk of spills, leaks, and environmental contamination
- Noise and light pollution
- Mine-related traffic and congestion
- Health and "quality of life" impacts

These resource impacts, individually and cumulatively, would affect the integrity of tribally valued resources and thereby adversely impact the tribal communities that rely on these resources for cultural, traditional, and spiritual practices. Alterations to the natural setting of resources in the project area would diminish their value to tribal communities and may be perceived as causing spiritual harm to the earth and people.

ISSUE 1A FACTOR FOR ALTERNATIVE COMPARISON

1. Qualitative assessment of how cumulative resource disturbance impacts tribal values and spiritual practices.

4.1.2 Issue 1B: Impacts to Tribal Valued Resources at Oak Flat and Apache Leap

Some members of the San Carlos Apache Tribe and other tribes in the region consider the Oak Flat and Apache Leap areas to be sacred lands, and the Forest Service has agreed with this position. To those who hold these beliefs, these areas are esteemed as places where tribal members could come together to mark important life events; as places for the traditional gathering of acorns and medicinal plants; as locations for communion with nature, the Creator spirit, and the souls of departed forebears; and as settings of historical importance as locations of past confrontations between the Apache and European-American settlers and soldiers. Construction and operation of the proposed mine would profoundly and permanently

alter these sacred areas. Effects on cultural resources would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

ISSUE 1B FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of number of sacred springs or other discrete sacred sites impacted.
2. Qualitative assessment of the impacts on Native Americans of the desecration of land, springs, burials, and sacred sites.
3. Quantitative assessment of acres of traditional resource collection areas impacted.

4.2 Issue 2: Impacts to Socioeconomics

Construction and ongoing operation of the mine could have substantial economic and "quality of life" effects on the town of Superior, on surrounding communities (including tribal communities), and on this region of Arizona in general. Effects on socioeconomics would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

4.2.1 Issue 2A: Impacts to Municipal Infrastructure

A large influx to the Superior area of mine employees, construction personnel, and persons and businesses providing products and services to the mine itself as well as to mine workers and their families could lead to increased tax revenues, but also to increased use and "capacity" issues for local schools, hospitals and other medical or emergency service providers, water and sewer systems, electrical and telephone/communications systems, roads, available housing, and other basic local and regional infrastructure.

ISSUE 2A FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of change in employment, labor earnings and economic output over time, including direct and indirect effects.
2. Quantitative assessment of change in tax revenues per year over time, including changes to payments in lieu of taxes (PILT).
3. Quantitative assessment of change in demand and cost for local road maintenance over time.
4. Qualitative assessment of change in demand and cost for emergency services over time.
5. Quantitative assessment of change in tourism and recreation revenue over time.

4.2.2 Issue 2B: Impacts to Property Values

Development and operation of the mine and associated facilities has the potential to adversely affect property values in communities across the region—including Queen Valley near the large tailings storage area—and the quality of life of property owners themselves. This could also have the effect of reducing property-based tax revenues to local municipal governments.

ISSUE 2B FACTOR FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of change in property values over time.

4.2.3 Issue 2C: Impacts to Groundwater Availability/Usability

Residents in the general area of the proposed mine rely on water produced by privately owned wells. Dewatering of the underground mine and pumping of groundwater within the Magma Arizona Railroad Company (MARRCO) corridor for the mine water supply could lower groundwater levels in the area and thus reduce water supplies available to various residential, commercial, and agricultural users, as well as public and private water systems. In addition, there exists the potential for groundwater quality impacts to affect local groundwater supplies and thereby adversely affect these same populations.

ISSUE 2C FACTORS FOR ALTERNATIVE COMPARISON

1. Qualitative assessment of effect of reduced groundwater availability on property values.
2. Qualitative assessment of effect of reduced groundwater quality on property values.

4.2.4 Issue 2D: Impacts to Local and Regional Living Standards

The inflow of investment capital, wage income, and increased discretionary spending by mine workers, managers, equipment/service suppliers, and contracted technicians and other specialists in the Superior area and surrounding communities would result in a gradual but substantial increase in overall living standards in the area. It is possible that over time, new housing would be constructed and new restaurants, retail outlets, and service providers would move into the area. Negative economic impacts, such as increased traffic, could offset economic benefits.

ISSUE 2D FACTORS FOR ALTERNATIVE COMPARISON

1. Qualitative assessment of the ability to meet rural landscape expectations as expressed by Federal, state, and local plans.
2. Quantitative assessment of economic effects on amenity-based relocation.
3. Quantitative assessment of economic effects from change in visitor uses of TNF and other public lands.

4.3 Issue 3: Environmental Justice

Economic benefits may not be experienced by all sectors of society equally; historically, minority and low-income communities (including tribal communities) in a given area tend to benefit from large-scale land development and mining projects to a lesser degree than the area as a whole due to differences in education, employment, and economic status. Additionally, adverse environmental or resource impacts may disproportionately affect minority and low-income communities.

4.3.1 Issue 3 Factors for Alternative Comparison

1. Quantitative assessment of economic effects on environmental justice communities and qualitative assessment of whether these effects are disproportionate.
2. Qualitative assessment of disproportionate effects of adverse resource impacts to environmental justice communities.

4.4 Issue 4: Impacts to Cultural Resources

Construction and operation of the Resolution Copper Project would profoundly and permanently alter conditions within the National Register of Historic Places (NRHP)-listed Chí'chil Biłdagoteel (Oak Flat)

Historic District Traditional Cultural Property (TCP) through anticipated large-scale geological subsidence as well as other forms of less-permanent surface disturbance, including new pipelines, power lines, roads, and other facilities to be constructed in support of mine operations. In addition, development of the proposed tailings storage facility near Queen Valley would permanently bury an approximately 3,600-acre area that contains many known (and potentially unknown) prehistoric and historic cultural artifacts.

While cultural resource surveys and archaeological data recovery efforts will be conducted on lands to be directly affected by mine-related activities, it remains likely that some proportion of existing yet currently unidentified prehistoric and historic artifacts and resources would be disturbed or destroyed by mine-related construction and operation, especially within the Oak Flat subsidence zones and the footprint of the tailings storage area. These losses could potentially include human burials within these areas. In addition, disturbance of known or unknown cultural resources is an impact that is important to many tribes, regardless of whether data recovery is undertaken.

4.4.1 Issue 4 Factors for Alternative Comparison

1. Qualitative assessment of the impacts to places of traditional and cultural significance to Native Americans including natural resources.
2. Qualitative assessment of the impacts on other non-tribal communities in the region in terms of impacts on resources, such as historical townsites, cemeteries, mines, ranches, and homesteads.
3. Quantitative assessment of number of NRHP-eligible historic properties, including traditional cultural properties, sacred sites, and other landscape-scale properties, to be buried, destroyed, or damaged.
4. Quantitative assessment of number of NRHP-eligible historic properties expected to be visually impacted.
5. Qualitative assessment of potential for vibrations to damage cultural resources within and adjacent to the project areas.
6. Qualitative assessment of impacts to historic properties including visual impacts.
7. Quantitative assessment of number of impacted prehistoric sites known/likely to have human remains.
8. Quantitative assessment of number of historic sites likely to have human remains.

4.5 Issue 5: Impacts to Public Health and Safety

This issue focuses on various impacts that development, operation and reclamation of the mine could have on public health and safety. Note that this issue is closely related to a variety of other issues, such as water quality (Issue 6), air quality (Issue 8), and transportation (Issue 12). Effects on public health and safety would include short-term impacts during construction and operation, as well as long-term impacts during reclamation and post-closure phases.

4.5.1 Issue 5A: Health Impacts

Concerns have been raised about whether potential dust, emissions, and/or contamination from the mine could affect public health in the local area, including increased cancer rates and impacts to people with preexisting health conditions, the elderly, and children. Specific concerns include airborne heavy metals and asbestiform materials; contamination of water from tailings seepage; operational or inadvertent release of hazardous materials, including fuels, explosives, and processing chemicals, into the

environment; the potential for radioactive materials in tailings and/or processing facilities; and the potential for disturbance and mobilization by air or water of soil currently contaminated by historic mining activities.

ISSUE 5A FACTORS FOR ALTERNATIVE COMPARISON

1. Qualitative assessment of public health risk from mine operations and facilities, including potential for exposure to historically contaminated soil.
2. Qualitative assessment of public health risk from geological hazards.
3. Qualitative assessment of public health risk from noise and vibrations.
4. Quantitative assessment of ability to meet air quality standards for human health.

4.5.2 Issue 5B: Safety Concerns Related to Tailings Impoundment

The GPO proposes a tailings dam and impoundment. Should a partial or complete dam failure occur in the future, public safety could be affected in the vicinity and downstream of the tailings facility.

ISSUE 5B FACTORS FOR ALTERNATIVE COMPARISON

1. Qualitative assessment of risk of failure of tailings dam and potential impacts downstream in the event of a failure.
2. Quantitative assessment of seismic stability of tailings impoundment.

4.5.3 Issue 5C: Transportation-Related and General Safety Risks

Vehicle traffic associated with the mine has the potential to increase overall traffic levels and change traffic flows in the local area, which has the potential to lead to an increased risk of vehicle accidents resulting in injury. Mine operations could impact the general safety of both public and employees.

ISSUE 5C FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of the potential change in traffic accidents.
2. Quantitative assessment of trip count per day for all hazardous materials and qualitative assessment of potential effects.
3. Qualitative assessment of risks to public health from potential accidents or spills during the transportation of hazardous materials.
4. Qualitative assessment of impacts to local emergency response to accidents or spills on public roadways.

4.5.4 Issue 5D: Risks Related to Subsidence

Concerns were expressed regarding how public safety may be affected by subsidence. This includes physical safety of persons in areas of subsidence and adjacent communities, as well as indirect impacts such as increased risk of wildfire should vegetation in subsidence areas die and result in increased fuel accumulations or through relocation of recreation activities from the area.

ISSUE 5D FACTORS FOR ALTERNATIVE COMPARISON

1. Qualitative assessment of public health risk from geological hazards.
2. Qualitative assessment of increased fire risk due to mine operations and subsidence.

4.6 Issue 6: Impacts to Water Resources

This group of issues relates to the effects to the quality and quantity of water resources during the construction, operation, reclamation, and post-closure phases of the mine project. This includes potential impacts to current and future water available for human use, stock watering, wildlife use and habitat, and riparian areas or groundwater-dependent ecosystems.

4.6.1 Issue 6A: Groundwater Availability

The proposed mine would pump groundwater in the East Salt River basin of the Phoenix Active Management Area (AMA) in order to provide a portion of the mine water supply and would also pump groundwater east of Superior in order to dewater the deep mine workings. Pumping of groundwater changes the groundwater level and flow directions in the aquifer and could affect private and public wells, general groundwater availability in each basin, and human water use (domestic, industrial/commercial, agricultural, drinking, and recreational). Changes in geology caused by mining, and specifically by subsidence, could affect the hydraulic characteristics of aquifers and further affect groundwater availability for human uses, stock watering, or wildlife use and habitat (see Issue 7). Creation of a pit lake in the subsidence area after closure of the mine could alter groundwater level and flow directions in the aquifer and affect groundwater availability.

Groundwater and surface water have a complex interaction. Portions of the watershed will no longer contribute flow downstream due to the tailings facility and the subsidence area; impervious areas; detention, retention, and rerouting of stormwater; and seepage and seepage recovery, which may result in changes to groundwater recharge and near-surface groundwater, which in turn may affect surface waters.

Effects on groundwater availability would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

ISSUE 6A FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of direction and magnitude of change in aquifer water level, compared with background conditions.
2. Geographic extent in which water resources may be impacted.
3. Duration of the effect (in years).
4. Comparison of mine water needs and water balance with overall basin water balance, both total volume (acre-feet) and annual rate (acre-feet/year).
5. Number of known private and public water supply wells within the geographic extent of the water-level impact, and assessment of impact to these water supplies (feet of water-level decrease).
6. Qualitative assessment of potential for subsidence to occur as a result of groundwater withdrawal.

4.6.2 Issue 6B: Groundwater Quality

Mining of the ore body and the mixing of fractured rock, water, and air underground has the potential to drive geochemical reactions (acid rock drainage) that could impact groundwater quality in the area of underground mining and the quality of dewatering water exported for use elsewhere. Other groundwater quality changes could also occur underground, including impacts from explosives residue.

Seepage would occur from the tailings facility and could impact groundwater quality and the quality of downstream surface waters fed by groundwater. Water quality concerns in tailings seepage include the

potential for process chemicals, asbestiform materials, radioactive materials, and explosives residue to be entrained with the tailings, as well as the potential for sulfate and geochemical reactions (acid rock drainage) to occur in the tailings storage facility and affect seepage water quality. In addition, a tailings spill from the tailings pipeline or complete or partial failure of the tailings dam could result in impacts to downstream groundwater quality.

Creation of a pit lake in the subsidence area after closure of the mine could result in changes to groundwater quality due to geochemical reactions from the exposure of previously undisturbed rock, or due to long-term concentration of contaminants from evaporation.

The storage and use of hazardous materials throughout the project area, the storage and handling of hazardous waste, the storage and handling of process water, the transportation of concentrate by truck and as a slurry, and the transportation of tailings slurry carry a risk for inadvertent spills or release, which could impact groundwater quality. The presence of ore stockpiles on the surface could impact groundwater quality.

Effects on groundwater quality would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

ISSUE 6B FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of ability to meet Arizona Aquifer Water Quality Standards at points of compliance designated in the aquifer protection permit.
2. Qualitative assessment of ability to demonstrate best available demonstrated control technology.
3. Quantitative assessment of estimated changes in groundwater quality in situ in area of block caving, including estimated fate and transport.
4. Quantitative assessment of estimated changes in groundwater quality due to seepage from tailings area, including estimated fate and transport.
5. Qualitative assessment of potential for spills or inadvertent release of contaminants to groundwater.

4.6.3 Issue 6C: Surface Water Availability

The proposed mining method would create an area of surface subsidence, which would alter surface water flow patterns and could change the amount of surface water moving downstream in the Queen Creek and Mineral Creek drainages, and through such areas as Boyce Thompson Arboretum. Similarly, stormwater management at the proposed tailings storage facility and other facilities could change the amount of surface water moving downstream in the Queen Creek drainage. Lost surface water would not be available for downstream groundwater recharge, beneficial uses, downstream users, riparian vegetation, or wildlife use or habitat.

Effects on surface water availability would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

ISSUE 6C FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of number of stream miles changed from intermittent/perennial flow status to ephemeral flow status as a result of the project.
2. Quantitative assessment of potential lowering of the water table/reduced groundwater flow to Queen Creek, Devil's Canyon, Arnett Creek, Mineral Creek, or other perennial waters that results in permanent changes in flow patterns and that may affect current designated uses.

3. Quantitative assessment of number of stock watering tanks that would be lost to direct disturbance or reductions in surface flow.
4. Quantitative assessment of change in volume, frequency, and magnitude of runoff from the project area.

4.6.4 Issue 6D: Surface Water Quality

Stormwater runoff could interact with hazardous materials, tailings, and ore stockpiles, which could result in contaminants moving downstream. This includes metals or other contaminants resulting from exposure to tailings, stockpiled ore, process chemicals, asbestiform materials, radioactive materials, or explosive residues entrained with the tailings, as well as the potential for sulfate, geochemical reactions (acid rock drainage), or surface salt accumulation to occur in the tailings facility and affect surface water runoff.

Disturbance of the land surface could result in increased sediment in downstream waters and cause aggradation or erosion in downstream channels leading to degradation of riparian habitat or impacts to surface water uses. In addition, a tailings spill or complete or partial failure of the tailings dam could result in impacts to downstream surface water quality, and deposition of windblown dust from the tailings storage facility could impact surface water quality.

Creation of a pit lake in the subsidence area after closure of the mine could result in new surface waters with potential surface water quality concerns due to geochemical reactions from the exposure of previously undisturbed rock, or the potential long-term concentration of contaminants from evaporation.

The storage and use of hazardous materials throughout the project area, the storage and handling of hazardous waste, the treatment and release of wastewater, the storage and handling of process water, the transportation of concentrate by truck and as a slurry, and the transportation of tailings slurry carry a risk for inadvertent spills or release, which could impact surface water quality through changes in chemical or sediment load.

Effects on surface water quality would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

ISSUE 6D FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of ability to meet Arizona Surface Water Quality Standards, for the appropriate designated uses.
2. Qualitative assessment of change in geomorphology and characteristics of downstream channels.
3. Quantitative assessment of acres and locations that may be affected by surface water quality impacts and the duration (in years) of those impacts.
4. Quantitative assessment of acres of potentially jurisdictional waters of the U.S. impacted.[4]

4.6.5 Issue 6E: Seeps, Springs, Riparian Areas, and Groundwater-Dependent Ecosystems

The proposed mine would pump groundwater in the Salt River basin in order to provide a portion of the mine water supply, and would also pump groundwater east of Superior in order to dewater the deep mine

[4] Designation of potential waters of the U.S., as defined by the Clean Water Act, is solely at the discretion of the U.S. Army Corps of Engineers (USACE). The delineation of waters of the U.S. approved by the USACE, whether preliminary or approved, will form the basis for this metric.

workings. By changing groundwater levels and flow directions, pumping could impact seeps, springs, perennial or intermittent streams, or riparian areas/groundwater-dependent ecosystems such as Devil's Canyon and upper Queen Creek. Changes in geology caused by mining, and specifically by subsidence, could affect the hydraulic characteristics of aquifers and result in the loss of groundwater that currently supports seeps, springs, perennial or intermittent streams, riparian areas/groundwater-dependent ecosystems, or other sensitive non-riparian vegetation areas such as those occurring on Oak Flat.

Changes in surface runoff and groundwater capture due to the tailings storage facility or the subsidence area could change availability of water to downstream riparian habitat and could change the quality of downstream surface waters.

Changes in groundwater quality or surface water quality could affect the use of seeps, springs, perennial or intermittent streams, and riparian areas/groundwater-dependent ecosystems and could result in harm to riparian vegetation. A tailings spill or complete or partial failure of the tailings dam could result in impacts to seeps, springs, and riparian areas.

Disturbance of the land surface could result in increased sediment in downstream waters, which could impact downstream riparian areas/groundwater-dependent ecosystems and riparian vegetation.

Effects on seeps, springs, and riparian areas/groundwater-dependent ecosystems would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

ISSUE 6E FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of acres of riparian areas disturbed, by vegetation classification.
2. Quantitative assessment of number of seeps and springs degraded or lost.
3. Qualitative assessment of change in the function of riparian areas.
4. Qualitative assessment of ability to meet legal and regulatory requirements for riparian areas.[5]

4.6.6 Issue 6F: Floodplains

Placement of the tailings storage facility, pipelines, or other alteration of the landforms within floodplains could change the flood risk, recharge, geomorphology, and runoff characteristics of the watershed. This could impact riparian habitat and the overall functionality of the floodplain. Effects on floodplains would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

ISSUE 6F FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of acreage of 100-year floodplains impacted[6] (acreage).
2. Qualitative assessment of impact of floodplain changes to upstream or downstream users or residents.

[5] This analysis will reflect criteria developed and analyzed by the Forest Service, which may differ from those used by the State of Arizona to make its determination of the ability of the proposed project to meet regulatory requirements under Section 401 of the Clean Water Act. The Forest Service has a responsibility under NEPA to take a hard look at impacts to riparian areas and surface waters and disclose these findings, regardless of any parallel analysis conducted by the State of Arizona.

[6] Because large portions of the analysis area lie within the TNF, 100-year floodplains have not been delineated for most major waterways by the Federal Emergency Management Area (FEMA). This analysis would be based on a reasonable estimate of the extent of 100-year floodplains, in lieu of FEMA-delineated floodplains.

4.7 Issue 7: Impacts to Biological Resources

Large-scale mine development, including anticipated future subsidence at the East Plant (Oak Flat) site, construction and operation of ore processing facilities at the West Plant site, development of the approximately 3,600-acre tailings storage facility near Queen Valley, and various pipeline, power line, conveyor, road, and other physical linkages between these facilities, has the potential to adversely affect local flora and fauna, including through direct injury, harassment, mortality, habitat alteration and loss, reduction in water available to the ecosystem, habitat fragmentation, reproduction, pollination, seed dispersal, and other biological processes.

4.7.1 Issue 7A: Adverse Effects of Dewatering at the East Plant Site or Pumping at the West Plant Site

Dewatering at the underground mine site or other pumping at the West Plant site could adversely affect or eliminate nearby seeps, springs, perennial or intermittent streams, or riparian areas and the vegetation and wildlife these areas support and thereby impact riparian vegetation, aquatic species, birds, and other wildlife in these areas. These areas could include Devil's Canyon, Queen Creek, Mineral Creek, Arnett Creek, and potentially as far south as the Gila River.

Effects on biological resources from dewatering would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

ISSUE 7A FACTOR FOR ALTERNATIVE COMPARISON

1. Qualitative assessment of effects on riparian habitat and species due to changes in flow to Queen Creek, Devil's Canyon, Arnett Creek, Mineral Creek, or other perennial or intermittent waters. [This assessment will be based on the results of the Issue 6 Analysis Factors.]

4.7.2 Issue 7B: Loss or Harassment of Individual Plants and Animals[7]

Development of the project would result in loss of individual plants and animals, particularly through long-term subsidence in the Oak Flat Parcel and burial of existing Sonoran Desert habitat under the proposed tailings storage facility. Further losses would be expected to occur through ground disturbance necessary for the construction of pipelines, power lines, roads, and other ancillary facilities, as well as through increased mine-related vehicle–wildlife interactions. Subsidence at Oak Flat presents a particular risk to the federally endangered Arizona hedgehog cactus (*Echinocereus coccineus* var. *arizonicus*), which occur primarily on the TNF in certain microclimates within a relatively narrow elevational range (3,300 to 5,800 feet), such as in the higher rocky outcroppings east of the town of Superior. Short of loss, harassment of individuals could occur through artificial night lighting, noise and vibrations, changes in surface water or groundwater quality or availability, exposure to process ponds or canals, exposure to a potential pit lake, erosion, loss of vegetation or open water habitat, and the spread of pathogens or noxious or invasive weeds. This includes potential impacts to migratory birds and Important Bird Areas.

Effects on biological resources would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases from habitat loss.

ISSUE 7B FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of acres of suitable habitat disturbed for each special-status species, including impacts to designated and proposed critical habitat.

[7] Prior to conducting this analysis, the Forest Service will determine the appropriate species lists to evaluate in the DEIS.

2. Qualitative assessment of the potential to affect the population viability of any species.
    - Qualitative assessment of mortality of various animal species resulting from the increased volume of traffic related to mine operations.
3. Qualitative assessment of the potential for disturbance to create conditions conducive for invasive species.
4. Qualitative assessment of effects on wildlife behavior from noise, vibrations, and light.

4.7.3 Issue 7C: Habitat Fragmentation and Loss

Development of the mine, ore processing facilities, and tailings storage facility, as well as construction and operation of related linear support facilities such as roads, pipelines, fencing, and power lines, could further contribute to fragmentation of existing vegetative communities and wildlife forage, mating, protective cover, nesting/denning, and travel corridors in the Superior area. Dewatering effects could lead to habitat fragmentation and loss, as well.

Effects on biological resources from habitat fragmentation would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

ISSUE 7C FACTORS FOR ALTERNATIVE COMPARISON

1. Qualitative assessment of the change in movement corridors and connectivity between wildlife habitats.
2. Quantitative assessment of acres by type of terrestrial and aquatic habitat lost, altered, or indirectly impacted.
3. Qualitative assessment of impacts to aquatic habitats and surface water that support wildlife and plants such as stock tanks, seeps, and springs.
4. Qualitative assessment of how changes in the function of riparian areas could impact wildlife habitat.

4.8 Issue 8: Impacts to Air Quality

Changes in air quality could potentially occur from the mine. Construction, mining, and reclamation activities at the mine and along transportation and utility corridors would increase dust, airborne chemicals, and transportation-related (mobile) emissions in the area. The Clean Air Act (CAA) and other laws, regulations, policies, and plans set thresholds for air quality, including Class I airsheds, and the GPO has the potential to exceed one or more of these thresholds. Long-term trends in precipitation and temperature have the potential to affect many resources.

4.8.1 Issue 8 Factors for Alternative Comparison

1. Quantitative estimate of particulate emissions (particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$) and particulate matter less than or equal to 10 microns in diameter (PM_{10})), compared with background (pounds per hour [for 24-hour impacts] and tons per year [tons/year]) and expected seasonal dust patterns and impact area.
2. Volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions and emission rates (tons/year).
3. Quantitative assessment of total mine emissions (lb/hour and tons/year), compared with the current total regional emissions (tons/year), including criteria and other pollutants (carbon

monoxide, lead, sulfur dioxide, nitrogen dioxide, particulate matter, and carbon dioxide). Include tabulation of greenhouse gas emissions of CO_2, CH_4, and N_2O. Depict location of sources for considered alternatives.

4. Quantitative assessment of the ability to meet air quality standards, include impacts based on representative background air quality levels and analyze cumulative emissions and impacts.
5. Quantitative assessment of the off-site impacts of hazardous or toxic air pollutants compared to health-based levels.
6. Quantitative assessment of the ability to meet NAAQS for criteria pollutants (carbon monoxide, lead, sulfur dioxide, nitrogen dioxide, ozone, and particulate matter), as modeled at the perimeter fence line of the mine facility, taking into account all mobile and stationary emission sources. Include spatial depictions of impacts for the area around the mine and alternative sites.[8]
7. Quantitative assessment of the impacts at Class I airsheds, specifically, changes to air quality–related values (AQRVs) of visibility, ozone, and deposition of sulfur dioxide and nitrogen oxides, as modeled at perimeter of Class I airsheds, and compared with current deposition rates and critical loads.[9]
8. Assessment using best available science of long-term trends in precipitation and temperature that may affect resources.

4.9 Issue 9: Impacts to Long-term Land Stability

This group of issues relates to the long-term stability of land, including soils, geology, and the ability for lands to be reclaimed after cessation of mining operations.

4.9.1 Issue 9A: Subsidence

The block cave mining proposed in the GPO has the potential to cause surface subsidence. Additionally, concerns have been expressed that groundwater pumping to supply mine operations could lower groundwater and result in subsidence of the land surface near the wells. Surface resources and uses could be impacted by subsidence where it occurs.

Development and operations of the mine have the potential to increase seismic activity in the area, which in turn can impact nearby structures and uses of the area.

Concerns have been expressed about whether the mine would directly or indirectly impact caves and karst resources.

ISSUE 9A FACTORS FOR ALTERNATIVE COMPARISON

1. Quantitative assessment of the extent, amount, and timing of land subsidence, with estimates of uncertainty.
2. Qualitative assessment of the potential of subsidence to impact caves, karst resources, and/or mine shafts and adits in the project area that are used as bat roosts.

[8] This analysis will reflect criteria developed and analyzed by the Forest Service, which may differ from those used by Pinal County to make its determination of the ability of the proposed project to meet regulatory requirements under the CAA. The Forest Service has a responsibility under NEPA to take a hard look at impacts to air quality and disclose these findings, regardless of any parallel analysis conducted by Pinal County.

[9] See Federal Land Managers' Air Quality Related Values Work Group (FLAG) Phase I Report—Revised (2010) Natural Resource Report NPS/NRPC/NRR—2010/232.

3. Qualitative assessment of the impact of the project to seismic activity.

4.9.2 Issue 9B: Impact to Existing Landscape Productivity, Stability, and Function

Ground disturbance from clearing vegetation, grading, and stockpiling soils, and waste storage (e.g., landfills, tire disposal) has the potential to compact soils, accelerate erosion, and reduce soil productivity. The tailings and waste rock facilities could be unstable over time, and reclamation may not adequately result in a stable, revegetated landscape. This could affect soil productivity and future uses of the area. The geochemical composition of tailings and waste rock facilities may not support native vegetation. Soils are nonrenewable resources. Damage, disturbance, contamination, or removal of the soil resource may result in a loss of soil productivity, physical structure, and ecological function across the proposed mine site and across downgradient lands. The mining area could potentially act as a barrier to sourcing and supporting natural downslope transportation of geological material, water, and nutrients through alluvial, aeolian, and fluvial processes.

ISSUE 9B FACTORS FOR ALTERNATIVE COMPARISON

1. Qualitative assessment of long-term stability of tailings and other mine facilities, including expected results of reclamation.
2. Quantitative level of disturbance leading to lost soil productivity (acres).
3. Qualitative and quantitative assessment of the potential for revegetation of tailings and other mine facilities, using data (where available and if equivalent) from other mine site revegetation efforts conducted in central and southern Arizona.
4. Qualitative evaluation of alteration of soil productivity and soil development.
5. Quantitative assessment of changes in sediment delivery to Queen Creek, Arnett Creek, or other key streams and washes (tons/year), compared with background sediment loading.

4.10 Issue 10: Impacts to Recreation Resources

Once the proposed mine is approved and the land exchange specified in the NDAA is completed, nearly all of the Oak Flat site will be removed from NFS lands and become the private property of Resolution Copper. Most of the area will subsequently be fenced off and no longer accessible to hikers, rock climbing enthusiasts, cyclists, equestrians, campers, hunters, and other recreational users of these former public lands, and the Oak Flat Campground will be lost. In addition, although it would occur in established phases over many years, the entire proposed tailings storage area will ultimately be closed to all recreational uses, resulting in displacement of recreation to other locations. Changes in water availability could affect recreational experiences. The fencing of areas with existing Forest Service roads and trails may also reduce access to adjacent sites, such as the Apache Leap Special Management Area. Finally, mine-related linear facilities such as pipelines, power lines, and development within the MARRCO corridor could sever connectivity of existing roads and trails on TNF lands and further limit recreational access. Mine operations could affect the trail user experience and introduce safety concerns.

Effects on recreation would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

4.10.1 Issue 10 Factors for Alternative Comparison

1. Quantitative assessment of acres that would no longer meet current forest plan Recreation Opportunity Spectrum designations.

2. Quantitative assessment of acres of the TNF that would be unavailable for recreational use, for various phases of mine life and reclamation.
3. Quantitative assessment of change in visitor uses.
4. Quantitative assessment of miles of NFS roads lost, for various phases of mine life and reclamation.
5. Qualitative assessment of potential for noise to reach recreation areas (i.e., audio "footprint").
6. Qualitative assessment of impacts on solitude in designated wilderness and other backcountry areas.
7. Quantitative assessment of hunter-days lost (quantity based on number of permits available and number of days in season).
8. Quantitative assessment of miles of Arizona National Scenic Trail, NFS trails, or other known trails requiring relocation, and qualitative assessment of user trail experience.
9. Qualitative assessment of increased pressure on other areas, including roads and trails/trailheads, from displacement and relocation of recreational use as a result of mine facilities.

4.11 Issue 11: Impacts to Scenic Resources

Construction and operation of the Resolution Copper Project would, as a result of anticipated geological subsidence at the East Plant site, permanently alter the topography and scenic character of the Oak Flat area. Development of the proposed tailings storage facility near Queen Valley would ultimately result in a new and permanent landform approximately 3,600 acres in area and several hundred feet higher than the current landscape. It would thus would forever alter the existing viewshed for residents of that community, for users of the Arizona National Scenic Trail and, to a lesser extent, for persons traveling along U.S. Route (U.S.) 60 in the area of Gonzalez Pass to the west of the town of Superior. New utility lines and construction of other mine facilities and infrastructure at the West Plant Site, East Plant Site, and filter/loadout facility could also alter existing viewsheds.

Effects on scenic resources would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

4.11.1 Issue 11 Factors for Alternative Comparison

1. Quantitative assessment of acres that would no longer meet current forest plan Scenic Integrity Objective designations.
2. Qualitative assessment/degree of change in landscape character from key analysis viewpoints, for various phases of mine life and reclamation.
3. Quantitative assessment of miles of U.S. 60, State Route (SR) 79 or SR 177 with direct line-of-sight views of the project area.
4. Quantitative assessment of miles of project area visibility along concern level 1 and 2 roads and trails.
5. Qualitative assessment of increase in sky brightness resulting from mine facility and vehicle lighting.

4.12 Issue 12: Impacts to Transportation/Access

Transportation of personnel, equipment, supplies, and materials related to mine development, operation, and reclamation has the potential to increase traffic. Increased mine-related traffic on local roads and highways has the potential to impact local and regional traffic patterns, level of service, and planned transportation projects and users of NFS roads.

Increased rail traffic along the MARRCO corridor associated with the mine has the potential to impact traffic patterns in the local area.

Mine development also has the potential to permanently alter, add, or decommission NFS roads or temporarily restrict access to NFS roads and lands, which could impact forest users and permittees. Effects on transportation/access would include short-term impacts during construction and operation, as well as long-term impacts during the reclamation and post-closure phases.

4.12.1 Issue 12 Factors for Alternative Comparison

1. Quantitative assessment of change in type and pattern of traffic by road and vehicle type.
2. Quantitative assessment of the change in level of service on potential highway routes and local roads.
3. Quantitative assessment of roads decommissioned by the mine and roads lost to motorized access.

4.13 Issue 13: Impacts Caused by Mine-Related Noise and Vibrations

Development, operation, and reclamation of the mine would result in an increase in noise and vibrations in the immediate vicinity of mine facilities. Activities that could increase noise and vibrations include blasting, underground conveyance of ore, processing operations, operations at the filter/loadout facility, and episodic land subsidence events. Increases in traffic associated with worker commuting, material delivery, and mine product shipment could also contribute to an overall increase in noise on area roads and highways.

4.13.1 Issue 13 Factors for Alternative Comparison

1. Qualitative assessment of the potential for noise to reach recreation areas.
2. Qualitative assessment of the ability of alternatives to meet rural landscape expectations.
3. Quantitative assessment of noise levels (A-weighted decibels (dBA)) and geographic area impacted from mine operations, blasting, and traffic and qualitative assessment of effects of noise at nearby residences and sensitive receptors.
4. Quantitative assessment of acres of habitat impacted from noise, vibrations, and light, at frequencies pertinent to species of concern.
5. Qualitative assessment of effects of vibrations from blasting and mine operations at nearby residences and sensitive receptors.

4.14 Issue 14: Impacts to Land Ownership and Boundary Management

Changes in land ownership could have impacts as a result of the loss of public lands from the land exchange and mine proposal, including impacts to ranching in the area from changes in easements, rights-of-way, conservation efforts, fencing, and/or livestock access.

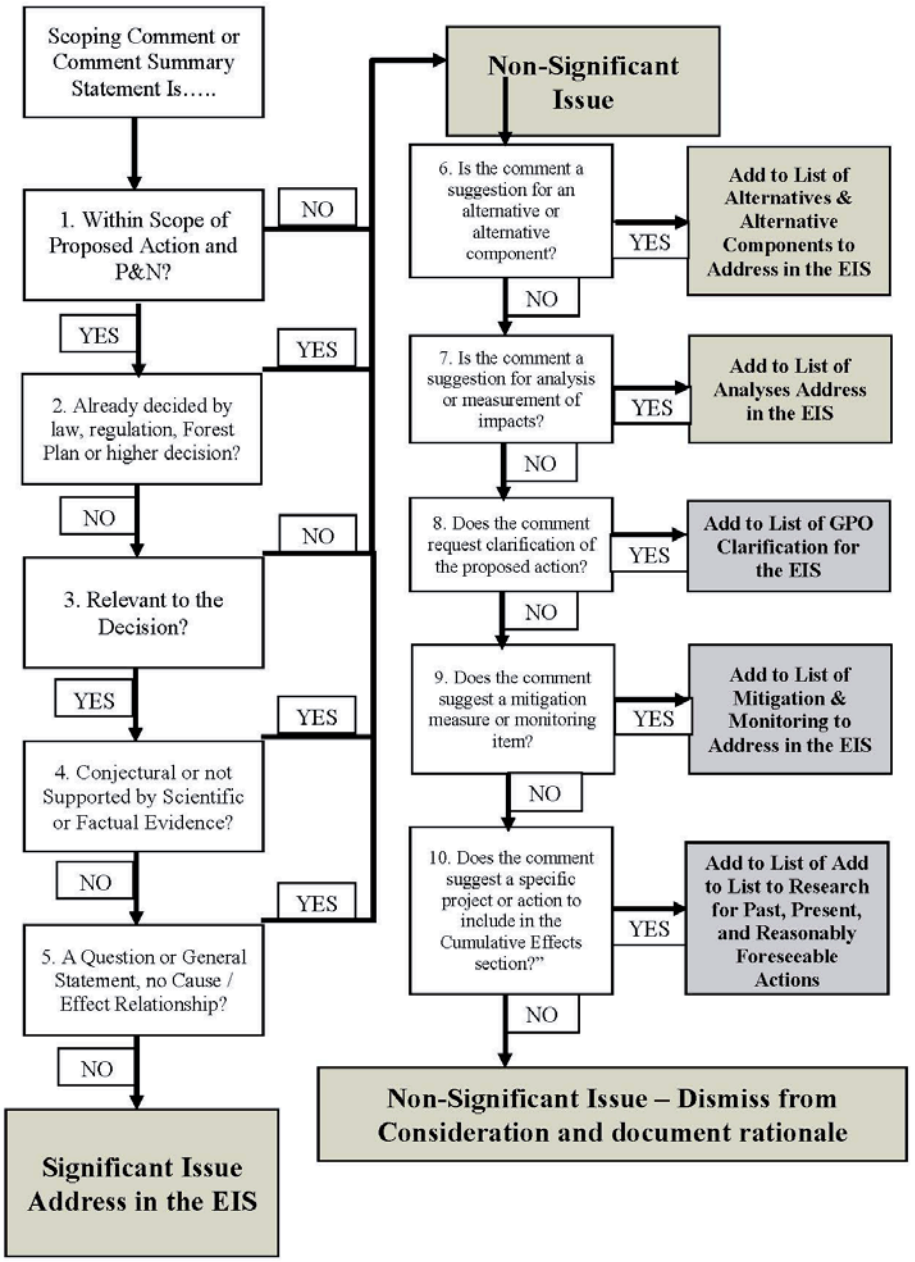
Boundary management includes impacts to survey markers, boundary markers, fences, or similar features from development of the mine. Protection of survey monuments and land ownership boundaries is an important concern for the Forest Service. The activities described in the GPO would damage, destroy, or obliterate corner monuments and land ownership boundaries, particularly in the area of tailings storage facilities. The proposed tailings facility location on NFS lands open to entry under the mining laws may unreasonably restrict or prevent mining claimants (other than the proponent) from accessing their claims. Land status and claim block tenure for the entire area may be affected.

4.14.1 Issue 14 Factors for Alternative Comparison

1. Quantitative assessment of acres of public lands no longer accessible, for various phases of the mine life and reclamation.
2. Quantitative assessment of lands that will be conveyed to public ownership through the land exchange (i.e., approximately 5,344 acres in all parcel groups).
3. Quantitative assessment of changes to acreage of grazing allotments, loss of animal unit months (AUMs), and qualitative assessment of impact from loss of grazing-related facilities (waters, stock tanks, roads, fences).
4. Qualitative assessment of changes in fencing, boundary markers, and survey markers.
5. Qualitative assessment of impacts to regional land conservation effort.
6. Qualitative assessment of impact to mining claims.

APPENDIX A

Issues Development Flow Chart


Scoping Comment or Comment Summary Statement Is…..
1. Within Scope of Proposed Action and P&N?
NO
YES
2. Already decided by law, regulation, Forest Plan or higher decision?
YES
NO
3. Relevant to the Decision?
NO
YES
4. Conjectural or not Supported by Scientific or Factual Evidence?
YES
NO
5. A Question or General Statement, no Cause / Effect Relationship?
YES
NO
Significant Issue Address in the EIS
Non-Significant Issue
6. Is the comment a suggestion for an alternative or alternative component?
YES
Add to List of Alternatives & Alternative Components to Address in the EIS
NO
7. Is the comment a suggestion for analysis or measurement of impacts?
YES
Add to List of Analyses Address in the EIS
NO
8. Does the comment request clarification of the proposed action?
YES
Add to List of GPO Clarification for the EIS
NO
9. Does the comment suggest a mitigation measure or monitoring item?
YES
Add to List of Mitigation & Monitoring to Address in the EIS
NO
10. Does the comment suggest a specific project or action to include in the Cumulative Effects section?"
YES
Add to List of Add to List to Research for Past, Present, and Reasonably Foreseeable Actions
NO
Non-Significant Issue – Dismiss from Consideration and document rationale

This page intentionally left blank.

APPENDIX B

List of Analyses or Analysis Measurement Indicators to Consider in the EIS

The list below reflects content derived from scoping comments that identified specific analyses that commenters suggest should be conducted in the EIS. These comments may also suggest specific indicators or metrics to use when assessing an issue. This list will be provided to the resource specialists for consideration when designing the analysis plan for the EIS. The sources noted include the following: (a) comments stated during public meetings; (b) comments developed through internal scoping; and (c) public comment submittals received during the scoping period.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS.

Source	Reviewer	Comment	Notes
A	TC	A specific question was asked about the inclusion of impacts to San Tan Valley from the loadout facility.	Suggests a specific analysis or metric to use in assessing impacts.
A	TC	(It also includes specific questions about)… the timing for closure of Oak Flat.	Suggests a specific analysis or metric to use in assessing impacts.
A	CG	Geology and minerals questions included inquiries about how earthquakes will be considered in the analysis	Suggests a specific analysis or metric to use in assessing geotechnical stability.
A	CG	Geology and minerals questions included inquiries about how long after mining begins the land subsidence will begin to occur.	Suggests a specific analysis or metric to use in assessing geotechnical stability.
A	CG	What is the source and quantity of water needed for the mine operations?	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of Central Arizona Project (CAP) water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
A	CG	What will [the source and quantity of water] do the water table?	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
A	CG	Is there is enough water available for the mining operation?	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
A	CG	Will there be a study of the sustainability of using CAP water?	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
A	CG	Will the EIS consider drought conditions in Arizona?	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
A	CG	Can the Superior water treatment plant handle the mine's and the growing community's needs?	Suggests a specific analysis or metric to use in assessing impacts to Town of Superior infrastructure.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
A	CG	What will the impacts be from water pumping along the MARRCO corridor?	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
A	CG	Why are these wells not located in the recharge area?	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
A	CG	Will survey work for springs and other natural water resources in the area be conducted?	General question. Suggests a specific methodology to be considered in analysis.
A	CG	What is the proposed source for the electricity that will power the mine, and how does it get to the mine?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO. Electrical supply and delivery could be alternative component.
A	CG	Is there an existing mine that the Forest Service can use for comparison to illustrate the size and scale of the proposed Resolution Mine? Are there other mines of this size already in operation?	General question. Suggests a specific methodology (use of analog mines, including BPH Pinto Valley) to be considered in analysis.
A	CG	Questions specific to the proposed loadout facility included: Was there a study done by SRP or APS on the power needs of the facility?	General question. Suggests a potential data source to be considered in analysis.
A	CG	Who will be responsible for long-term maintenance and cleanup of the tailings facility after mining is complete? Who is responsible for the tailings area in perpetuity, and will the EIS consider this?	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
A	CG	Is there a requirement for the mining company to put aside money to use for mine reclamation or closure in the future?	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
A	CG	How many tailings have failed in North America, and is the Forest Service considering this in the EIS?	General question. Suggests a specific methodology (use of analog tailings sites) to be considered in analysis.
A	CG	Questions about the water source for the mine operations focused on how much water will be used to operate the mines	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
A	CG	Are mine operations impacting Queen Creek, and will it flow again?	To be potentially addressed under Affected Environment.
A	CG	Questions specific to the proposed loadout facility included: Will the 560-acre private parcel intended for the loadout facility also be analyzed in the EIS?	General question about scope of analysis.
A	CG	After mine closure and reclamation, what is the plan for the subsidence area and tailings area?	Post-closure management of the subsidence area would be considered as part of reclamation and closure plans.
A	CC	Will the ground movement from the proposed project impact the cemetery in Superior?	While conjectural in terms of effects on the cemetery, potential for ground movement does need to be analyzed in the EIS.
A	CC	Will the EIS include study of noise and light pollution impacts?	The EIS will include analyses of noise and light/night sky impacts.
A	CC	How will the proposed tailings facility impact recreation resources and the Arizona Trail?	The EIS must disclose anticipated impacts to recreation, including at Oak Flat, the TNF, and elsewhere.
A	CC	Will the EIS include study of visual resource impacts to nearby areas, including the Arizona Trail?	The EIS must analyze visual impacts of the proposed mine and associated facilities.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
A	CC	What is the value of the lands being exchanged to the Forest Service? How is the land valuation done for the appraisal? Is this based on natural resource values or purchase/sales values? Will the land exchange appraisal include the value of the mineral estate?	The land exchange process, including the valuation process and the results of the appraisals, will be described in the EIS, and the Resolution Copper land exchange documents themselves and appraisal results will be made available to the public once complete. All land valuations/appraisals in the United States must conform to long-established realty and legal standards.
C	CC	The valuation of the land exchange parcels is a concern in many comments. Respondents opposed to the project voice concern that the public lands are being exchanged for lands of lower value. One commenter states, "The land trade they propose is not equitable. There is no way they can replace Oak Flat and Devil's Canyon with what they have offered. The trade properties are not developed and probably never will be – so what are we really getting?" In contrast, some commenters are in support of the land exchange because of the ecological value of the exchange lands. One comment reads, "From what I have read, the federal land exchange contains valuable ecosystems within Arizona, specifically the 7B ranch and Appleton ranch."	The land exchange process, including the valuation process and the results of the appraisals, will be described in the EIS. Any known environmental effects associated with the exchange will also be described.
C	CC	Respondents would like the EIS to contain a "detailed analysis of the ecological and economic values of the federal and nonfederal lands involved in the land exchange." Commenters would also like the appraisal to include a mineral valuation of the exchange parcels. For the land exchange appraisal, one respondent notes that the TNF must follow the valuation process set forth in FLPMA regulations. The respondent states, "In estimating market value, the appraiser must: (i) Determine the highest and best use of the property to be appraised; (ii) Estimate the value of the lands and interests as if in private ownership and available for sale in the open market; (iii) Include historic, wildlife, recreation, wilderness, scenic, cultural, or other resource values or amenities as reflected in prices paid for similar properties in the competitive market; (iv) Consider the contributory value of any interest in land such as water rights, minerals, or timber, to the extent they are consistent with the highest and best use of the property"	The land exchange process, including the valuation process and the results of the appraisals, will be described in the EIS. Any known environmental effects associated with the exchange will also be described.
B	CC	How many and what types of historic properties (archaeological sites or historic buildings/structures) will be leaving Federal administration within the Oak Flat Parcel as a result of the land exchange? Of these, how many and what types of historic properties are listed in or eligible for listing in the National Register of Historic Places (NRHP)?	General cultural resource information and the project's effects on these resources will be disclosed in the EIS. However, to protect the confidentiality of these resources, detailed information on types and locations of cultural sites will not be disclosed to the general public.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
B	CC	How many and what types of historic properties are within the facility footprints as presented in the GPO? Of these, how many and what types of historic properties are listed in or eligible for listing in the NRHP?	General cultural resource information and the project's effects on these resources will be disclosed in the EIS. However, to protect the confidentiality of these resources, detailed information on types and locations of cultural sites will not be disclosed to the general public.
C	CC	Commenters would also like cultural resources to be included in the valuation. As one commenter states, "Not only must the Forest Service include the tangible values of Oak Flat in its valuation, it must also include the religious and spiritual value of Oak Flat, which is priceless and irreplaceable." Some commenters also state that the lands are sacred to Native Americans and should be given to them, rather than exchanged with a foreign mining company.	The land exchange process, including the valuation process and the results of the appraisals, will be described in the EIS, and the Resolution Copper land exchange documents themselves and appraisal results will be made available to the public once complete. All land valuations/appraisals in the United States must conform to long-established realty and legal standards.
C	CC	Finally, one respondent is concerned with the total valuation of the land exchange, given the proposal to use additional public lands for the tailing storage facility, asking, "Will the 4,400 acres of the tailings site on public land be DEDUCTED from the value of the acreage RCC has offered in trade for Oak Flat?"	The land exchange process, including the valuation process and the results of the appraisals, will be described in the EIS, and the Resolution Copper land exchange documents themselves and appraisal results will be made available to the public once complete. All land valuations/appraisals in the United States must conform to long-established realty and legal standards.
C	CC	Several respondents would like the EIS to detail the long-term management proposals for the exchanged lands. As one respondent says, "The EIS should discuss how the land exchange of selected and offered lands are consistent with Forest Service management plans, describe how the offered lands would be managed, and indicate whether they would be withdrawn from mineral entry. The EIS should discuss any deed restrictions, easements, or rights-of-way on the offered or selected lands, or other provisions of the land exchange that the Forest Service considers for the purpose of mitigating potential impacts."	The land exchange process, including the valuation process and the results of the appraisals, will be described in the EIS. To the extent known, future plans for management of the exchange parcels by the Forest Service and the Bureau of Land Management (BLM), as applicable, will also be disclosed.
C	CC	One respondent asks that the EIS analyze the economic benefits provided by the existing ecological functions of the land exchange property. The comment requests that the EIS "analyze the ecological value of all lands involved in the exchange, what time period is applicable to the ecological values based upon the anticipated date of completion by the USFS for the land exchange." Another comment requests that the EIS "document the benefits of Oak Flat (as it is now) to humans, near and far."	The land exchange process, including the valuation process and the results of the appraisals, will be described in the EIS. Any known environmental effects, including those related to "quality of life" issues such as those referred to in the comment, will also be described.
C	CC	Additionally, commenters are concerned with the use of public lands for the tailings storage facility. The idea of a tailings disposal site on public lands upsets and brings concern to many respondents. One commenter states, "Public lands belong to Americans it is our heritage. Once they are damaged they never return."	Unless explicitly withdrawn from mineral entry, NFS lands are open to mining and mining-related activities under the 1872 General Mining Law. This includes uses or components associated with the overall mining project, such as tailings storage facilities, roads, power lines, pipelines, etc. However, all known environmental effects of Resolution Copper's use of Forest Service lands and resources will be fully described and analyzed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
A	CG	How safe is [the current discharged water] for use in agricultural operations?	As discharge may still continue during the construction of the mine, it will be considered for inclusion as a connected action.
B	CG	Does the project conform to State Implementation Plans, and does it meet Pinal County air permitting requirements?	Suggests a specific indicator/metric to be considered in air quality analysis.
B	CG	Would the project be in compliance for criteria pollutant emission and impacts?	Suggests a specific indicator/metric to be considered in air quality analysis.
B	CG	How would the project affect regional goals associated with existing nonattainment or maintenance areas for criteria pollutants?	Suggests a specific indicator/metric to be considered in air quality analysis.
B	CG	How would climate change affect surface water and groundwater resources available for the mine water supply, and how would these changes affect local community water supplies?	Climate change and drought could be considered in a variety of resources with respect to climate change and ongoing trends.
B	CG	How is mining law relevant to the potential impacts to the Oak Flat Mineral Withdrawal area?	Should be discussed in decision space of Chapter 1.
B	CG	Are there active mining claims in the tailings area that would be impacted by the proposed operation, and if so, what are the ramifications?	This is included in the issue statements; an inventory of existing claims may be included in Affected Environment.
B	CG	How does the structural geology control the expected subsidence?	Suggests specific question to be considered during subsidence analysis.
B	CG	What would be the timing (speed, duration, time to equilibrium) of expected subsidence impacts?	Suggests specific indicator/metric to be considered during subsidence analysis.
B	CG	What would be the ultimate extent of the subsidence zone?	Suggests specific indicator/metric to be considered during subsidence analysis.
B	CG	How does structural geology (i.e., faults, impermeable geologic layers) control groundwater movement, and how would geologic controls affect dewatering of the Apache Leap Tuff aquifer?	Suggests specific question to be considered during groundwater analysis.
B	CG	What is the existing groundwater quality within the area to be mined?	Suggests specific question to be considered during groundwater analysis.
B	CG	How would rock type affect in situ buffering capacity?	Suggests specific question to be considered during groundwater analysis.
B	CG	What would be the potential effect on existing groundwater wells along the MARRCO corridor where groundwater is expected to be extracted?	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
B	CG	Is the geology underlying the proposed tailings storage facility demonstrated to be impermeable, and if not, how would this affect fate and transport of potential contaminants?	Suggests specific question to be considered during groundwater analysis.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
B	CG	How has the overall watershed been affected by the presence of a historic mining district, including: existing elevated metal concentrations in surface water runoff; existing elevated metal concentrations in groundwater; existing contamination in soils, including from air deposition from smelter operations or movement of tailings; and the presence of historic slag or tailings sites?	Past mining is out of scope for the current project; however, this information should be included in the Affected Environment for a variety of resources.
B	CG	How would existing and future disturbances—such as grazing, recreational use, and off-highway vehicle activity—impact reclamation efforts, monitoring of success criteria, and selection of reference sites?	Suggests specific question to be considered during soils/reclamation analysis.
B	CG	How has reclamation succeeded at analog sites in the vicinity, with similar types of mining disturbance, soils, climate, vegetation communities, and reclamation techniques? What have been the rates of reclamation success at these sites?	Suggests specific methodology to be considered during soils/reclamation analysis.
B	CG	What methodology, metrics, and time frames (longevity and frequency) would be used when conducting reclamation success monitoring?	General question. Will be considered during soils/reclamation analysis.
B	CG	What is the likelihood of successful reclamation using the techniques proposed in the GPO reclamation plan?	General question. Will be considered during soils/reclamation analysis.
B	CG	Would the tailings impoundment be designed to meet current standards? What is the most current and acceptable technology for tailings dam construction?	Suggests a specific methodology for assessing tailings; and for assessing tailings alternatives.
B	CG	What would be the potential long-term, post-closure liabilities and management issues of the project on Federal lands?	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
B	CG	What would happen if the project changes hands?	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
B	CG	What would happen if the Federal government inherits portions of the project on Federal lands as a result of bankruptcy or abandonment by the company?	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
B	CG	How much water would be used for the project and from what sources? What would be the effects of that water use?	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
B	CG	How reliable and consistent would the long-term water sources be for the mine, and how susceptible would they be to drought or shortage?	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
B	CG	What additional water would be required to produce the energy that would be supplied to the mine and used over the life of the project?	Further research will be conducted; at this time, it appears that determining the nature of energy production for use by the mine is speculative.
B	CG	Are there any slivers of “residual” Federal lands, easements, or Federal reservations of mineral rights in the Oak Flat area?	To be disclosed in the EIS.
B	CG	What would be the level of greenhouse gas emissions from energy production that supports the project, including from any energy production alternatives?	Further research will be conducted; at this time, it appears that determining the nature of energy production for use by the mine is speculative.
B	CG	Depending on TSF alternative locations; AGFD recommended including surface water bodies such as Queen Creek and Gila River as potential receptor sites in the groundwater flow model to be developed for the DEIS; and to analyze potential effects against designated uses for those bodies and to wildlife receptors in those areas; and development of a drain-down curve to determine amount and duration of long-term seepage to groundwater and surface waters.	This suggestion will be considered in the analysis for biological resources, surface water quality, and groundwater quality.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
B	CG	At the conclusion of mining, a collapsed caved rock zone will resaturate with groundwater (MPO, Appendix R). The Department recommended further analyses on the re-flooding of the zone; estimated rate of groundwater inflow, groundwater recapture zone, fate-and-transport analysis of contaminated groundwater and hydraulic influence to local surface waters including Devils Canyon. The DEIS should include a description of the predicted water chemistry of the pit lake. Wildlife will be attracted to this lake. (AGFD Scoping letter)	This suggestion will be considered in the analysis for biological resources, surface water quality, and groundwater quality.
B	CG	The Department recommended developing mitigation measures and monitoring plan that addresses potential issues with invasive species and pathogens (AGFD Scoping letter) We found no mention of impacts from noxious weeds, pathogenic fungi and others that may cause disease or alteration to ecological or biological processes in the scoping report. The Department included this as a concern in our scoping letter.	This suggestion will be considered in the analysis of biological resources.
B	CG	Need to recognize expected impacts to wildlife from pollutants and activities within and adjacent to mine operations: dust and emissions, noise, light, hazardous spills, standing water attractants with mine affected water quality, potential introductions of noxious/invasive species, pathogenic fungi or other causes of disease or alteration to ecological function.	This suggestion will be considered in the analysis of biological resources.
B	TC	How would the forest plan need to be amended to address mine development/closure/post-closure and reclamation with regard to fire management?	A discussion of amendment to the forest plan will be included in Chapters 1 and 2.
B	TC	The following alternatives should be considered, potentially using the multiple accounts analysis methodology as appropriate: ◦ Lined tailings facility for all tailings ◦ Separate management of cleaner tailings, including in a lined facility ◦ Centerline or downstream constructed tailings dam ◦ Alternative tailings disposal sites ◦ Alternative disposal technologies ◦ Use of dry-stack tailings, as proposed for the Rosemont Copper Mine	Included for suggestion to use multiple accounts analysis methodology.
B	CC	Would there be visual impacts to historic properties from the tailings storage facility and other mining facilities?	The EIS will include a comprehensive assessment of visual impacts, including to cultural resources.
B	CC	Would in situ soils be removed from the tailings storage facility prior to construction, and how would their treatment affect stability of the tailings dam?	Specific uses and treatments of native soils has yet to be determined.
B	CC	How would soils be salvaged and stockpiled for later reclamation needs? From where would soils be salvaged, and where would stockpiled soils be stored? What volume of soils would be salvaged and stored? How would soils be treated during stockpiling?	Specific uses and potential treatments of native soils have yet to be determined.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
B	CC	Is the volume of soil available for salvage sufficient to accomplish planned reclamation, and is this soil material of sufficient quality (both physically and geochemically) to support native vegetation growth?	Specific uses and potential treatments of native soils have yet to be determined.
B	CC	What would be the long-term stability of soils following reclamation?	Soil studies and impact analyses have yet to be conducted.
B	CC	What is the potential for salvaged soils, after long-term storage, to support revegetation efforts?	Soil studies and impact analyses have yet to be conducted.
B	CC	Is there current soil contamination on the West Plant Site or from other historic mining activities in the area, and if so, how could project disturbance potentially mobilize those contaminants through stormwater or the air to affect the public or the environment?	Soil studies and impact analyses/public health assessments have yet to be conducted.
B	CC	Would potentially contaminated soils on the West Plant Site or other areas of previous disturbance be used for reclamation or construction purposes?	Soil studies and impact analyses/public health assessments have yet to be conducted.
B	CC	What material was used for the railroad bed along the MARRCO corridor (i.e., recycled slag, waste rock), and what are the potential effects from disturbance of that material during construction?	Impacts analyses related to the MARRCO corridor have yet to be conducted.
B	CC	What materials have previously been hauled along the MARRCO corridor, did transport potentially leave residual contamination through spills or dust deposition, and what would be the potential effects from disturbance of that material?	Impacts analyses related to the MARRCO corridor have yet to be conducted.
B	CC	How would the project affect sediment delivery to downstream surface waters?	Sediment transport will be an issue studied as part of the water resources analysis in the EIS.
B	CC	What would be the loss to soil productivity, soil development, and ecological function as a result of the disturbance from the tailings facility, the subsidence zone, other proposed temporary/permanent disturbances and infrastructure, and areas downgradient from the project?	Soil studies and impact analyses have yet to be conducted.
B	CC	What would be the potential noise-related impacts of the project, not only long term over the operational life of the mine, but also during construction phases when it is conceivable that noise impacts may be of shorter duration but more intense? The impact analysis would need to assess not only the mine site (East Plant site) and the processing facilities (West Plant site), but also all other related facilities, including the proposed tailings storage facility, the MARRCO corridor and loadout facility, and additional roads, power lines, pipelines, storage areas, etc.	Noise impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.
B	CC	How would mine-related transportation—such as ore and/or equipment haul trucks and increased vehicular traffic from workers and other personnel traveling to and from the mine—affect residents and others in terms of increased noise levels?	Noise impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.
B	CC	How will increased noise levels, both short and long term, be evaluated for how they may affect “sensitive receptors” such as hospitals, schools, geriatric care facilities, etc.?	Noise impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
B	CC	Compared with noise effects on humans, noise can result in measurably greater adverse effects on wildlife (including birds and fish), both with respect to the long-term presence/ absence of species and their behavior. Knowing that these effects can vary greatly, depending on species, how will potential noise impacts on wildlife be analyzed in the EIS?	Noise impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.
B	CC	What would be the changes in traffic on U.S. Route 60 and State Routes 79, 177, 88, and 24 from deliveries of materials, movement of concentrate, and employee commuting, both during construction and during operation?	Transportation-related impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.
B	CC	What would be the effect on local traffic within the town of Superior?	Transportation-related impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.
B	CC	How would subsidence affect road infrastructure, including the Magma Mine Road, National Forest System (NFS) roads, and public highways?	Transportation-related impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.
B	CC	What would be the effect of train traffic within neighborhoods along the MARRCO corridor, due to transportation of filtered concentrate from the filter plant?	Transportation-related impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.
B	CC	Which NFS roads would be decommissioned, reconstructed, or restricted from public access?	Transportation-related impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.
B	CC	Which new roads would be constructed, and would they be open to the public during mine operations?	Transportation-related impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.
B	CC	How would road access, particularly to NFS roads, change during operation and after closure?	Transportation-related impacts from all aspects of the proposed project and alternatives will be part of the EIS analysis.
B	CC	Would any existing third-party use authorizations (such as patented and unpatented mining claims, rights-of-way, easements, etc.) on the Selected or Offered Lands be abrogated or altered by conveyance of the lands proposed for exchange?	The NDAA specifies that mining claims are to be relinquished for the Apache Leap Special Management Area. Third-party authorizations on other land exchange parcels and their ultimate dispositions have yet to be assessed.
B	CC	If conditions or encumbrances on the Offered Lands are determined by the Forest Service or the BLM to make any portions of these lands unacceptable for public acquisition (for example, because of the presence of hazardous materials or other contamination or degradation), how would these situations be resolved? Could portions of the parcels be removed from consideration for exchange, or would Resolution Copper be obligated to remediate all sites to the satisfaction of the government prior to conveyance?	The exact condition of each of the parcels identified for exchange in the NDAA has yet to be determined. This information, once known, will be included in the EIS.
B	CC	How would each of the parcels that are conveyed to the Federal government be managed by the respective agencies (Forest Service, BLM)? Would this require amendment to the Tonto and/or Coronado forest plans or, in the case of the BLM, to the respective Resource Management Plans? Similarly, would any area-specific land use plans or special use designations, such as Areas of Critical Environmental Concern, require amendment as a result of the exchange?	The exact condition of each of the parcels identified for exchange in the NDAA has yet to be determined. Similarly, their future management has yet to be decided upon. This information will be included in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	CC	Respondents are also concerned with Resolution Copper's mining claims on the subject parcels. Comments note that there are potential conflicts between Resolution Copper's mining claims and mining claims belonging to other parties. A few commenters would also like disclosure of Resolution Copper's full mining claims in the area so that they can better understand the potential for future mine expansions. One respondent would like a map produced that depicts the full mining claim, stating that they "*want to understand how big the mine could be upsized to affect other areas with future expansions and how close it could get*."	Resolution Copper's (and those or other parties, if any) mining claims should be fully disclosed in the EIS, even if this disclosure is unlikely to point to NEPA-significant actions that are not already disclosed in the GPO.
C	CC	Concern for indirect impacts to historic resources is also expressed: *"What impacts may occur to historic properties outside of the project area when Oak Flat and other nearby scenic and recreational areas are closed to the public, and recreational activities (including off-road driving, camping, shooting, etc.) are diverted onto other lands and concentrated into smaller areas? Will historic properties outside of the project area be subject to the effects of seismic events within the subsidence zone (e.g., earthquakes, rockfalls, and landslides)? How will historic properties along Queen Creek downstream from the project area be affected by major physical and hydrological changes in the upstream basin*?"	The comment appears to point more toward indirect and/or cumulative effects on resources, both cultural and recreational. These do need to be analyzed in the EIS.
C	CC	One commenter requests that Resolution Copper fund and conduct a formal Social Impact Assessment as part of the mine's Federal permit application and the NEPA process. The Social Impact Assessment should be "*a robust analysis of the impact the Southeast Arizona Land Exchange and Resolution Mine will have on the San Carlos Apache, with a discussion of how the mine fits into a broader history of the tribe.*"	The loss of traditional tribal uses of the Oak Flat area as a result of Resolution Copper's proposed action or alternatives will need to be analyzed as a potentially significant impact in the EIS. These impacts will also need to be analyzed in the context of a potential environmental justice issue under Executive Order (EO) 12898.
C	CC	Commenters state that Forest Service consultation with tribal governments is important. For example, "*I am interested in how this mining project will interact with and engage with the San Carlos Apache Nation. Facilitating a productive dialogue is critical to ensure that consideration and accommodations are given to the Nation's claims and interests over the area of Oak Flat. I urge the U.S. Forest Service to study the Nation's claims and interests and to create a channel of communication between the Nation and Resolution Copper to find some common ground. I recommend that a third party be brought in to assist with the communication between the company and the Nation*."	Tribal consultation is required under the National Historic Preservation Act (NHPA). This process will need to be thoroughly documented and disclosed in the EIS as well as in NHPA-specific documentation.
C	CC	Other commenters state that it is important for the Forest Service to consult with all tribes in the Inter Tribal Association of Arizona. Several comments identify issues that Forest Service consultation with tribal governments should discuss, including data recovery plans, mitigation strategies, and *Chí'chil Biłdagoteel* (Oak Flat).	Tribal consultation is required under the NHPA. This process will need to be thoroughly documented and disclosed in the EIS as well as in NHPA-specific documentation.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	One commenter states that the GPO that was submitted to the Forest Service in May 2016 does not adequately identify cultural resources that would be impacted by the mine and does not identify mitigation measures that the mine would use for cultural resources. The commenter states, "*We note with serious concern that the recently updated [Proposed Resolution Copper Mine] Plan of Operations (PoO), ostensibly updated and revised in May 2016, fails to address and otherwise neglects and apparently discounts information and documentation developed since previous MPO versions. The San Carlos Apache Tribe requests that the U.S. Forest Service require the PRCM Applicant to revise the PoO to provide recognition, consideration, and plans for avoiding and reducing significant impacts to the many important cultural resources documented and either listed on or provisionally determined to be eligible for listing on the National Register of Historic Places in 2015 and early 2016.*"	The GPO represents Resolution Copper's proposed action. It will not be approved by the Forest Service until the Forest Service is fully satisfied that it accurately represents the decision to be made at the time it is to be made. The GPO is likely to be amended or revised a number of times before any final decision is rendered.
C	CC	The same commenter also strongly disagrees with the following statement that is made in the GPO: "*Through consultation, a Memorandum of Agreement will be signed and executed by all consulting parties, and this agreement will stipulate all conditions of cultural resources treatment, including the incorporation of the Historic Properties Treatment Plan and the appropriate final curation of all cultural resources-related reports, data, and materials*." According to the commenter, "*Neither PRCM nor the U.S Forest Service have the authority to dictate that all parties sign any such agreement. In fact, this is unlikely and this statement is misleading and disrespectful as well as incorrect and apparently duplicitous. The statement also perpetuates the unfounded and totally inappropriate implication that only historic properties will be addressed in treatment planning and other methods for effects and impacts reductions. All cultural resources, not simply historic properties, require consideration and inclusion in treatment plans. Again, the Draft EIS and revised PoO must correct this and other egregious, disrespectful, unprofessional, and harmful errors*."	Tribal consultation is required under the NHPA. Any treatments of cultural properties must be mutually agreed to in a Memorandum of Agreement (MOA) by all participating parties prior to implementation, including the Forest Service, the Tribes, the State Historic Preservation Office (SHPO), and Resolution Copper. The NHPA consultation process and agreed-upon outcomes will be summarized in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	CC	Comments state that the mine's impact to the Oak Flat area would violate the AIRFA by preventing the San Carlos Apache Tribe from being able to access the area to perform religious ceremonies: "*This proposed mining operation violates the spirit and the letter of the law of the American Indian Religious Freedom Act, which was enacted to return basic civil liberties, and to protect and preserve the traditional religious rights and cultural practices of American Indians, Eskimos, Aleuts, and Native Hawaiians. These rights include, but are not limited to, access to sacred sites, freedom to worship through ceremonial and traditional rights, and use and possession of objects considered sacred. The impacts from the mining operation on local American Indians need to be analyzed, quantified and mitigated. This is also a violation of the civil rights of the American Indians who view this site as sacred.*"	The loss of traditional tribal uses of the Oak Flat area as a result of Resolution Copper's proposed action or alternatives will need to be analyzed as a potentially significant impact in the EIS. These impacts will also need to be analyzed in the context of a potential environmental justice issue under EO 12898.
C	CC	Several comments about regional history focus on the role that mining has played and continues to play in Arizona, and specifically the areas of Globe, Miami, Superior, Hayden, Winkelman, and Kearny—known as the "Copper Triangle." Comments share both personal and historic insights about the role that mining has had in the regional history of the "Copper Triangle." "*Potential environmental and cultural impacts should be evaluated in an accurate and appropriate historical context. For more than a century, Arizona's heritage has had deep roots in mining and ranching.*" In addition, several commenters state the importance of analyzing the "*picnic areas, campgrounds, and other public features constructed by the Civilian Conservation Corps in the 1930s. Additionally, hundreds of check dams, contour terraces, and rock alignments in the Oak Flat area form a substantially intact and visually impressive record of CCC erosion control techniques across a rugged landscape.*"	Cultural resource analysis protocols and consultation requirements—for both prehistoric *and* historic resources—are thoroughly established under the NHPA, Forest Service Handbook 239.24, and Arizona SHPO guidelines.
C	CC	One comment states a concern regarding the loss of cultural resources if the mine is not approved: "*Can you analyze the customs, culture, history and heritage of copper mining in the region and what customs and culture might be lost if the mine plan is not approved?"*	Cultural resource analysis protocols and consultation requirements are thoroughly established under the NHPA, Forest Service Handbook 239.24, and Arizona SHPO guidelines. These same standards will apply to cultural resource impact analyses related to the Resolution Copper project. As with any EIS, the effects of a "no action" alternative will also be analyzed.
C	CC	One comment about regional history provides information about the Apache Tribe's historic ties to the region: "*Before the Reservation was founded, Apaches lived throughout this part of Arizona: from the Blue Mountains on the New Mexico border, down to the Catalinas and other mountains near Tucson, over to the Verde River and mountains just north and east of Phoenix, up to the San Francisco Peaks, and back over to New Mexico. Our clans originated from within this area, and all of us on the Reservation have ancestors who came from within this region, before being forced to Old San Carlos.*"	The EIS will certainly include an analysis of the ancestral or historic presence of Native Americans throughout the region.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	One respondent was additionally concerned with public cost associated with the mine's power and water supply needs. The respondent asks, • "*Will SRP customers be subsidizing RCM for their electric usage since they will be using tremendous amounts of electricity*?" • "*I am wondering who will be picking up the tab for all the new electrical powerlines that will be used to run the mining operations*." *"Will the expense of building new wells by Arizona Water Co. to supply RCM also be passed on to their customers?"*	All potential socioeconomic effects of the proposed action and alternatives—including "quality of life" issues, effects on property values, tax revenues, associated public costs, the potential for environment justice issues, and the economic "multiplier" effect of development in the region—will be critical areas of analysis in the EIS.
C	CC	Respondents are interested in the economic impacts resulting from increased traffic and strain on the areas transportation infrastructure. Economic concerns include costs to employees, employers, and businesses from traffic, and costs to taxpayers from roadway maintenance and new construction.	All potential socioeconomic effects of the proposed action and alternatives—including "quality of life" issues, effects on property values, tax revenues, associated public costs, the potential for environment justice issues, and the economic "multiplier" effect of development in the region—will be critical areas of analysis in the EIS.
C	CC	Respondents would like the EIS to consider the costs to public health and safety from the proposed project. Public health and safety costs of concern include air pollution health impacts, drinking water supply contamination and water shortages, and increased need for emergency services. Several commenters would like Resolution Copper to consider paying for these economic costs. As one commenter states, "*Consider investments in public safety capacity and emergency services. Resolution is already providing this type of support in specific communities*."	All potential socioeconomic effects of the proposed action and alternatives will be addressed in the EIS.
C	CC	One respondent is concerned with the cost of increased civil disobedience that would result from the proposed project: "*The DEIS should also assess the level of civil disobedience that could occur from these recreational and spiritual losses; for example, recurring protests in which activists chain themselves to RCM equipment is likely, considering that many activists have said publicly that they will never stand down from this fight under any circumstance. The DEIS should assess increased demand on local and regional police forces and specialized law enforcement units with this in mind, and the costs associated with these increased demands*."	All potential socioeconomic effects of the proposed action and alternatives will be addressed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	Economic concerns in the comments include water resource impacts. One respondent requests that the EIS analysis "*account for the displacement of other economic activities due to water problems associated with the proposed mine.*" Several respondents inquire about the financial responsibility for water pollution impacts. Additionally, one commenter is concerned with the long-term costs associated with wastewater treatment at the mine site. Specifically, the respondent notes, "*Modern mines are commonly proposed and built that will require between $1 and $10 million per year to operate water treatment plants as far as 5,000 years into the future*" and that "*in reality, these environmental liabilities are certain to either be paid for by taxpayers of the distant future, or simply neglected altogether*."	All potential socioeconomic effects of the proposed action and alternatives will be addressed in the EIS.
C	CC	Commenters ask that the EIS analyze both the positive and negative recreation economic impacts that would result from the proposed project. Commenters would like the EIS to consider the economic benefits that would result from new public access to the land exchange parcels, as well as mitigation-related recreational enhancements such as "*replacement campground, mitigations/enhancements for climbing, hiking, OHV, preservation of historic mining cultural resources (i.e. the Magma Copper smokestack.*"	All potential socioeconomic effects of the proposed action and alternatives will be addressed in the EIS.
C	CC	Many respondents are concerned that loss of recreational resources at the mine site would negatively impact the area's economy. Specific recreational economic resources that respondents are concerned about include "*Species of Economic and Recreational Importance*," watchable wildlife, the Arizona Trail, and rock climbing in the Oak Flat area.	All potential socioeconomic effects of the proposed action and alternatives will be addressed in the EIS.
C	CC	Respondents also note in the comments that the economic value of recreation is more sustainable and provides more economic input to the Arizona economy than does the mining industry. A comparison of these economic values should be included in the EIS analysis: "*When evaluating the socioeconomic impacts of the Resolution mine project, please consider that outdoor recreation contributes more than twice as many dollars to Arizona as all of mining does, over $10 billion annually compared to less than $5 billion for the entire mining industry. These figures come from the Outdoor Industry Association and the Arizona Mining Association respectively. Please also consider that recreation is sustainable and can contribute to Arizona's bottom line in perpetuity*."	All potential socioeconomic effects of the proposed action and alternatives will be addressed in the EIS.
C	CC	Additionally, one commenter states, "*Outdoor recreation is increasingly a creator of quality, sustainable jobs in Arizona, and access to such recreation both promotes economic health through job creation and commerce, but also improves the quality of life here and helps to bring more employers to the area.*"	All potential socioeconomic effects of the proposed action and alternatives will be addressed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	Several respondents are concerned that loss of the social and environmental benefits of the land will outweigh the economic benefits the mine: "*If left untouched, the social and environmental benefits it will bring to future generations will far outlast the life of the mine before the copper is depleted and the economic benefits it will bring.*" In addition, although "*it is impossible to put an objective value on the wonders of nature,*" respondents would like the EIS to include the economic value of land conservation in the analysis.	All potential socioeconomic effects of the proposed action and alternatives, including quality of life issues, will be addressed in the EIS.
C	CC	One respondent is also concerned that the mine development would result in a loss of land conservation ethics among the public, and that this loss would result in increased costs: "*Identify the budget necessary to launch an advertisement campaign that promotes the beauty and outdoor opportunities provided by the Tonto National Forest in Pinal County. Then, following the campaign, convince the 'average public' forest user that they must still continue to obey the rules of respect for the forest regardless of the Tailings Dump.*"	All potential socioeconomic effects of the proposed action and alternatives, including quality of life issues, will be addressed in the EIS.
C	CC	The economic impact resulting from the loss of livestock grazing land is of concern to some respondents.	All potential socioeconomic effects of the proposed action and alternatives will be addressed in the EIS.
C	CC	Commenters are concerned about the significant disruption of many outdoor recreation activities that would occur as a result of the proposed Project. One commenter states, *"The loss of recreation in, and enjoyment of, the affected national forest lands would be disastrous to the millions of people residing in the greater Phoenix region*." Recreational resources that are of concern to respondents include wildlife viewing, camping, climbing, hiking, OHV use, and water recreation.	The proposed action or alternatives will undoubtedly have some effect on recreation opportunities in the Superior area; this will need to be analyzed in the EIS.
C	CC	Commenters note that wildlife viewing and birding are popular activities in the project area. Campers are concerned that they will lose camp sites in "*gorgeous areas*." If waters in the area are polluted, respondents are also concerned that the public would no longer enjoy their recreational water activities.	The proposed action or alternatives will undoubtedly have some effect on recreation opportunities in the Superior area; this will need to be analyzed in the EIS.
C	CC	One of the main issues raised in the comments is the socioeconomic impact of recreation on the local economy. As discussed in Section 5.11.21, "Recreation," respondents are concerned with the economic impact resulting from a loss of recreational resources. Commenters state that the recreation losses to the local economy would not be offset by the proposed mine's economic benefits. Commenters also request that the EIS consider alternatives to the mine proposal that would promote recreation.	The proposed action or alternatives will undoubtedly have some effect on recreation opportunities in the Superior area; this will need to be analyzed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	Impacts to recreation trails, including the Arizona Trail, is a common recreational resource concern among the comments. The experience of trail users, including hikers, runners, backpackers, mountain bikers, and equestrians would be impacted by the mining project. As one comment states, "*The EIS should consider all impacts to the Arizona National Scenic Trail, including especially as it pertains to visual, noise, and natural resource impacts.*" Commenters note that project construction and operation would negatively impact trails, including causing trail closures and reroutes. Respondents would like the EIS analysis to propose mitigation measures, including trail maintenance agreements, trail improvements, and installation of interpretive signage.	The proposed action or alternatives will undoubtedly have some effect on recreation opportunities in the Superior area; this will need to be analyzed in the EIS.
C	CC	The Oak Flat area is a well-known climbing and bouldering recreation area. Respondents are concerned that the "*mine plan will lead to the largest loss of climbing resources*" in Arizona. As several comments note, "*For fifteen years running, until 2004, Oak Flat was the location of the world's largest rock climbing competition*." The issue of public access to climbing resources and trespass onto exchanged lands is a concern in the comments. Respondents request that the EIS analysis consider the loss of this recreational resource and ask that Resolution Copper continue to work with local climbing organizations to develop alternative access routes and other climbing mitigation measures.	The proposed action or alternatives will undoubtedly have some effect on recreation opportunities in the Superior area; this will need to be analyzed in the EIS.
C	CC	Comments are concerned that tourism to Boyce Thompson Arboretum would be negatively impacted by the proposed project. Commenters are concerned that recreation activities at the Arboretum will decrease tremendously one the mine project is in operation. As one commenter states, "*Boyce Thompson Arboretum will see toxic air/dust potentially eliminating species of birds and plants, not to mention the view of tailings pile across the street*."	The proposed action or alternatives will undoubtedly have some effect on recreation opportunities in the Superior area; this will need to be analyzed in the EIS.
C	CC	Commenters express concern with the project's proposed temporary and permanent road closures. Respondents are concerned that road closures will impact public access to recreation sites, trails, and use of roads by OHV enthusiasts. Respondents request that the EIS "*analyze the loss of closed roads due to this proposal*" and include alternative recreational access roads. Multiple alternative access routes are proposed in the comments.	The proposed action or alternatives will undoubtedly have some effect on recreation opportunities in the Superior area; this will need to be analyzed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	Many of the comments are concerned with public health impacts that would result from air and water pollution. Specific health issues mentioned in comments are respiratory illness, neurological illness, and increased cancer rates: "*People will be exposed to tailings dust whenever high winds blow. Reports of similar wastes show that some of the material may be expected to be extremely fine, and subject to be retained in people's lungs when breathed in. Asthma and lung cancer will be promoted. COPD conditions will be promoted. It is not fair to the people of Arizona to expect them to live with this miserable hazard.*" Comments site examples of public health impacts from other mining operations in Arizona, across the United States, and internationally as reasons to carefully analyze and mitigate public health impacts associated with the proposed project.	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.
C	CC	Water quality impacts and contamination of water supplies were common concerns among respondents. As one comment states, "*The danger lies within the possibility of tailings contaminating regional groundwater supplies used by many throughout the region. A cessation of pumping of tailings runoff and underdrain water would result in a tremendous amount of acidic, toxic water simply discharging into the ground.*" Many comments also express concern with fugitive dust health impacts, with a few specifically requesting that EIS analyze the relationship between fugitive dust pollution and haboobs or other dust events. An additional weather-related public health concern raised in the comments was the monsoon season and potential exposure to toxins through flooding in washes.	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.
C	CC	One respondent requests that the area of analysis for public health impacts be a 400-mile radius of the mine, whereas others express specific public health concerns for the following communities: Queen Valley, Superior, Hayden, Globe, Apache Junction, Mesa, the Phoenix metropolitan area, and Native American communities. One respondent is specifically concerned with health impacts to nearby retirement communities, whose population's preexisting health conditions may make them more vulnerable to pollution impacts: "*Provide sample medical data as related to respiratory ailments that are more commonly found in residences of retirement communities. Identify the effects of inhaling tailings dust by a subject with such a condition and how they are more susceptible to problems caused by tailings dust in the home. Identify tighter dust and toxicity standards that should be used on a per-incident inspection of these homes.*"	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	Residents in the area do not want to be exposed to toxins and request that the EIS include toxicity data for all chemicals used at the site: "*People living in the area around the Resolution Mine proposal area are extremely worried about their health and the quality of their air and water.*" Some comments also express concern that the mine would create a toxic site that would expose current and future residents to health impacts. As one commenter states, "*Schlepping toxic materials across the state is a future superfund clean-up.*"	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.
C	CC	Comments also include concern for the physiological impacts that would result from the loss of public lands and recreation areas, including quality of life impacts. As one commenter notes, "*Time spent in nature and the availability of nature have been proven to be scientifically time and again to improve happiness and productivity in life among other things." One respondent requests that the EIS include a Health Impact Assessment that evaluates these physiological impacts, including "a primary emphasis on Native Americans, as their loss of access is tied to thousands of years of history and a type of deeply embedded spiritual connectedness to the land."*	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.
C	CC	A few comments note that public health issues resulting from the mine operation would have cumulative effects on the area's economy, including rising health care costs and lowered property values: "*The EIS should analyze the public-health impacts from air and water pollution, its potential disruption and displacement of existing economic activity, and stresses on public services and infrastructure including transportation, schools and health-care facilities.*"	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.
C	CC	Several comment express concern for the disproportionate public health impacts to indigenous populations: "*Mining is a most destructive process that always leaves behind massive destruction of the land resulting in disruption of the lives and negative health effects for the indigenous people.*" In contrast, a few comments note that an increase in jobs and wages would have beneficial impacts on public health for this community.	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.
		Three comments specifically request that Resolution Copper work with the tribal community to develop drug and alcohol programs: "*In terms of health and safety, is the company willing to partner with tribal communities to combat drug and alcohol abuse? Is this a program that the company would be willing to help fund and partner with the San Carlos community, possibly as a mitigation measure or voluntary measure to help ensure a healthy and thriving workforce. Can the EIS analyze the potential improvement and reduction in drug and alcohol abuse by San Carlos community members as a result of direct and indirect employment combined with an effective drug and alcohol abuse prevention program*?"	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	One respondent notes that the mine would increase the need for emergency services and requests that the EIS identify sources of funding for additional emergency services. The commenter states, "*The main travel corridor from the Phoenix metropolitan area may not have emergency services sufficient to handle the types of situations that could arise if a mine were located here. The EIS should identify the types of emergencies that could occur at a mine like this, including those that would occur on the roads used by traffic to and from the mine. It should also identify where the closest emergency services are, what types of services are available, and what additional resources would be necessary, including costs and who would pay, to handle the additional burden of the mine. Local fire departments would need more resources in funding, equipment and trained personnel to deal with potential spills and crashes that increased trucking would likely generate. The implications of heavy toxic trucking on local highways are concerns that should be addressed in the EIS*."	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.
C	CC	One respondent expresses concern with public access to the subsidence zone and the measures that will be taken to prevent trespass to this area, whereas another is concerned with chance of explosions at mine facilities.	Health effects are a potentially significant issue that needs to be carefully studied and the results disclosed in the EIS.
C	CC	Respondents voice concern for the health and safety of mine employees. Specific employee health issues raised in the comments include skin rashes, respiratory illness, and exposure to toxic chemicals. Safety concerns include exposure to extreme heat, air blasts, and vacuum pockets. Additionally, one comment recommends that a "*No Hunting and No Target Shooting*" area be designated around the mine operations for employee safety. Comments request that the EIS disclose employee health and safety impacts and include mitigation and monitoring protocols.	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.
C	CC	Several respondents note that employee health will be improved through access to preventive health care. One commenter states, "*These thousands and thousands of people will have access to quality care and preventative medicine that they wouldn't have had if they were unemployed.*"	Health effects are a potentially significant issue that needs to be carefully studied and the results disclosed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	Many comments request that the EIS describe measures to control accidental releases of hazardous materials and discuss the impacts, short term and long term,that would occur when these measures fail. As one respondent states, "*The EIS should address the potential impacts of failure of the solution containment systems, methods for discovering such failures, and the degree to which impacts would be reversible.*" Specific areas of concern included catastrophic failures of the tailings storage facility, explosions at mine facilities, failures along the slurry pipeline, and accidents involving train transportation of hazardous materials. Several commenters request that a risk assessment be included in the EIS. Specifically, one commenter requests a "*risk assessment of the current tailings plan that demonstrates an understanding of the ways in which that type of tailings has failed in the past. I would also ask that there be very, very detailed contingency required of Resolution in the case of a tailings failure.*" Commenters also request that the EIS include in its risk assessment of partial and total dam failures, along with 1,000-year floods and 24-hour rain event scenarios.	Concerns about potential health effects related to the mine were very frequently expressed during the public scoping meetings and in subsequent comment submittals. This potentially significant issue needs to be carefully studied and the results disclosed in the EIS.
C	CC	To lessen risks, commenters suggest using an alternative tailings storage facility location, alternative tailings storage facility designs, secondary containment measures downstream of the tailings storage facility, and lining of the tailing slurry pipeline canals to prevent leaching of toxic chemicals.	Health effects are a potentially significant issue that needs to be carefully studied and the results disclosed in the EIS.
C	CC	Respondents ask how the existing Federal, state, and local laws and regulations would protect human health and how the Resolution Copper Mine would meet the requirements under these regulations. One commenter notes that there are sufficient existing regulations in place to ensure safe mining operations, stating, "*The United States has developed a number of regulatory agencies that oversee mine development and extraction. In accordance with federal guidelines, both the state of Arizona and Pinal County also employ regulatory agencies to direct these activities. This oversight is unparalleled worldwide, and provides for one of the safest, most environmentally sound locations for mineral extraction in the world*."	Potential health effects, as well as the regulatory framework for protecting public health, are issues that need to be carefully studied and the results disclosed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	Many comments state concerns with an increase in vehicular trips on roadways. Comments received ask that the EIS analyze traffic flows, roadway deterioration, maintenance costs, roadway improvement costs, and other costs of increased traffic on people, employers, schools, and businesses. As one respondent asks, "Will traffic patterns be impacted from people living in our city and commuting to work at the mine?" One respondent requested that the analysis include social costs and inconvenience to the public from increased traffic. Additionally, several comments request that the analysis of transportation impacts include infrastructure impacts in the United States and beyond: "The GPO is completely silent about the impact of transportation to the final destination of the concentrates for final processing. The Forest Service is required to analyze all potential impacts from the proposed project whether those impacts take place on public lands or not."	The Resolution Copper mine will certainly add to vehicular traffic in the Superior area. The effects of this increase will need to be studied and disclosed in the EIS.
C	CC	Several comments request that Resolution Copper provide transportation for mine employees to and from the mine, including for those employees traveling from the White Mountain Apache and San Carlos Apache nations: "*How is Resolution Copper going to make sure that there is a transportation plan put in place for local tribal members from San Carlos to Superior?*" Associated with these comments are requests for Resolution Copper to pay for carpooling infrastructure improvements, including improvements to park and ride facilities.	Traffic increases related to the mine, as well as potential mitigation measures, need to be carefully studied and the results disclosed in the EIS.
C	CC	With the increased traffic commenters also note safety concerns, including an increase in traffic-related incidents and concern with toxic chemical transport on roadways and by train. As one respondent asks, "*What types of chemicals, hazardous materials, explosives, gases, fuels, etc. will be transported through Superior and other traffic corridors for the operation of this mine.*" One respondent notes that the Department of Transportation is currently addressing safety concerns on U.S. Route 60: "*Another concern many of us have here in the area is the safely on the local highways with the increased commercial traffic associated with the Project. DOT has already addressed-our concerns with their ongoing road projects in Superior and between Superior and Miami.*"	The Resolution Copper mine will certainly add to vehicular traffic in the Superior area. The full spectrum of traffic effects related to the mine needs to be studied and disclosed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	Road closures, both permanent and temporary, concern respondents. Forest Road closures and alternative access routes are of concern for public access and recreation users. One respondent asks, "*When the mining operation starts, how long will the Forest Roads (FR) be closed? Which roads will be lost? Will FR650, FR172 and FR252 be closed at any time of the operation? If any of these roads are closed during the operation, how long will they be closed*?" Multiple comments propose that alternative access roads be developed: "*Please look at alternative roads and trails that can be used to bypass and get around the mine and the tailings site.*" Several comments suggest specific alternative access routes for consideration in the EIS.	The full spectrum of traffic effects related to the mine needs to be studied and disclosed in the EIS.
C	CC	Multiple comments express concern with the project's impact to transportation infrastructure, including roads, bridges, tunnels, and railroads. Comments request that the EIS further analyze these infrastructure impacts. Infrastructure comments include the following: • "*This project, as proposed, would create a serious impact to the transportation infrastructure of the region.*" • "*What impact will development and operation of the project have on the freeway and rail infrastructure of the region*?" • "*Will the plant line need to be double-tracked to accommodate this increased traffic*?" • "*The EIS must identify potential bottlenecks resulting from increased traffic, and estimate the cost for improvements including widening and enhanced traffic controls.*"	The Resolution Copper mine will certainly add to vehicular traffic in the Superior area. The full spectrum of traffic effects related to the mine needs to be studied and disclosed in the EIS.
C	CC	One specific infrastructure concern raised in multiple comments was subsidence impacts to U.S. Route 60. As one respondent asks, "*Ground subsidence is predicted to occur and is addressed in the GPO. What assurance is in place if the subsidence area is larger than predicted? What will happen if it "takes out" U.S. Route 60? Will the EIS address possibilities that RC is wrong in their study and prediction models? Will bonds be in place to re-route the highway if this occurs*?"	The Resolution Copper mine will certainly add to vehicular traffic in the Superior area. The full spectrum of traffic effects related to the mine needs to be studied and disclosed in the EIS.
C	CC	Several respondents note that the communities near the mine, where many workers will reside and commute from, are currently struggling to meet existing transportation infrastructure needs. Respondents are concerned with the additional strain that the mine will place on the transportation infrastructure by the project. As one comment states, "*Pinal County has struggled for years with efforts to build the needed transportation and other infrastructure to support the population growth in the area. Which is why Pinal County has requested that you build several miles of roadway from Skyline to H.W.Y 177, as part of your permitting process. Have you thought about employees traveling to reach the proposed location when the current roads can barely support the today's population trying to reach their current employment/homes*?"	The Resolution Copper mine will certainly add to vehicular traffic in the Superior area. The full spectrum of traffic effects related to the mine needs to be studied and disclosed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	Comments additionally request that the EIS analyze mine impacts on planned transportation infrastructure projects in the region. Planned infrastructure comments include the following: "*address the impacts of the proposed actions on existing planned transportation systems and corridors including, but not limited to existing roadway infrastructure*" and "*please analyze the I-11 corridor impacts as part of the cumulative impacts.*"	The Resolution Copper mine will certainly add to vehicular traffic in the Superior area. The full spectrum of traffic effects related to the mine needs to be studied and disclosed in the EIS.
C	CC		The issue of land conservation and preservation of natural characteristics will need to be assessed in the context of the Forest Service's mandate to provide a balance between resource development and resource conservation.
C	CC	There are several comments and concerns associated with land conservation issues. Land conservation concerns vary from land and resource preservation for future generations to mining reclamation activities. Most commenters are concerned about future generations not being able to enjoy the land. As one commenter states, "*These areas of designated beauty need to be kept pristine for their own sake but also for enjoyment, exploration, exercise, and appreciation by the public.*" Commenters also would like the San Pedro River and its riparian habitat to be protected. Respondents are concerned that the river may be dammed.	The issue of land conservation and preservation of natural characteristics will need to be assessed in the context of the Forest Service's mandate to provide a balance between resource development and resource conservation.
C	CC	Additionally, land conservation and management of the exchange parcels is another concern of the public. Commenters are concerned that the land exchange parcels provided by Resolution Copper are not sufficient, compared with the public lands exchanged to Resolution Copper. These respondents would like the EIS to consider in the alternatives development additional parcels of land with high conservation value.	The issue of land conservation and preservation of natural characteristics will need to be assessed in the context of the Forest Service's mandate to provide a balance between resource development and resource conservation.
C	CC	The long-term management of the land exchange parcels is also a concern among the respondents. One commenter "considers the exchange lands within the Appleton-Whittell Research Ranch of the National Audubon Society to be of high conservation value" and requests that land management options for these parcels be included as part of the EIS analysis. Other respondents request that the land exchange and project mitigation include specific and binding land conservation measures for the exchange parcels.	The issue of land conservation and preservation of natural characteristics will need to be assessed in the context of the Forest Service's mandate to provide a balance between resource development and resource conservation.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	The topic of public lands brought several concerns to the stakeholders of this project. Many commenters see Oak Flat and Devil's Canyon as important tourist and recreation areas that need to be maintained by the public and not sold off to a private corporation. Respondents are concerned that the project will "*negatively impact tourism, visitors to the Boyce Thompson Arboretum, and will shut down all recreation activities in the part of the Tonto National Forest currently occurring where the tailings pile is proposed.*" Many respondents are also concerned with the destruction of public forest lands for a mine that has potentially irreversible consequences.	The issue of land conservation and preservation of natural characteristics will need to be assessed in the context of the Forest Service's mandate to provide a balance between resource development and resource conservation.
C	CC	There are various comments regarding noise and vibration impacts from the proposed project. The majority of the concerns focus on the disclosure of noise impacts in the EIS, specifically the magnitude of the construction and mine operation noise impacts. Responders request that a "*noise analyses of both the facility and rail corridor should be performed*" as part of the EIS. Additionally, several comments mention wildlife species being affected by the noise and ground vibrations and ask that the EIS address these concerns. In addition to wildlife, one respondent asks, "*Will the noise and ground vibrations created by the surface operations of the copper producing processes near the town of Superior have a negative effect on the well-being of pets and livestock*?"	Noise and vibrations will be one of the issues evaluated in the EIS.
C	CC	Residents and visitors of the area "*cherish the beauty of these high desert lands*" and the "*natural beauty of the Oak Flat area.*" Commenters voice concern with the visual impact of the mine operations and impact to viewsheds around the mine area. Impacts to the visual resources include changes in the landscape due to the tailings impoundment, Oak Flat subsidence, and dust and emissions from ore processing, vehicle transportation, and equipment emissions. The visibility and contrast of the tailings facility and mine facilities are of concern during the mine construction, operation, and reclamation phases.	Impacts to visual resources from all pertinent components of the project will be analyzed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CC	Commenters are concerned that the proposed tailings storage facility would impact scenic views for Queen Valley and Superior homes, the designated scenic U.S. Route 60, visitors to Boyce Thompson Arboretum, and users along the Arizona Trail. Areas of the Arizona Trail that are mentioned specifically by commenters include Picket post Trailhead; near Barnett Camp; the ridge just north of Forest Road 293 to Whitford Canyon; near Borrow Area 5 and 6; the ridge areas between Potts and Rice Water Canyons; and high vantage points along trails in the Superstition Wilderness Area, including future trails within Superstition Foothills Preserve. Concern for visual impacts due to other areas of the Resolution Copper mining operation include views of infrastructure and subsidence at Oak Flat. As one respondent asks, "*Will viewsheds, lines of sight, and spatial relationships between geologic features that are important in Apache history and culture be adversely affected*?"	Impacts to visual resources from all pertinent components of the project will be analyzed in the EIS.
C	CC	The magnitude of light pollution from mine operations are of concern among the respondents. Specific populations impacted by light pollution that commenters are concerned about include recreational users and the elderly and homebound residents. One comment reads, "*Will elderly residents living near the north side of Superior be impacted more than others if they are homebound and subjected to visual impacts and light pollution during nighttime*?"	Impacts to visual resources from all pertinent components of the project, including nighttime lighting, will be analyzed in the EIS.
C	CC	One additional visual resource area of concern is the scenic byway of U.S. Route 60, which will be impacted by the mine. Respondents would like the EIS to discuss impacts to this scenic byway and implications on the scenic byway designation.	Impacts to visual resources from all pertinent components of the project will be analyzed in the EIS.
C	CC	The respondents would like to see visual analyses done at various locations, including those specifically mentioned in the comments, to understand what the impacts to the viewshed would be from the proposed project. The visual analysis should be done looking from each viewpoint and done looking outward from the tailings storage facility and other areas of the mine to demonstrate the impact to the surrounding landscape.	Impacts to visual resources from all pertinent components of the project will be analyzed in the EIS.
C	CG	Discuss the methodology used for the development of financial sureties	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	Include testing at the proposed tailings storage facility in the GPO	This refers to the work being conducted under the baseline environmental assessment; these actions are within the scope of analysis for the EIS. The results will be incorporated as appropriate into the groundwater and tailings analysis.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Update the geochemical evaluation to current ADEQ standards	Suggests a specific methodology to be applied to geochemical evaluation.
C	CG	Discuss the potential for "air blast" and impacts to employee health and safety	Mine worker health and safety is governed by Mine Health and Safety Administration (MSHA) regulations; potential for air blast may be disclosed in EIS.
C	CG	Comments regarding employee safety associated with subsidence	Mine worker health and safety is governed by MSHA regulations; potential for risk associated with subsidence may be disclosed in EIS.
C	CG	Subsidence zone issues in the comments include: Public costs	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	Subsidence zone issues in the comments include: Long-term management	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	Subsidence zone issues in the comments include: Land reclamation	Suggests specific question to be considered during soils/reclamation analysis.
C	CG	Subsidence zone issues in the comments include: Size of the subsidence zone	Suggests specific indicator/metric to consider in subsidence analysis.
C	CG	Subsidence zone issues in the comments include: Geologic stability of the site	Suggests specific indicator/metric to consider in subsidence analysis.
C	CG	MARRCO Corridor issues in the comments include: Correlation between the project and the existing MARRCO corridor special use permit	Previous permitting is not pertinent to the current decision; however, clarification of changes to or replacement of past authorizations can be disclosed in Chapters 1 and 2.
C	CG	Resolution Copper and other mine's historic groundwater pumping impacts	Past mining and groundwater withdrawal is out of scope for the current project; however, this information should be included in the Affected Environment for water resources.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Comments associated with groundwater pumping for mine operations: Availability of groundwater to support the proposed mine operations	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Comments associated with groundwater pumping for mine operations: Plans for groundwater recharge	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Comments associated with groundwater pumping for mine operations: Water rights	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Comments associated with groundwater pumping for mine operations: Geologic faulting	Suggests specific question to be considered during groundwater analysis.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Comments associated with groundwater pumping for mine operations: Prolonged drought and climate change cumulative impacts	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Comments associated with pipelines: Water usage	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Comments associated with pipelines: Target shooting of pipelines	Suggests specific question to be considered during public health and safety analysis, and others.
		Comments associated with mineral processing: Water usage	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Comments associated with tailings facility: Historical failures of the proposed tailings storage facility design	The past history of tailings failures is not within the scope of the analysis of this proposal; however, this is also a suggestion for a specific methodology to be used to assess impacts from tailings on public health and safety (use of analog sites).
C	CG	Comments associated with tailings facility: Complete a Tailings Risk Management Plan for each tailings site	Suggests specific methodology to be considered during tailings impact analysis or alternatives development.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Comments associated with tailings facility: Mine reclamation and liability	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	Comments associated with tailings facility: Geologic stability of tailings storage facility location, including earthquake risk	Suggests specific methodology to be considered during tailings impact analysis or alternatives development.
C	CG	Comments associated with tailings facility: Water usage	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Comments associated with tailings facility: Water infiltration and hydrogeological connectivity	Suggests specific methodology to be considered during tailings impact analysis.
C	CG	Comments associated with tailings facility: Separation of two tailings streams	The separation of cleaner/scavenger tailings to be described and analyzed in the EIS; also may be of consideration for the alternatives analysis of tailings.
C	CG	Comments associated with powerlines: Public costs	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	Comments associated with reclamation: feasibility of mine reclamation, given the proposed mining methods and past examples of failed mine reclamation projects.	Will be considered during soils/reclamation analysis.
C	CG	Comments associated with reclamation: financial responsibility of mine reclamation, both for Resolution Copper and the public	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Comments associated with reclamation: Means of assuring that all maintenance required for reclaimed areas would continue after operations cease or while operations are suspended."	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	"The EIS should describe all necessary long-term monitoring and management of the mine, as well as the enforcement mechanisms by either the Forest Service or other regulators should the mine operator fail to properly follow the long-term post-closure plan. The EIS should describe the time frame over which long term management activities would occur or if they might be necessary into perpetuity."	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	"A financial assurance estimate that turns out to be too low can put the public/taxpayer at risk for tens or hundreds of millions of dollars. All of the assumptions and calculations for these amounts should be disclosed during the EIS process so that the public can comment on their viability."	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	To address the public's financial reclamation concerns, comments request that "substantial bonds should be put forward to assure compliance" and that the financial sureties evolve over time as mine conditions change.	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	One commenter also requests that the EIS disclose the long-term financial responsibilities should the mine and/or lands be sold to another company, asking, "Can the EIS document please disclose or reference any transfer of ownership provisions for the final approved mine plan of operations including reclamation requirements if the mine is sold to another company in the future?"	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	EIS analysis consider the "many examples of mines in Arizona and document how well or how poorly 'reclaimed' mines of all types are doing in Arizona."	Suggests a specific methodology (analog sites) to be considered in soils/reclamation analysis.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Additionally, respondents note that the Mining Law of 1872 "requires the mine operator to 'restore the surface resources and minimize adverse environmental impacts.'" Respondents are concerned that reclamation of the subsidence zone will not be in compliance with this law.	Forest Service policy is that detailed bonding estimates are not included in the EIS; this is also a logistical reality, since bonding estimates are made on the final GPO, which is not available until after the final EIS/ROD. However, there will be a general discussion of the Forest Service bonding process in the EIS, and there will also be a general discussion of the long-term management of the mine, which includes the process that takes place in the event the Forest Service must take over management.
C	CG	Tailings storage facility–specific reclamation issues include plant cover	Suggests a specific indicator/metric to be considered in soils/reclamation analysis.
C	CG	Respondents would like the EIS to "fully describe the long-term post-closure management of tailings seepage, including corrective action management strategies."	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO. Also should be disclosed in EIS.
C	CG	Impacts to the area's springs as stated in the following comment: "A thorough search for evidence of springs in the area should be conducted, and any extant springs that are found should be formally surveyed, including the documentation of rare and endemic species. The Springs Stewardship Institute database shows approximately 20 springs within 5 miles of the Oak Flat area, 130 within 10 miles, and 408 within 20 miles. It is quite possible that the effects of groundwater pumping/dewatering will reach far beyond the immediate land exchange/subsidence area, depending on hydrology. A thorough, independent analysis should be conducted with regard to the hydrology of the area, how it fits within the larger region, and impacts to regional spring resources."	Suggests a specific methodology to be considered in springs impact analysis.
C	CG	Impacts to surface waters and the relationship with the area's aquifers as stated in the following comment: "Potential hydraulic connections between the aquifer and the springs and intermittent and perennial stream reaches of Devil's Canyon must be carefully analyzed in the EIS, including potential impacts to the Apache Leap Tuff aquifer, which supports the perennial reaches in middle and lower Devils Canyon (Surface Water Baseline Report, Montgomery & Assoc., May 16, 2013). The Forest Service should continue to develop baseline water quality and quantity data in these watersheds during the development of the Resolution EIS and make such continued monitoring a condition of the final Mine Plan of Operations."	To be considered in both groundwater and surface water analyses.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Analysis of groundwater depletion from mining operation dewatering and groundwater pumping activities, in particular the impact of dewatering on the Apache Leap Tuff Aquifer and Shallow Groundwater System. A commenter states, "Mining will dewater bedrock as much as 7000 feet below ground surface. The GPO does not actually provide accurate dewatering estimates. Groundwater drawdown will extend for many miles from the proposed mine and continue even after the mine is closed. The GPO does not present adequate hydrogeologic characterization to indicate that segmentation would limit or prevent the expansion of dewatering. Dewatering at depth would impact the water table in shallow aquifers by drawing groundwater from the surface to deep bedrock. The GPO does not present adequate hydrogeologic characterization of any geologic formations between the shallow aquifers and deep bedrock to justify claims of no or little effect. Characterization should include deep wells with multiport sampling ability to assess differing groundwater levels, vertical gradients, and to provide information on pumping yield at differing levels. The deep wells should also characterize the profile of geochemical information. Pumping tests of deep bedrock fractures with monitoring of all other multiport wells are necessary to understand and predict dewatering of such a deep system."	To be considered in both groundwater and surface water analyses.
C	CG	Accurate monitoring of groundwater impacts. A respondent states, "Provide ongoing monitoring and measurements of aquifer depth for any areas that may be affected by mining, through the post-closure period."	To be considered in groundwater analysis. Also potential addition for mitigation and monitoring.
C	CG	Mitigating impacts of groundwater pumping. A commenter requests that "sufficient mitigation be developed to address impacts of the 30 new groundwater wells."	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Commenters requested that the EIS consider the preparation and relationship between the Total Maximum Daily Load (TMDL) process and the EIS process: "The DEIS needs to discuss a timeline for development of a Total Maximum Daily Load for Queen Creek. The DEIS should also discuss the situation with storm water and mine water discharges into Queen Creek. While it appears that discharges have not yet actually occurred, the fact that discharges are anticipated should necessitate the issuance of proper discharge and APP permits from ADEQ, and should explain how such discharges could be allowed without implementation of a TMDL and without RCC participation in a compliance schedule to help clean up the creek."	TMDL is a state regulatory function that is beyond the scope of analysis for this project. However, the TMDL on Queen Creek would be described as part of the regulatory overview, and could factor into an indicator/metric for the surface water quality analysis.
C	CG	"It is critical to know the amount and composition of the 'waste' water that the mine will generate during development and operations to insure there will not be a negative impact to the underlying aquifer, surface water supplies, air quality and public health."	For consideration in water quality analysis.
C	CG	The GPO describes using the groundwater from mine dewatering for mixing with tailings. This water is contaminated and the EIS should evaluate the appropriateness of Resolution's plan to simply mix this water with tailings and dispose of it without treatment. This would seem to be a violation of federal and state water quality rules as well as rules governing industrial discharges.	State water quality regulations would determine the appropriateness of using the water. Water quality for dewatering water as well as processing water and tailings slurry would be disclosed in the analysis.
C	CG	Comments also question the practice of "two types of tailings" and the efficacy of this strategy to reduce AMD.	The separation of cleaner/scavenger tailings to be described and analyzed in the EIS; also may be of consideration for the alternatives analysis of tailings.
C	CG	One comment states, "Already, Resolution Copper's dewatering of underground mines and pumping of water has lowered Queen Valley's groundwater levels and has put our wells and water supply at risk."	Past mining and groundwater withdrawal is out of scope for the current project; however, this information should be included in the Affected Environment for water resources.
C	CG	Water rights is an additional concern to property owners in the area. One commenter states, "The question of water rights is also a serious matter that does not appear to be completely resolved. I have not seen anything indicating that sufficient water is available. I am among many, including my neighbors, who have grave concerns, especially in how this project could impact our water resources."	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Given the prolonged drought and future climate change impacts on water resources, respondents would like to see water conserved for public drinking water supplies and ecological uses rather than for the proposed mine. As stated by one respondent, "We live in a desert. Which means that water is precious and scarce. The more water we pollute with mines like the one proposed, the less it will be available to support people, wildlife, and agriculture within the state."	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Another respondent requests that the EIS analyze other beneficial uses of the water, stating, "The amount and availability of water required for mine operations on a long-term basis should be described as to its sufficiency and related effects on regional water supplies that could be applied to other beneficial uses."	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	The impact of the proposed project on water availability for future growth is another concern in the comments: "With demands on Colorado River water in excess of current water supply, will there be enough water to meet the demands of Resolution Copper as well as sustain a population growth in the local communities?"	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Commenters are additionally concerned that the proposed water demand estimates in the GPO do not adequately take into account prolonged drought, climate change, and water allocations for Central Arizona Project water. Respondents would like the EIS to "clearly state any shortages in water resources and how much additional water will be needed to complete mine life of mine operations. The EIS should discuss the potential water sources that will be explored to make up any such deficit."	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Water rights are another water quantity concern in the comments. Respondents would like the EIS to verify Resolution Copper's water rights as it relates to their anticipated water demand needs. Asked by one respondent, "Please determine the amount of water that will be required for development and operations of the mine as well as a demonstration of a sustainable, legal water right to a sufficient supply of water."	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Respondents would like the GPO to be revised to include this information and for the EIS to further analyze the availability of CAP banked credits. Another CAP comment reads, "RCM will be drawing from multiple water sources, including Central Arizona Project (CAP) water. This consumption affects all users of CAP water source, including the farming community where I live in Marana, Pima County, which is dependent on CAP water for crop irrigation. Marana is 90 miles away from the proposed RCM mining project, yet it will be negatively impacted by this mine. The GPO indicates that the mine will be heavily reliant (62%) on banked CAP water. How is it possible that RCM has been allowed to purchase and bank CAP water for this project, prior to the land exchange?"	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Alternative water sources, mine designs, and mitigation measures to reduce water consumption are provided in the comments. A few of these suggestions include "additional purchases of existing LTSC and the use of reclaimed water from outside sources, such as effluent from municipal wastewater treatment plants or treated brackish groundwater for other appropriate locations", "a design that would remove the use of a slurry system to transport the tailings and copper concentrate", and "dry stacked tailings."	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	"What is the current air quality of the area and how will the mine and tailings pile affect it?"	To be considered in air quality analysis.
C	CG	Several comments request that "a detailed analysis of all construction and operations impacts, and all attached mitigation measures, on Arizona environment, specifically including: Wind born particulate pollution impacts." Respondents would like the analysis to include both short- and long-term impacts. Communities to be included within an analysis area are named, including central Arizona, Queen Valley, Green Valley, the greater Phoenix area, Superior, Superstition Vistas, San Tan Valley, and southern Arizona, including Tucson."	To be considered in air quality analysis.
C	CG	One respondent requests that the EIS "identify all Class I PSD areas located within 100 kilometers of the proposed project site.	To be considered in air quality analysis.
C	CG	ADEQ/Geochemical evaluation was last performed by Resolution Copper to ADEQ 2004 regulations. However, those regulations have been revised at least once in the 2009 and/or 2011 timeframe. Therefore, results presented by Resolution Copper are outdated and should be updated to present day standards, requirements, and should be fully in compliance with the latest edition of the previously referenced documents.	Suggestion for specific methodology to be considered in geochemical analysis.
C	CG	Prevailing winds. Commenters note that the prevailing winds near Queen Valley place this community in danger because of the location of the tailings facility. A few respondents wanted to know the wind velocities and directions of prevailing winds.	To be considered in air quality analysis.
C	CG	Comments request that the EIS consider how climate change would impact the project and affected environment	Would be considered as part of Affected Environment.
C	CG	One respondent notes that in light of climate change, the Oak Flat area is an important high-elevation refuge for wildlife and plants.	Would be considered as part of Affected Environment.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	"The EIS needs to account for the possible continuation of drought conditions over the lifetime of the mine, along with projected growth of demand by others users in the Colorado River basin."	As part of the proposed action, the impacts from use of water by the mine will be analyzed, as clearly stated in Issue 6A. With respect to analysis of alternative water supplies, the Forest Service may not have the ability to require use of an alternative mine water supply, as use of groundwater is regulated by the state, and use of CAP water is subject to a separate regulatory process; decisions on the analysis of alternative water supplies have yet to be made by the Forest Service. With respect to the analysis of sustainability of water supplies in light of drought or climate change, this represents a specific analysis detail that has yet to be determined by the Forest Service. Aspects of the mine water supply may also be further evaluated and incorporated as mitigation components.
C	CG	Additionally, respondents voice concern that climate change would limit the ability of the environment to recover from disturbances.	Would be considered as part of Affected Environment.
C	CG	The ecological value of the soils at the mine site is also of concern to respondents. One comment requests, "The soil productivity and capability values of the project area in comparison to the exchange lands should be considered. And a value should be placed on the soil productivity and capability which would be lost or modified or changed in each EIS alternative."	Suggestion of specific indicator/metric for soils analysis.
C	CG	Comments request that the EIS further analyze the subsidence predictions in the GPO and that the methodology and results be made available for public scrutiny.	Suggestion of specific methodology for consideration in subsidence analysis.
C	CG	Comments also request that the EIS analyze the surrounding geology in the subsidence area to look for faults or other significant geologic features that may impact subsidence predictions	Suggestion of specific methodology for consideration in subsidence analysis.
C	CG	"What is the expected impact, surface features or disturbance, on surface above the mining operation in the area of expected subsidence?"	Suggestion of specific methodology for consideration in subsidence analysis.
C	CG	"What is the range of expected subsidence? A contour map indicating the change in surface elevation, maximum range calculated that would be caused by mining activity at the end of mining operations."	Suggestion of specific methodology for consideration in subsidence analysis.
C	CG	"RCM's map appears to show that subsidence is less than 2000 ft. from the Apache Leap Escarpment so how will ground movement be controlled?"	For consideration in subsidence analysis.
C	CG	"How is Superior to survive being so close to subsidence and ground movement?"	For consideration in subsidence analysis.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Several commenters are concerned with the GPO's analysis of earthquake risk. They request that the EIS include an independent analysis of risk, explanation of methodologies chosen be included in the EIS, and that the reports be made available for public review. Specifically, one commenter recommends the following: • "If an earthquake less than the Maximum Credible Earthquake (1- in-10,000-year event) is used, an explanation is needed to explain to the public the reason for assuming a higher level of risk than recommended by experts. • As with the choice of the maximum design earthquake, the choice of less- conservative predictions for magnitude of ground accelerations must be justified by the public officials responsible for protecting the public."	Suggestion for specific methodology for consideration in tailings and geotechnical analysis.
C	CG	Another area of hydrogeological concern is geologic faulting in the mine area. Commenters voice concerns that faulting will result in water infiltration to mine shafts, as well as water crossing fault lines and adversely impacting water quality and quantity.	For consideration in groundwater analysis.
C	CG	One respondent states that they "have concerns about geologic faulting that may adversely impact water quality and quantity in Devils Canyon."	For consideration in groundwater analysis.
C	CG	"Geotechnical studies must be conducted to estimate the likelihood of seismic activity as well as a catastrophic tailings dam breach or failure at that site."	Suggestion for specific methodology for consideration in tailings and geotechnical analysis.
C	CG	"Demonstrate the safety and effectiveness of subsurface geology to contain tailings discharges."	Suggestion for specific methodology for consideration in tailings and geotechnical analysis.
C	CG	"Will any test of vibration or seismic effects be carried out for the tailings for various stages of soil moisture? (Will liquefaction occur?)"	Suggestion for specific methodology for consideration in tailings and geotechnical analysis.
C	CG	Damage to the fault along the Apache Leap resulting in the area falling on the town of Superior below;	For consideration in subsidence analysis.
C	CG	The GPO "neglects and ignores cultural resources not defined as historic properties"	Regardless of the GPO, these resources will be fully and properly analyzed in the EIS.
C	CG	The GPO neglects "the Archaeological Resources Protection Act, American Indian Religious Freedom Act, the E.O. 13007 on Sacred Sites Protection, etc."	Regardless of the GPO, these resources will be fully and properly analyzed in the EIS.
C	CG	Correct the GPO to reflect the role of the Arizona State Historic Preservation Office in the management of cultural resources	Regardless of the GPO, these resources will be fully and properly analyzed in the EIS.
C	CG	The GPO "incorrectly and without legal or factual basis, asserts" that a Memorandum of Agreement, signed by all consulting parties, "will stipulate all conditions of cultural resources treatment, including the incorporation of the Historic Properties Treatment Plan and the appropriate final curation of all cultural resources-related reports, data, and materials"	Regardless of the GPO, these resources will be fully and properly analyzed in the EIS.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	CG	Address the GPO's identification of springs, compared with previous reports	Regardless of the GPO, these resources will be fully and properly analyzed in the EIS. The springs analysis in the EIS will use whatever data sources are credible and pertinent.
C	CG	Comments express the need for EIS analysis of mine operation alternatives and mitigation measures.	This concept will be considered by the Forest Service and disclosed in the EIS.
C	CG	Comments associated with powerlines: Environmental impacts of increased power generation, including greenhouse gas emissions	Further research will be conducted; at this time, it appears that determining the nature of energy production for use by the mine is speculative.
C	CG	An additional water demand concern noted by a few commenters is water usage in power generation. "RCM's power demands will likely be in the hundreds of megawatts. Thermoelectric power generation in the US, on average, accounts for roughly 40% of the nation's total consumptive water use. RCM's power generation – if using grid power or on-site solar thermal generation (especially wet cooled solar thermal generation) – will therefore be a major element of the mine's overall water consumption matrix, the estimations for which must be included in the DEIS in addition to direct water consumption from mining operations."	Further research will be conducted; at this time, it appears that determining the nature of energy production for use by the mine is speculative.
C	CG	One comment notes that the proposed project would require additional power sources and asks "how this increased power generation and usage would impact Pinal County's total energy use and its ability to meet current air pollution and emission standards should also be studied. Comments request that EIS include the direct, indirect, and cumulative air quality impacts that would result from the proposed project's power generation needs.	Further research will be conducted; at this time, it appears that determining the nature of energy production for use by the mine is speculative.
C	TC	The main reason for supporting the mining project is economic benefit. Supporters state that mining operations will provide long-term employment opportunities to the area of Superior. As one comment reads, "Important lands will become available to the public for conservation and the mine's operations will provide jobs, personal income, and increased growth for the state and national economy."	Comment brings up analysis suggestions: conservation value of acquired lands; and socioeconomic issues (jobs, personal income, effects on state/national economy).
C	TC	Education is another factor in public support for the project. Increased profits and taxes will provide schools with much-needed resources. The added income will help invest in sustainable infrastructure to the town of Superior and surrounding communities	Economic benefits to local schools and local communities.
C	TC	Additionally, Superior is historically a mining town, and that is instilled in its citizens and their culture. Mining culture has been a part of this community for decades, and many commenters would like to see that culture continue.	Effect on local culture and customs.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	TC	Commenters are concerned with the Forest Service decision to allow a separate hydrological and geotechnical environmental assessment of the tailing storage facility. As one comment states, "These are connected actions and should be considered together in the same environmental impact statement. There can be no mine without a tailings site and there would be no tailings site absent the Resolution mine project itself."	This comment is focused on a Forest Service decision to address preliminary data collection in the area of the proposed tailings facility in a separate environmental assessment prior to the preparation of the Resolution Copper Project and Land Exchange EIS. A couple things to note: (1) NEPA and Council on Environmental Quality (CEQ) regulations allow an agency to determine the scope of a specific project to be reviewed under NEPA; (2) The information derived from this data collection will be used in the analysis of environmental impacts for the EIS.
C	TC	The TNF's obligations under the FLPMA regulations and the TNF Land and Resource Management Plan are mentioned in several comments. Specific to FLPMA, respondents request that decisions regarding the land exchange appraisal follow all applicable FLPMA regulations.	While the Federal Land Policy and Management Act (FLPMA) and the NDAA address how the land exchange appraisals will be conducted, information regarding the appraisals will be included in the impact analysis in the EIS.
C	TC	Additionally, one commenter asks the EIS to explain the following: "How will congressional strategic mineral legislation be considered in the decision making process pertaining to this project?"	If congressional strategic mineral legislation is pertinent to the decision to be made in the EIS, it will be addressed in the impact analysis.
C	TC	SOCIOECONOMICS • Analyze the economic losses resulting from the no action alternative • Conduct an independent economic study of alternative mining methods • Invest corporate profits in conservation-oriented mining methods • Analyze non-mining alternatives for improving economic conditions of the area • Sell the copper mineral resource through the government bid process	Suggestion for specific methodology for consideration in socioeconomic analysis.
C	TC	Commenters state that more research needs to be considered for the affected resources in the EIS analysis. As one commenter requests, "At a minimum, the Draft EIS much fully analyze the current baseline conditions for all potentially affected resources. These include, but are not limited to: (1) surface and groundwater quantity, quality, flow, and hydrological conditions; (2) wildlife; (3) recreation and public uses; (4) air quality; (5) vegetation/plants; and (6) cultural/religious/historical values. This analysis should include the impacts on private, state trust lands, and all public lands in the region."	CEQ regulations and Forest Service directives provide direction on effects analysis. However, this list of resource topics will be considered in the EIS process.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	TC	Respondents express concern about the lack of accurate data and testing procedures for prediction of AMD that could occur in the mine operation. Commenters suggest specific alternate data collection and testing methods that would provide more accurate information for analysis in the EIS. One commenter states, "The EIS process is grounded in having accurate data. The EPA and SWCA Consultants are unable to effectively review the pollution risk and overall environmental risk of the Resolution Project if the AMD prediction tests are insufficient. Overall, there are three potential issues associated with Resolution's choice of procedure for AMD prediction testing: I) The industry-recommended procedure is not up-to-date with published research 2) New research has come out since Resolution started Baseline Testing in 2008 3) The guideline is loosely defined such that Resolution is not mandated to use more up-to-date procedures. Research into the modernity of the baseline geochemical testing revealed that Resolution's procedure is not in line with current scientific and industry procedures."	The specific methodology for use in predictions of geochemical impacts in the EIS will be developed independently using the experts on the NEPA team and Forest Service ID team.
C	TC	Development of cross section maps of the area's groundwater is also suggested in the comments. The EIS analysis should include historic and present groundwater levels, and compare them with future predictions. Commenters also recommend that an explanation of the methodology used in the modeling parameters for groundwater levels be included in the EIS, and that the modeling include additional surface waters present.	Suggestion for specific methodology for consideration in groundwater analysis.
C	TC	Commenters suggest using different test methodologies because there are inconsistencies in the GPO analysis. Inconsistencies include a lack of prediction for future mining projects progress, obtaining data from inaccurate and out-of-date testing methods, and a bias by Resolution Copper when interpreting its own data.	The EIS analysis will be conducted independently of any analysis presented in the GPO.
C	TC	Recommendations were made to complete more independent fauna and flora surveys to add to the EIS analysis of biological resources. Commenters suggest assessing the project's risks to wildlife populations and examining alternatives to save populations of affected species.	Suggestion for specific methodology for consideration in biology analysis.
C	TC	Moreover, archaeological surveys were conducted over 10 years ago and need to be reevaluated, according to commenters. Resurveying various areas may be necessary to make sure the data are up to date. Commenters suggest the Forest Service "assess and quantify the loss of sacred sites at Oak Flat using the best archaeological and anecdotal data available."	Suggestion for specific methodology for consideration in cultural analysis.
C	TC	Commenters make suggestions regarding the economics of the overall project. An economic feasibility comparison analysis should be conducted by a nonaffiliated entity. Respondents also suggest "an analysis of associated costs for the additional burden of state and federal responsibilities for land and water management, oversight, and possible future mitigation."	Suggestion for specific methodology for consideration in socioeconomic analysis.

Table B-1. List of Potential Analyses or Analysis Measurement Indicators to Consider in the EIS. (Continued)

Source	Reviewer	Comment	Notes
C	TC	Some respondents are supportive of the land exchange portion of the project if the new lands acquired are allowed to be grazed, stating that the exchange "will maintain or increase the number and quality' of rangelands available to support cattle grazing." In contrast, another commenter states that the lands near the San Pedro River have already "been severely overgrazed by cattle."	Conditions and potential future management of acquired lands will be addressed in the EIS.
C	TC	Commenters expressed general concerns about the project's impacts to Description of the positive ecological impacts	Difficult to decipher this comment. Assume it meant to describe the positive ecological impacts that result from the mine. That would be a disclosure resulting from impact analysis.
C	TC	The impact of other laws and regulations on the EIS development process and the decision-making process are of interest to the respondents. Comments request that the EIS "undertake a fair and comprehensive 'hard look' at all of the direct, indirect and cumulative impacts stemming from the land exchange and the mine project" under all applicable laws and regulations. Additionally, comments request that the EIS detail the effects of the project's implementation on Forest Service obligations under these laws. Specific laws, regulations, and plans mentioned in the comments include the following: • Federal, General Resources: Mining Law of 1872, Endangered Species Act, Migratory Bird Treaty Act and Executive Order (EO) 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds," Clean Water Act, Clean Air Act, Resource Conservation and Recovery Act, EO 13653, "Preparing the United States for the Impacts of Climate Change," and Public Land Order 1229 for the Oak Flat Withdrawal Area • Federal, Cultural Resources: NHPA, AIRFA, Native American Graves Protection and Repatriation Act (NAGPRA), EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," EO 13007, "Indian Sacred Sites," and various treaties with Native American tribes • Federal, Forest Service Specific: Federal Land Policy and Management Act (FLPMA), TNF Land and Resource Management Plan, and the Apache Leap Special Management Area • State, General Resources: Arizona mining laws and regulations, Arizona Department of Environmental Quality (ADEQ) water quality standards, and Arizona's State Wildlife Action Plan, including Species of Greatest Conservation Need (SGCN) and Species of Economic and Recreational Importance	Analysis of impacts will determine whether these and other applicable laws would be met.

This page intentionally left blank.

APPENDIX C

List of Potential Alternatives or Alternative Components to Consider in the EIS

This list includes content derived from scoping comments that identified potential alternatives or components to alternatives that commenters suggest should be considered in the EIS. The concepts brought forward in this list will be used as one source of information to be considered during the alternatives development process. The sources noted include the following: (a) comments stated during public meetings; (b) comments developed through internal scoping; and (c) public comment submittals received during the scoping period.

Table C-1. List of Potential Alternatives or Alternative Components to Consider in the EIS

Source	Reviewer	Comment	Notes
A	CG	Will the Forest Service require a liner under the tailings facility?	This is a valid alternative or alternative component to consider.
A	CG	What will the Forest Service do if the baseline characterization shows that the proposed tailings location is unsuitable? Will Resolution Copper have to find another location?	Tailings locations is a valid alternative or alternative component.
A	CG	Is there something different that can be done with the tailings? For example, what about placing the tailings back underground at the mine site?	Alternative tailings handling is a valid alternative or alternative component.
B	CG	How is climate change affecting the design of the proposed action and alternatives? Specifically, how are the surface water and groundwater resources expected to change, and what design options would be employed to address those changes?	May factor into alternatives discussion or mitigation discussion.
B	CG	Should the tailings embankment be constructed to the same level of quality and engineering as a water storage reservoir of similar size?	Suggests a specific methodology assessing tailings alternatives.
B	CG	What would be the effects of managing the high-pyrite cleaner tailings in the same facility as the scavenger tailings? Should the cleaner tailings be managed in a geomembrane-lined facility?	Suggests a specific methodology assessing tailings alternatives.
B	CG	Use alternatives that avoid, minimize and mitigate impacts to all wildlife and their habitats, including aquatic species, through facility design and management strategies (e.g., wildlife fencing and non-lethal harassment) and alternative locations for mine facilities and operations.	May factor into alternatives discussion or mitigation discussion.
B	TC	The following alternatives should be considered, potentially using the multiple accounts analysis methodology as appropriate: ◦ Lined tailings facility for all tailings ◦ Separate management of cleaner tailings, including in a lined facility ◦ Centerline or downstream constructed tailings dam ◦ Alternative tailings disposal sites ◦ Alternative disposal technologies ◦ Use of dry-stack tailings, as proposed for the Rosemont Copper Mine	Alternative Tailings Management.
B	TC	Alternative reclamation methods should be considered, potentially including: ◦ Geomorphic reclamation concepts (i.e., landforming) that better mimic the natural environment ◦ Stormwater and reclamation designs for the tailings storage facility that minimize both the risk and the long-term maintenance burden on the Forest Service	Alternative Reclamation Techniques.

Table C-1. List of Potential Alternatives or Alternative Components to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
B	TC	Alternative mining methods that would reduce subsidence effects should be considered	Alternative Mining Methods.
B	TC	Alternative reclamation techniques, such as soil cover, type/methods of planting or seeding, soil salvage and storage, stormwater mitigation, earthwork, weed management, soil additives (e.g., mulch, biomass, or fertilizer), etc., should be considered if they would increase the likelihood of success	Alternative Reclamation Techniques.
B	TC	What contingency plans would be in place if subsidence does not occur as predicted or modeled, and could any actions be taken at that time to halt subsidence effects once they start?	Contingency planning is akin to adaptive management, and may be considered in alternative design. Note the direction in Forest Service Manual 1909.15 regarding adaptive management; also be aware of CEQ direction on incomplete or unavailable information.
C	TC	The lack of transparency between Resolution Copper and the community brings opposition from commenters. Commenters would like to see more public service announcements or information regarding the project. They are concerned about the location of the tailings piles due to lack of information on the proposed project. Commenters want "true and accurate information."	Alternative Location of Tailings Facilities. Note that the proponent's relationship with the community and the use of media is not within the scope of the project.
C	TC	Another commenter provides a preliminary list of topic areas to include in the EIS analysis, including "project purpose and need, alternatives and mitigation, water resources, geochemistry, air quality, climate change, vegetation and wildlife, mine reclamation, post-closure management, and cumulative impacts, among others."	Mine reclamation and post-closure management may be addressed through alternative features. Note this comment also addressed under Significant Issues.
C	TC	With regard to the proposed power facilities, it is not clear to the public how these facilities will be integrated into the EIS. Commenters note that the GPO devotes a section to the "provision of power for the project," but the Forest Service has yet to detail the decisions to be made regarding these associated power facilities.	The power facilities constructed for the project are connected actions that will be included in the alternatives and addressed in the analysis.
C	TC	Commenters also note that the land exchange legislation recognized the proposed mine's connected actions, and several respondents quote the legislation: "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 NDAA directs that the land exchange and the mine be addressed in the same EIS. The list of actions listed will be included in the proposed action as well as alternatives.
C	TC	Respondents also request that the EIS "consider amendments to the Tonto National Forest Land Resource Management Plan in the scope of decision" and explain the requirements for specific project elements to obtain special use permits and rights-of-way for use of public lands.	An amendment to the forest plan will be included in the proposed action and other applicable alternatives.

Table C-1. List of Potential Alternatives or Alternative Components to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	TC	DECISION-MAKING PROCESS • Invest in solar instead	Likely not within the jurisdiction of the Forest Service.
C	TC	LAND EXCHANGE • Limit mine operations to private lands and existing rights-of-way	Alternative tailings locations.
C	TC	MINING METHODOLOGY • Use traditional mining methods, including less mechanized forms of mining • Investigate alternatives that would result in minimal surface disturbance	Alternative mining methods.
C	TC	ALTERNATIVE COPPER SOURCES • Recycle used copper • Recycle materials (including electronics) and waste for copper • Use carbon nanotubes and other non-copper alternatives • Increase production at existing copper mines • Melt down pennies for copper	Likely not within the jurisdiction of the Forest Service.
C	TC	TAILINGS STORAGE FACILITY • Consider alternatives to the aqueous tailing design, including filter/dry stack tailings • Use tailings as backfill at the mine site • Use alternative methods to reduce the volume of tailings produced • Include underdrains to desaturate tailings at the tailings storage facility impoundment • Construct the tailings storage facility downstream • Evaluate “filtered” and “paste” tailings storage facility designs • Line the tailings storage facility and potentially acid-generating material storage impoundments • Investigate alternative, long-lasting liner materials • Use alternative disposal methods, including co-disposal and mill processing for the intermediate and development waste rock • Use tailings in road construction • Use alternative methods of toxin removal and recovery of additional rare metals and minerals from the tailings	Alternative tailings methods.
C	TC	TAILINGS STORAGE FACILITY LOCATION • Investigate alternative tailings storage facility locations, including ◦ “Arizona State Trust Land parcel in Superstition Vistas” ◦ “BLM and State land at the base of the mountains just West of Gonzales Pass and South of US Highway 60” • Transport mine tailings by rail to a safer alternative tailings storage facility location • Use existing and future mine pits for disposal • Use private land for disposal • Use brownfield site for disposal • Place tailings back underground in the mine area	Alternative tailings facility locations.
C	TC	WEST PLANT SITE • Use the property at the West Plant Site for the mine and rebuild the railroad from the Magma Junction to Superior	Alternative mining methods.

Table C-1. List of Potential Alternatives or Alternative Components to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	TC	SUBSIDENCE ZONE/OAK FLAT • Investigate alternative mining methods, including cut and fill • Investigate the feasibility of backfilling the subsidence zone with tailings • Evaluate the feasibility of reclamation of the subsidence zone • Find an alternative that would not result in a loss of climbing access	Alternative mining methods.
C	TC	PIPELINE • Use subsurface pipeline construction • Include forms of pipeline protection from acts of vandalism • Use alternatives for containing pipeline spills	Alternative mining methods.
C	TC	MARRCO CORRIDOR • Investigate alternatives to the MARRCO corridor	Alternative mining methods.
C	TC	ENERGY SOURCES • Use alternative and renewable energy sources, including on-site power generation, solar thermal power generation, and hybrid heavy machinery	Alternative energy sources.
C	TC	MINE RECLAMATION • Employ “Holistic Resource Management” in mine reclamation	Alternative reclamation techniques.
C	TC	CULTURAL RESOURCES • Practice total avoidance of historic properties and cultural resources	Alternative mining methods.
C	TC	RECREATION AND PUBLIC ACCESS • Develop alternative public access and recreation roads to replace closed roads and to bypass the mine and trailing sites ◦ Specific road access routes are proposed for Apache Leap, Upper Devil’s Canyon, Lower Devil’s Canyon, Lower Devil’s Canyon to Hackberry Creek, and Northern Devil’s Canyon • Develop alternative routes for the Arizona Trail • Develop alternatives for replacement of the Oak Flat campground • Use alternatives that would result in fewer impacts to climbing resources	Alternative mining methods. Alternative tailings locations.
C	TC	PUBLIC HEALTH AND SAFETY • Investigate alternative tailings storage facility designs and locations to minimize AMD contamination risks and catastrophic tailings storage facility dam failure risks • Use alternative mining methods to reduce risks to employee health and safety	Alternative mining methods. Alternative tailings locations.

Table C-1. List of Potential Alternatives or Alternative Components to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	TC	WATER RESOURCES • Use alternative water supply sources, including purchase of long-term storage credits, reclaimed water, and treated brackish groundwater • Use alternative low-water usage mine designs, including eliminating the pipeline slurry and using dry stack tailings storage • Obtain water from outside sources or construct a desalination plant to use ocean water • Develop aquifer recharge alternatives • Treat mine wastewater for local discharge at the mine site (subsidence zone) • Use an alternative that will not require wastewater and runoff treatment in perpetuity; specifically, the mine would achieve neutral drainage chemistry within 10 years of cessation of mineral production	Alternative mining methods.
C	TC	BIOLOGICAL RESOURCES • Use alternatives that avoid, minimize, and mitigate wildlife fencing and non-lethal harassment	Alternative mining methods.
C	TC	AIR QUALITY • Backfill the mine site with tailings to reduce toxic dust pollution	Alternative mining methods.
C	TC	CLIMATE CHANGE • Use alternative and renewable energy sources	Alternative mining methods.
C	TC	• Support alternative industries that would allow for land conservation • Find alternatives to the use of public lands	Alternative tailings locations.
C	TC	NOISE AND VIBRATIONS • Investigate alternatives to reduce noise pollution	Alternative mining methods.
C	TC	LIGHT POLLUTION • Investigate alternatives to reduce light pollution	Alternative mining methods.
C	TC	VISUAL RESOURCES • Investigate alternative facility locations to screen from key viewpoints	Alternative mining methods. Alternative tailings locations.
C	TC	CLIMATE CHANGE • Describe measures used to reduce greenhouse gas emissions, including ◦ Using conveyors for material transport ◦ Using alternative energy sources ◦ Using ride sharing and other forms of employee commute trip reduction ◦ Using high-efficiency diesel particulate filters on equipment • Commit to the use of new low carbon emission technologies as they become available	Alternative mining methods.
C	TC	Use alternatives that avoid, minimize, and mitigate wildlife fencing and non-lethal harassment	Alternative mining methods.
C	CG	Further detail tailings storage facility downstream design as opposed to upstream design	Suggests a specific methodology assessing tailings alternatives.
C	CG	Further discuss alternative tailings storage facility designs and tailings storage facility locations	Suggests a specific methodology assessing tailings alternatives.
C	CG	Detail alternatives and mitigations for climate change impacts	Generic suggestion for alternatives and mitigation.
C	CG	Subsidence zone issues in the comments include: Use of advanced and robotic mining techniques	Generic suggestion for alternatives and mitigation.

Table C-1. List of Potential Alternatives or Alternative Components to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	CG	Comments associated with pipelines: Pipeline crossings of washes	Impacts: surface water quality (from pipeline disturbance of washes).
C	CG	Comments associated with tailings facility: Use of public lands for the tailings facility	Use of public lands for tailings is determined by federal law and regulation; however, alternative locations for tailings would be considered.
C	CG	Commenters are not supportive of the long-term proposal of fencing off the subsidence zone from public use. Comments ask that the EIS evaluate alternatives to this proposal	Suggestion to be considered in both alternatives.
C	CG	"This EIS should evaluate the feasibility of true reclamation of the subsidence zone and not simply accept that Oak Flat and the flanks of Apache Leap will become a sacrifice zone, forever off-limits to humans.	Suggestion to be considered in both alternatives.
C	CG	Additionally, comments suggest use of a "Holistic Resource Management" approach to mine reclamation, which would improve soil conditions for future establishment of native plant cover.	Suggestion to be considered in both alternatives.
C	CG	Several comments include other specific mine reclamation technique suggestions for the proposed project.	Suggestion to be considered in both alternatives.
C	CG	"RCM's current proposal does not include a liner under the tailings impoundment. The DEIS should closely examine the validity and case history of this practice. Given the acid drainage potential as well as the current plan to use aqueous tailings, detailed study of contamination migration to groundwater must occur."	Liner to be included in alternatives analysis for tailings facility.
C	CG	"The EIS should investigate a lined impoundment for PAG material (cleaner tailings and development waste rock) which would minimize the amount of contamination that could leave the tailings facility via groundwater."	Liner to be included in alternatives analysis for tailings facility.
C	CG	Several comments include alternatives and mitigation suggestions for reducing greenhouse gas emissions, including using renewable energy sources, water-conserving mining techniques, hybrid machinery, and company- and contractor-provided transportation.	Could potentially be considered for mitigation and alternatives.

APPENDIX D

List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS

This list includes content derived from scoping comments that identified potential mitigation or monitoring that commenters suggest should be considered in the EIS. Comments in this category will be shared with resource specialists for consideration in the EIS process. Identification of mitigation and monitoring requirements is typically a process that continues throughout development of the EIS. The sources noted include the following: (a) comments stated during public meetings; (b) comments developed through internal scoping; and (c) public comment submittals received during the scoping period.

Proposed measures must meet several tests to be applicable, including the ability to offset, reduce, avoid, or minimize resource impacts, and the ability of the Forest Service to require its implementation under existing law and regulation. Each mitigation or monitoring item carried forward into the EIS will be further expanded to identify implementation techniques, timing, responsibilities, and success criteria.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS

Source	Reviewer	Comment	Notes
A	CG	What will the Forest Service do if it is determined that groundwater will be contaminated and threaten public health?	State water quality standards and laws govern the acceptable level of impact to groundwater. Could potentially be considered for mitigation.
B	CG	Which adaptive management techniques and contingencies would be implemented if initial reclamation efforts do not meet proposed success criteria?	Mitigation suggestion for reclamation/soil analysis.
B	TC	Could the effects of subsidence be mitigated?	General subsidence mitigation suggestion to be considered.
B	TC	What methods would be applied to mitigate wind and water erosion from reclaimed soils and the tailings storage facility?	General soils mitigation suggestion to be considered
B	TC	What methods would be applied to mitigate loss of soil physical, biological, and chemical function?	General soils mitigation suggestion to be considered.
B	TC	What methods would be used to mitigate or prevent impacts to surface waters from increased or decreased sediment load?	General water resources mitigation suggestion to be considered.
B	TC	How could the risk of fire initiated by mine-related equipment use be minimized?	General public health and safety mitigation suggestion to be considered.
B	TC	How could Forest fire teams and municipal resources in the area, and available equipment, best be managed to respond to future fire events?	General public health and safety mitigation suggestion to be considered.
B	TC	Could the eventual loss of Oak Flat Campground due to subsidence, whether partial or total, be compensated for by establishment of another camping area nearby?	General recreation mitigation suggestion to be considered.
B	TC	What mitigation measures could be proposed to reduce visual impacts from the mine and all related facilities? The analysis should consider potential changes in engineering/design (e.g., possible configurations or locations for the tailings storage facility); potential alternative locations of linear facilities such as roads and power lines; possible painting or staining of high-contrast features; and possible concurrent reclamation, such as recontouring and/or revegetation of surface disturbances.	General visual resource mitigation suggestion to be considered.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
B	TC	Could potential effects to Queen Creek be mitigated through water source replacement or other methods?	General water resources mitigation suggestion to be considered.
B	TC	Could potential effects to Devil's Canyon be mitigated through water source replacement or other methods?	General water resources mitigation suggestion to be considered.
B	CG	A long-term monitoring and mitigation plan for such releases (i.e., long-term seepage to groundwater and surface waters) is an essential element of a Forest-approved MPO	General water resource mitigation or monitoring suggestion to be considered.
B	CG	Impacts to specific wildlife; tortoise, Queen Creek IBA and migratory birds in addition to SERI and other special status species (AGFD Scoping Letter).	The specific suggestion for tortoise monitoring will be considered during mitigation.
B	CG	The Department recommended development of an Avian Conservation Plan.	General suggestion for biological resources mitigation to be considered.
B	CG	The Department recommended developing mitigation measures and monitoring plan that addresses potential issues with invasive species and pathogens (AGFD Scoping letter) We found no mention of impacts from noxious weeds, pathogenic fungi and others that may cause disease or alteration to ecological or biological processes in the scoping report. The Department included this as a concern in our scoping letter.	The specific suggestion mitigation risk to wildlife and wildlife habitat from introduction of noxious weeds, pathogenic fungi, and others that may cause disease or alteration to ecological functions.
B	CG	Recommended use of a biological monitor during construction prior to implementation of wildlife mitigations such as exclusion fencing or during use of overland routes	General suggestion for biological resources mitigation to be considered.
C	TC	CLIMATE CHANGE • Describe measures used to reduce greenhouse gas emissions, including ◦ Using conveyors for material transport ◦ Using alternative energy sources ◦ Using ride sharing and other forms of employee commute trip reduction ◦ Using high-efficiency diesel particulate filters on equipment • Commit to the use of new low carbon emission technologies as they become available	General air quality mitigation suggestion to be considered.
C	TC	CULTURAL RESOURCES • Practice total avoidance of historic properties and cultural resources	General cultural resources mitigation suggestion to be considered.
C	TC	RECREATION AND PUBLIC ACCESS • Develop alternative public access and recreation roads to replace closed roads and to bypass the mine and trailing sites ◦ Specific road access routes are proposed for Apache Leap, Upper Devil's Canyon, Lower Devil's Canyon, Lower Devil's Canyon to Hackberry Creek, and Northern Devil's Canyon • Develop alternative routes for the Arizona Trail • Develop alternatives for replacement of the Oak Flat campground • Use alternatives that would result in fewer impacts to climbing resources	General recreation mitigation suggestion to be considered.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	TC	OVERSIGHT, ENFORCEMENT, LAWS, AND REGULATIONS • Implement mitigation measures consistent with the goals and objectives of the "Pinal County Comprehensive Plan" and "Pinal County Open Space and Trails Master Plan"	These documents will be reviewed to determine whether they are pertinent to the decision.
C	TC	GENERAL MINE OPERATIONS • Implement monitoring and develop remedial strategies for actions exceeding monitoring thresholds • Define the requirements for public reporting of monitoring and remedial actions • Design facilities (culverts, dams, roads, diversions, etc.) to 1,000-year flood specifications	General monitoring and reporting suggestion to be considered, as well as general water resources mitigation suggestion to be considered.
C	TC	TAILINGS STORAGE FACILITY • Require the use of a liner • Cap the tailings pile to contain tailings dust • Reduce the tailings volumes • Screen the tailings storage facility from key viewpoints • Construct a secondary backup containment facility • Collect and remove leachate prior to wastewater discharge from the tailings storage facility • Implement methods for reducing the toxicity of sediment • Implement a mitigation plan for acid rock drainage containment and reclamation • Follow the recommendations set forth by the Mount Polley expert panel • Develop a mitigation plan for a tailings storage facility dam breach • Implement a cease operations plans in the event of a tailings dam failure • Require an environmental damage assessment in the event of a tailings dam release • Identify alternative energy sources for the tailings storage facility in the event of an electrical outage • Implement time limits on tailings storage at the proposed site	Suggestion to be considered in alternatives and mitigation.
C	TC	MINERAL PROCESSING • Mitigate visual, noise, and air quality impacts to the surrounding communities	Suggestion to be considered in alternatives and mitigation.
C	TC	SUBSIDENCE ZONE/OAK FLAT • Implement mitigation measures to limit the extent of the subsidence zone • Identify critical levels of subsidence impacts and the management process for a cessation of mining operations once impact thresholds are met	Suggestion to be considered in alternatives and mitigation.
C	TC	PIPELINE • Develop a monitoring and mitigation plan for pipeline breaks • Monitor for pipeline water leaks • Investigate double-lining, pipeline sleeve, and secondary containment measures • Use overhead construction at trail crossings • Describe liability for pipeline leaks and resource impacts	Suggestion to be considered in alternatives and mitigation.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	TC	MINE RECLAMATION • "Reclaim tailings with vegetation and topographical contouring similar to the surrounding landscape" • Restore the tailings storage facility with a "minimum of 15 feet of top soil to ensure vegetation re-growth" • Implement restoration in phases • Require an adequate bond amount for mine reclamation • "Create and fund a community environmental monitoring program"	Suggestion to be considered in alternatives and mitigation.
C	TC	BEST AVAILABLE SCIENCE • Develop a risk management and mitigation plan to address hydrologic impact uncertainties	General water resource mitigation suggestion to be considered.
C	TC	CULTURAL RESOURCES Respondents who list cultural resource mitigation measures suggest the following: • Allow for professional peer review of mitigation plans • Apply mitigation standards across all land ownership jurisdictions • Mitigate for impacts to all National Register of Historic Places (NRHP)-eligible sites • Monitor sites "for human remains and previously-unidentified buried features during post-mitigation construction activities" • Tailor impact avoidance and mitigation to the "values associated with cultural resources and to the concerns of individual tribes, tribal representatives, and others who value cultural resources threatened" by the proposed project • Identify funds for a new Apache cultural center • Use the center to house cultural resources found at the proposed mine site • Identify funds to document San Carlos Apache history • Identify funds or a program to document San Carlos Apache traditional arts and crafts • Identify funds or a program to preserve songs and language • Identify funds for publishing a San Carlos Apache clanship book • Allow the San Carlos Apache to determine mitigation measures for impacts to their cultural resources • Allow continued access to Oak Flat for tribal members to gather acorns and medicine plants • Improve access to sites for this purpose • Establish new sites, including newly planted acorn trees on the San Carlos Apache reservation • Establish a Native American Affairs department within Resolution Copper to address cultural resource issues • Refurbish the Magma Copper Company smelter smoke stack for preservation purposes • Install interpretive signage at Barnett Camp • "Promote mining heritage and preserve historic mining cultural resources and infrastructure"	Many of these are outside the jurisdiction and authority of the Forest Service; and some are outside the scope of this decision. However, it is probably better to carry them into the EIS process and dismiss them there and talk about that in the EIS.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	TC	SOCIOECONOMICS • Commit to hiring locally and using local suppliers and services • Develop a tribal technical training center to train members for positions at the proposed mine • Financially support public schools, workforce training, scholarships, and youth-life skills programs • "Promote and financially support economic diversification of local communities" • Establish and contribute financially to a community foundation for local initiatives and projects • Build a mining museum to boost the local economy • Partner with the local tribal communities to open and maintain a tribal landfill • Compensate property owners for "damage to the community's water, air quality, and property values" • Pay royalties on mining profits to tribal governments and the U.S. Government • Compensate for the loss of the Oak Flat site through payment of $1 billion to the U.S. Government and $1 billion to the Apache Tribe • "Maintain ongoing communication with affected communities"	Many of these suggestions have been decided by Federal law and regulation. However, they constitute suggestions for mitigation that will be carried forward for consideration in the EIS process.
C	TC	RECREATION AND PUBLIC ACCESS • Maintain road access to public lands • Mitigate for closed roads with alterative access routes • Mitigate for trail impacts with alternative trail route construction and trail maintenance commitments • Mitigate for the loss of climbing resources at a ratio greater than 1:1 • Mitigate impacts through enhancement of other climbing and off-highway-vehicle (OHV) areas • Provide interpretive signage on the Arizona Trail to promote trail user understanding of the project • Mitigate for the loss of the Oak Flat campground with a new campground and picnic area ◦ Build a campground at the Top of the World site ◦ Investigate the use of Resolution Copper's property south of U.S. Route 60 for campground development • Develop a family-oriented park in San Carlos • Continue support to "local and regional recreation groups and comprehensive recreation planning"	General recreation mitigation suggestion to be considered.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	TC	PUBLIC HEALTH AND SAFETY • Monitor public health and employee health throughout the life of the mine • Provide employees with personal protective equipment specific to deep shaft mining hazards • Identify mitigation measures to prevent air blast • Identify hazard containment areas downstream of the tailings storage facility ◦ Prevent public access to hazardous sites ◦ Implement a hazard warning system ◦ Identify costs to construct barriers in hazard areas to prohibit off-road usage and reduce toxic dust ◦ Provide a Forest Service employee to patrol sites • Identify plans and costs for preventing toxic harm to public uses of the TNF • Provide signage at all TNF entrance roads warning of hazardous conditions • Test stormwater runoff for toxins to prevent recreational exposure through running washes • Invest in public safety programs, including drug and alcohol abuse prevention programs for tribal members • Fund additional emergency services	General public health and safety mitigation suggestion to be considered.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	TC	WATER RESOURCES • Develop a contingency plan for drought conditions or an inadequate water supply from the Central Arizona Project • Implement water conservation measures for "maximum water recovery and recirculation" • Restrict water usage at the mine • Install potable water stations along the Arizona Trail and areas used by sports people • Monitor groundwater and surface water quality and publicly disclose the results quarterly • Monitor water quality of community water supplies • Pay for backup community water supply systems • Describe remedial actions for water contamination • Develop a mitigation plan for drinking water contamination • Mitigate sediment discharge to surface waters during construction • Require zero discharge of wastewater to surface water and groundwater during all phases of the project • Monitor wastewater discharge • Monitor groundwater geochemistry with clearly specified water quality goals; specify remedial actions if goals are not met • Develop a stormwater pollution prevention plan • Require wastewater treatment to meet applicable regulatory standards • Implement provisions for immediate shutdown in the event of any water quality violations or a breach in the tailings site • Implement mitigation to sustain the San Pedro River • Monitor hydrologic connectivity of impacted groundwater and surface water • Monitor groundwater pumping withdrawals • Reduce upstream pumping if shallow groundwater is detected • Detail "specific test equipment, allowable limits, frequency of testing, and how land & home owners will obtain timely and accurate reports" for groundwater monitoring • Clarify "interim shutdown" mitigation measures relative to water discharge	Some of these are outside the jurisdiction of the Forest Service, but will be considered in the EIS process.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	TC	BIOLOGICAL RESOURCES • Identify compensatory mitigation for impacts to wildlife resources and habitats • Implement impact avoidance and minimization measures for special status species • Develop a mitigation plan for habitat replacement • Describe maintenance requirements and monitoring plans • Describe wildlife mitigation enforcement actions • Follow guidance from the AGFD and USFWS regarding avoidance, minimization, and mitigation measures for wildlife • Relocate all saguaros, other plant life and wildlife impacted at the tailings storage facility, at Resolution Copper's expense • Describe parameters for the safe removal of wildlife • Describe avoidance, minimization, and mitigation measures for non-jurisdictional wetlands and riparian habitats impacted by the proposal • Prevent damage and or contamination to Devil's Canyon riparian habitats • Install "various rain collection seeps and catchments to help with the loss of critical habitat" • Implement a wildlife management plan for stormwater ponds, including wildlife exclusion fencing	Some of these are outside the jurisdiction of the Forest Service, but will be considered in the EIS process.
C	TC	AIR QUALITY • Control particulate air emissions • Implement diesel particulate matter–specific mitigation measures • Revegetate disturbed ground • Minimize travel on dirt roads • Reevaluate the GPO dust abatement strategy and implement additional mitigation measures as needed • Identify monitoring thresholds for fugitive dust pollution • Implement enforcement strategies	General air quality mitigation suggestion to be considered.
C	TC	TRANSPORTATION • Describe traffic mitigation measures • Provide company-sponsored transportation and carpooling programs • Pay for improved park and ride facilities	General transportation mitigation suggestion to be considered.
C	TC	GEOLOGY • Implement erosion control measures • Test all waste rock left on the surface for acid rock drainage potential	General soil and water resources mitigation suggestion to be considered.
C	TC	NOISE AND VIBRATIONS • Use sound barriers or other noise-dampening technology to mitigate heavy equipment noise • Maintain equipment regularly to reduce noise from heavy machinery operation • Establish procedures for reporting noise complaints ◦ Provide a phone number for the public to report noise complaints; post the phone number at various locations • Develop noise limits and a fine structure for noise violations	General noise mitigation suggestion to be considered.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	TC	LIGHT POLLUTION • Use light shields to mitigate light pollution and maintain night sky views • Use alternative lighting sources, including light-emitting diode (LED) lighting	General dark skies mitigation suggestion to be considered.
C	TC	VISUAL RESOURCES • Screen facilities from key viewpoints	General visual resources mitigation suggestion to be considered.
C	TC	Commenters state that more deep monitoring wells need to be installed "with clearly specified water quality goals" for groundwater geochemistry. It is suggested in the comments that new hydrological studies in the Oak Flat area be conducted due to dewatering concerns. Commenters also recommend monitoring the "formation of a lake over time within the subsidence crater."	General water resources mitigation suggestion to be considered.
C	CG	Require the GPO to "provide recognition, consideration, and plans for avoiding and reducing significant impacts to the many important cultural resources documented and either listed on or provisionally determined to be eligible for listing on the National Register of Historic Places in 2015 and early 2016"	To be considered for mitigation.
C	CG	Comments associated with reclamation: Standards for determining, and means of assuring, reclamation success; and	Mitigation suggestion for reclamation/soil analysis.
C	CG	Describe the methods and regulatory oversight that will be applied to monitor and mitigate the quality of mine discharge water.	Consideration for mitigation and monitoring.
C	CG	Likewise, describe the methods and regulatory oversight that will be applied to monitor and mitigate the quality of tailings discharge water.	Consideration for mitigation and monitoring.
C	CG	Commenters express concern about the potential for water contamination along the Arizona Trail. One commenter states, "Windblown contaminants are a major concern to AZT users. The GPO addresses this issue. However, it is more of a reactive solution rather than a proactive solution. How will AZT users be assured that any water they collect for drinking along the trail or allow their equine or pets to consume will be safe?"	Consideration for mitigation and monitoring.
C	CG	One commenter states that "they are going one step farther and establishing an independent monitoring of the water that will be discharged and eventually the air too, when construction starts, which will be monitored by the interested public."	Consideration for mitigation and monitoring.
C	CG	A commenter states he/she is "satisfied that there will be appropriate State regulatory monitoring of water quality related to the Resolution Copper Project. However, it is our understanding that the State's authority to cancel permits or stop the operation of facilities at short notice is limited and largely untested in Arizona. Therefore, we ask that the proponent commit to certain mitigation measures in the EIS that will address this deficiency in laws or regulations."	Consideration for mitigation and monitoring.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	CG	"All waste rock to be left on the surface should be tested for its potential to develop acid rock drainage and/or neutral drainage."	Consideration for mitigation and monitoring.
C	CG	"What sort of risk reduction efforts are being done by resolution to prevent the contamination of local water supply?"	Consideration for mitigation and monitoring.
C	CG	"What parameters will be implemented to prevent damage to the Devil's Canyon riparian habitats? How will RC prevent contamination of Devil's Canyon from its operations on and below Oak Flat? Can RC guarantee that their proposals are 100% fail safe?"	Consideration for mitigation and monitoring.
C	CG	"Who will monitor the water coming out of Oak Flat for contaminants linked to RCC's industrial operation? Will RCC cover all costs of monitoring, filtering, and purifying that effluent? "	Consideration for mitigation and monitoring.
C	CG	Address monitoring and mitigation for water quality impacts.	Consideration for mitigation and monitoring.
C	CG	Several commenters suggest that Resolution Copper provide backup community water systems and pay for new wells where aquifer drawdown or contamination occurs. One comment asks, "Will the mine/Resolution Copper re-drill wells in the San Tan Valley area if their pumping lowers our water table?"	Consideration for mitigation and monitoring.
C	CG	A few other comments suggest that clean drinking water supplies be provided for livestock ponds and recreational users in the vicinity of the mine, with one comment stating, "RC should be required to install a potable water station near the tailings storage area along the AZT."	Consideration for mitigation and monitoring.
C	CG	Respondents request that "the EIS must disclose operation plans to minimize/ restrict air emissions and fugitive dust."	Consideration for mitigation and monitoring.
C	CG	The impacts of air emissions on climate change should be analyzed and mitigated for.	Consideration for mitigation and monitoring.
C	CG	Associated comments discuss the need for soil remediation mitigation measures.	Consideration for mitigation and monitoring.
C	CG	"Allowing RCM's block caving method, what guarantees will be in place to prevent negative hydrological and geological impacts within and below the subsidence area of the mine and surrounding region?"	Consideration for mitigation and monitoring.
C	CG	Several comments suggest that "alternatives to the block cave technique that do not cause subsidence and would instead leave the Oak Flat area intact for future generations" be analyzed in the EIS. One alternative suggested is the use of tailings as backfill in subsidence zone	Consideration for mitigation and monitoring and alternatives to mining technique.
C	CG	"All waste rock to be left on the surface should be tested for its potential to develop acid rock draining and/or neutral drainage."	Consideration for mitigation and monitoring.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	CC	Commenters requested that mitigation measures be used to avoid, minimize, or reduce impacts to cultural resources and that these mitigation measures must be analyzed in the EIS: "*The tribes and tribal representatives have unanimously recommended (a) total avoidance by the mining operations of these probable historic properties (bona fide cultural resources) and, if avoidance is not elected, (b) that Tonto National Forest pursue government-to-government consultations with each tribe to determine exact boundaries of the historic properties and to resolve adverse effects through management, protection, preservation, and other treatments.*"	Appropriate mitigation measures will be thoroughly assessed both in the EIS analysis and through NHPA Section 106 consultations.
C	CC	Commenters request that mitigation measures be clearly identified in a mitigation plan for cultural resources and ask whether Native American communities will be a part of the development of mitigation planning: "*Will the guiding historic contexts, research questions, and mitigation plans be opened up for peer review by professional archaeologists and historians, and their comments taken into consideration? Will peer reviewers be able to visit selected archaeological and historical sites before, during, and after mitigation? Will Native American communities be provided with the same opportunities for review, comment, and site visits as the peer review team? Will mitigation standards be applied in a consistent manner throughout all parts of the project area, regardless of land jurisdiction? Will all NRHP-eligible sites be fully mitigated? What sampling techniques will be employed within and between sites? Will sites be monitored for human remains and previously-unidentified buried features during post-mitigation construction activities? Is monitoring possible in the subsidence zone and the tailings pile area*?"	Appropriate mitigation measures will be thoroughly assessed both in the EIS analysis and through NHPA Section 106 consultations.
C	CC	Some commenters state that no mitigation measures will be enough to offset the impacts to cultural resources: "*There are no possible adequate mitigations on the issue of Native American rights to sacred lands.*"	Appropriate mitigation measures will be thoroughly assessed both in the EIS analysis and through NHPA Section 106 consultations.

Table D-1. List of Potential Mitigation Measures and Monitoring Items to Consider in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	CC	A few comments provide mitigation measure recommendations for impacts to cultural resources that are important to the San Carlos Apache Tribe, such as, "*Can the forest service, through the Public Scoping process, help identify funds to be set aside for a new and improved apache cultural center as a mitigation to cultural resources? This center could house cultural resources within the footprint of the planned mine." Another mitigation measure recommendation states,* *"As it relates to culture and preservation of our culture, can there be funds that can be made available as a mitigation measure in the EIS, for Resolution Copper to put aside for San Carlos Apache Tribe to use, to help capture and document our history? We are losing our language slowly. But we also are losing how we make traditional arts and crafts. Can the Forest Service discuss with Resolution Copper as a mitigation measure identify program or funds to make sure we preserve these crafts?"*	Appropriate mitigation measures will be thoroughly assessed both in the EIS analysis and through NHPA Section 106 consultations.
C	CC	In addition, a recommended mitigation measure for historic resources is included: "*Since the old Magma Copper Company smelter smoke stack is considered by many residents as a landmark since it has stood from 1924, the RCC should refurbish the stack for preservation purposes only, but not for reuse.*"	Appropriate mitigation measures will be thoroughly assessed both in the EIS analysis and through NHPA Section 106 consultations.
C	CC	One comment expresses the need to protect the historic rock structure at Barnett Camp by developing and installing an interpretative sign explaining the site's significance and directing etiquette for visitors to preserve remnants of the area's cultural heritage.	This suggestion should be considered in the assessment of cultural resource mitigation measures in the EIS.

APPENDIX E

List of Potential Past, Present, or Reasonably Foreseeable Actions to Consider in the EIS

The list below provides content derived from scoping comments that suggest specific projects or actions to be considered for cumulative effects, along with the impacts from the proposed action and alternatives. These items will be screened for inclusion on the list of past, present, and reasonably foreseeable actions. The sources noted include the following: (a) comments stated during public meetings; (b) comments developed through internal scoping; and (c) public comment submittals received during the scoping period.

Typically, to be analyzed as a cumulative effect in the EIS, such actions must have some indication that they could actually occur (i.e., there is a permit submittal, feasibility study, or other concrete indication that the project is more than just a concept), have enough detail associated with them to perform an impact analysis, and overlap in space and time with resource impacts from the proposed action or alternatives.

Table E-1. List of Potential Past, Present, and Reasonably Foreseeable Actions to Consider in the EIS

Source	Reviewer	Comment	Notes
A	CG	Are mine operations impacting Queen Creek, and will it flow again?	The impact of historic mining, particularly on surface flows, is potentially a past item to be reflected in cumulative effects, if not already incorporated into Affected Environment.
B	CG	Decision on Travel Management EIS is anticipated. There is potential need for discussion of variation between road status (levels of service, open or closed, etc.) from the TM Decision and proposed use/closure of the RCM Proposal.	Travel management changes will be assessed as past, present, or reasonably foreseeable, depending on the status at that time.
B	CG	Consider if the TMDL is reasonably foreseeable	The status of the TMDL or existing water quality for Queen Creek, undertaken by ADEQ, will be assessed as past, present, or reasonably foreseeable, depending on the status at that time.
B	CG	Cumulative impacts to Queen Creek should be evaluated based on their current levels of copper and lead with any additional impacts from Resolution	The status of the TMDL or existing water quality for Queen Creek, undertaken by ADEQ, will be assessed as past, present, or reasonably foreseeable, depending on the status at that time.
B	CG	Include analysis of cumulative effects to wildlife and their habitats, including aquatic species; resulting from the proposed Resolution Mine operations and tailings compounded with historic mining impacts, particularly to surface water quality and aquatic habitats.	The impact of historic mining, particularly on surface flows, is potentially a past item to be reflected in cumulative effects, if not already incorporated into Affected Environment.
C	CG	Comments associated with filter/loadout facility: Future residential growth	The generic concept of future residential growth is not specific enough to include as a reasonably foreseeable action. However, there may be more specific proposals for residential growth that can be analyzed and should be considered for the PPRFA list.

This page intentionally left blank.

APPENDIX F

List of Potential Clarifications to the GPO

This list includes content derived from scoping comments that ask specific questions about how certain aspects of the project will be conducted. These items will be screened by the EIS team to identify any information needs that may be lacking from the GPO. The Forest Service will review these suggestions and determine whether to request to request clarification or additional information from Resolution Copper. The sources noted include the following: (a) comments stated during public meetings; (b) comments developed through internal scoping; and (c) public comment submittals received during the scoping period.

Table F-1. Clarifications to the GPO

Source	Reviewer	Comment	Notes
A	CG	What is the time frame for the tailings facility infrastructure?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
A	CG	Where are the locations of the 30 groundwater wells mentioned in the GPO? Will these be analyzed in the EIS?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
A	CG	What will be done during the 5 to 10 years of "reclamation"?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
A	CG	What are the reclamation plans for the subsidence area after mining is complete?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
A	CG	Is there a reclamation plan for the subsidence area that addresses groundwater and the potential for a lake?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
A	CG	What is the safety plan for the tailings facility relative to potential failure of the tailings dam?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
A	CG	What chemicals are in the tailings?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
A	CG	What constituents are in the water after it runs through the filtration plant such that it is required to be blended at a 10:1 ratio with CAP water?	It is not clear whether this references anything included in the GPO; needs to be checked.
A	CG	Questions specific to the proposed loadout facility included: Is the large berm located at the end of the MARRCO corridor included in the Resolution Mine proposal?	It is not clear whether this references anything included in the GPO; needs to be checked.
A	CG	What is the proposed source for the electricity that will power the mine, and how does it get to the mine?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
A	CG	Questions about the location of the mine operation water source well	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
A	CG	Questions about specifically where in the mine operation the water is being used.	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
B	CG	How would the emissions of hazardous air pollutants (HAPs) from the tailings pile and mine operations be characterized and controlled?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
B	CG	What emissions controls, mitigation measures, and source emissions monitoring would be employed, including during construction and operation?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.

Table F-1. Clarifications to the GPO (Continued)

Source	Reviewer	Comment	Notes
B	CG	What air quality monitoring would take place during construction and operation	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
B	CG	What would be the reclamation success criteria for revegetation efforts (both the time frames and vegetation cover)? Would these goals incorporate data from reference sites? How would potential reference sites be identified?	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
B	CG	After operations cease and during closure, Resolution will place a store-and-release cover over the tailings to further reduce oxygen ingress and "maintain sufficient saturation" in the PAG tailings to prevent their oxidation. GPO at 142. Further details on the post-closure maintenance of saturated conditions in the TSF is required, including the sources of water to be applied to the TSF and length of time the tailings will be maintained in a saturated state.	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Clarify the conflicting proposed estimates for the life of the mine and update the analysis accordingly	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Further detail the content of ore products and ore transportation methods between mine facilities	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Further discuss the proposed mining methods, facilities, and chemicals used in ore extraction and processing	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Further describe the mine's transportation needs, including those for employees and materials	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	The GPO lacks "waste rock characterization and/or adequate explanation of how this material will be disposed so that there is no potential for acid rock drainage"	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Detail the methods for separating "scavenger" tailings from "clean" tailings	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Further discuss mine reclamation maintenance tasks	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Address inconsistencies in the "East Plant Site Closure and Reclamation" section of the GPO	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Detail a reclamation plan for the subsidence zone, including further detail of the legally binding elements of the "Subsidence Management Plan"	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO. May be applicable to mitigation.
C	CG	Further disclose post-closure monitoring and maintenance tasks, "including the length of time the seepage collection system, water monitoring wells, collection trenches and pump-back system will be maintained"	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO. May be applicable to mitigation.
C	CG	The GPO should "fully and accurately disclose its total water demands for the mine to the public at large"	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.

Table F-1. Clarifications to the GPO (Continued)

Source	Reviewer	Comment	Notes
C	CG	Rectify conflicting water supply and use data presented in the GPO	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Disclose the purpose of the Queen Valley pumping station	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Disclose the location of the groundwater savings/recharge facilities	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Detail power demand and additional power facilities that are needed to support all components of the mine	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Expand the “Wildlife Management Plan” in Appendix X of the GPO	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO
C	CG	Describe methodologies for analyzing seismic and geologic hazards to all mine facilities	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Discuss artificial lighting	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Comments associated with groundwater pumping for mine operations: Purpose of the Queen Valley pumping station	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Comments associated with pipelines: Maintenance and replacement schedules	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
CG		Comments associated with pipelines: Construction methods and durability	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Comments associated with pipelines: Design of open canals	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Comments associated with pipelines: Chemical contents of the slurry	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Comments associated with pipelines: Spill prevention and response	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Comments associated with reclamation: “A detailed account of measures that would be taken to decommission mine operations and stabilize and revegetate slopes, subsidence zones, roads and other areas;	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Comments associated with reclamation: Identification (including estimated acreage) of the areas targeted for reclamation, and description of the intended degree of treatment in each area;	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Comments associated with reclamation: Timing of reclamation relative to mining operations, procedures for concurrent reclamation activities, and duration of reclamation treatment;	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Composition of the “waste” water generated from mine operations and whether this can contaminate groundwater.	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.

Table F-1. Clarifications to the GPO (Continued)

Source	Reviewer	Comment	Notes
C	CG	Respondents want the EIS to include information and analysis of wastewater contaminant and chemical content and what will be done to keep these contaminants from entering the area's surface water and groundwater resources.	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Commenters want the EIS to "include in the EIS an environmental analysis of the expected chemical composition of water waste from mining operations, the required chemical composition of water discharged into the environment under the Clean Water Act, and the long-term legal, economic, environmental, regulatory, and compliance-related costs of ensuring that water is compliant with CWA."	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	"What type of plan do they propose for cleanup in case of a breach [tailings facility]? Also, who will pay for the cleanup process that may affect more than one community	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	What measures will be taken to ensure water quality?"	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	"I am concerned about the ways in which water quality will be monitored during operations and post closure."	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO; also pertinent to mitigation and monitoring
C	CG	"The EIS should disclose (and the public deserves to know) exactly what contaminants may be flowing into groundwater. There is no room for RCC to plead that its chemicals are a proprietary blend which they cannot divulge."	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Respondents are concerned with the anticipated water demands of the proposed project, including demand estimates and proposed water sources. As summarized in one comment, "The anticipated water demands of the Resolution Copper mine project will be substantial, impacting surface and groundwater supplies at Oak Flat and throughout the region, as well as current and future available water supplies for the State of Arizona. Until the GPO is clarified and the full water demands and water sources for the mine are fully revealed and the impacts fully disclosed though unbiased modeling and scientific study, the TNF is unable to consider (or fairly disclose) the potential environmental effects of the mine as required by NEPA, 26 C.F.R. § 288.8 and applicable law."	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	With regard to the use of Central Arizona Project water, commenters note, "In the GPO, Resolution Copper fails to show the location of CAP recovery well field on its maps and figures in relation to the groundwater savings/recharge facility or facilities where Resolution Copper has its LTSC's [Long-Term Storage Credits]. It is also unclear where all of the LTSC's to be recovered under this proposal are actually located."	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.
C	CG	Water availability for dust control measures	Suggests a specific factual clarification of a GPO component; does not imply the information is not in the GPO.

APPENDIX G

List of Potential Issues Dismissed from Consideration in the EIS

This list consists of those issues that have been dismissed from consideration in the EIS. The items on this list must meet one of the following criteria: (a) they are not within the scope of the proposed action and purpose and need; (b) they are already decided by law, regulation, the forest plan or higher decision; (c) they are not relevant to the decision; (d) they are conjectural or not supported by scientific or factual evidence; or (e) they are a question or general statement that does not suggest a cause-and-effect relationship. In addition, the items included on this list are generally items that do not fit into one of the other lists included in Appendices B through F. The sources noted include the following: (a) comments stated during public meetings; (b) comments developed through internal scoping; and (c) public comment submittals received during the scoping period.

Table G-1. Dismissed from Consideration in the EIS

Source	Reviewer	Comment	Notes
A	CG	Does the land exchange legislation dictate the location of the tailings facility?	General question. NDAA does not dictate the location of the tailings facility.
A	CC	What protocol will be used to survey and evaluate archeological sites?	Cultural resource survey protocols are already thoroughly established under the NHPA, Forest Service Handbook 239.24, and Arizona SHPO guidelines.
A	CC	General questions about the land exchange asked about how the land exchange can override current federal law and whether the land exchange sets any precedents for future activities and federal and tribal lands. Also asked was how, with the 2,000-acre land exchange, did Resolution Copper obtain the rights to more than 6,000 acres of lands?	Land exchange mandated by Congress, thus overriding prior forest plan land use designations.
A	CC	What is the schedule for completion of the land exchange?	Per the NDAA, exchange to occur within 60 days following issuance of EIS ROD.
C	CG	Additionally, respondents request that the EIS impact analysis follow the Council on Environmental Quality's draft guidance "Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts," comply with EO 13653, "Preparing the United States for the Impacts of Climate Change," and consider other Federal plans and programs relating to climate change.	Guidance on climate change has been rescinded. See issue statement and indicators for details on how emissions will be handled.
C	CG	Project-specific greenhouse gas emission comments express concern about transportation and power generation emissions. One respondent states, "Resolution Copper Mine's demand is likely to be in the hundreds of megawatts, and give that Salt River Project power is roughly 85% powered by coal and natural gas, carbon emissions to power Resolution Copper Mine will be extremely high. Carbon emissions from both power generation and the operation of all fuel-operated mining machinery must be calculated both annually and over the life of mine in the DEIS.	Guidance on climate change has been rescinded. See issue statement and indicators for details on how emissions will be handled.
B	CG	What would be the level of greenhouse gas emissions from energy production that supports the project, including from any energy production alternatives?	Guidance on climate change has been rescinded. See issue statement and indicators for details on how emissions will be handled.

Table G-1. Dismissed from Consideration in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	CC	Respondents request that the TNF initiate a public review of the appraisal prior to approving the land exchange, including having the appraisal information in the EIS document: "*As the exchange, under law, needs to be equitable and in the interest of the public, and is at the heart and underpinning of this entire review process, all appraisal information should be included in the DEIS. In the interest of fairness and disclosure, appraisals, including mineral appraisals, should not be held to be proprietary or redacted, but should be published in full for the public to review and comment on.*"	The land exchange parcels and land exchange process should be described in the EIS, but dismissed as an issue for analysis; the Forest Service has no discretion as to whether or not the exchange occurs. Similarly, the land valuations/appraisal must conform to already established realty and legal standards. Public review of the appraisal is not required under the law.
C	CC	If the valuation of the exchanged lands is found to be disproportionate, commenters would like the EIS to consider alternatives and/or additional land parcels in the land exchange. Some comments provide specific suggestions for alternative exchange lands.	The land exchange parcels and land exchange process should be described in the EIS, but dismissed as an issue for analysis; the Forest Service has no discretion as to whether or not the exchange occurs. Similarly, the land valuations/appraisal must conform to already established realty and legal standards. Congress, through the NDAA, has already determined the process to be followed should valuations prove to be disproportionate.
B	CG	Are the mineral claims contiguous and consistent with the land status for the exchanged lands?	Based on input from Mark Nelson on Internal Scoping memo; NDAA has already determined appropriateness of exchanged lands.
C	CG	Hire independent experts to review conflicting data presented in the GPO	Standards regarding best available science and quality of data are provided in NEPA, CEQ regulations, Forest Service directives.
C	CG	Develop alternative proposals and include analysis of these prior to EIS development	Development of alternatives provided in NEPA, CEQ regulations, Forest Service directives.
C	CG	Mine operation comments also include discussion of Resolution Copper and its parent company's regional and international history	The past history of the mining company is not within the scope of the analysis of this proposal.
C	CG	Respondents express positive views toward Resolution Copper's previous investments in mine reclamation, local engagement in environmentally and socially responsible mining practices, and local investments in tribal communities.	The past history of the mining company is not within the scope of the analysis of this proposal.
C	CG	In contrast, respondents also express concern about Resolution Copper's parent companies' historical record of closing mines in the region, environmental disasters at international mines, and human and labor rights issues.	The past history of the mining company is not within the scope of the analysis of this proposal.
C	CG	Subsidence zone issues in the comments include: Land exchange legislation and previous Oak Flat mining withdrawal	NDAA has already determined appropriateness of exchanged lands, and the disposition of the previous Oak Flat mining withdrawal.
C	CG	Comments associated with reclamation: One comment states that "anything short of complete restoration must be prohibited."	The limits the Forest Service can go to require mitigation and restoration are defined by law, regulation, and guidance. Complete restoration is not required and would be out of scope of this project.
C	CG	Comments associated with reclamation: Other comments express concerns that the mine reclamation will never restore the land to its current condition.	The limits the Forest Service can go to require mitigation and restoration are defined by law, regulation, and guidance. Complete restoration is not required and would be out of scope of this project.

Table G-1. Dismissed from Consideration in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	CG	Commenters note that Resolution Copper's company history includes positive reclamation outcomes, citing the Magma Mine as a notable example of the company's commitment to reclamation.	The past history of the mining company is not within the scope of the analysis of this proposal.
C	CG	Volcanic activity resulting from mining operations at the proposed depths	Conjectural comment.
C	CG	Oak Flat is a magnetic field or vortex and these are motivating factors for the proposed mine; and	Conjectural comment.
C	CG	Geology of the area will not support deep shaft mining, resulting in a conversion to open pit mining.	Conjectural comment.
C	CC	Aside from official Section 106 Consultation between the Forest Service and tribal governments, one commenter requests that Resolution Copper *"communicate in a considerate and careful manner with the San Carlos Apache tribe and other tribes in Arizona. An understanding of tribal culture and customs is important in these communications to maintain a positive and productive relationship. Thus it is important that Resolution Copper consider in the area of cultural resources, the establishment of a Native American Affairs department that handles all these issues and concerns of tribes. Such a commitment would go a long way with Arizona tribes and could be incorporated into the EIS document as a mitigation measure."*	Tribal consultation is required under the NHPA. But whether or how Resolution Copper communicates with the San Carlos Apache and other tribes is not within the scope of the Forest Service decision.
C	CC	In addition to NEPA, NHPA, NAGPRA, and NRHP requirements for cultural resources, one comment requests that the United Nations Declaration on the Rights of Indigenous Peoples be considered in the NEPA process.	Regardless of personal interpretation, pro or con, the United Nations Declaration on the Rights of Indigenous Peoples is a 'declaration' of principles, not a law. Furthermore, the United States was not a signatory to the Declaration. It must therefore be considered beyond the scope of the Forest Service decision.

Table G-1. Dismissed from Consideration in the EIS (Continued)

Source	Reviewer	Comment	Notes
C	CC	Respondents ask that EIS include the following strategic value economic considerations in the analysis: • "*Study the economic impact to domestic supply chains of copper and how they will be affected by the opening of this mine*" • "*Look at demand in key defense and energy industry sectors under the review process*" • "*Analyze the strategic value of the copper to be mined to the United States and to the many industries in Arizona relying on copper for alternative energy, technology, and defense-related purposes*" • "*Develop a comprehensive list of products and technology that is dependent on copper and what might happen socially and economically, in the US, if copper were in short supply or not mined at all*?" • "*Determining the benefits of copper as it relates to green energy, e.g. its use in green energy technology such as solar panels, hybrid cars, home construction, etc.*" • "*Analyze and disclose all the benefits of copper and how it is used in everyday life, particularly anything involving sustainability*"	The so-called "downstream" effects of copper production and/or industrial or consumer uses in the United States or elsewhere are not within the scope of this decision.
C	CC	The defense industries use of copper was of interest in the comments. Commenters request that EIS "*analyze the impact Resolution Copper's mine will have on our defense industry*" and discuss how copper will be used by Arizona's defense industry and military bases.	Future market values and/or domestic and international demand for copper, including for defense-related uses, are not within the scope of this decision.
C	CC	Several other comments request that the EIS discuss other sources of copper nationally and internationally and what the economic impact would be if those resources were developed instead of the proposed mine. As one respondent asks, "*How will it affect us if the copper that Resolution could produce here is instead mined in other countries, nations that perhaps are not friendly to the USA or our goals and philosophy*?"	Potential sources for copper elsewhere in the world are not within the scope of this decision. Future market values of copper and/or domestic and international levels of demand for copper are not within the scope of this decision.
C	CC	In contrast to the potential economic benefits of copper, many comments also express concern with market fluctuations in copper prices and demand. Respondents note that the "*price of copper has declined steadily over last 20 years, and is expected to continue declining for the next 5-10 years.*" Another respondent is concerned with Resolution Copper's copper production estimates and asks the EIS to verify them.	Future market values of copper and/or domestic and international levels of demand for copper are not within the scope of this decision.
C	CC	One commenter states concern that the copper extracted would be sold internationally and used to make improvised explosive devices and conventional weapons.	The so-called "downstream" effects of copper production and/or uses are not within the scope of this decision.