Terry Rambler
Chairman

SAN CARLOS APACHE TRIBE

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

Tao Etpison
Vice-Chairman

August 4, 2025

Sent Electronically Via USFS Portal

Michiko Martin
Reviewing Official
Regional Forester
Forest Service – Southwestern Region
U.S. Department of Agriculture
333 Broadway, S.E.
Albuquerque, New Mexico 87102
Portal: https://cara.fs2c.usda.gov/Public/CommentInput?Project=48956

Dear Regional Forester Martin:

Dagot'é (Greetings). On behalf of the over 17,400 members of the San Carlos Apache Tribe ("Tribe") and pursuant to 36 CFR Part 218, I provide objections to the Final Environmental Impact Statement ("FEIS") and Draft Record On Decision ("DROD") for the Resolution Copper Mine, LLC's Project ("Mine" or "Project") issued by Tonto National Forest Supervisor Neil Bosworth on June 16, 2025, as noticed in the Federal Register on June 20, 2025. This includes the proposed Amendments to the Tonto Forest Plan contained in FEIS Appendix T and Section 2.1.4 of the DROD as posted at https://www.resolutionmineeis.us/.

The Tribe hereby joins the objections filed by the Western Mining Action Project on behalf of the Inter-Tribal Association of Arizona, Inc., Arizona Mining Reform Coalition, Access Fund, Center for Biological Diversity, Earthworks, and the Sierra Club. *See* Exhibit 1, as attached and incorporated by this reference. The Tribe provides further objections in the form of declarations provided by Stephen Emerman, PhD, and James Wells, PhD, attached as Exhibits 2 and 3, respectively.

Dr. Emerman and Dr. Wells have commented extensively on the DEIS on these topics as reflected in Appendix R of the FEIS and discussed herein, especially as to the Tailings Site Facilities Skunk Camp Alternative. However, the Forest Service has not responded to the concerns raised in Appendix F, nor to the concerns raised by the U.S. Bureau of Land Management ("BLM"). *See* Exhibit 4.

The Southeastern Arizona Land Exchange and Conservation Act of 2015 ("SALECA") includes a condition precedent ***before*** the Forest Service and the Department of Agriculture can convey Oak Flat. *See* 16 U.S.C. § 539(c)(9)(B). This language is mandatory and it specifies an order of operations: "[p]rior to conveying [Oak Flat], the Secretary *shall* prepare a single [EIS]." In other words, SALECA requires a legally compliant EIS before allowing Oak Flat's transfer, and the Secretary lacks statutory authority to transfer Oak Flat to Resolution in the absence of one. Further, the EIS required by SALECA is much more robust than what NEPA ordinarily requires and must support each and every future action related to the Mine. Rather than allowing piecemeal processes to proceed by various agencies, SALECA requires a single, comprehensive EIS.

Defects in the 2025 FEIS would render several future decisions to be made by the Forest Service under federal law as inadequately explained, arbitrary, and capricious. As Dr. Steven Emerman states in his declaration, the 2025 FEIS fails to consider numerous relevant, industry-standard factors related to the tailings storage facility alternatives and both the tailings and concentrate pipelines. *See San Luis & Delta-Mendota Water Authority v. Locke*, 776 F.3d 971, 992 (9th Cir. 2014) (permitting extra-record evidence that is "necessary to determine whether the agency has considered all relevant factors").

According to Dr. Emerman, relevant factors that the 2025 FEIS fails to consider include:

(1) Nine of ten possible causes of pipeline failure, including the most common cause of failure (Exh. 2, at 2-6);

(2) Factors heightening the consequences of pipeline failure including the volume of tailings conveyed, the inability of Resolution to rapidly halt production, and the high-risk features like canyon crossings (*Id*. 6-9);

(3) The probability of a concentrate pipeline failure (*Id*. 9-10);

(4) Factors heightening the consequences of a concentrate pipeline failure to the immediate environment and downstream communities, such as toxicity (*Id*. 10-12);

(5) A dam breach analysis and emergency preparedness and response plan and the consequent risks to downstream communities directly impacted before

any kind of emergency action may be taken (*Id*. 12-16).

(6) The 268-mile runout distance associated with a tailings dam failure as predicted by the empirical model the 2025 FEIS otherwise relies upon (*Id*. 16-19);

(7) All credible failure models after arbitrarily and erroneously defining a "credible" failure in terms of probability rather than possibility (*Id*. 19-20);

(8) Industry standard factors for foundation characterization including intrusive investigations, in situ testing, geophysics, and laboratory testing (*Id*. 20-21).

(9) A stability analysis of the tailings (*Id*. 21);

(10) How outer embankment slopes that are steeper than allowed by U.S. Army Corp of Engineers may increase the risk of catastrophic failure (*Id*. 22-24).

(11) International standards for minimum separation between tailings dams and downstream communities (*Id*. 24-26);

(12) Factors informing whether a modified centerline method or downstream method for the tailings dam should be preferred (*Id*. 26-28);

(13) Factors informing whether tailings potentially generate acid and whether treating so-called NPAG tailings, which include potentially acid-generating tailings, to construct the tailings dam increases the risks of dam failure and of uncontrolled acid mine drainage into the aquifer and downstream waterways, including the Gila River (*Id*. 28-31); and

(14) Factors indicating water consumption of the Project will exceed Resolution's projections by a factor of three (*Id*. ¶ 4).

Importantly, the FEIS reflects that Dr. Emerman raised these concerns, but did not provide a meaningful response. *See* FEIS R-304-05 (breach analysis and emergency planning); 306 (TSF and embankment design), 333-35, 342 (water use and pipelines).

Similarly, Dr. James Wells identifies additional factors that the Forest Service did not consider, including those bearing on whether acid rock drainage will impact water quality at the mine and the TSF and increase the risks to groundwater downstream of the TSF. (*Id.* ¶¶ 14-16). As Resolution notes in its response, Dr. Wells raised his concerns as part of his work on two Project workgroups. As such, his opinions were timely presented to the Forest Service. Had the

Forest Service considered these factors, it likely would have preferred different alternatives. *See Seven County Infrastructure Coalition v. Eagle County*, 145 S. Ct. 1497, 1514 (2025).

Finally, the report prepared by the BLM details the mine's disastrous environmental and cultural impacts and identifies serious and far-reaching shortcomings of the 2025 FEIS that are required before the project can proceed. At the request of the Forest Service and in response to questions related to the hydrology and water resources sections of the 2019 FEIS as raised by the Salt River Pima-Maricopa Indian Community (FEIS, vol. 6) and other Tribes, the BLM found that the FEIS was "deficient, under-developed, or improperly analyzed." While the 2025 FEIS mentions Colorado River Shortages (FEIS at 980-81); the Drought Contingency Plan and Central Arizona Project (id. at 928-80); and Assured Water Supplies, Future Development, and Competing Uses for Groundwater (id. at 981-86), the 2025 FEIS still finds that the East Salt River Valley will be overdrawn and fail to develop a mitigation plan that addresses the major impacts to regional water supply. Namely, the 2025 FEIS fails to adequately analyze the impact of climate change and the long-term environmental impacts of the mine, such as high average temperatures, decreased precipitation, higher evapotranspiration, more frequent and potentially more severe flooding, increases in forest fires due to dry vegetation, increased groundwater pumping due to the reduction of surface flows, and salinity. Further, the FEIS mitigation plan to address the negative impacts on groundwater was found to be "a flawed approach" that resorts to "robbing Peter to pay Paul logic" and "passing the buck," rather than providing true mitigation.

The mine will require extensive groundwater pumping that will deplete aquifers at a time when Arizona is facing an unprecedented cutback of water supplies amid a historic mega-drought that has led to increased wildfires and aridification. At least 775,000 acre-feet of water – enough water for over 181,000 people annually for 40 years will be pumped over the life of the mine, much of it from the East Salt River Valley, of which Pinal County is already facing a deficit of 9 million-acre feet over the next 100 years. According to the 2025 FEIS at 985, the results of groundwater modeling presented in the FEIS show that groundwater levels in the East Salt River Valley will decline by up to 450 feet below current levels due to cumulative demands without providing a mitigation plan. Moreover, in 2023, Arizona Department of Water Resources updated its groundwater flow mater for the entire Salt River Valley which predicts far more groundwater depletion that is disclosed in the 2025 FEIS.

As with the declarations by Dr. Emerman and Dr. Wells, the BLM report also criticized the lack of detailed review of the risks posed by a waste dump that will contain 1.37 billion tons of toxic mine tailings into perpetuity. The Tailings Storage Facility proposed by Resolution will cover nearly 4,000 acres and rise hundreds of feet, impounded by a 500-foot high, three-mile-long dam that poses a significant downstream threat if it should fail. Incredibly, the new 2025 FEIS does not substantively address the issues raised by the BLM report.

The failure to consider the factors identified by Dr. Wells, Dr. Emerman and the BLM completely undermines the Forest Service's FEIS and DROD. Our Tribe, all of

Arizona and the United States deserve better from the Forest Service and the Department.

Accordingly, the 2025 FEIS fails to meet the requirements of SALECA, and therefore, Federal Defendants lack the authority to transfer Oak Flat to Resolution. The Forest Service cannot approve or authorize any of the action alternative described in the FEIS and DROD, including the Exchange and Special Use Permits, or any action alternative at all that the applicant Resolution may propose, unless and until all laws noted herein and by other objectors have been satisfied. As such, the Regional Office must withdraw the FEIS and DROD and order the correction of all errors noted herein and by the other objectors.

Ahi'yi'é (thank you) in advance for your attention in this matter. I look forward to the response by the Forest Service and the U.S. Department of Agriculture.

Sincerely,

SAN CARLOS APACHE TRIBE

Terry Rambler
Chairman

Cc: Maria Dadgar, Exec. Dir., ITAA, maria.dadgar@itcaonline.com
Roger Flynn, WMAP, roger@wmaplaw.org
Curt Shannon, Interim Dir., AMRC, curt@azminingreform.org
Heather Thorne, Exec. Dir., Access Fund
Kiéran Suckling, Exec. Dir., Center for Biological Diversity
Jennifer Krill, Exec. Dir., Earthworks, jkril@earthworksaction.org
Sierra Club – Grand Canyon Chapter, grand.canyon.chapter@sierraclub.org

San Carlos Apache Tribe
Tao Etpison, Vice Chairman
San Carlos Council Members
Vernelda Grant, Dir./THPO/Archaeologist, HPAD
A.B. Ritchie, AG, DOJ
Chrono

Exhibit 1

WESTERN MINING ACTION PROJECT

Roger Flynn, Esq.,
Jeffrey C. Parsons, Esq.

P.O. Box 349
440 Main St. #2
Lyons, CO 80540
(303) 823-5738
roger@wmaplaw.org

Sent Electronically Via USFS Portal

August 4, 2025

Reviewing Official, Regional Forester
USDA Forest Service, Southwest Region,
Southwestern Region
333 Broadway SE
Albuquerque, NM 87102

Portal https://cara.fs2c.usda.gov/Public/CommentInput?Project=48956

RE: **OBJECTION to the**
Resolution Copper Project
Final Environmental Impact Statement ("FEIS") and
Draft Record of Decision ("Draft ROD" or "DROD")

Responsible Official: Neil Bosworth, Forest Supervisor
Tonto National Forest

Pursuant to 36 CFR Part 218, on behalf of the **Inter Tribal Association of Arizona, Inc. ("ITAA" Lead Objector**), Arizona Mining Reform Coalition ("AMRC"), Access Fund, Center for Biological Diversity, Earthworks, and the Sierra Club – Grand Canyon (Arizona) Chapter, ("Objectors"), by and through their undersigned attorneys, file this Objection to the FEIS and Draft ROD for the Resolution Copper Project ("Mine" or "Project") issued by Tonto Forest Supervisor Neil Bosworth on June 16, 2025 (noticed in the Federal Register on June 20, 2025). This includes the proposed Amendments to the Tonto Forest Plan contained in FEIS Appendix T and Section 2.1.4 of the DROD. *See* https://www.resolutionmineeis.us/.

Because the challenged amendments to the Forest Plan are proposed as specific to the Resolution Project, these Objections regarding the proposed amendments are filed under Part 218, not Part 219. "When a plan amendment is approved in a decision document approving a project or activity and the amendment applies only to the project or activity, the administrative review process of 36 CFR part 215 [not applicable] or part 218, subpart A, applies instead of the objection process established in this subpart." 36 C.F.R. § 219.59(b).

A legally compliant FEIS is required for the Forest Service to approve the Land Exchange that would give to multinational mining conglomerate, London-based Rio Tinto Corp. and related companies ("Rio Tinto," "Resolution," or "Resolution Copper") over 2,400 acres of federal land within the Tonto National Forest. The Exchange and related Forest Service approvals would facilitate Rio Tinto's proposed mine known as the Resolution Copper Mine.

Because the DROD is based on the FEIS, these Objections show that both the DROD and FEIS fail to comply with numerous federal laws, including the National Environmental Policy Act, 42 U.S.C. §§ 4321 *et seq*. ("NEPA"); Section 3003 of the Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for Fiscal Year 2015, 16 U.S.C. § 539p ("NDAA" or "Section 3003"); Forest Service Organic Administration Act of 1897, 16 U.S.C. §§ 475, 478, 551 ("Organic Act"); Federal Land Policy and Management Act of 1976, 43 U.S.C. §§ 1701 *et seq.* ("FLPMA"); Clean Water Act, 33 U.S.C. §§ 1251 *et seq.* ("CWA"); National Forest Management Act, 16 U.S.C. §§ 1600-1614 ("NFMA"); the Clean Air Act, 42 U.S.C. §§ 7401 *et seq*. ("CAA"); Endangered Species Act, 16 U.S.C. §§ 1531 *et seq.* ("ESA"); Migratory Bird Treaty Act, 16 U.S.C. §§ 703-712 ("MBTA"); Bald and Golden Eagle Protection Act, 16 U.S.C. §§ 668-668d ("BGEPA"); the Administrative Procedure Act, 5 U.S.C. §§ 551 *et seq*. ("APA"), and the implementing regulations, Executive Orders, and policies of these and other laws discussed herein.

The remedy for these violations is for the Forest Service to withdraw the FEIS and DROD and not issue any decision or take any action based on the inadequate FEIS. This includes the proposed Land Exchange with Resolution Copper, the proposed Forest Plan Amendments, as well as any and all Special Use Permits, Road Use Permits, Rights-of-Way, and other authorizations proposed to be issued by the Forest Service to Resolution and the Salt River Project ("SRP").

The Forest Service must not take any action until a revised FEIS and revised DROD demonstrates full compliance with each and every law, regulation, policy, and Executive Order noted herein. The Regional Forester must withdraw the FEIS and DROD with instructions to the Tonto National Forest to correct all errors noted herein before the Agency can consider approving or taking any actions.

All Objectors filed comments on the Draft EIS in November 2019 and submitted additional and supplemental comments to the Forest Service in December of 2020 and April of 2025 (prior to issuance of the FEIS an DROD) and have fully participated in the Forest Service's ("USFS") review of the Project.

Pursuant to 36 C.F.R. § 218.8, the Objectors state that the following content of this Objection demonstrates the connections between the November 2019, October 2020, December 2020, and April 2025 comments ("previous comments"), as well as the Objections filed on January 26, 2021 and February 26, 2021, for all issues raised herein, unless the issue or statement in the FEIS or DROD arose or was made after the opportunity for comment on the Draft EIS closed, as detailed herein. It should be noted that the public was never provided an opportunity to comment after the DEIS was issued, or regarding the changes to the FEIS or DROD since January 2021, so all changes to the FEIS or DROD since then could never have been commented upon. Pursuant to the Administrative Procedure Act, 5 U.S.C. § 553-706, and USFS requirements, the Regional Forester's Office must provide a detailed response to each of the issues/objections raised in this Objection.

All previous comments submitted by the Objectors, as well as the previous Objections submitted on January 26, 2021, and February 26, 2021, including all exhibits and attachments submitted to the Forest Service by the Objectors, are already in the possession of the Reviewing Officer and Regional Office, and are hereby incorporated into this Objection and into the administrative record and hereby submitted to the Reviewing Officer for its review and consideration. The DEIS comments and exhibits/attachments are also included in FEIS Volume

6, Appendix R. *See e.g.*, R-72 to R-74 (listing the issues raised by AMRC and the location of the Agency's response in Appendix R); R-75 to R-76 (listing the issues raised by the ITAA and the location of the Agency's response in Appendix R); R-74-75 (Center for Biological Diversity); R-77 (Sierra Club).

Interests and Description of Objectors

The **Inter Tribal Association of Arizona, Inc. ("ITAA")**, is an intertribal, non-profit organization of 21 federally recognized Tribes with lands located primarily in Arizona, as well as in California, New Mexico, Utah, and Nevada. The ITAA's Member Tribes have worked together since 1952 to provide a united voice for Tribes on matters of common concern, and have stood in united opposition to the Resolution Copper Mine and Land Exchange Project for nearly 20 years. The representatives of ITAA are the highest elected tribal officials from each of the Member Indian Tribes, including tribal chairpersons, presidents, and governors. ITAA's Member Tribes are the Ak-Chin Indian Community, the Cocopah Tribe, the Colorado River Indian Tribes, the Fort McDowell Yavapai Nation, the Fort Mojave Indian Tribe, the Gila River Indian Community, the Havasupai Tribe, the Hopi Tribe, the Hualapai Indian Tribe, the Kaibab Band of Paiute Indians, the Pascua Yaqui Tribe, the Quechan Tribe, the Salt River Pima-Maricopa Indian Community, the San Carlos Apache Tribe, the San Juan Southern Paiute Tribe, the Tohono O'odham Nation, the Tonto Apache Tribe, the White Mountain Apache Tribe, the Yavapai-Apache Nation, the Yavapai-Prescott Indian Tribe, and the Zuni Tribe.

The **Arizona Mining Reform Coalition ("AMRC")** works in Arizona to improve state and federal laws, rules, and regulations governing hard rock mining to protect communities and the environment. AMRC works to hold government agencies and mining operations to the highest environmental and social standards to provide for the long term environmental, cultural, and economic health of Arizona.

The **Access Fund** is the national advocacy organization that works to keep U.S. climbing areas open and conserves the climbing environment. Founded in 1990, the Access Fund works with more than 145 affiliated local climbing organizations around the country in supporting and representing more than 8 million climbers nationwide in all forms of climbing: rock, ice, mountaineering, and bouldering.

The **Center for Biological Diversity ("Center")** is a non-profit public interest organization with headquarters located in Tucson, Arizona, representing more than 90,000 members dedicated to the conservation and recovery of threatened and endangered species and their habitats. The Center works through science, law, and policy to secure a future for all species, great or small, hovering on the brink of extinction. The Center has long-standing interest in projects of ecological significance undertaken in the National Forests of the Southwest, including proposed mining projects.

Earthworks is a nonprofit organization dedicated to protecting communities and the environment from the adverse impacts of mineral and energy development while promoting sustainable solutions. Earthworks stands for clean air, water and land, healthy communities, and corporate accountability. Earthworks supports solutions that protect both the Earth's resources and our communities.

The **Sierra Club** is one of the nation's oldest and most influential grassroots organizations whose mission is "to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; and to educate

and enlist humanity to protect and restore the quality of the natural and human environments." Sierra Club has more than 2.4 million members and supporters with 35,000 in Arizona as part of the Grand Canyon (Arizona) Chapter. Its members have long been committed to protecting and enjoying the Tonto National Forest.

Objectors have long-standing interests in the proper and lawful management of the National Forests, especially the Tonto National Forest near and adjacent to the town of Superior, including the lands within the Project and Exchange area. Objectors also have long-standing interests in the proper implementation of NEPA and federal public land management laws. Members, officers, staff, and supporters of Objectors participate in a wide range of aesthetic, scientific research, recreational, commercial, and traditional, religious and cultural activities on the Tonto National Forest and within and adjacent to the lands proposed to be impacted by the Exchange and Project activities reviewed in the FEIS.

Objectors' members, officers, staff, and supporters hike, rock climb, guide commercial clients, picnic, conduct cultural and religious ceremonies, appreciate scenery, solitude, and quiet, engage in scientific research projects, and view and value wildlife, in the lands at the site of the Exchange, Project operations, and related infrastructure, including waters adversely affected by the Exchange and Project (such as Ga'an Canyon, Queen Creek, Mineral Creek, and springs and seeps that will suffer severe loss or elimination of flows). Objectors' members, officers, staff, and supporters have concrete plans to continue pursuing these activities on the specific lands and transportation and infrastructure routes impacted by the Exchange and Project operations. These uses will be immediately and irreparably diminished or eliminated altogether by the Exchange and Project operations. Many of Objectors' members live in the town of Superior and near the Project area that will be adversely affected by the Exchange and the Project, while the Mine and all of its infrastructure would exist within the ancestral lands of ITAA's Member Tribes.

INTRODUCTION

On January 15, 2021, the Forest Service published the initial FEIS and DROD for the Resolution Copper Mine and Land Exchange. Objectors immediately filed suit and moved for a preliminary injunction. On March 1, 2021, the agency rescinded the FEIS and DROD. In the ensuing 4 years, the agency did not provide any opportunity for public comment on the changes to the 2021 FEIS and DROD. On June 16, 2025, the Forest Service released the new Final EIS ("FEIS") and Draft Record of Decision ("DROD") on its website. Notice was posted in the Federal Register on June 20, 2025.

The Mine would pump and dewater groundwater and completely obliterate sacred land, Oak Flat, by creating a roughly two-mile-wide and 1,000 foot deep crater from the "block cave" mine operation. This mining method would involve excavating ore 4,500 to 7,000 feet underground within the exchanged parcel and then collapsing the void areas created by the excavation. The result would be a massive, permanent crater. The Mine would transform Oak Flat, which has since time immemorial, been a place of profound religious, cultural, and historical significance, sacred to indigenous people, including the Western Apache and the Yavapai Peoples, into a rubbleized crater, whose steep and unstable slopes would forever remain unsafe for human use.

The faulty FEIS, DROD, and Project review is deficient in numerous critical areas, and violates multiple federal laws. As just one example, the agency completely changed its regulatory structure for reviewing the Project in late 2020 but never provided any public review of the regulatory switch, despite the critical public land issues the 11th hour reversal raise. The agency did this again in 2025, adding the proposed Amendments to the Forest Plan without any public review, as required by NEPA and the NFMA.

Additional problems with the FEIS include its: legally erroneous "purpose and need" that governed the Forest Service's review of the Project; failure to establish and analyze an appropriate environmental baseline; failure to provide for and analyze a full range of reasonable alternatives; failure to provide a full analysis of the impacts of those alternatives; failure to apply the full scope of federal laws applicable to the Project; improper regulation and review of the Project and its infrastructure under erroneous interpretations of federal law; failure to include any information or opportunity to comment on the appraisals that Congress required to be completed (including the additional Non-Federal lands that may be conveyed to the United States based on the appraisals); failure to adequately analyze connected actions and the direct, indirect, and cumulative impacts from the Exchange and Project; and failure to take the required "hard look" under the National Environmental Policy Act ("NEPA"), as well as otherwise violating federal law as noted herein.

Oak Flat, shown above, is located within the Tonto National Forest east of the town of Superior, Arizona.

The Oak Flat area is a place of profound religious, cultural, and historic significance to the San Carlos Apache Tribe and other Indian tribes, nations, and communities in Arizona, including the White Mountain Apache Tribe, the Tonto Apache Tribe, the Fort McDowell Yavapai Nation and others. *See* Hearing before the Subcommittee on Public Lands and Forests

of the Committee on Energy and Natural Resources, United States Senate on S.409, 111th Cong., S. Hrg. 111-65 (June 17, 2009); *see also* Legislative Hearing Before Subcommittee on National Parks, Forests and Public Lands in the U.S. House Natural Resources Committee regarding H.R. 3301, 110th Cong., Serial No. 110-52 (November 1, 2007).

Oak Flat lies within the ancestral lands of the San Carlos Apache Tribe, just west of the San Carlos Apache Reservation. The San Carlos Apache Reservation is home to more than 17,000 enrolled Tribal members. Apache People call Oak Flat "*Chich'il Bildagoteel,"* or "a Flat with Acorn Trees" and it lies at the heart of *T'iis Tseban* Country, which is associated with at least eight Apache clans, and two Western Apache bands, the Pinal Band and the Aravaipa Band.

Because of its importance to the Apache Tribe and other tribes, nations and communities, Oak Flat is included in the National Register of Historic Places as a Traditional Cultural Property ("TCP") under Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470 *et seq.* ("NHPA"), and it meets the criteria to be identified as a "sacred site" within the meaning of Executive Order 13007, Indian Sacred Sites, May 24, 1996, 61 Fed. Reg. 26771 ("E.O. 13007"), the American Indian Religious Freedom Act, 42 U.S.C. § 1996, *et. seq*. ("AIRFA"), and related laws, regulations and policies.

The religious and cultural importance of the Oak Flat area does not reside in isolated spots, but rather in the area as a whole. For the Apache People, the area of "Oak Flat" is bounded to the west by (and including) the large escarpment known as "*Dibecho Nadil*" or "Apache Leap" and on to the east by (and including) *Gan Bikoh*, which means "Crowndancers Canyon," though it is often referred to by Apache People as "Ga'an Canyon" and by non-Indians and in the FEIS as "Devil's Canyon." Oak Flat is bounded to the north by (and including) *Gan Daszin* or "Crowndancer Standing," which is delineated on most maps as "Queen Creek Canyon."

Ga'an Canyon, as referred to by Apache People, which bounds Oak Flat to the east and would suffer long term loss of water, seeps and springs as a result of Resolution's groundwater pumping. A large mine waste pipeline would span the Canyon, destroying its cultural, religious, and historical uses and values.

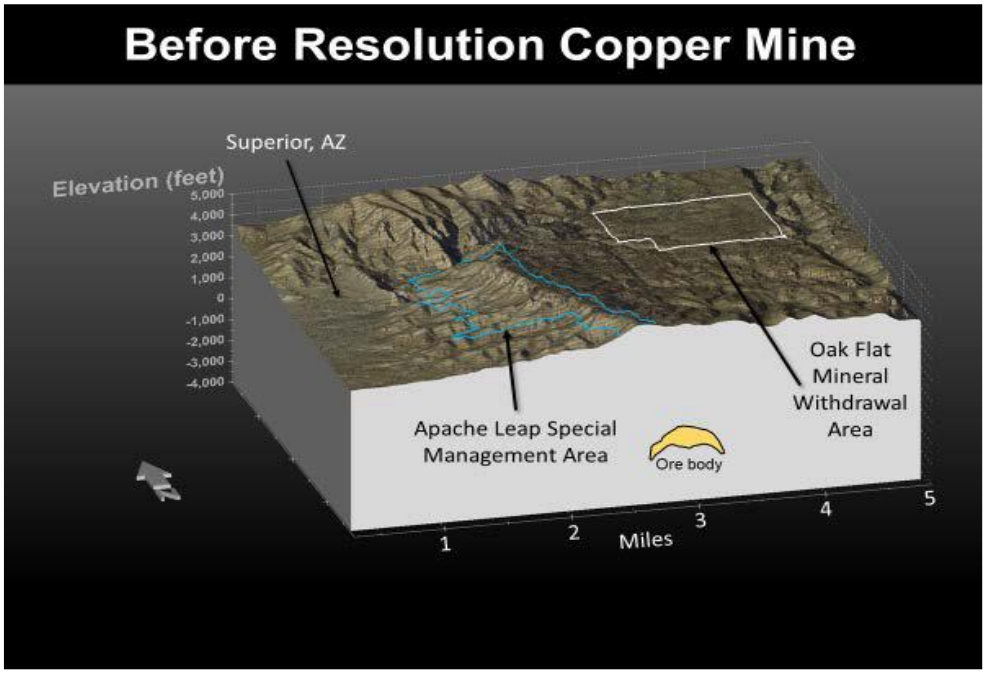
The ancient oak grove at Oak Flat provides an abundant source of acorns that, for many centuries and even today, provides an important traditional food source for the Apache People. There are also hundreds of plants and other living things in the Oak Flat area that are essential elements of the Apache religion and culture. Some of these plants are medicines known to and harvested only by gifted Apache herbalists. Although these plants can be gathered in other areas, Apaches believe that only plants within the Oak Flat area are imbued with the unique power of this area.

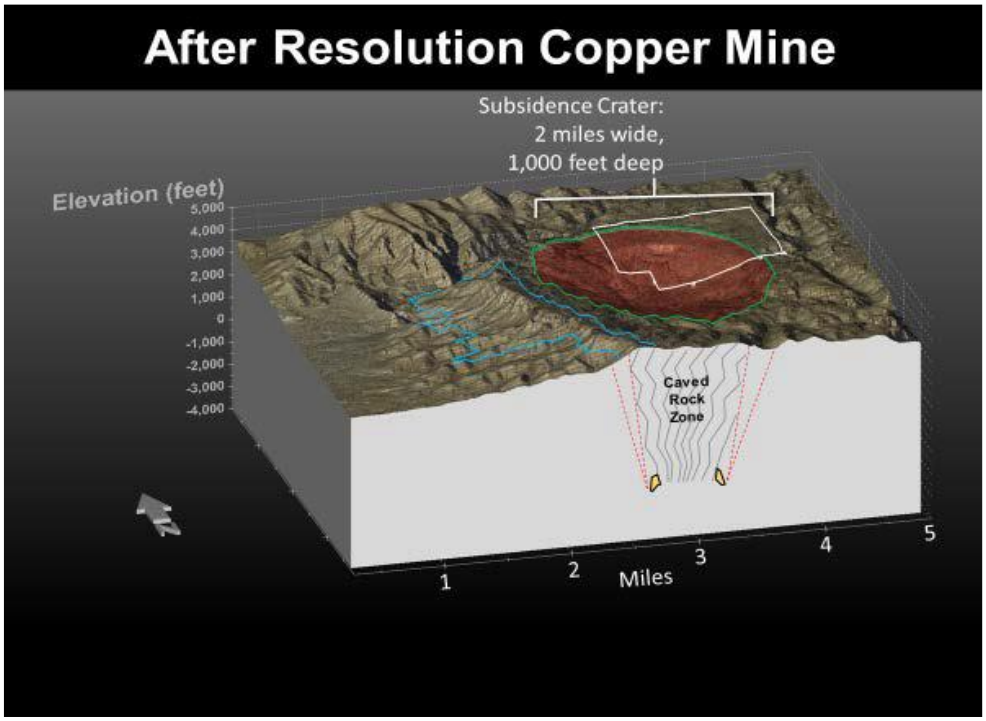
Oak Flat is also recognized for its beauty and importance to outdoor enthusiasts, including members of Objector groups who value it for outdoor recreation and as a place of unique biological diversity. Oak Flat attracts rock-climbers from around the country as it contains numerous large boulders, thousands of developed climbing routes, and spectacular outcroppings. It was the site of the largest outdoor bouldering competition in the world for 15 years In the campground and picnic area, ancient oak trees provide shade for hikers, campers, and picnicking families, and give sanctuary to many important bird species. Sitting at an approximate elevation of 4,200 to 4,600 feet above sea level, Oak Flat is a cool respite for the many travelers and visitors from Phoenix and elsewhere, who often recreate at Oak Flat and in the surrounding Forest Service lands.

Wildlife cameras have documented a wide variety of wildlife at Oak Flat, including mountain lion, bear, and coatimundi. Nearby lands provide important wildlife habitat for Federally listed endangered and threatened species such as the southwestern willow flycatcher,

yellow billed-cuckoo, Gila chub, Arizona hedgehog cactus, and ocelot. Over 170 bird species have been documented at Oak Flat.

The "block-cave" mine method and the resulting crater will forever transform and obliterate Oak Flat:





Before and After Graphics of Resolution Copper Mine.[1]

Graphics From Written Testimony of James Wells, PhD, Environmental Geologist, L. Everett & Associates, Environmental Consultants, Testimony before House Natural Resources Subcommittee on Indigenous Peoples of the United States Hearing on "The Irreparable

In addition to destroying the sacred lands of Oak Flat, thousands of additional acres would become permanent unlined waste dumps, buried under nearly 1.4 billion tons of toxic waste covering six square miles behind a 490-foot-high dam. This toxic sludge would travel through 19 miles of pipeline, traversing desert canyons, including Ga'an Canyon, and washes to reach this permanent dump location that is upstream and upgradient of the Gila River southeast of the mining area. The Project would also include a new 22-mile pipeline to transport the copper ore concentrate west/southwest towards the town of Magma for further processing and shipment. *See generally*, FEIS at ES-7 to ES-8 (Project description).

The Project would use massive amounts of water. The estimated total quantity of water needed for the life of the mine (construction through closure activities) ranges from up to 677,000 acre-feet ("AF") as analyzed in the FEIS to as much as 786,626 AF predicted in Resolution's mine plan.[2] The water would be consumed from various sources, including from mine dewatering and groundwater pumping. Much of the water consumed by the Project would be pumped from the groundwater underlying the heart of the East Salt River Valley.

The Exchange and Project would perpetrate a systematic violation of *Chich'il Bildagoteel* (Oak Flat) through mining, drilling, groundwater pumping (resulting in severe impacts to water resources), grading, construction, road building and expansion, traffic, light and noise pollution, sediment and erosion, and other activities. These activities would result in the physical destruction of Oak Flat (including Ga'an Canyon), forever changing the character of Oak Flat relative to its crucial role in Apache religion and culture, and the introduction of auditory, visual and atmospheric disturbances that would profoundly destroy the integrity of this special place (both as a "Traditional Cultural Property" under the National Historic Preservation Act and as a sacred site) for Tribal members.

The Mine and Exchange have long been opposed by the San Carlos Apache Tribe, whose reservation is located just east of the Exchange area, along with essentially all other Native American Tribes in Arizona, including all of the Member Tribes of Objector, the ITAA, which, through ITAA or its sister organization, the Inter Tribal Council of Arizona, Inc., has testified in Congress against the Exchange and enacted resolutions in opposition to the Exchange and Mine.

The significance of Oak Flat has been long recognized. In 1955, 760-acres of Forest Service managed lands that are included in the Exchange and would be permanently damaged by the Mine, were withdrawn from mining and mineral entry by the Eisenhower Administration as the "Oak Flat Withdrawal Area" in Public Land Order 1229. The withdrawal prevented mining companies, such as Rio Tinto, from conducting mineral exploration or other mining-related activities at or underneath the Withdrawal Area. That withdrawal is still in place today and until the Exchange occurs, no mining on or under these lands can be authorized.

After a decade of lobbying to acquire these sacred lands around the copper deposit that Rio Tinto seeks to mine, a rider was added to a must-pass appropriations bill for the Defense Department leading to Congressional authorization of the Exchange. But Congress expressly conditioned the Exchange on the Forest Service issuing the FEIS in full compliance with the

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Environmental and Cultural Impacts of the Proposed Resolution Copper Mining Operation" 12 (Mar. 12, 2020).

[2] An acre-foot of water equals roughly 325,851 gallons.

terms of the Act, and all other applicable laws. *See* 16 U.S.C. § 539p (§3003). And it is only after such a lawful document is issued that the Exchange clock could start, providing 60 days for the Secretary of Agriculture to execute the Exchange. § 3003(c)(10) ("Not later than 60 days after the publication of the final environmental impact statement, the Secretary [of Agriculture] shall convey all right, title, and interest of the United States in and to the Federal land to Resolution Copper.").

The exchange parcel to be conveyed to Resolution Copper includes not only the Oak Flat Withdrawal Area but also Forest Service surface lands that lie above the copper deposit subsurface. This collective 2,422-acre tract of land is known as the "Oak Flat Federal Parcel" in the NDAA.

Although Congress directed the Forest Service to exchange the federal parcels at and around Oak Flat as described in the NDAA, Congress required all federal agencies to otherwise comply with NEPA and all applicable laws, for both the review and approval of the Exchange, as well as for Resolution's plans for facilities related to the Mine, such as tailings impoundments, mine shafts, pipelines, electrical transmission lines and facilities, roads, water use, and other activities.

The Agency specifically stated that the FEIS needed to be completed, and comply with NEPA, before the Exchange could be approved. Fed. Reg., Vol. 81, at 14829 (March 18, 2016). Indeed, in a response to a public letter to Rio Tinto/Resolution, the company reiterated that the Exchange could not be authorized/approved unless the FEIS was fully compliant with NEPA:

> The Resolution land exchange, in contrast to other land exchanges mandated by Congress, is subject to completion of an environmental impact assessment under the National Environmental Policy Act (NEPA) by the US Forest Service. Other land exchanges mandated by Congress occur 60 days after passage without a review under NEPA. **Making the Resolution land exchange contingent on a full NEPA review was one of the requirements that bipartisan leaders included in the legislation prior to its passage in 2014.**

Email response from Jakob Stausholm, CEO of Rio Tinto, to Roger Featherstone, Director of Objector AMRC (emphasis added, and previously submitted with 2021 Objections).

The NDAA also placed significant restrictions on the Forest Service's approval of the Exchange and Resolution's mining infrastructure plans, including that a single FEIS that is fully compliant with all federal laws, including the National Environmental Policy Act ("NEPA"), 42 U.S.C. §§ 4321 *et seq*., is to be the basis for all decisions under federal law related to the Exchange and the Mine. *See* § 3003(c)(9) ("the Secretary shall carry out the land exchange in accordance with the requirements of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.)."

According to the NDAA:

> Prior to conveying Federal land under this section, the Secretary shall prepare a single environmental impact statement under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), which shall be used as the basis for all decisions under Federal law related to the proposed mine and the Resolution

> mine plan of operations and any related major Federal actions significantly affecting the quality of the human environment, including the granting of any permits, rights-of-way, or approvals for the construction of associated power, water, transportation, processing, tailings, waste disposal, or other ancillary facilities.

§ 3003(c)(9).

Thus, the agency cannot defer or postpone the review of any aspect of the Exchange or the Project to a future public or agency process, as Congress directed that all aspects be analyzed in "a single environmental impact statement." Id. Yet as shown herein, that is what the Forest Service has done, by deferring and postponing full consideration of the baseline conditions, connected actions, direct, indirect, and cumulative impacts, mitigation measures and analysis, and other aspects of the Exchange and Project.

Notably, the NDAA did not authorize, require, or otherwise direct the Forest Service or any other agency to approve the mine plan of operations ("PoO") (also called the General Plan of Operations ("GPO")), Special Use Permits, Rights-of-Way ("ROWs"), Clean Water Act Section 404 permit, or any other permits or approvals required for the Project's infrastructure and facilities.

Another critical limiting factor for this Exchange is Congress' express requirement that the Forest Service cannot approve the Exchange until the lands to be obtained by Resolution (known as the "Federal Land") and the lands to be obtained by the federal government (known as the "Non-Federal Land") are subject to completed and approved appraisals that comply with federal appraisal regulations (36 CFR Part 254) and standards.

The FEIS' and the Forest Service's review of the Exchange and Project are legally deficient despite § 3003(c)'s requirement that all agencies comply with federal laws including NEPA.

The Forest Service relied on the inadequate FEIS to issue, on June 20, 2025, a Draft Record of Decision ("DROD") for the Project. As shown herein, the FEIS improperly limited its review based on an incorrect analysis of the Agency's authority over the Project and its related facilities and activities that was the basis for the DROD.

The Massive Size, Scale, and Impacts of the Resolution Project

Resolution Copper is proposing to develop one of the largest mining projects in U.S. history. Resolution's Project includes the mine site itself, as well as associated infrastructure, large power transmission lines, dewatering operations, numerous high-capacity groundwater pumping wells and delivery pipelines, waste and ore concentrate delivery pipelines, transportation corridors and roads, and a massive tailings waste storage facility.

According to the Forest Service: "it is expected that one of the largest copper mines in the United States would be established on the exchange parcel, with an estimated surface disturbance of roughly 9,900 acres (approximately 11 square miles). It would also be one of the deepest mines in the United States, with mine workings extending 7,000 feet beneath the surface." FEIS at 3. "The project would progress through three distinct phases: construction

(mine years 1 to 9), operations, also referred to as the production phase (mine years 6 to 46), and reclamation (mine years 46 to 51–56)." FEIS at ES-3.

After closure and reclamation, the large-scale removal of the ore and resulting geological subsidence at the mine would permanently alter local aquifers and the topography and scenic character at Oak Flat (FEIS at 45-46); permanently deposit 1.37 billion tons of toxic tailings (FEIS at 62) that must be permanently maintained through ongoing surface water diversions walls, channels, collection ponds, and other stormwater control elements (FEIS at 132); permanently damage the National Register of Historic Places-listed Chich'il Bildagoteel Historic District Traditional Cultural Property (FEIS at ES-28).

> Resolution would mine:
> 1.4 billion tons of ore and produce[] 40 billion pounds of copper using a mining technique known as panel caving. Using this process, a network of shafts and tunnels is constructed below the ore body. Access to the infrastructure associated with the panel caving would be from vertical shafts in an area known as the East Plant Site, which would be developed adjacent to the Oak Flat Federal Parcel. This area would include mine shafts and a variety of surface facilities to support mining operations. This area currently contains two operating mine shafts, a mine administration building, and other mining infrastructure.

FEIS at ES-3.

"The type of copper deposit that would be mined at the East Plant Site is a porphyry deposit, a lower-grade deposit that requires higher mine production rates to be economically viable. The copper deposit that Resolution Copper proposes to mine averages 1.54 percent copper (i.e., every ton of ore would on average contain 31 pounds of copper)." FEIS at ES-7.

Ore processing would take place outside the town of Superior, in an area known as the "West Plant Site." FEIS at ES-7. "Mined ore would be crushed underground and then transported underground approximately 2.5 miles west to an area known as the West Plant Site, where ore would be processed to produce copper and molybdenum concentrates." Id.

As a result, Oak Flat and the entire area:

> would be permanently altered by large-scale ore removal and geological subsidence. The resulting 7,000-foot-deep area of fractured rock and approximately 1.8-mile-wide subsidence crater at the surface of Oak Flat, together with ongoing mine dewatering, would be likely over time to result in measurable reductions in flows in Devil's Canyon and Queen Creek and the long-term loss of some seeps and springs in the Superior area.

FEIS at 45.

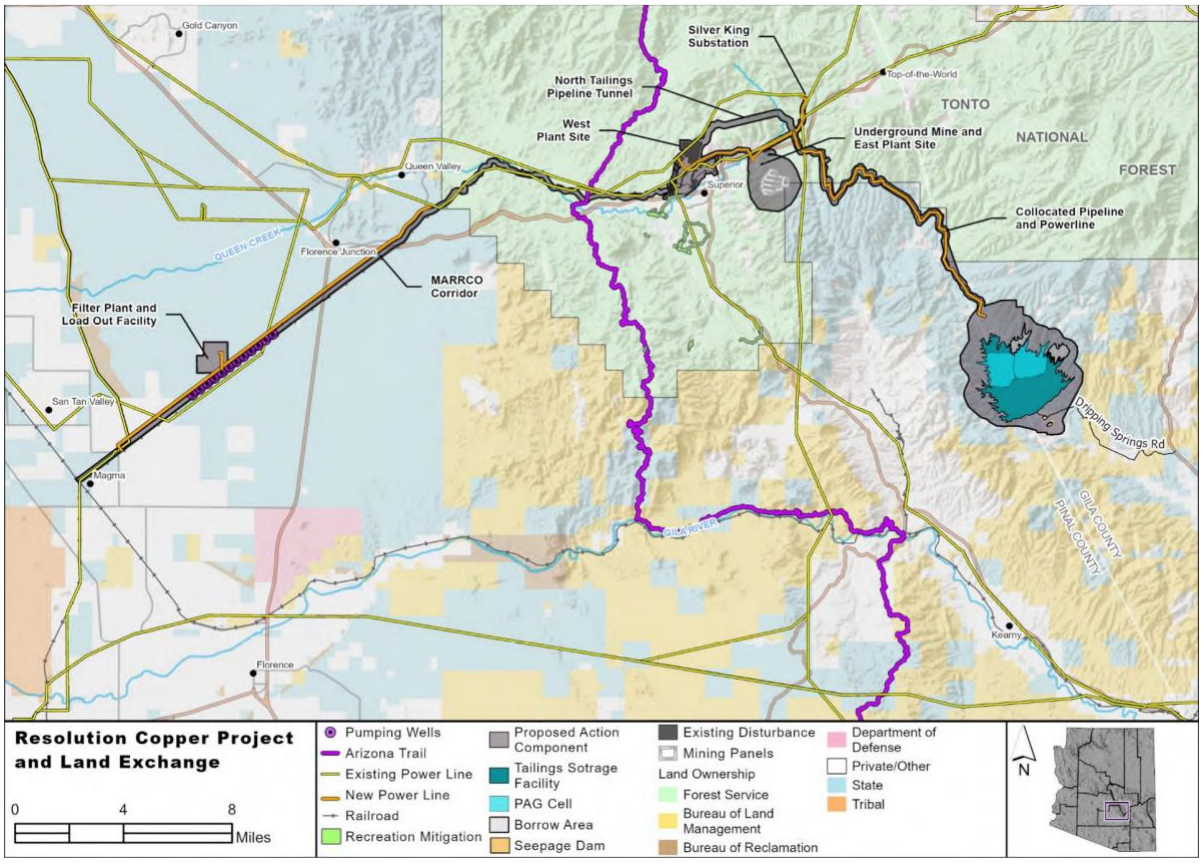
A massive tailings storage facility would contain the waste material left over after processing. Under the Agency's chosen alternative for the tailings waste facility and associated infrastructure in an area known as "Skunk Camp," the tailings dump "with the revised pipeline/power line corridor, would include approximately 14,938 acres of disturbance, of which 2,458 acres is NFS [National Forest Service] land, 8,210 acres is ASLD [Arizona State Land Department] managed, and 4,270 acres is private land." FEIS at 122.

"The tailings storage facility also presents risks to the watershed through the potential for contaminants from metals or chemicals in tailings seepage to escape controls and enter groundwater and/or downstream surface waters, thereby potentially threatening riparian areas and other wildlife habitats, human uses, and waters provided to livestock." FEIS at 45.

Pipelines would be constructed to transport the tailings waste from the ore processing facility in the form of a slurry to the tailings storage facility. Thickened slurry would be pumped in two streams to the tailings storage facility, and a recycled water pipeline would return water to the processing loop at West Plant Site, all within a 19-mile corridor from the West Plant Site to the tailings storage facility. FEIS at 132. These new pipelines would cross Ga'an Canyon, resulting in years of construction, and permanent desecration of, this designated Traditional Cultural Property and sacred site.

On the west side of the Project, the ore concentrate (materials remaining after the tailings waste has been extracted) would be delivered via another large pipeline for further processing. "Once processed, the copper concentrate would be pumped as a slurry through a 22-mile pipeline to a filter plant and loadout facility located near Florence Junction, Arizona, where copper concentrate would be filtered and then sent to off-site smelters via rail cars or trucks. The molybdenum concentrate would be filtered, dried, and sent to market via truck directly from the West Plant Site." FEIS at ES-7.

The FEIS provides an overview map of the Agency's preferred alternative, showing the massive scale of the overall Project.



FEIS at 124, Figure 2.2.8-1.

Notably, although the Forest Service proposes to issue a Special Use Permit for the 19-mile pipeline to carry the tailings waste to the Skunk Camp site (towards the southeast of the Mine site), the agency is not requiring any such Permit for the 22-mile ore concentrate pipeline heading southwest past Florence Junction, a large portion of which crosses Forest Service managed public land. This is despite the fact that the agency required Resolution to obtain a Special Use Permit for the installation of a previous water pipeline in the same corridor in 2008.

The 2008 Special Use Permit in the MARRCO Corridor authorizes the use of a 4-foot right of way on Forest Service lands for this water pipeline. The 2008 Special Use Permit expired in 2018 and Plaintiffs have not been notified whether it was renewed by the Forest Service.

Arizona has been experiencing decades of drought. As of July 2025, 97% of Arizona is under some form of drought, according to the U.S. Drought Monitor, with central and southern Arizona experiencing extreme drought conditions. Making matters worse, the Colorado River, which provides a primary source of water for Maricopa, Pinal, and Pima Counties through the Central Arizona Project, is facing significant shortages due to a structural deficit, ongoing drought, and years of declining snowpack in the Colorado River Basin.

Yet, the estimated total quantity of water needed for the life of the mine (construction through closure) is huge, ranging from up to 677,000 AF as analyzed in the FEIS to as much as 786,626 AF, as shown in Figures 3.6-1a, 3.6-1b, and 3.6-1 of Resolution Copper's original GPO, V-2, though the water demand could easily much greater than this. The water would be consumed from various sources over the life of the Mine, including from mine dewatering and groundwater pumping. Much of the water to be consumed by the Mine (at least 544,858 AF under the Agency's preferred alternative) would be pumped from the groundwater underlying the company's proposed Desert Wellfield located in the heart of the East Salt River Valley.

After mine closure and reclamation, the Mine would continue to deplete Arizona's water resources through, *inter alia*, ongoing losses (draining) from the upper aquifer system into the underground mine workings and the potential pit lake formed from subsidence at the mine site, and from evaporation and other losses from the seepage and runoff collection ponds at the tailings site.

In addition, even if a pit lake is not formed, the "changes wrought to the aquifer by the block caving fundamentally change the hydrologic and geologic framework of the system....and a return to pre-mining hydrological conditions is not anticipated." FEIS at 497. A "persistent cone of depression" at the Mine will therefore continue to deplete local groundwater resources in the area for at least "1,000 years" as modeled. Id.

Overall, the actual amount of water that will continue to be depleted by the Mine Project post closure and reclamation— in some cases in perpetuity— is not disclosed or analyzed in the FEIS or analyzed in the Project's overall water budget.

The FEIS neither discloses nor analyzes the large delta between the amount of water that will be pumped by Resolution from the Desert Wellfield, long term storage credits held by Resolution Copper, shaft dewatering water, and effluent in various groundwater storage or groundwater savings facilities in the Phoenix Active Management Area. Meanwhile the amount

of "wet" water that can actually be physically recovered from the long term storage credits accumulated by Resolution in the New Magma Irrigation Drainage District's groundwater savings facility, appears to be zero, since as ASLD has indicated, the Desert Wellfield is outside of the area of hydrologic impact (AOI) from where the water storage at New Magma occurred.

Nothing in the FEIS—whether through mitigation requirements or otherwise—requires that Resolution Copper utilize any of its long term storage credits to offset the Project's future impacts on local and regional water supplies from pumping at the Desert Wellfield or mine dewatering. Under today's drought conditions, these long-term storage credits are valuable and could easily be sold. Indeed, in the years since the prior FEIS was rescinded, tens of thousands of Resolution's water storage credits have been transferred to others. Furthermore, the new FEIS acknowledges that it does not contain <u>any</u> mitigation for impacts from the Desert Wellfield pumping. Indeed, the direct, indirect, and cumulative impacts of this mine's groundwater pumping in the East Salt River Valley on regional water supplies and infrastructure have not been disclosed or analyzed in the FEIS.

Although all mining would be conducted underground, removing the ore would cause the ground surface to collapse, creating a subsidence area at the Oak Flat Federal Parcel. The crater would start to appear in year six of active mining. The crater ultimately is projected to be between 800 and 1,115 feet deep and roughly 1.8 miles across. FEIS at 67. The "Total Area of Subsidence" would be 1,751 acres. FEIS at 67, 166.

The crater would also likely create a pit lake or lakes, resulting in additional losses to the region's groundwater supplies, as water would continuously migrate into the lake/lakes from the shallow alluvial aquifer and from other sources, and then evaporate over time, being lost forever.

The Exchange and Project would, *inter alia*, significantly and irreversibly impact and adversely affect the recreational, scenic, wildlife habitat, conservation, scientific and other related values of this region for all of those who visit, use, and enjoy the Oak Flat and surrounding area, including the members of the Plaintiffs.

Under the Exchange, the Oak Flat federal lands would leave federal jurisdiction, significantly reducing wildlife and other protections on these lands as the Organic Act, FLPMA, NFMA, Tonto National Forest Land and Resource Management Plan (Forest Plan), critical provisions of the Endangered Species Act, and related federal laws would no longer apply. *See* FEIS at 611.

The initial construction of the Mine would also cause impacts to all wildlife groups found within the analysis area (including amphibians, birds, fish, invertebrates, mammals, and reptiles) through the loss, degradation, and fragmentation of breeding, rearing, foraging, and dispersal habitats; collisions with and crushing by construction vehicles; the loss of burrowing animals where grading would occur; increased invasive and noxious weeds; increased edges of vegetation blocks; and impacts from increased noise and vibration levels. FEIS at 615–16.

The operation of the Mine would cause additional impacts to wildlife including impacts associated with subsidence; the reduction in surface water flows, springs, and groundwater availability all of which is needed to support riparian habitats; habitat changes from noxious and

invasive weed establishment and spread; and the presence of workers, nighttime lighting, and equipment. FEIS at 616–17.

The massive water needs of the Mine would reduce water throughout regional aquifers and reduce surface water and groundwater levels in Ga'an Canyon and Queen Creek. *See, e.g.*, FEIS at 617. Surface water amounts would be reduced, and the timing and persistence of surface water would decrease. Id. This would, among other things, reduce or remove wildlife habitat in areas along Ga'an Canyon and Queen Creek, and around springs. Id.

The Forest Service purports in the FEIS that impacts to wildlife would be mitigated by "replac[ing] water sources for any riparian areas associated with springs or perennial streams (groundwater-dependent ecosystems) impacted by the drawdown from the mine dewatering and block caving." FEIS at 642. Yet, the FEIS only identifies potential actions that could be used to replace certain water sources and makes these potential actions dependent on "monitoring reach[ing] a specified trigger." FEIS at 450: Appendix J, J-19-20. This "trigger" can only be activated after a showing of 2 years of decline data plus additional regional data, and still allows for an exception to implementing mitigation "if a defensible argument could be made" that quantitative triggers have not otherwise been met. *See* id.

Moreover, although the FEIS identifies "[a] variety of potential actions that could be used to replace" such water sources, there is no substantive analysis of the effectiveness of such measures despite NEPA requiring as much. *See* id.

The FEIS fails to fully review the impacts from the Project on wildlife and fails to provide any reasonable mitigation plan to prevent these impacts. For example, the Agency admits that avian species may use the seepage ponds in the Project area. FEIS at 617. But the concentration of pollution in the seepage ponds is expected to be above chronic exposure limits, and some acute exposure limits, which could result in short-and long-term impacts on avian species, with the impacts the most severe if they are exposed over an extended period of time. Id.

Further, the tailings storage facility recycled water ponds represent large areas with persistent water, which would attract wildlife in the desert environment. FEIS at 625. The ponds would likely have some constituents with concentrations above Arizona water quality standards for wildlife, and thereby impact wildlife including birds. Id.

The tailings storage facility seepage collection ponds, near the tailings storage facility, would persist for many years or decades after closure of the mine, FEIS at 625, if not forever, and over time, the water quality in these ponds is expected to worsen, and would be dangerous to wildlife including birds. Id.

Uncovered process ponds at the West Plant Site would also represent potential exposure to poor water quality for wildlife species, including primarily birds. FEIS at 625.

For birds, including migratory species, the noise and vibration associated with construction activities could temporarily change habitat use patterns for some species. FEIS at 619-20. Raptors could be especially susceptible to noise disturbance early in the breeding season, through nest abandonment and reduction in overall success. Id. The Project could cause additional harm, disturbance, and death to birds through potential electrocution and from

striking electrical distribution lines. FEIS at 620. Impacts to migratory birds from artificial light increases at night can also cause injury or death from collisions with structures, reduced energy stores due to delays or altered routes, and delayed arrival at breeding grounds. FEIS at 620. The impacts to migratory birds from the mine construction, mine operation, and maintenance activities would likely impact individual birds and local migratory bird populations. FEIS at 620. Population-level impacts would likely be greater for species that breed in the analysis area. Id. The FEIS does not disclose which of the over 170 avian species that have been documented at Oak Flat or which of the 34 special status avian species that would be potentially impacted could fall into this category. Nor does the FEIS discuss the effectiveness of any proposed mitigation that may be implemented in avoiding or minimizing negative impacts. FEIS at 627–30; id. at 613.

Although the FEIS identifies some potential mitigation measures for avian species, such as rubber balls that could be used to deter or prevent birds from using process water, seepage, and recycled water ponds, there is no substantive analysis as to their effectiveness, instead the FEIS merely asserts, without evidentiary support, their "effectiveness." FEIS at 642–43. The FEIS repeats this same error for lighting, noise, and other impacts from the proposed mine (identifying mitigation measures, not analyzing them, and then pronouncing them "effective"). FEIS at 642, FS-WI-01.

The mine would also cause adverse impacts to fish, including mortality from loss or modification of habitat, due to changes in groundwater elevation and losses to contributing surface flows. FEIS at 620–21. These impacts would have the greatest potential to impact fish species along areas of Ga'an Canyon and Queen Creek that currently have surface flows. Id.

The yellow-billed cuckoo, which is designated as threatened with extinction, may occur within the analysis area along Ga'an Canyon and Mineral Creek. FEIS at 633. The Mine could cause a loss of habitat for the cuckoo along Ga'an Canyon and Mineral Creek through reduced surface flows. Id. Potential habitat changes include the loss of riparian habitat and a conversion of habitat to a drier, xeroriparian habitat (desert washes), which could cause habitat to become unsuitable for nesting by the species. Id.

The removal of vegetation and impacts from workers and equipment also could lead to the avoidance of the disturbed area and vicinity by the yellow-billed cuckoo. FEIS at 633. In addition, the potential impacts on the cuckoo's proposed critical habitat includes the removal of riparian woodlands, including potentially suitable nesting, foraging, and dispersal habitat, and a corresponding reduction in the prey base for the species. Id.

The southwestern willow flycatcher is also designated as endangered with extinction under the federal Endangered Species Act and has designated critical habitat in the analysis area that could be impacted by the Project. FEIS at 636. The Gila chub is also designated as endangered with extinction and has designated critical habitat along Mineral Creek. FEIS at 637. Potential impacts on the Gila chub include habitat modification and potential changes to water quality, and potential impacts on the designated critical habitat includes the reduction of perennial pools. Id.

The predicted acres of wildlife that could be impacted by the Project include: 16,445 acres for the threatened western yellow-billed cuckoo; 47,108 acres for the endangered southwestern willow flycatcher; 115,075 acres for the American peregrine falcon; 100,936 acres

for the bald eagle; 96,367 acres for the golden eagle; 27,292 acres for the western burrowing owl; 431 acres for the endangered Gila chub; 114,892 acres for the Monarch butterfly; and 113,590 acres for the Sonoran desert tortoise. FEIS at 627–31.

Many additional impacts to wildlife and vegetation from this proposed Mine have not been properly analyzed in this FEIS. This includes thousands of acres of additional proposed powerline rights-of-way which are not listed for approval in the DROD, as well as the impacts on wildlife and vegetation from blasting an 8,800 foot tunnel through Kings Crown Peak, to name a few.

The project's pipelines, roads, and transmission lines (only some of which are listed as proposed to be approved in the DROD), would also cause significant and largely unmitigated adverse effects to important plants, such as the endangered Arizona Hedgehog Cactus. *See* FEIS Appx. P, U.S. FWS Biological Opinion, Dec. 31, 2020 ("BiOp").

DETAILED OBJECTIONS

In addition to the Objections noted above (and in January and February 2021), which were raised in the previous comments, but were not adequately remedied by the FEIS and DROD, the following detailed Objections further highlight the legal and factual errors that warrant the withdrawal of the FEIS and DROD. These issues were either raised by the Objectors' previous comments, or arose after the close of the public comment period on the Draft EIS in November 2019.

Under the Part 218 Objection regulations, as noted above, parties such as the Objectors can raise issues that arose after the public comment period on the Draft EIS closed. Many issues in these Objections deal with that very situation, where the Forest Service not only included new material information but more critically changed its entire review of the Project. The Tonto National Forest never submitted the Special Use Permit Applications for public review as required by NEPA, FLPMA and the Part 251 Regulations.[3]

The Appraisals for the federal parcels fail to comply with the law.

The objectors did not have an opportunity to provide comment on the appraisals for the land exchange and their compliance with the law until now. This is because the Forest Service only posted the Appraisal Report Summary for each appraisal discussed below on its website on April 22, 2025.

The land exchange and mine project cannot proceed without the Agency's compliance with the strict appraisal, "equal value" and other standards regarding the value of the lands and minerals to be traded. "The land exchange is subject to certain conditions," including appraisal and equalization requirements. *Apache Stronghold v. United States*, 101 F.4th at 1046. Section 3003 sets forth mandatory provisions governing the appraisals for the federal and non-federal lands to be exchanged. The land exchange and mine project can occur only after "the final

[3] Thus, due to the 11th Hour submittal of the Special Use Permit applications, Objectors were not able to comment upon the Special Use Permit applications in comments on the DEIS. However, Objectors did raise issues regarding the proper application of the Part 251/261 regulations, FLPMA, and public land law in AMRC's November 7, 2019, comments at 19-35.

appraised values of the Federal land and non-federal land are determined and approved by the Secretary." 16 U.S.C. § 539p(c)(4)(B)(ii).

As required by § 3003, the appraisals must be conducted in compliance with the Forest Service's appraisal regulations, 36 C.F.R. § 254.9. 16 U.S.C. § 539p(c)(4)(A). The appraisals must also be conducted "in accordance with nationally recognized appraisal standards, including (I) the Uniform Appraisal Standards for Federal Land Acquisitions; and (II) the Uniform Standards of Professional Appraisal Practice." *Id*. § 539p(c)(4)(B). Additionally, the appraisals "shall include a detailed income capitalization approach analysis of the market value of the Federal land which may be utilized, as appropriate, to determine the value of the Federal land." *Id*. § 539p(c)(4)(C).

"The value of the Federal land and non-Federal land to be exchanged under this section shall be equal or shall be equalized in accordance with this paragraph." *Id*. § 539p(c)(5)(A). If the appraised value of the federal lands and minerals exceeds the value of the non-federal lands, Resolution must either convey additional non-federal land within Arizona to the Secretary of Agriculture or Interior, or make a cash payment to the United States that would be used to acquire additional National Forest System lands within the region. *Id.* § 539p(c)(5)(B). But before those considerations may occur, the NDAA's appraisals and equal-value requirements must be legally valid.

The Secretary of Agriculture's Approval of the Appraisals Violates § 3003, Forest Service Appraisal Regulations, and Federal Appraisal Standards.

The Forest Service prepared two appraisals for the federal lands to be exchanged, one covering the 766-acre "Mineral Withdrawal Area" ("MWA") parcel, and the other covering the 1,655-acre MCZ parcel. While the appraisal for the MWA parcel included an estimated value of the 5.33 billion pounds of copper under the surface, the appraisal for the MCZ parcel failed to include any value for the tens of billions of dollars worth of copper, valuing the entire 1,655-acre parcel at less than $2 million.

The Secretary of Agriculture and the Forest Service failed to comply with the mandatory appraisal and equal value requirements in at least five ways. First, the appraisal of the MCZ parcel, which overlies the vast majority of the copper ore body, erroneously assumed that the value of the estimated 35 billion pounds of copper is zero, simply because Resolution has filed paper mining claims on these federal lands—misunderstanding federal mining, appraisal, and public land law. Second, the MCZ appraisal contradicts the Forest Service's appraisal regulations, which require that in calculating market value, all values of the exchanged lands must be factored in, including minerals. In fact, that was exactly what the agency told Congress it must do. Third, the MCZ appraisal erroneously determined that the "highest and best use" of those lands (required by the appraisal rules and standards) was merely for "surface land use in support of a mining operation." This is despite the fact that the intended use of the MCZ is for extracting its copper and other minerals. Fourth, the MCZ appraisal violates the appraisal regulations and standards by failing to treat the Exchange as a private-lands transaction, not as if the lands were still federal (and subject to Resolution's paper mining claims). Fifth, for the both the MWA and MCZ parcels, the Forest Service failed to include any value for the rare earth minerals that the FEIS claims are included in the ore deposit.

1) Resolution's paper mining claims do not render the federal minerals valueless.

At the outset, the MCZ appraisal is based on the erroneous assumption that the value of the 35 billion pounds of copper on these federal lands is zero, simply because Resolution has filed mining claims on these lands. Because of these claims, the appraiser believed that the government did not own its own mineral estate. The appraiser's assumption contradicts longstanding Supreme Court precedent. Although Resolution has filed mining claims on these lands, the United States undisputedly still owns the mineral estate (as well as the surface estate). While owners of unpatented mining claims hold possessory interests in their claims, these interests are a "unique form of property." *U.S. v. Locke*, 471 U.S. 84, 104 (1985). "The United States, as owner of the underlying fee title to the public domain, maintains broad powers over the terms and conditions upon which the public lands can be used, leased, and acquired." *Id*. Accordingly, the mineral values should have been included in the MCZ appraisal.

2) The MCZ appraisal failed to include its mineral values, as the federal rules and standards required.

Even if Resolution has purported rights in some of these claims (as they assert), that does not mean that the appraisal can simply ignore the mineral values. The Forest Service's appraisal regulations require that in estimating market value, all values of the exchanged lands must be factored in, including minerals. 36 C.F.R. § 254.9(b). Market value "means the most probable price in cash, or terms equivalent to cash, which lands or interest in lands should bring in a competitive and open market under all conditions requisite to a fair sale." 36 C.F.R. § 254.2 (definitions).

The appraiser must "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." 36 C.F.R. § 254.9(b)(1)(iv). The current status of the federal lands (whether covered by mining claims or not) is not determinative, because the appraiser must calculate the value of the lands and interests "as if in private ownership and available for sale in the open market." 36 C.F.R. § 254.9(b)(1)(ii). All interests and values must be ascertained:

> An appraisal must 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." 36 C.F.R. § 254.9(b)(1)(iii). The Forest Service thus has a certain amount of discretion to consider environmental factors in its determination that the lands are equal in value as well.

Restore the North Woods v. U.S. Dept. of Agric., 968 F.Supp. 168, 174, n. 4 (D. Vt. 1997).

In the debate over what became § 3003, the Forest Service testified that the appraisals of both the MWA and MCZ parcels *must* include the value of the minerals. "The Bill calls for an equal value exchange in section 4(e). If the value of Federal land (including the ore body) to be conveyed exceeds the value of the parcels to be acquired, the Bill would allow for a cash equalization payment by Resolution…." (Statement of Assoc. Chief U.S. Forest Serv. Wagner).

The Congressional Budget Office ("CBO"), tasked with analyzing the financial aspects of the Exchange, agreed. "Those appraisals would determine the relative values of the properties affected by the exchange, including the value of mineral deposits that underlie the federal land." The CBO highlighted the critical importance of the mineral-value appraisals:

> If the value of the federal land were to exceed the value of the company land, Resolution Copper could pay the government a lump sum equal to the difference in property values in the year or two following enactment. That payment might be significant. … In addition, if the company extracts more mineral resources than assumed in the original appraisal, Resolution Copper would make annual payments to the federal government. Such payments might be significant.

Id. *See also* 16 U.S.C. § 539p(c)(5)(B)(i) ("If the final appraised value of the Federal lands exceeds the value of the non-federal land, Resolution Copper shall – (I) convey additional non-Federal land in the State to the Secretary").

The House Report on the bill that would become § 3003 (subject to the important revision requiring a NEPA-compliant FEIS prior to the Exchange), further stressed the need for the two appraisals of the federal parcels to calculate and include the mineral values on the public's lands. "The bill's effect on offsetting receipts would depend on the outcome of formal appraisals of the federal and private properties that would be conducted after enactment. Those appraisals would determine the relative values of the properties affected by the exchange, including the value of mineral deposits that underlie the federal land." H.R. Rep No. 113-167 (2013), at 22.

This mandate also helps implement subsection (e), which requires that if the mine produces more mineral value than originally calculated in the appraisals "prepared under subsection (c)(4)(C), Resolution Copper shall pay to the United States … a value adjustment payment for the quantity of excess production at the same rate assumed for the income capitalization approach analysis prepared under subsection (c)(4)(C)." § 539p(e)(2). In other words, for the public to be adequately compensated for future mineral production, the mineral values must be appraised/calculated in the first place, in order to gauge whether there was a difference in values after the mine began operations.

Section 3003 directly ties together the future payments in subsection (e) to the mineral values in the initial appraisals: "The appraisal prepared under this paragraph … shall be the basis for calculation of any payment under subsection (e)." § 539p(c)(4)(C). Notably, section (e)'s requirement for production revenue from the two federal parcels did not distinguish between the MWA and MCZ parcels, further showing that the mineral values needed to be ascertained for both. Thus, as Congress knew, the fact that the federal lands in the MCZ are subject to Resolution's paper mining claims did not eliminate the agency's duty to include the mineral values as the appraisal standards required.

3) *The MCZ appraisal arbitrarily assumed that its "highest and best use" was not for mining, when that's exactly its intended use.*

The MCZ appraisal also failed to correctly apply the standards and regulations that require a determination of the "highest and best use" of the two federal parcels. The appraiser's first task in estimating market value is to determine "the highest and best use" of the property, which is defined as "the most probable and legal use of a property." 36 C.F.R. § 254.9(b)(1)(i); *id*. § 254.2. For the MWA parcel, since the purpose of the land exchange is to facilitate the proposed Mine, the appraiser correctly determined that the highest and best use is the exploration and development of a mineral resource as a portion of the Resolution Copper deposit. Yet for the adjacent MCZ parcel, even though it overlies the very same deposit and Resolution is acquiring

it for the very same purpose, the appraiser arbitrarily determined that the "highest and best use" of this parcel is somehow not to develop the massive mineral deposit, but rather merely for surface land use in support of a mining operation.

This fundamental defect was carried forward when the appraisals considered comparable sales in determining the market value of each federal parcel. For the MWA parcel, the appraiser looked to other sales where the highest and best use was the exploration and development of a mineral resource. In stark contrast, for the MCZ parcel, the appraiser only looked for comparable sales where the buyer was motivated by a surface estate that could support mining operations with mineral rights not considered important or necessary. Thus, the focus was on surface lands that could be used for industrial uses such as processing facilities. In other words, general rural lands, in which the underlying mineral estate is irrelevant.

That certainly is not accurate for the MCZ parcel. There is simply no rational, economic comparison between the types of nondescript surface lands that the appraiser considered as comparable sales and the invaluable MCZ parcel, which sits atop nearly 90 percent of the world's third-largest known copper deposit (35 of the estimated 40 billion pounds). Resolution has no intention of using these lands for surface facilities such as tailings storage, as these lands would be mined. Indeed, much of the MCZ parcel will be consumed by the massive crater caused by the extraction of the underground minerals—not used for surface mining facilities as presumed in the appraisal.

4) *The MCZ appraisal failed to treat the exchange of the lands and minerals as a private-lands transaction, as required by the appraisal standards.*

The MCZ appraisal further violates the agency appraisal regulations at 36 C.F.R. § 254.9 and "the Uniform Appraisal Standards for Federal Land Acquisitions ["UASFLA"] and the Uniform Standards of Professional Appraisal Practice ["UAS"]" as mandated by § 539p(c)(4)(B). These rules and standards require that the appraisals treat the lands and minerals as a private-lands transaction on the open market, not as if the lands were still federal or influenced by paper mining claims. "The federal land is appraised as if in private ownership, to its highest and best use." 36 C.F.R. § 254.9(b). "When appraising the federal land portion of the exchange, the regulations require that the appraiser 'estimate the value of the lands and interests as if in private ownership and available for sale in the open market.'" UASFLA at 53 (citations omitted). The appraisal for the MWA parcel correctly found that the "highest and best use" was for mining.

The appraisal of the MCZ parcel incongruously found the "highest best use" to be for simple "surface use." MCZ appraisal summary. It was thus valued at a paltry $1,200/acre. This violated the federal standards, where "the appraiser must avoid estimating a property-specific investment value to a particular owner instead of developing an opinion of the market value of the property if it were placed for sale on the open market." But that is what the MCZ appraisal did—ignoring the fact that, if this was a private transaction between Resolution and another buyer, it would most certainly include the mineral values.

The Agency's full appraisal for the MWA parcel recognizes that appraisals of the currently federal land must be calculated as if in private ownership, without consideration of its current status as federal land. Thus, under the mandated Forest Service appraisal regulations, the land and minerals must be valued as if the exchange were a private-land, market-based

transaction. But here the appraisal of the MCZ parcel assigned a nominal value based only on potential surface uses that will never occur. It defies logic to assume that if Resolution were to offer these same lands for sale on the open market after the Exchange, it would assert that the 35 billion pounds of copper are worthless. Thus, until the appraisals and agency decision-making satisfy the NDAA requirements, the Exchange cannot legally proceed.

5) *The appraisals for the MWA and MCZ parcels failed to include any value for the rare earth minerals.*

Last, for both the MWA and the MCZ parcels, the Forest Service failed to include any value for the rare earth minerals that are included in the ore deposit. According to the FEIS, "strategic and critical minerals such as rhenium, tellurium, indium, arsenic, and bismuth could also be recovered economically." FEIS, p. 10. Moreover, according to Resolution:

> the Resolution project will also be a tremendous source of other strategic and critical minerals. Resolution Copper can be a domestic source of at least seven other strategic and critical minerals that are found in the mine's deposit including indium, tellurium, bismuth and rhenium.[4]

However, even though these rare earth minerals are highly valuable economically, there is no mention of them within either of the appraisals for the two federal parcels, and no consideration of them when determining the value of the parcels. The appraisals therefore significantly undervalued the federal parcels that are being provided to Resolution, and further violated the mandatory requirements governing the appraisals.

The Forest Service's Special Use Requirements and Violations.

In late 2020 and roughly a year after the Forest Service closed-off public comment on the Project, the Agency abruptly shifted its review and permitting of the Project, from one governed by federal mining laws to one controlled by public land "special use" requirements. Up until the issuance of the 2021 FEIS, the public was never informed of this regulatory switch and never had the opportunity to review or comment on the Agency's new permitting regime, or Resolution's special use permit applications.

The issuance of the Draft EIS resulted in a public comment period that ended in November 2019. That was the only opportunity for public review and comment on the Agency's review of the Exchange and Project. Since then, the agency never provided for public review under NEPA or any other federal law.

The Agency now proposes, via the 2025 FEIS and the new DROD, to approve a series of "Special Use Permits" for the Project's pipelines, transmission lines, and new and reconstructed roads across federal Forest Service managed lands. This is because, once the Exchange occurs, all of the Company's proposed uses on Forest Service managed lands are no longer related to mining operations on federal land, as the mining would occur on the newly privatized lands.

[4] https://resolutioncopper.com/resolution-copper-welcomes-inclusion-in-federal-transparency-initiative/

These "Special Use Permits" were never subject to public review and comment as NEPA, FLPMA, and the NDAA require, as the applications were submitted by Resolution Copper to the Forest Service long after the Draft EIS was issued and public comment was foreclosed. For example, Resolution only submitted its Special Use Permit application for the tailings pipeline infrastructure on September 7, 2020. The Agency conducted a cursory review and accepted the application just three weeks later. "Resolution Copper submitted an SF-299 Special Use Permit application on September 7, 2020. Tonto National Forest Staff carried out initial and secondary screenings and accepted the application on September 28, 2020." FEIS at Appendix Q-1.

The Forest Service's review of the Salt River Project Special Use Permit for high voltage transmission lines was even faster: "[Salt River Project] submitted an SF-299 Special Use Permit application on November 11, 2020.[5] Tonto National Forest Staff carried out initial and secondary screenings and accepted the application on November 18, 2020." FEIS at Appendix Q-1.

In its September 28, 2020 letter to Resolution, the Forest Service informed the company that it had accepted the company's Special Use Permit application for the tailings pipeline infrastructure. Letter from Neil Bosworth, U.S. Forest Serv., to Resolution (Sept. 28, 2020)(reprinted in Appendix Q). Defendant Forest Service official Neil Bosworth stated:

> I have reviewed your company's proposal to construct, operate, and reclaim a tailings pipeline infrastructure from Resolution Copper's West Plant Site (WPS) near Superior, Arizona across national forest system (NFS) lands administered by the Tonto National Forest, to the proposed Skunk Camp Tailings Storage Facility located on private and State trust lands in Gila County Arizona. Based on the initial documents provided (i.e. cover letter, SF-299, and attachment dated 9/07/2020), the proposal passes the first and second level screening criteria as outlined in FSH 2709.11, Chapter 10. At this time, we are prepared to accept your proposal as a formal application to be fully evaluated pursuant to the National Environmental Policy Act (NEPA), its implementing regulations, and agency NEPA procedures as outlined in FSM 1950 and FSH 1909.15.

Sept. 28, 2020 letter at 1 (reprinted in FEIS Appendix Q).

The Forest Service issued a similar letter to the Salt River Project on November 18, 2020, signed by Defendant Tom Torres. In that letter, the Agency further noted that the Salt River Project electrical facilities and corridor still required additional review and its location had not been confirmed.

> It is understood that this proposal is preliminary and additional design, review, and other regulatory processes are required before an authorization will be issued. It is also understood that the need for this use is reliant on the proposed Resolution Copper Mine

[5] The new FEIS contains a one-page "*Project Description*" which was not included in the prior rescinded FEIS. As it is undated, it is unclear whether this page was inadvertently omitted in the prior draft, or if it is a *post hoc* insertion. Concerningly, it now indicates that "SRP will not be able to finalize the location of the lines until design work and all regulatory requirements are met", meaning the final alignment still remains to be determined. It also notes that "additional environmental analysis may be required", which violates the NDAA's single-EIS requirement.

> and will only be constructed if the need is confirmed. It is assumed that the proposed high voltage transmission line will be located within the 500 foot wide corridor defined and analyzed in the EIS. However, if the design and other regulatory processes have been completed and it is determined that the proposed high voltage transmission line cannot be located within the analyzed corridor, SRP shall submit a revised proposal and a complete review will be required.

Nov. 18, 2020 letter at 1 (also reprinted in Appendix Q of the FEIS).

The Forest Service Special Use Regulations require that: "(ii) Federal, State, and local government agencies and the public shall receive adequate notice and an opportunity to comment upon a special use proposal accepted as a formal application in accordance with Forest Service NEPA procedures." 36 C.F.R. § 251.54(g)((2)(ii).

None of these "Special Use Permit applications" have been submitted for public review and comment, as required by the Part 251 regulations. Neither the 2021 FEIS nor the 2025 FEIS explain why the Agency refused to submit the Special Use Permit applications for public review. In describing the two Special Use Permit applications, the Forest Service stated: "Rather than submittal of a mine plan, authorization of special use or occupancy on [National Forest Service] lands requires submittal of a special use application (SF-299). This application process is designed to ensure that authorization to use and occupy [National Forest Service] lands are in the public interest (36 CFR 251, Subpart B)." FEIS Appendix Q-1. *See also* 36 C.F.R. § 252.56 (listing additional required "terms and conditions").

The Forest Service does not analyze, or show, in the FEIS and DROD how the Project meets the "public interest" test and other requirements under the Part 251 and Part 261 regulations and their governing statutes, such as FLPMA. The Forest Service never reviewed in the FEIS the various Project alternatives under the required "public interest" test. And, as noted, the public was never given an opportunity to review and comment on the Special Use Permit applications prior to release of the FEIS in contravention of federal laws.

These Part 251 regulations also require that:

> [T]he authorized officer shall screen the proposal to ensure that the use meets the following minimum requirements applicable to all special uses:
>
> (i) The proposed use is consistent with the laws, regulations, orders, and policies establishing or governing National Forest System lands, with other applicable Federal law, and with applicable State and local health and sanitation laws.
> (ii) The proposed use is consistent or can be made consistent with standards and guidelines in the applicable forest land and resource management plan prepared under the National Forest Management Act and 36 CFR part 219.
> (iii) The proposed use will not pose a serious or substantial risk to public health or safety.
> (iv) The proposed use will not create an exclusive or perpetual right of use or occupancy.
> (v) The proposed use will not unreasonably conflict or interfere with administrative use by the Forest Service, other scheduled or authorized existing uses of the National Forest System, or use of adjacent non-National Forest System lands.
> …

(ix) The proposed use does not involve disposal of solid waste or disposal of radioactive or other hazardous substances.

36 C.F.R. § 251.54(e)(1). These regulations require a two-phase "screening process," with a proposed use having to pass both levels. The first level requires compliance with the above (e)(1) criteria. If a proposed use satisfies this level, the Agency conducts a "second-level screening of proposed uses."

> (5) Second-level screening of proposed uses. A proposal which passes the initial screening set forth in paragraph (e)(1) and for which the proponent has submitted information as required in paragraph (d)(2)(ii) of this section, proceeds to second-level screening and consideration. In order to complete this screening and consideration, the authorized officer may request such additional information as necessary to obtain a full description of the proposed use and its effects. An authorized officer shall reject any proposal, including a proposal for commercial group uses, if, upon further consideration, the officer determines that:
> (i) The proposed use would be inconsistent or incompatible with the purposes for which the lands are managed, or with other uses; or
> (ii) The proposed use would not be in the public interest; or
> (iii) The proponent is not qualified; or
> (iv) The proponent does not or cannot demonstrate technical or economic feasibility of the proposed use or the financial or technical capability to undertake the use and to fully comply with the terms and conditions of the authorization; or
> (v) There is no person or entity authorized to sign a special use authorization and/or there is no person or entity willing to accept responsibility for adherence to the terms and conditions of the authorization.

36 C.F.R. § 251.54(e)(5).

The FEIS contains, little, if any, analysis as to how the Salt River Project and Resolution Special Use Permit applications comply with each of the many criteria needed to be accepted by the Agency. And, as noted, it is undisputed that the Agency never provided for any of the required public review and comment for these applications.

In addition, the FEIS acknowledges that the Project requires the construction and operation of a 22-mile pipeline to transport the ore concentrate to the processing site past Florence Junction, similar to the 19-mile pipeline (in the other direction) to the tailings waste site in Skunk Camp. "Resolution Copper would then pump the copper concentrate as a slurry through a 22-mile-long pipeline to a filter plant and loadout facility located near Magma Junction near San Tan Valley, Arizona. They would then filter the copper concentrate and send it to off-site smelters via rail cars or trucks." FEIS at 13-14. "During the operations phase, between 6,000 and 7,000 wet tons per day of copper concentrate would be produced and sent out for smelting at an off-site smelter. The final smelter destination is unknown at this time." FEIS at 62. *See also* FEIS at 80, Table 2.2.2-6 "Existing and proposed mine access roads and traffic" ("Final smelter destination is unknown at this time."). The Agency also did not analyze, much less require as it needed to, that Resolution obtain a Special Use Permits for its copper concentrate slurry pipeline that would be located along the Magma Arizona Railroad Company ("MARRCO") corridor.

"The MARRCO corridor would also host other mine infrastructure, including water pipelines, power lines, pump stations, and a number of wells for groundwater pumping and recovery…." FEIS at 14. "New corridor facilities would include additional water pipelines, water pumps and recovery wells, and copper concentrate pipelines to transport ore concentrate to the filter plant and loadout facility." FEIS at 76.

The FEIS does not analyze this pipeline as a Special Use, as the Forest Service is silent about any requirement for Resolution to submit a Special Use Permit application for the approximate 9-mile portion of this pipeline that would cross Forest Service managed public land. In addition to the pipeline crossing Forest Service managed lands, Resolution would build a "Construction Laydown Yard" purportedly within the MARRCO corridor on Forest Service lands. FEIS at 77 (Figure 2.2.2-12, MARRCO Corridor facility layout).

Despite all the new infrastructure and facilities proposed to be constructed and used in the MARRCO corridor, "[t]he corridor generally is 200 feet wide." FEIS at 76. The FEIS does not explain how all of the existing and new infrastructure and construction yard, plus the access and support roads to service the new facilities, would fit within the mere 200-foot-wide corridor.

Because these new facilities would be located in the old MARRCO right-of-way issued to the railroad company in 1914, the Forest Service needed to analyze and require a Special Use Permit application for these facilities. The Part 251 regulations require that "Holders [of existing permits/ROWs] shall file a new or amended application for authorization of any new, changed, or additional uses or area, including any changes that involve any activity that has an impact on the environment, other uses, or the public." 36 C.F.R. § 251.61(a). That did not happen here.

Indeed, the Forest Service has in the past required as much, as it previously required Resolution to obtain a Special Use Permit to install and operate a water pipeline within the same MARRCO corridor in 2008. As the Forest Service stated in 2010:

> The construction and operation of the MARRCO pipeline convey treated water from the No. 9 Shaft to NMIDD [New Magma Irrigation and Drainage District] for irrigation use. In response to RCM's [Resolution Copper's] submitted request for a special use permit application, the Forest Service recently evaluated information provided by RCM regarding the construction of this pipeline within the MARRCO right-of-way and the dewatering of the No. 9 Shaft. … The Forest Service recently granted a special use permit for the construction and operation of the MARRCO pipeline (MES749).

Environmental Assessment ("EA") for the Resolution Copper Mining Pre-Feasibility Activities Plan of Operations signed by Tonto National Forest Supervisor Gene Blankenbaker on May 14, 2010. *See also* www.resolutionmineeis.us/documents/resolution-copper-prefeasibility-activities-2010

In addition, under FLPMA and federal law, the Agency cannot increase the uses in, and impacts from, the new facilities in the 1914 right of way without undertaking the detailed agency and public reviews and permitting requirements under FLPMA Title V. 43 U.S.C. §§ 1761-1771. Yet no such FLPMA analysis and review has been done.

Under the Part 218 Objection regulations, as noted above, parties such as the Objectors can raise issues that arose after the public comment period on the Draft EIS closed. Many issues in these Objections deal with that very situation, where the Forest Service not only included new information but more critically changed its entire review of the Project. The Tonto National Forest never submitted the Special Use Permit Applications for public review as required by NEPA and the Part 251 Regulations.[6]

The Forest Service Special Use Regulations require that: "(ii) Federal, State, and local government agencies and **the public shall receive adequate notice and an opportunity to comment upon a special use proposal accepted as a formal application in accordance with Forest Service NEPA procedures**." 36 C.F.R. § 251.54(g)(2)(ii)(emphasis added).

Apparently, sometime between the Forest Service's issuance of the Draft EIS for public review and the publication of the FEIS in 2021, the Agency changed its consideration of the Project. In the DEIS (and even still in parts of the 2025 FEIS), the Agency stated that the Project would be considered under the GPO submitted under the Agency's mining regulations (36 C.F.R. Part 228A). Now, the FEIS's review of the Project is under the Agency's Part 251 and 261 Special Use regulations.

"The sole remaining uses of NFS lands associated with the Resolution Copper Project are as follows:

-several new or upgraded power lines;

-a pipeline corridor to convey tailings slurry from the West Plant Site to the tailings storage facility; and

-the upgrade. Maintenance, construction, and use of NFS roads.

DROD at 3-4. Accordingly, the Project activities reviewed in the DROD/ FEIS are no longer under the Forest Service's review of a GPO pursuant to the Agency's mining regulations at 36 C.F.R. Part 228A.

The distinction between Forest Service review of a mining GPO and a Special Use Permit is significant. For example, and as discussed further below, the Agency does not consider whether the approval of a GPO is "in the public interest" but is required to do such analysis and issue such a finding under the Part 251 regulations. Additionally, as the Agency alleges (albeit incorrectly with respect to the Mine plan in this case), "there is no discretion or decision to be made with respect to the land exchange or approval of a mine plan," however such discretion **does** exist for Special Use Permit applications as the Forest Service has complete authority to approve or deny such applications. Draft ROD; 36 C.F.R. Parts 251/261.

The mere fact that these facilities and uses of public land were reviewed in the FEIS (albeit inadequately as shown herein and in the previous comments) does not satisfy the strict and mandatory public notice and review requirements in Part 251. At a minimum, the FEIS does not analyze whether the Project meets the "public interest" test and other requirements under the Part 251 Regulations and their governing statutes, such as FLPMA and the Organic

[6] Thus, due to the 11th Hour submittal of the Special Use Permit applications, Objectors were not able to comment upon the Special Use Permit applications in comments on the DEIS. However, Objectors did raise issues regarding the proper application of the Part 251/261 regulations, FLPMA, and public land law in AMRC's November 7, 2019 comments at 19-35.

Act. The FEIS never reviewed the various Project alternatives under the required "public interest" test and other requirements, such as the prohibition against a proposed use that "would be incompatible with the purposes for which the lands are managed, or with other uses." 36 C.F.R. § 251.54(e)(5)(i) and (ii). For example, the Agency has not shown that the construction of tailings waste pipeline is "compatible" with the current and historical uses of the Ga'an Canyon sacred site and TCP. *See also* Executive Order 13007 (Sacred Sites). And, as noted, the public was never given an opportunity to review and comment on the Special Use Permit applications prior to release of the FEIS in contravention of federal laws.

In sum, as noted above, the Forest Service now asserts that the Project (after the Exchange) is solely governed by the agency's regulations governing "Special Uses" of public land. These regulations place strict requirements on the Agency's review of the Project, including mandatory public review requirements, which were not followed in this case. As the Agency stated in the FEIS, it conducted all of this "screening" for both the Salt River Project and Resolution Special Use Permit applications—at both levels—in a matter of days or weeks just before the FEIS was issued. The FEIS contains, little, if any, analysis as to how the Salt River Project and Resolution Special Use Permit applications comply with each of the many criteria needed to be accepted by the Agency. And, as noted, it is undisputed that the Agency never provided for any of the required public review and comment for these applications.

The Forest Service Failed to Require a Special Use Permit for the New Ore Concentrate Pipeline in the Same MARRCO Corridor Where the Agency Previously Required Resolution to Obtain Such a Permit for Its Water Pipeline.

In addition to accepting, and proposing to approve, the Special Use Permit applications for the tailings waste and electrical transmission lines (without the required public notice and review discussed above), the Agency proposes to allow the construction and operation of a 22-mile slurry pipeline to transport the ore concentrate to the processing site past Florence Junction, similar to the 19-mile pipeline (in the other direction) to the tailings waste site in Skunk Camp. "Resolution Copper would then pump the copper concentrate as a slurry through a 22-mile-long pipeline to a filter plant and loadout facility located near Magma Junction near San Tan Valley, Arizona. They would then filter the copper concentrate and send it to off-site smelters via rail cars or trucks." FEIS at 13-14.[7] The FEIS does not discuss or analyze where the smelting would then occur, or any of the impacts (such as air pollution) from the smelting or rail/truck transport, as required by FLPMA, NEPA, and the NDAA.

> The copper concentrate slurry pipeline corridor would be located along an existing, previously disturbed right-of-way known as the Magma Arizona Railroad Company (MARRCO) corridor. The MARRCO corridor would also host other mine infrastructure, including water pipelines, power lines, pump stations, and a number of wells for groundwater pumping and recovery of banked Central Arizona Project (CAP) water.

[7] As noted above, due to the 11th Hour submittal of the Special Use Permit applications, Objectors were not able to comment upon the Special Use Permit applications in comments on the DEIS. In addition, the failure of the Forest Service to require any Special Use Permit for the ore concentrate pipeline and related facilities in the MARRCO corridor arose long after the public comment period for the DEIS closed in 2019. However, Objectors did raise issues regarding the proper application of the Part 251/261 regulations, FLPMA, and public land law in AMRC's November 7, 2019 comments at 19-35.

FEIS at 14.

Yet the DROD does not discuss granting any authorization for this new pipeline (as it only proposes to approve the Special Use Permits for one SRP transmission line and Resolution's tailings waste pipeline). The Agency also did not analyze, much less require—as it should have - that Resolution obtain a Special Use Permits for its copper concentrate slurry pipeline that would be located along an existing right-of-way known as the Magma Arizona Railroad Company ("MARRCO") corridor.

As noted, Forest Service special use/ROW regulations require that: "Holders [of existing permits/ROWs] shall file a new or amended application for authorization of any new, changed, or additional uses or area, including any changes that involve any activity that has an impact on the environment, other uses, or the public." 36 C.F.R. § 251.61(a). That did not happen here.

The FEIS also does not analyze this pipeline as a Special Use, as the Forest Service never required Resolution to submit a Special Use Permit application for the approximate 9-mile portion of this pipeline that would cross Forest Service managed public land. In addition to the pipeline crossing Forest Service managed lands, Resolution would build a "Construction Laydown Yard" purportedly within the MARRCO corridor on Forest Service lands. FEIS at 77 (Figure 2.2.2-12, MARRCO Corridor facility layout).

As noted above, despite all the new infrastructure and facilities proposed to be constructed and used in the MARRCO corridor, "[t]he corridor generally is 200 feet wide." The FEIS does not explain how all of the existing and new infrastructure, a new construction yard, plus the access and support roads to service these new facilities, would fit within the mere 200-foot-wide corridor.

Because these new facilities would be located in the old MARRCO right-of-way issued to the railroad company in 1914, the Forest Service needed to analyze and require a Special Use Permit application for these facilities. Indeed, the Forest Service has in the past required as much, as it previously required Resolution to obtain a Special Use Permit to install and operate a water pipeline within the same MARRCO corridor in 2008. As the Forest Service stated in 2010:

> The construction and operation of the MARRCO pipeline convey treated water from the No. 9 Shaft to NMIDD [New Magma Irrigation and Drainage District] for irrigation use. In response to RCM's [Resolution Copper's] submitted request for a special use permit application, the Forest Service recently evaluated information provided by RCM regarding the construction of this pipeline within the MARRCO right-of-way and the dewatering of the No. 9 Shaft. … **The Forest Service recently granted a special use permit for the construction and operation of the MARRCO pipeline** (MES749).

Environmental Assessment ("EA") for the Resolution Copper Mining Pre-Feasibility Activities Plan of Operations signed by Tonto National Forest Supervisor Gene Blankenbaker on May 14, 2010 (emphasis added)(in the possession of the Forest Service and incorporated into the administrative record, and cited in the FEIS Chapter 7 "U.S. Forest Service 2010b.").

Like the water pipeline in 2008, the new ore concentrate pipeline is not related to, or incidental to, the railroad right-of-way granted in 1914. The old Magma company trains stopped running decades ago (around 1997) and thus any use not associated with the original railroad grant is governed by FLPMA and the Forest Service's Part 251/261 Special Use requirements.

Prior to approving Resolution's application for the new water pipeline in the MARRCO corridor, the Tonto National Forest inadequately reviewed the baseline conditions, and of the direct, indirect, and cumulative impacts related to the new pipeline to support its Decision Memo ("DM") granting the Special Use Permit for the water pipeline.

> The Decision Memo addresses a proposed special use permit for a pipeline from Resolution Copper Company's water treatment plant in Superior along the MARRCO railroad right of way to the New Magma Irrigation District Canal near Florence Junction. The DM does not identify the origin of the water or the volume of water that would be transported through the pipeline. If the source of the water is ground water that underlies National Forest System lands then it would be appropriate to subject the project proposal to review in term of the direction provided by the Regional Forest Service Manual Supplement (R3 Supplement 2500-2001-1) that was developed specifically for authorizing water developments on NFS lands.
>
> The R3 Supplement identifies that when a project proponent proposes to drill a well on NFS lands and/or transport ground water across NFS lands through a pipeline, it is appropriate to analyze the potential impacts of water removal along with the impacts of well and/or pipeline construction. Special Use authorizations for water developments on NFS lands should be approved only when the longterm protection of NFS streams, springs, seeps, and associated riparian and aquatic ecosystems can be assured. The analysis should also consider impacts upon neighboring landowners and water users. The R3 Supplement provides guidance for screening proposed water development projects on the National Forests.

Resolution Copper Water Pipeline DM, Hydrology Comments, 8/12/2008, at 1 (previously submitted).[8]

In fact, Resolution Copper specifically acknowledged that installation of a water pipeline in the 9.5 miles of Forest Service lands crossed by the old MARRCO railroad ROW required a new Special Use Permit from the Forest Service:

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[8] The FEIS and DROD fail to include any of this analysis, and the Permit itself, for the water pipeline in the MARRCO corridor, in violation of the Agency's public review and analysis requirements under NEPA, the NDAA, and FLPMA. This is despite the fact that these 2008 materials contain analysis of baseline conditions, impacts, and other directly-relevant information to the Exchange and Project. The Forest Service's project record for the 2008 pipeline approval was thus improperly omitted from the administrative record for the FEIS, further rendering the FEIS and DROD arbitrary and capricious.

> According to United States Forest Service (USFS) Manual 2500, Chapter 2540- Water Uses and Development (USFS, 2001), **the construction of a pipeline across Forest Service lands for transmission of groundwater triggers Forest Service authorization via a special use permit.** As indicated in Chapter 2540, a special use permit authorization from the Forest Service requires the proposed "water development" pass two screening steps to evaluate the potential impact of the proposed action on adjacent Forest Service lands or resources, as well as neighboring landowners and water users. The screening and approval process is particularly intended to ensure the protection of USFS streams, springs, seeps, and associated aquatic ecosystems.

Resolution Copper Mining, LLC, Dewatering of Magma Mine Workings with Pipeline Delivery Evaluation of Potential Hydrologic Impacts Special Use Permit (FSM 2540), at 2 (previously submitted)(emphasis added).

Under FLPMA and federal law, the Agency cannot increase the uses in, and impacts from, the new facilities in the 1914 right of way without undertaking the detailed agency and public reviews and permitting requirements under FLPMA Title V. 43 U.S.C. §§ 1761-1771. *See also* 36 C.F.R. 251.61(a). AMRC November 7, 2019, comments at 19-35. Yet no such FLPMA analysis and review has been done.

The Agency Failed to Correctly Apply Federal Public Land Law, In Violation of FLPMA, the Organic Act, and the APA.

For both of the two proposed Special Use Permits, as well as the Permit required for the ore concentrate pipeline and other transmission lines, the DROD and FEIS failed to properly review and regulate these uses—uses that will last for decades at a minimum, and likely forever, as there is no proposal to remove the pipelines from public land after the Mine is closed.[9]

As detailed above, the Part 251 regulations, under authority to approve uses under FLPMA (and the Organic Act) impose detailed and significant review and permitting requirements—requirements violated by the Agency here. These regulations require a two-phase "screening process," with a proposed use having to pass both levels.

According the DROD, the Tonto National Forest conducted all these reviews, and made all these required determinations for the two Special Use Permits, in a manner of days or a few weeks. Yet, the unsupported statement in the DROD that permitting these uses is in the "public interest" and otherwise complies with all the requirements in Part 251 defies reason, based alone on the immense and devastating impacts that would result from authorizing Resolution to conduct the Project.

Here, the Forest Service must regulate the Project under its Part 251/261 special use regulations, as well as FLPMA's Title V Right of Way provisions, and not under the Part 228A regulations under which the agency reviewed the Project under the GPO. The Agency's

[9] As noted above, due to the 11th Hour submittal of the Special Use Permit applications, Objectors were not able to comment upon the Special Use Permit applications in comments on the DEIS. However, Objectors did raise issues regarding the proper application of the Part 251/261 regulations, FLPMA, and public land law in AMRC's November 7, 2019, comments at 19-35.

authority under the Part 251/261 regulations are very different from, and much more environmentally protective, than the Part 228A regulations that the Agency used to review the Project up until its 11th hour switch. For example, the Agency must deny the Project if, "[t]he proposed use would not be in the public interest." 36 C.F.R. § 251.54(e)(5)(ii). The USFS did not show that the Project meets all of the requirements of the Part 251/261 rules. The Forest Service failed to properly apply these requirements to the Resolution Project, in violation of NEPA, the NDAA, FLPMA, the Organic Act, and their implementing regulations.

Under FLPMA Title V, the Forest Service may only grant a right-of-way special use permit if it, "(4) will do no unnecessary damage to the environment." 43 U.S.C. § 1764(a). Rights-of-way "shall be granted, issued or renewed … consistent with … any other applicable laws." Id. § 1764(c). A Title V right-of-way special use permit "shall contain terms and conditions which will … (ii) minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment." Id. § 1765(a). In addition, the right-of-way special use permit can only be issued if activities resulting from the right-of-way special use permit:

> (i) protect Federal property and economic interests; (ii) manage efficiently the lands which are subject to the right-of-way or adjacent thereto and protect the other lawful users of the lands adjacent to or traversed by such right-of-way; (iii) protect lives and property; (iv) protect the interests of individuals living in the general area traversed by the right-of-way who rely on the fish, wildlife, and other biotic resources of the area for subsistence purposes; (v) require location of the right-of-way along a route that will cause least damage to the environment, taking into consideration feasibility and other relevant factors; and (vi) otherwise protect the public interest in the lands traversed by the right-of-way or adjacent thereto.

43 U.S.C. § 1765(b). The Forest Service's Part 251 rules implement these requirements.

At least three important substantive requirements flow from the FLPMA's right-of-way and special use permit provisions. First, the Forest Service has a mandatory duty under Section 505(a) to impose conditions that, "will minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment." Id. § 1765(a). The terms of this section do not limit "damage" specifically to the land within the right-of-way corridor. Rather, the repeated use of the expansive term "the environment" indicates that the overall effects of granting the right-of-way special use permit on cultural, environmental, scenic and aesthetic values must be evaluated and these resources protected. In addition, the obligation to impose terms and conditions that "protect Federal property and economic interests" in Section 505(b) shows that the Forest Service must impose conditions that protect not only the land crossed by the right-of-way, but **all** federal lands and waters affected by the approval of the right-of-way special use permit.

Thus, the Agency's substantive duties under FLPMA require it to fully analyze all of these impacts and baseline conditions. This is in addition to NEPA, as review under FLPMA is not constrained by any limitations on NEPA review. Accordingly, inadequacies under NEPA discussed herein are also, at a minimum, violations of the Agency's duties under FLPMA.

The Resolution Project could not operate as approved without the use of the tailings and ore concentrate pipelines, electrical transmission lines, roads, and other infrastructure reviewed

in the FEIS and proposed to be approved by the DROD. "We have concluded that 'but for' the TNF's permits for Resolution Copper Mine roads and pipelines and SRP's transmission lines on Forest Service land, the entire Resolution Copper Mine project would not occur and its consequences are reasonably certain to occur." FEIS Appx. P, Dec. 31, 2020, U.S. FWS Biological Opinion ("BiOp"), at 44.

Second, the discretionary requirements in Section 505(b) require a Forest Service determination as to what conditions are "necessary" to protect federal property and economic interests, as well as "otherwise protect[ing] the public interest in the lands traversed by the right-of-way or adjacent thereto." This means that the Agency can only approve the right-of-way special use permit if it "protects the public interest in lands" not only upon which the pipeline/roads/transmission lines would traverse, but also lands and resources adjacent to and associated with the right-of-way special use permit. Thus, in this case, the Forest Service can only approve the right-of-way special use permits if the operation of the mine itself "protects the public interest." As shown herein, that clearly is not the case.

Third, the requirement that the right-of-way grant "do no unnecessary damage to the environment" and be "consistent with … any other applicable laws," id. §§ 1764(a)-(c), means that a grant of a right-of-way special use permit leading to the Mine must satisfy all applicable laws, regulations and policies. Here, because the Project would violate many of these requirements, the agency cannot issue the right-of-way special use permits.

The federal courts have repeatedly held that the federal land agency not only has the authority to consider the adverse impacts on lands and waters outside the immediate ROW corridor, **it has an obligation to protect these resources** under FLPMA. In County of Okanogan v. National Marine Fisheries Service, 347 F.3d 1081 (9th Cir. 2003), the court affirmed the Forest Service's imposition of mandatory minimum stream flows as a condition of granting a ROW for a water pipeline across USFS land. This was true even when the condition/requirement restricted or denied vested property rights (in that case, water rights). Id. at 1085-86.

The Forest Service thus cannot issue a Special Use Permit/ROW that fails to "protect the environment" as required by FLPMA, including the environmental resource values in and not within the ROW corridor. "FLPMA itself does not authorize the Supervisor's consideration of the interests of private facility owners as weighed against environmental interests such as protection of fish and wildlife habitat. FLPMA *requires* all land-use authorizations to contain terms and conditions which will protect resources and the environment." Colorado Trout Unlimited v. U.S. Dep't of Agric., 320 F.Supp.2d 1090, 1108 (D. Colo. 2004)(emphasis in original) appeal dismissed as moot, 441 F.3d 1214 (10th Cir. 2006).

The Interior Department, interpreting FLPMA Title V and its right-of-way regulations, has held that: "A right-of-way application may be denied, however, if the authorized officer determines that the grant of the proposed right-of-way would be inconsistent with the purpose for which the public lands are managed or if the grant of the proposed right-of-way would not be in the public interest or would be inconsistent with applicable laws." Clifford Bryden, 139 IBLA 387, 389-90 (1997) 1997 WL 558400 at *3 (affirming denial of right-of-way for water pipeline, where diversion from spring would be inconsistent with BLM wetland protection standards).

Similar to the County of Okanogan and Colorado Trout Unlimited federal court decisions noted above, the Interior Department has held that the fact that a ROW applicant has a property right that may be adversely affected by the denial of the ROW does not override the agency's duties to protect the "public interest." In Kenneth Knight, 129 IBLA 182, 185 (1994), the BLM's denial of the ROW was affirmed due not only to the direct impact of the water pipeline, but on the adverse effects of the removal of the water in the first place:

> [T]he granting of the right-of-way and concomitant reduction of that resource, would, in all likelihood, adversely affect public land values, including grazing, wildlife, and riparian vegetation and wildlife habitat. The record is clear that, while construction of the improvements associated with the proposed right-of-way would have minimal immediate physical impact on the public lands, the effect of removal of water from those lands would be environmental degradation. Prevention of that degradation, by itself, justified BLM's rejection of the application.

1994 WL 481924 at *3.

That was also the case in Clifford Bryden, as the adverse impacts from the removal of the water was considered just as important as the adverse impacts from the pipeline that would deliver the water. 139 IBLA at 388-89. *See also* C.B. Slabaugh, 116 IBLA 63 (1990) 1990 WL 308006 (affirming denial of right-of-way for water pipeline, where BLM sought to prevent applicant from establishing a water right in a wilderness study area).

In King's Meadow Ranches, 126 IBLA 339 (1993), 1993 WL 417949, the IBLA affirmed the denial of right-of-way for a water pipeline, where the pipeline would degrade riparian vegetation and reduce bald eagle habitat. The Department specifically noted that under FLPMA Title V: "[A]s BLM has held, **it is not private interests but the public interest that must be served by the issuance of a right-of-way**." 126 IBLA at 342, 1993 WL 417949 at *3 (emphasis added). As the IBLA held:

> The public interest determination is more than a finding that no laws will be violated by granting the ROW. Even if UUD [Unnecessary or Undue Degradation] can be avoided, degradation to public resources posed by a requested ROW may factor into BLM's determination of whether that ROW would be in the public interest. For example, in *Sun Studs,* we upheld BLM's rejection of a logging road ROW permit based on environmental considerations without any suggestion that the environmental harm rose to the level of unlawful degradation.

Klamath-Siskiyou Wildlands Center, IBLA 2019-75, at 9 (April 29, 2019), citing Sun Studs, 27 IBLA at 282-83.

As noted herein and in the previous comments, in addition to the immeasurable destruction of cultural and religious values, the massive water consumption by the Project which all could not occur but for the issuance of the Special Use Permits mandates rejection of the applications.

Lastly, the DROD and FEIS failed to comply with the financial requirements of the FLPMA regarding ROW applications and approvals. At a minimum, the Forest Service must

obtain "Fair Market Value" (FMV) for the use of federal land and resources. FLPMA requires that "the United States receive fair market value of the use of the public lands and their resources." 43 U.S.C. § 1701(a)(9). "The holder of a right-of-way shall pay in advance the fair market value thereof, as determined by the Secretary granting, issuing, or renewing such right-of-way." 43 U.S.C. § 1764(g). In addition, Resolution and SRP must fully "reimburse the United States for all reasonable administrative and other costs incurred in processing an application for such right-of-way and in inspection and monitoring of such construction, operation, and termination of the facility pursuant to such right-of-way." Id. *See* 36 C.F.R. § 251.57 (rental fees) and 36 C.F.R. § 251.56 (reclamation and performance bond). The FEIS never discusses these statutory and regulatory requirements and the Forest Service did not review the Project under these constraints as it was required to do.

The Forest Service's authority to regulate activities on national forest lands is also governed in part by the Organic Administration Act of 1897 ("Organic Act"), 16 U.S.C. §§ 475, 551, which authorizes the agency to promulgate rules for the national forests, "to regulate their occupancy and use and to preserve the forests thereon from destruction." 16 U.S.C. § 551. One of the Act's guiding principles is for the agency to "improve and protect" the national forests. 16 U.S.C. § 475. It further requires the Secretary of Agriculture (through the Forest Service) to, "make provisions for the protection [of the lands] against destruction by fire and depredations." 16 U.S.C. § 551. The Service, "will insure the objects of such [forest] reservations, namely, to regulate their occupancy and use and to preserve the forests thereon from destruction." Id. The Forest Service regulations implementing these Organic Act mandates are found, in relevant part, at 36 C.F.R. Parts 251 and 261, which govern uses on the national forests.

Accordingly, the Agency's failure to properly apply FLPMA, the Organic Act, and the Agency's Right-of-Way/Special Use Permit regulations violates federal law and is arbitrary and capricious.

The FEIS and DROD Violate the Public and Environmental Review Requirements of NEPA, NDAA, FLPMA, and Applicable Law.

As shown by the Objectors' previous Objections and comments (pp. 15-300 of AMRC's November 7, 2019 comments, pp. 3-65 of the ITAA's November 7, 2019 comments, and the Objectors' comments on water quality submitted to the USFS on October 30, 2020), the Draft EIS failed to comply with the Forest Service's mandatory public and environmental requirements under NEPA, the NDAA, FLPMA, the CWA and other applicable laws. These comments, and the FEIS' inadequate response, are contained in Volume 6 of the FEIS. *See also* Objectors supplemental comments submitted in October and December of 2020, and on April 11, 2025. Acting Supervisor Torres responded (albeit inadequately) to the Objectors' December 2020 comments in a January 12, 2021 letter to AMRC and ITAA, which are in the administrative record for these Objections.

The Forest Service Failed to Meaningfully Consider Comments from Cooperating Agencies

Bureau of Land Management

The Bureau of Land Management ("BLM") is a listed as a cooperating agency in the FEIS, FEIS at ES-5, and it has special expertise with respect to, *inter alia*, the water related

impacts of the Project. In June 2022, after the initial FEIS was rescinded, the BLM provided a 26-page "targeted technical review" of the 2021 FEIS to the Forest Service – "[a]t the request of the Department of Agriculture – U.S. Forest Service." These extensive comments were prepared by a "team of [BLM] hydrology specialists" who reviewed a wide range of topics related to "the hydrology and water resources aspects of the project and assessed whether the FEIS adequately addressed comments received during the FEIS development." (Bureau of Land Management Review of Hydrology Aspects of the Resolution Copper Project, June 13, 2022)("BLM Hydrology Review"). A copy of the BLM Hydrology Review was also provided to the Forest Service by Plaintiffs via a supplemental submission in April 2025.

In the BLM Hydrology Review, BLM hydrologists raised numerous concerns with the FEIS as it relates to water-related impacts. The FEIS fails to respond to the BLM Hydrology Review, despite the fact that the Forest Service requested the Review. The BLM Hydrology Review was not even included in the FEIS' Literature Cited/Documents Cited and only appears in two small documents in the project record addressing one mitigation measure, and the stormwater design for the tailings facility. None of the other extensive and detailed water related recommendations or concerns raised in the BLM Hydrology Review were even acknowledged. The Forest Service cannot disregard or fail to meaningfully consider the comments of a NEPA cooperating agency—which were prepared "at the request" of the Forest Service.

Arizona State Land Department

The Arizona State Land Department ("ASLD") – also a cooperating agency – warned the Forest Service during the NEPA process: "[T]he extraction and transportation of groundwater out of the [Superstition Vista Planning Area] greatly compromises the ability to develop these lands to their full planned potential, and as a result, reduces the income and value of the Trust." FEIS at R-44. Despite ASLD's protests and the trove of available information about the Superstition Vistas development, the Forest Service erroneously concluded that most of the Superstition Vistas is "speculative," (FEIS 987), and refused to analyze it in the FEIS.

Arizona Department of Water Resources

As discussed further herein, the Forest Service failed to acknowledge a major determination and public announcements by the Arizona Department of Water Resources, (also a NEPA cooperating agency per FEIS at 1002-1003) regarding the overallocation of groundwater resources and shortage/unmet demand in the Phoenix Active Management Area ("AMA"), as part of its updates to the 2024 Phoenix AMA model.

The Forest Service failed to acknowledge or cite this major conclusion of Arizona Department of Water Resources' 2024 update to the Phoenix AMA model, despite the state agency being a cooperating agency to this project. Instead, the Forest Service asserted in direct contradiction to Arizona Department of Water Resources' extensive work on the subject that "The outcome of the cumulative effects modeling indicates there is still groundwater available for use after 100 years, even after all committed demands are accounted for." FEIS at 987.

The Agency Reviewed the Project Under an Incorrect Legal Regime and Statement of the "Purpose and Need" for Its Review.

NEPA requires all EISs to contain a statement that specifies the underlying "purpose and need" for which the agency is responding to when reviewing the proposed action(s). The statement of purpose and need is crucially important because it dictates the scope of the agency review and the range of reasonable alternatives to the proposed action. City of Carmel-By-The-Sea v. U.S. Dep't of Transp., 123 F.3d 1142, 1155 (9th Cir. 1997). The purpose and need statement cannot be so narrow as to limit the range of reasonable alternatives. Id. at 1155 ("The stated goal of a project necessarily dictates the range of reasonable alternatives and an agency cannot define its objectives in unreasonably narrow terms."); *see also* Nat'l Parks & Conservation Ass'n v. Bureau of Land Mgmt., 606 F.3d 1058, 1070 (9th Cir. 2010).

Agencies cannot avoid NEPA's requirements by unreasonably restricting the statement of purpose and need. Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 196 (D.C. Cir. 1991)("an agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative from among the environmentally benign ones in the agency's power would accomplish the goals of the agency's action"). "[A]n applicant cannot define a project in order to preclude the existence of any alternative sites and thus make what is practicable appear impracticable." Sylvester v. U.S. Army Corps of Eng'rs, 882 F.2d 407, 409 (9th Cir. 1989). Although the Forest Service is permitted to take the applicant's purposes into consideration, it cannot draft a narrow purpose statement that restricts the consideration of alternatives to one motivated by private interests. Nat'l Parks & Conservation Ass'n, 606 F.3d at 1072.

Regarding the FEIS' view of the "purpose and need" governing its review of the Exchange and Project, the Agency states that "the purpose and need for this project is twofold: 1. To consider approval of a proposed GPO [General Plan of Operations] governing surface disturbance on NFS lands—outside of the exchange parcels—from mining operations that are reasonably incident to extraction, transportation, and processing of copper and molybdenum. [and] 2. To consider the effects of the exchange of lands between Resolution Copper and the United States as directed by Section 3003 of PL 1113-291 [the NDAA]." FEIS at ES-6.

The FEIS then states the agency's interpretation of the applicable law that it believed governed its review of the Project:

> The role of the Forest Service under its primary authorities in the Organic Administration Act, Locatable Minerals Regulations (36 Code of Federal Regulations (CFR) 228 Subpart A), and the Multiple-Use Mining Act is to ensure that mining activities minimize adverse environmental effects on NFS surface resources and comply with all applicable environmental laws. The Forest Service may also impose reasonable conditions to protect surface resources.
>
> Through the Mining and Mineral Policy Act, Congress has stated that it is the continuing policy of the Federal Government, on behalf of national interests, to foster and encourage private enterprise in – the development of economically sound and stable domestic mining, minerals, and metal and mineral reclamation industries; and orderly and economic development of domestic

> mineral resources, reserves, and reclamation of metals and minerals to help ensure satisfaction of industrial, security, and environmental needs.
>
> Secretary of Agriculture regulations that govern use of surface resources in conjunction with mining operations on NFS lands are set forth under 36 CFR 228 Subpart A.

FEIS ES-6.

The Agency's view of its authority over the Project misinterprets federal public land, mining, and environmental law. Throughout the multi-year NEPA process, public involvement, and preparation of the EIS, the Forest Service was under the mistaken belief that its review and approval of Resolution's proposed uses of federal land, and all of the proposed activities, are solely under the company's General Plan of Operations and the Agency's hardrock mining regulations at 36 C.F.R. Part 228A. *See* FEIS at 12 (Purpose and Need, section 1.3).

In its "Purpose and Need" section, the FEIS never mentions, as it now acknowledges in the DROD, that all of the Project facilities on Forest Service managed lands after the Exchange would be governed by the Agency's 36 C.F.R. Part 251 and 261 regulations, not the Agency's Part 228A mining regulations. FEIS at 12.

In addition, the Agency's focus on the need to support mineral development under the 1970 Mining and Mineral Policy Act is misplaced. That Act, which merely notes general principles, creates no controlling statutory mandate on the Agency. Instead, the Forest Service's primary mandate is to protect the forest from destruction and depredations under the 1897 Organic Act and the NFMA. The Agency's guiding congressional mandate regarding the national forests is "to regulate their occupancy and use and to preserve the forests thereon from destruction." 16 U.S.C. § 551 (Organic Act).

In addition, the FEIS does not fully analyze and ensure the protection of public resources for special uses and rights-of-ways under FLPMA Title V, 43 U.S.C. §§ 1761–1771, as well as 36 C.F.R. Parts 251 and 261.

Overall, the Agency's legally incorrect view of the "purpose and need" for its review of the Project fatally undermines the entire FEIS. "No amount of alternatives or depth of discussion could 'foster[ ] informed decision-making and informed public participation' when the Forest Service bases its choice of alternatives on an erroneous view of the law. *See* Westlands Water Dist. v. U.S. Dep't of Interior, 376 F.3d 853, 868 (9th Cir. 2004)." Ctr. for Biological Diversity v. U.S. Fish and Wildlife Serv., 409 F.Supp.3d 738, 766 (D. Ariz. 2019). If an Agency misconstrues its statutory and regulatory authority, it fails to take "a hard look at all reasonable options before it," and violates NEPA. N.M. ex rel Richardson v. U.S. Bureau of Land Mgmt., 565 F.3d 683, 711 (10th Cir. 2009).

For example, the agency based the FEIS on the erroneous view that it could not deny Resolution's proposed pipelines, transmission lines, roads, and other Project facilities: "The no action alternative cannot be selected in this Draft ROD because the land exchange was mandated by Congress." DROD at 35. The agency ignores its own statement that the DROD just deals with these uses of public land after the Exchange. DROD at v-vi.

But, the Agency's authority over the pipelines, transmission lines, roads, and other facilities that remain on federal land after the Exchange are completely discretionary under FLPMA and the Agency's Special Use regulations.

Failure to Consider and Properly Review All Reasonable Alternatives, Including the No-Action Alternative.

NEPA requires that an agency provide an objective evaluation of a range of reasonable alternatives to the proposed action. 42 U.S.C. § 4332(C)(iii) & (F). As the Ninth Circuit has held:

> NEPA requires that federal agencies consider alternatives to recommended actions whenever those actions "involve[ ] unresolved conflicts concerning alternative uses of available resources." 42 U.S.C. § 4332(2)(E) (1982). The goal of the statute is to ensure "that federal agencies infuse in project planning a thorough consideration of environmental values." The consideration of alternatives requirement furthers that goal by guaranteeing that agency decisionmakers "[have] before [them] and take [ ] into proper account all possible approaches to a particular project (including total abandonment of the project) which would alter the environmental impact and the cost-benefit balance." NEPA's requirement that alternatives be studied, developed, and described both guides the substance of environmental decisionmaking and provides evidence that the mandated decisionmaking process has actually taken place. Informed and meaningful consideration of alternatives--including the no action alternative--is thus an integral part of the statutory scheme.

Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1228 (9th Cir. 1988)(citations omitted).

This includes a duty to fully review the No-Action Alternative. Id. The requirement for the No-Action Alternative exists as a mechanism for comparing the environmental and related social and economic effects of the affected environment in the absence of the proposed action as compared to all of the proposed action alternatives. 42 U.S.C. §§ 4332(C)(iii), (F).

> The FEIS described its view of the No-Action Alternative:
>
> The no action alternative includes the following:
> · The final GPO would not be approved, thus, none of the activities in the final GPO would be implemented, and the mineral deposit would not be developed;
> · The land exchange would not take place;
> · Certain ongoing activities on Resolution Copper private land, such as reclamation of the historic Magma Mine, exploration, monitoring of historic mining facilities such as tailings under existing State programs and permits, maintenance of existing shaft infrastructure, including dewatering, and water treatment and piping of treated water along the MARRCO corridor to farmers for beneficial use, would continue regardless of GPO approval;
> · Ongoing trends not related to the proposed project would continue, such as population growth, ongoing impacts on air quality from fugitive dust and vehicle emissions, human-caused fires from recreation, ranching, and a corresponding increase in use of public lands; and

- No agency land and resource management plans would be amended for this project.

FEIS at 91–92. This was reiterated by the Fish and Wildlife Service: "We have concluded that 'but for' the TNF's permits for Resolution Copper Mine roads and pipelines and SRP's transmission lines on Forest Service land, the entire Resolution Copper Mine project would not occur and its consequences are reasonably certain to occur." FEIS Appx. P, Dec. 31, 2020, U.S. FWS Biological Opinion ("BiOp"), at 44.

Regarding the No-Action Alternative, the Agency states that: "The no action alternative cannot be selected … because the land exchange was mandated by Congress and the Forest Service does not regulate mining operations on private land." DROD at 35. But that erroneously links the review and approval of the proposed uses on the remaining federal lands with the approval of the Exchange. Nothing in the NDAA, or any other federal law, requires the Forest Service (or any other agency such as the Corps of Engineers) to approve anything beyond the Exchange (and that approval is subject to significant constraints as noted herein).

A proper No-Action Alternative, then, must be focused on the company's proposed uses of federal land (and its related impacts) as if all of the proposed uses on the remaining (non-exchanged) federal lands are denied by the Forest Service or Army Corps of Engineers. Indeed, as detailed herein, when the Forest Service reviews these proposed uses under the proper regulatory structure, the proposed uses cannot be approved, due to irreparable and devastating impacts that would result from approval of the uses (such as the construction and use of the pipelines bisecting Ga'an Canyon).

Yet, nothing in the NDAA or any other law requires the Agency to approve these uses. Overall, the Agency cannot base its NEPA and FLPMA review, including consideration of the No-Action Alternative, on an incorrect view of the law, or on any presumption that it must approve the proposed uses.

A legitimate and proper No-Action Alternative must, then, consider the conditions that will exist if the Forest Service denies the proposed uses of federal land. For example, because Resolution would have no need to continue to pump and dewater groundwater if it was denied its proposed uses (even after the Exchange was completed), because it would not have the support facilities necessary to mine the ore body, the baseline and related conditions that would then exist must be considered as the true No-Action Alternative condition.

The Forest Service incorrectly believes that the dewatering will continue (FEIS at 91–94) even if the proposed uses were not approved. *See also* FEIS at 417 ("Under the no action alternative, which includes continued dewatering pumping of the deep groundwater system…."). But the fact that Resolution would obtain the ore body and surrounding lands via the Exchange does not mean that it would continue groundwater pumping if or when it could not conduct the proposed uses on the remaining federal lands. Indeed, the previous operator shut down the pumps for approximately ten years in or around 1997.

The FEIS lists several major ongoing actions of Resolution Copper, the effects of which the Forest Service improperly included as the environmental baseline, which results in these effects not being analyzed at any point in the NEPA process (as they should have). This includes, but is not limited to, the adverse impacts to local springs and seeps (and related groundwater-

dependent ecosystems), surface water sources (surface flows in Queen Creek, Ga'an ("Devils") Canyon, and elsewhere), underlying groundwater levels, and local wells in and around Oak Flat resulting from the ongoing and "continued dewatering" of the mine shafts, including shafts No. 9 and No. 10, among other shafts and tunnels, since at least 2009.

The Forest Service admits that the "dewatering of the deep groundwater system has taken place since 2009 to allow construction and maintenance of mine infrastructure" and that it will be continued "throughout the mine life." FEIS at 390. The Forest Service nevertheless states in the FEIS that the No Action Alternative (baseline) "includes continued dewatering pumping of the deep groundwater system" at Oak Flat. FEIS at 417.

Groundwater levels in the deep groundwater system below Oak Flat (close to the pumping that has been dewatering Shafts 9 and 10) have dropped over 2,000 feet since 2009. FEIS at 410. Further away, near Superior, Arizona water levels associated with these units have declined roughly 20 to 90 feet since 2009. Id.

The Forest Service's decision to include the adverse impacts from the 16 years of ongoing dewatering from Shafts 9/10 and other dewatering activities as part of the environmental baseline and as a result, all of the corresponding adverse impacts to the springs, seeps, surface water features, groundwater dependent ecosystems, and wells in the area, does not represent true baseline environmental conditions, as it grossly underestimates the magnitude and extent of mine's impacts on the affected environment on the low side. The Forest Service had sufficient information to reasonably develop a true environmental baseline for the Project—one that did not include the ongoing dewatering—but it instead improperly included this information into the environmental baseline, significantly skewing the dewatering impacts between action and No-Action alternatives.

In 2008, as part of the Forest Service's decision to issue a Special Use Permit to Resolution Copper for construction of a water pipeline within the MARRCO corridor, the Forest Service obtained detailed information pertaining to existing surface water features (including observed discharges from springs, seeps, and surface water sources) with corresponding maps of these then existing surface water features. These materials also included detailed hydrographs of groundwater elevation levels, as well a robust table of registered groundwater wells in the Superior and Oak Flat Areas.

In the FEIS, the Forest Service did not consider this information or make a comparison between springs, seeps, groundwater-dependent ecosystems, surface waters, or local wells, or other documented resources that existed at the time of the MARRCO special use permit—which was immediately prior to Resolution Copper's dewatering of Shafts 9 and 10 (2008/09)—and those that remain in existence today when it established the environmental baseline for the FEIS. Instead, the Forest Service concluded, without explanation or support, that, "this was the appropriate approach under NEPA," FEIS at 391, because, "selecting a past point in time as a baseline does not reflect the environment as it exists today." Id.

Many of the springs and various other surface water featured in the Oak Flat area were also subsequently surveyed by Plaintiffs (including GPS locations), yet this information was also not considered in the USFS' baseline analysis under NEPA.

The BLM, in its role as a cooperating agency, also raised concerns related to the dewatering effects on these springs, noting that GIS layering they had obtained "shows a lot more springs in the area of interest than are shown in the FEIS." The BLM went on to ask, "Are the rest of these springs/seeps already dry? Why are they not mentioned?" BLM Hydrology Review at 8. Later in its review, the BLM observed: "After significant study of the FEIS and supplemental studies the BLM reviewers believe the characterization of GDEs is inadequate. On the United States Department of Agriculture RC Project and Land Exchange Environmental Impact Statement web page under 'Baseline Reports' there are inventories of springs, but only a few of those springs were included in the FEIS. The BLM reviewers did not see a discussion in the FEIS about why only a few of these [groundwater-dependent ecosystems] were included within the study." BLM Hydrology Review at 18.

The BLM also stated it shared concerns with prior commentators about the impact of ongoing mine dewatering on baseline conditions:

> Concern was expressed in the comments that while dewatering of the Resolution graben has been occurring since 2009, the baseline condition for analysis would be set to the start of mining. The BLM reviewers share this concern because baseline monitoring occurred from 2003 to 2017, but dewatering started in 2009. The short time-period between the start of dewatering and the end of monitoring did not take into consideration a delay in response between deep dewatering and a near-surface expression of the dewatering. The BLM reviewers believe it may be more appropriate to analyze available groundwater level information from wells, between where dewatering is occurring and the four springs in Devils Canyon and the 14 sites on Oak Flat. A study of historical groundwater level information could identify if pre-mining dewatering appears to be expanding towards the locations being monitored, or if impacts are already being realized.

BLM Hydrology Review at 13. The BLM's recommendations were never discussed or responded to in the FEIS.

In sum, none of the adverse impacts from the 16 years of ongoing dewatering of Shafts 9 and 10 were included in the environmental baseline in the FEIS despite the fact that the Forest Service had very detailed information about the existence and health of springs, seeps, surface waters, groundwater conditions, and wells dating back to 2008. This information was easily available to the Forest Service was utilized in the FEIS to determine the ongoing impacts from mine dewatering since 2009, since all of these impacts were simply baked into the baseline, including (among other things) the condition of numerous springs and seeps that have been decimated and lost during the last approximately 16 years of mine dewatering.

The Forest Service also failed to fully analyze the baseline with regard to the tailings alternatives. Remarkably, baseline water quality data in the area underlying the Agency's preferred Alternative 6 Skunk Camp tailings site is still unknown. Baseline groundwater and surface water quality are based on single samples collected on November 9, 2018. *See* FEIS at 547-548, Table 3.7.2-26. (Columns titled "Baseline Groundwater Quality (Skunk Camp Well)" and "Baseline Surface Water Quality (Gila River below Dripping Spring Wash)" contain the following asterisk endnote: "* Assumed concentrations are based on single sample collected on November 9, 2018, and are therefore approximate."

This is repeated elsewhere in the FEIS. "Background groundwater quality is derived from a single sample in November 2018 from a well located adjacent to Dripping Spring Wash. Background surface water quality is derived from a single sample in November 2018 from the Gila River at the confluence with Dripping Spring Wash." FEIS at 468.

The Forest Service must consider the full range of impacts from the entire scope of this Mine Project (including Resolution's ongoing dewatering of Shafts 9/10 since at least 2009 and the current groundwater conditions at the tailings site) under NEPA, FLPMA, the NDAA, and other applicable law. Its failure to do so violates these laws.

Other actions and impacts that have been ignored by the Forest Service in the FEIS include "reclamation of the historic Magma Mine; exploration; monitoring of historic mining facilities such as tailings under existing State programs and permits; maintenance of existing shaft infrastructure, including dewatering; and water treatment and piping of treated water along the MARRCO corridor to farmers for beneficial use." FEIS at 91–92.

Regarding this last point, the FEIS unfairly considers Resolution Copper's water savings and/or recharge efforts, which include delivery of Shaft 9/10 dewatered water to New Magma Irrigation and Drainage District, as an applicant-committed environmental protection measure while failing to analyze the actual environmental impacts of that same dewatering that would occur at the Mine and throughout the well corridor.

In addition, the FEIS failed to consider the reasonable alternative where the Exchange takes place per the NDAA, but the agency denies some or all of the Special Use Permits for the tailings and water pipelines and electrical facilities, and/or the Special Use Permit that should have been required for the ore concentrate pipeline and construction laydown yard in and near the MARRCO corridor.

The Agency refused to consider this reasonable alternative because it erroneously believed that "the Forest Service is unable to refuse approval of the [General Plan of Operations] within their regulations and guidance." FEIS at 92. But this is internally contradicted by the FEIS and DROD, where the agency says that since it does not have discretion to deny the Exchange, all Project facilities on Forest Service managed lands are regulated under discretionary Special Use Permits, not the General Plan of Operations.

The Forest Service **does** have the authority and discretion to deny Special Use Permit applications under FLPMA and the Agency's 36 C.F.R. Part 251 and Part 261 regulations. Indeed, as shown herein, and by the massive destruction to Oak Flat/Ga'an Canyon and the surrounding lands and waters that would result from the issuance of the Special Use Permits (*i.e.*, if these Permits are not issued, then the Mine Project could not occur regardless of whether the Exchange takes place), this alternative is the only legally-defensible choice for the Agency, and yet it was not even considered.

Failure to Adequately Consider All Direct, Indirect, and Cumulative Impacts from the Project.

The Forest Service failed to adequately analyze in the FEIS the direct, indirect, and cumulative impacts from the Exchange and Project on all potentially affected resources, including

air quality, water quality and quantity, wildlife, cultural/religious resources, recreation, and economics. As shown by the Objectors' previous Objections and comments (pp. 15-300 of AMRC's November 7, 2019 comments, pp. 3-65 of the ITAA's November 7, 2019 comments, and the Objectors' comments on water quality submitted to the USFS on October 30, 2020), the Draft EIS failed to comply with the Forest Service's mandatory public and environmental requirements under NEPA, the NDAA, FLPMA, the CWA and other applicable laws. These comments, and the FEIS' inadequate response, are contained in Volume 6 of the FEIS. *See also* Objectors supplemental comments submitted in October and December of 2020, and on April 11, 2025. Acting Supervisor Torres responded (albeit inadequately) to the Objectors' December 2020 comments in a January 12, 2021 letter to AMRC and ITAA, which are in the administrative record for these Objections.

Water Resources and Project Water Use

Some of the most glaring inadequacies in the FEIS involve water. Although the Arizona Department of Water Resources has been a cooperating agency in the NEPA process, the FEIS failed to adequately analyze key environmental baseline information and the physical availability of Arizona's water resources to be consumed by the Mine—or the direct, indirect, and cumulative impacts that the consumption of such a large volume of water (at least 677,000 AF–786,626 AF) would have on Arizona's water supplies on a local, regional, or state-wide basis.

The massive water footprint of the Project can be generally attributed to Resolution Copper's plans to (a) pump raw groundwater from the Desert Wellfield located along or MARRCO Corridor in the East Salt River Valley (544,858 AF, *see, e.g.*, FEIS at 443, Figure 3.7.1-7), which will be used throughout the Mine Project, including for processing ore at the West Plant Site, delivering copper concentrate in the form of a slurry to the filter plant and load out facility in the San Tan Valley, and to transport tailings as a slurry from the West Plant Site to the tailings facility at Skunk Camp under preferred Alternative 6; (b) continue massive mine dewatering activities at the Mine itself at Oak Flat and the East Plant Site to keep its tunnels, adits, shafts, and other underground infrastructure free of water—water that will then be fully consumed in the mining operations (at least 87,000 AF according to the FEIS); and (c) maintain a massive tailings facility that will eventually total 4,900 acres in size and will require the continued capture and diversion of precipitation and stormwater which, over time, will be lost via evaporation and seepage, potentially in perpetuity.

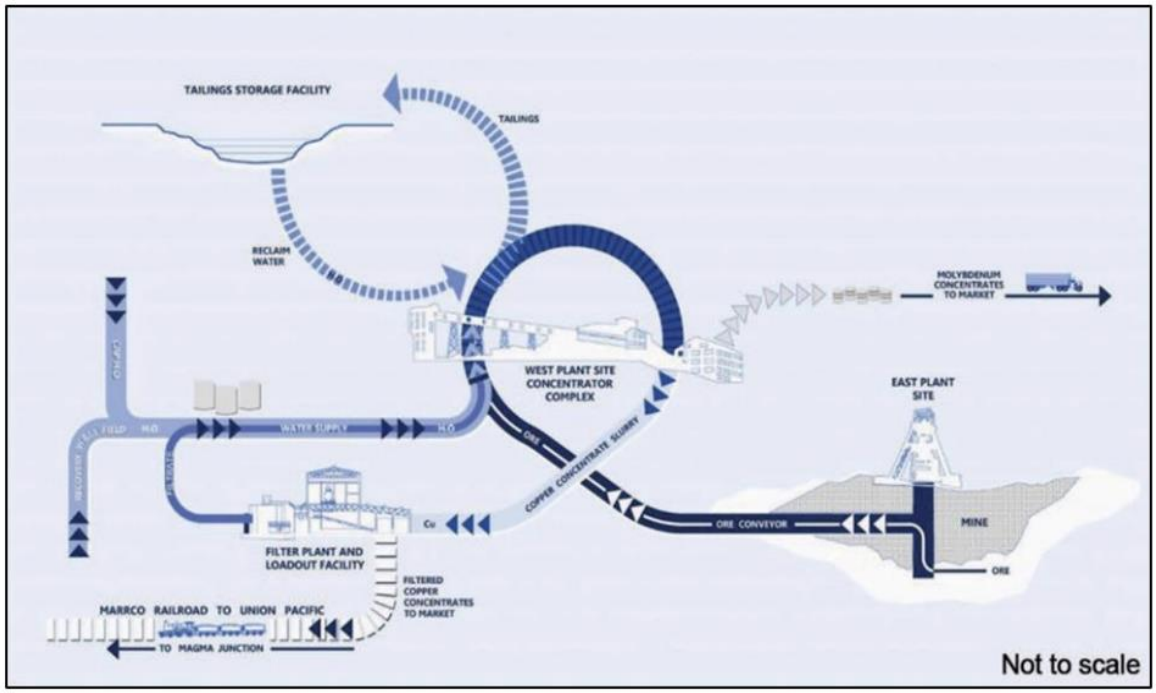

Figure 2.2.2-4. Overview of the mining process at full operation

FEIS at 62.

The Desert Wellfield

A massive portion of the water demand from the Project will be met through the development and use of at least 30 groundwater wells to be constructed at the Desert Wellfield. As noted above, when combined, pumping from the Desert Wellfield and mine dewatering at the Mine Site are predicted in the FEIS to consume (deplete) 677,000 AF of water from Arizona's limited water sources over the life of the Mine. But this is just a prediction, and the Forest Service acknowledges in the FEIS that the water balance numbers used in the FEIS to analyze the impacts to local, regional, and state water supplies from the Project are subject to "inherent uncertainties" and that the water balance could be higher (or lower) "based on real-world operational, climactic, and hydrological conditions." FEIS, Appendix H at H-1.

In fact, the analysis of the Tables and Figures contained in Resolution's own General Plan of Operations shows that Resolution's total water usage over the life of the Mine may be even greater—closer to 786,626 AF. *See* GPO Figures 3.6-1a, 3.6-1b, and 3.6-1c (Volume 2). The FEIS does not disclose or analyze the clear disconnect between Resolution's own water usage figures contained in the General Plan of Operations (totaling up to 786,626 AF) and the numbers ultimately analyzed by the Forest Service in the FEIS.

Moreover, in an attempt to mitigate for the high potential of the Project to use considerably more water than was actually analyzed in the FEIS, the Agency assumes all "makeup water will be physically pumped from the Desert Wellfield with no offsets" from long term storage credits that Resolution Copper has accumulated over the years in groundwater

storage and savings facilities in the Phoenix and Pinal Active Management Areas. Appendix H at H-1, *see also* FEIS at 981. Under this strategy, rather than making a reasonable effort to calculate and reasonably analyze the true water demands and water impacts of the Project, the Agency instead relies on Resolution Copper to voluntarily recover its long term storage credits for use in the Mine Project in the likely event that the Project's water demands exceed those predicted in the FEIS.

The FEIS estimates that "about 60 percent of the groundwater pumped [from the Desert Wellfield] will be associated with long-term storage credits already obtained by Resolution Copper or are under agreement to obtain." FEIS at 398. However, Resolution Copper cannot physically recover much, if any at all, of its long-term storage credits through the Desert Wellfield, since these credits are stored in groundwater storage or groundwater savings facilities that are in different subbasins than the Desert Wellfield. This means that the vast majority of water used in the Project—and any exceedances of the water budget predicted in the FEIS—will be pumped from raw groundwater in the East Salt River Valley under must issue mineral extraction permits under A.R.S. § 45-514.

All long-term storage credits held in groundwater storage facilities and groundwater savings facilities in Arizona are tracked and accounted for in accounts maintained by the Arizona Department of Water Resources. The Department's accounting of long-term storage credits attributed to Resolution Copper shows that only a portion of Resolution Copper's credits (far less than "60 percent") are accounted for as legally recoverable from the New Magma Irrigation and Drainage District groundwater savings facility, which is the only facility in relative proximity to the Desert Wellfield, and yet which is still miles away from the Desert Wellfield

The Forest Service does not disclose, analyze, or provide any groundwater modeling (or indeed any analysis whatsoever) in the FEIS to demonstrate that Resolution Copper could—in actual fact—physically recover any of its long term storage credits from New Magma or from any other groundwater storage or savings facility by pumping at the Desert Wellfield.

The MARRCO corridor is upgradient of the New Magma groundwater savings facility, and there are numerous groundwater wells located between this facility and the planned Desert Wellfield. These facts make it highly uncertain that any of Resolution Copper's long-term storage credits in New Magma could be physically recovered by pumping at the Desert Wellfield. None of this was reviewed by the Forest Service in the FEIS.

Even the Arizona State Land Department (a cooperating agency) stated that "the location along the rail corridor where Resolution proposes to withdraw the water is outside the area of hydrologic impact (AOI) where the water storage occurred." FEIS, Appendix R at R-43.

Resolution Copper has yet to secure a single Arizona Department of Water Resources permitted recovery well for the Desert Wellfield. Resolution Copper is not legally obligated in any way to preserve (continue to store) its long-term storage credits over the life of the Project to mitigate for the high potential of the Project to use considerably more water than was actually disclosed and analyzed by the Forest Service in the FEIS. Long-term storage credits become more and more valuable every year, and there is nothing that precludes Resolution from selling, exchanging, or transferring all or part of its credits at any time, making these credits unavailable to mitigate for the Forest Service's failure to determine, disclose, and analyze the full extent of

the Project's water demands and the corresponding adverse water impacts to local, regional, and state water supplies stemming from the Project.

In fact, Resolution has already begun to exchange its long-term storage credits. Arizona Department of Water Resources records show that in early 2023, Resolution transferred approximately 40,000 acre-feet of its long-term storage credits to EPCOR Water Arizona, Inc. In exchange, in late 2024, Resolution received approximately 2,000 acre-feet of effluent from EPCOR Water Arizona, Inc.

Other sources of water that could be stored in the New Magma groundwater savings facility (the only facility remotely close to the Desert Wellfield) in the future, such as excess Central Arizona Project water or Resolution's annual allocation of non-Indian agricultural priority Central Arizona Project water, are no longer legally available to Resolution, due to shortages on the Colorado River. Given the ongoing drought and effects of climate change in the Colorado Basin, excess Central Arizona Project water and non-Indian agricultural water are not anticipated to be available again in the future.

The BLM reviewers state that "There are many assumptions in the FEIS regarding availability of water to [Resolution], but few assumptions on the availability of water due to an extended drought or other planned projects." BLM Hydrology Review at 15.

In short, the Forest Service failed to disclose, analyze, and detail in the FEIS how, and where, all of the water needed for the Project will actually come from and, as a result, it failed to look at the impacts associated with the total water demand of the Project, and it failed to avoid, minimize or mitigate for these water related impacts.

A determination of all the sources of water, including the availability of the water supply, as well as the location, rate of pumping, and the governing legal authorities should have been made and included in the FEIS for full analysis of baseline conditions, and the Project's direct, indirect, and cumulative impacts, as well as mitigation.

The Forest Service cannot rely on future state permitting procedures and reviews to satisfy its NEPA and NDAA analysis requirements (as all analysis needed to be completed in the single FEIS as mandated by the NDAA). Under the Arizona Groundwater Management Act of 1980, areas of the state with "heavy reliance on mined groundwater" were designated as Active Management Areas, and for many of these Areas including the Phoenix Active Management Area, the primary management goal is to achieve safe-yield by the year 2025.

The Mine and much of its infrastructure, including mine dewatering infrastructure, "lies almost entirely within the Phoenix [Active Management Area]." FEIS at 410, n.67. The Desert Wellfield is located within the East Salt River valley of the Phoenix Active Management Area (FEIS at 416), although the Wellfield is in extremely close proximity to the Pinal Active Management Area.

The aquifers in the Phoenix Active Management Area and Pinal Active Management Area are hydrogeologically similar and connected, FEIS at 397, and groundwater flow passes between the two subbasins, Id. at 950. Thus, the substantial pumping that would occur at the Desert Wellfield will intersect and could deplete groundwater supplies within the Pinal Active Management Area as well.

The Forest Service acknowledges in the FEIS that "ultimately, the mine water supply for each alternative can be reduced to the need for fresh groundwater to be pumped or recovered from the Desert Wellfield…", FEIS, Appendix H at H-7); *see also* FEIS at 408 ("makeup water supply for the mine would come from a series of wells installed within the MARRCO corridor, drawing water from the deep alluvial units of the East Salt River valley.")(footnote omitted). The FEIS states this will be at least 544,858 AF, *see, e.g*., FEIS at 443, Figure 3.7.1-7, which is over 177 billion gallons of water.

The FEIS at ES-25 vaguely concludes that the numerous high-capacity wells to be developed at the Desert Wellfield pumping in the East Salt River Valley along the MARRCO corridor "would incrementally contribute to the lowering of groundwater levels and cumulatively reduce overall groundwater availability in the area." But the FEIS fails to provide substantive details about these impacts or to meaningfully or objectively consider the direct, indirect, or cumulative impacts of the Desert Wellfield pumping on the groundwater availability in the area or to local, regional, or state-wide water supplies and the environment overall.

For example, the Forest Service failed to adequately consider or analyze in the FEIS the direct, indirect and cumulative impacts of the large amount of water to be pumped by the Desert Wellfield on the important safe-yield goals of the Phoenix Active Management Area, which should have, in particular, considered the impacts of the massive amount of "fresh groundwater" to be withdrawn from the Desert Wellfield—which will be at least 544,858 AF under the preferred alternative (the Forest Service sometimes rounds this number up to 550,000 in the FEIS).

Much of the pumped groundwater from the Desert Wellfield will flow through one or both of the pipelines in the MARRCO Corridor for use at the West Plant Site and for the slurry pipeline to the Skunk Camp Tailings site, requiring Forest Service approval. As such, the Agency needed to analyze these impacts and baseline conditions under NEPA and FLPMA.

The Forest Service failed to adequately consider or analyze in the FEIS the direct, indirect, and cumulative impacts on groundwater dependent ecosystems and other resources resulting from the large amounts of groundwater to be pumped from the Desert Wellfield, summarily concluding (without any material analysis, surveys or other empirical information) that due to "depths to groundwater" there "are no [groundwater dependent ecosystems] in the East Salt River valley supported by regional groundwater that potentially could be impacted by drawdown from the mine water supply pumping." FEIS at 408. This is far from the detailed "hard look" required by NEPA.

The Forest Service states that "the amount of groundwater in storage in the East Salt River valley subbasin (above a depth of 1,000 feet) is estimated to be about 8.1 million acre-feet." FEIS at 444 (footnote omitted). The basis for this critical assumption remains wholly unclear, despite the fact that the FEIS continues to rely on this assumption throughout the FEIS.

The Forest Service also never explains in the FEIS where this 8.1 million AF estimate comes from, whether it has been independently verified by the Agency, or what the range of uncertainty is associated with this estimate. This falls far short of the basic requirement for a "hard look" under NEPA.

The Forest Service also fails to make clear: (a) if its critical assumption that there is 8.1 million AF of groundwater "in storage" in the East Salt River Valley is in reference to natural groundwater or if it includes Central Arizona Project water or other water sources that have been banked or stored in underground storage or saving facilities by others and are therefore accounted for as long term storage credits and not natural groundwater that could be relied on by Resolution for its Project; and (b) how much of the purported 8.1 million AF of groundwater "in storage" is already being utilized by others or if it is needed for committed demands in the future.

In fact, the Forest Service notes in its cumulative effects analysis that "Approximately 7 million acre-feet of long-term storage credits were stored in the entire Phoenix Active Management Area at the end of 2017 (Barter et al. 2020)." FEIS at 984. Yet, the FEIS does not distinguish these storage credits from the 8.1 million AF figure, injecting significant uncertainty into the Forest Service's evaluation of the impacts of Resolution's pumping on total stored water available.

As the Arizona Department of Water Resources (a cooperating agency) has analyzed and publicly announced, but the FEIS never acknowledges, there is currently an unmet water demand of 3.6 million AF in the Phoenix Active Management Area at the end of the Department's most recent 100-year projection period. In the FEIS, the Forest Service summarily rejects Arizona Department of Water Resources' modeling, with limited analysis, concluding that pumping from the Desert Wellfield under Alternative 6 "represents about 6.7 percent of the estimated 8.1 million acre-feet of available groundwater in the East Salt River valley subbasin," FEIS at 448, implying that this water is unallocated and available for use.

The FEIS inadequately analyzes the cumulative impacts of the Desert Wellfield pumping and Mine dewatering on regional and local water supplies—supplies that are already being stretched to their limit by drought and existing pumping, with more groundwater demand anticipated in the coming years as discussed herein.

As the BLM reviewers state, the impacts from ongoing drought conditions "are all factors that influence the cumulative impact of the mining operation and tailings storage on the landscape. The BLM reviewers do not believe factors known to be associated with climate change, such as higher average temperatures, decreased precipitation, higher evapotranspiration, more frequent and potentially more severe flooding, increase in forest fires due to dry vegetation, increased groundwater pumping due to the reduction of surface flows, and salinity, were thoroughly addressed within the FEIS." BLM Hydrology Review at 15-16.

Under NEPA and the single-EIS requirement in the NDAA, the Agency must provide the needed information in the Draft and Final EIS and this duty is not excused by a vague allusion to "uncertainties" or because either the Agency or the Project proponent has yet to obtain/compile the needed information. The Forest Service failed to provide the required information and analysis on baseline conditions and water impacts as noted herein, and failed to provide the specific justification why this failure is acceptable under NEPA. The Forest Service cannot credibly assert that the need to fully understand the direct, indirect, and cumulative water impacts of this Project, which could be catastrophic for regional and local water users (and the Phoenix Active Management Area's and Pinal Active Management Area's statutorily prescribed water goals) is not essential to its review of the Project under NEPA.

This includes the obligation to document and verify, among other things: (a) the total amount of water that is physically available for pumping at the Desert Wellfield—beyond an unverified suggestion that there is 8.1 million AF of water in "storage"; (b) the location and size of existing local and regional groundwater wells that might be adversely impacted (and even rendered dry) by the Project's pumping and water use; and (c) the reasonably foreseeable future planned developments in the area, such as the large Superstition Vista development, among other planned developments.

The Forest Service is required to fully review, verify, and understand any scientific models used in the FEIS. This includes any groundwater flow models used to examine the direct, indirect, and cumulative impacts of the massive groundwater pumping and mine dewatering requirements of the Mine. The Forest Service states (though does not explain) that the groundwater flow model used to predict pumping impacts from the Desert Wellfield was developed by Resolution Copper "from an existing, calibrated, regulatory model prepared by [Arizona Department of Water Resources]…." FEIS at 396.

The record reveals that Resolution relied upon the 2009 Arizona Department of Water Resources Salt River Valley flow model as the basis of their groundwater model for the Desert Wellfield.[10] However, the FEIS fails to provide any information that would assist the public to independently review the accuracy of the Resolution Copper model that was, presumably, built from the Arizona Department of Water Resources model. The Forest Service acknowledges in response to public comments that it did not independently review the model:

> These comments indicate that **the separate groundwater model used to predict impacts from the Desert Wellfield was not scrutinized or vetted by the NEPA team, as was the mine-site groundwater model.** This is a correct statement. Because the model used for the Desert Wellfield is a standard regulatory model prepared and used by the Arizona Department of Water Resources, the same level of evaluation was not deemed necessary.

FEIS at Appendix R at R380 (emphasis added).

Resolution's revisions to the Arizona Department of Water Resources model were evaluated by BGC Engineering USA, Inc., in its report entitled "Project Memorandum re: Review of the ADWR Salt River Valley Groundwater Model Application for Resolution's Desert Wellfield – FINAL," dated August 3, 2020 (Walser 2020a). Walser 2020a is included in the Project record.

The evaluation by Walser pointed out numerous material concerns with the Resolution Copper model that undermine its reliability that were not addressed. Walser notes that the Arizona Department of Water Resources model utilized by Resolution Copper to analyze the impacts of pumping from the Desert Wellfield "was last updated in 2009." Walser at 4. But, Walser also notes that in 2010 a "refined geology framework was developed for the model area (ADWR, 2010b), however, this framework has not been incorporated in the [Resolution Copper] numerical model." Id.

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[10] *See* Garrett, C. 2018a. *ADWR/Desert Wellfield Modeling Meetin*g. Phoenix, Arizona: SWCA Environmental Consultants. November 9, 2018 ("2018 Modeling Meeting minutes"). https://www.resolutionmineeis.us/documents/garrett-swca-adwr-meeting-2018

In addition, in 2014, Arizona Department of Water Resources completed a major update to its East Salt River Valley portion of the Salt River Valley model to perform key "structural modifications" related to the simulated thickness of aquifer materials and other matters. In 2023 and again in 2024, Arizona Department of Water Resources updated the entire Phoenix Active Management Area groundwater model. These important structural improvements and updates were also not included in the Resolution Copper model. *See* November 9, 2018, Montgomery & Associates Power Point Presentation, attached to the 2018 Modeling Meeting minutes ("Nov. 2018 Power Point") at slide 5 ("Utilize 2009 ADWR SRV model that simulates groundwater flow from 1983 through 2006 (Freihoefer et. al., 2009).").

Nevertheless, the Forest Service ultimately relied on Resolution's groundwater modeling in the FEIS, even though it was based on a much earlier version of the Arizona Department of Water Resources modeling (2009) that did not have the benefit of the Department's 2014 updates to correct structural problems or 2023/2024 model updates addressing unmet demand for groundwater supplies. The FEIS does not explain why the structural problems in the 2009 model or the unmet demands addressed in the 2023/2024 model can be ignored.

The Forest Service has an independent obligation under NEPA and the NDAA to objectively review, independently verify, and understand the groundwater flow model used by Resolution Copper, regardless of whether it represented a modification of an existing Arizona Department of Water Resources planning model. The Forest Service failed to perform its independent obligations relative to the Resolution Copper groundwater flow model for the Desert Wellfield in violation of NEPA.

The Desert Wellfield sits at the boundary of the Phoenix and Pinal Active Management Areas, yet despite the Desert Wellfield's extremely close proximity to the Pinal Active Management Area and the obvious pumping impacts from the Desert Wellfield to groundwater levels in the Pinal Active Management Area, the Resolution Copper groundwater model entirely excludes impacts to groundwater resources in the Pinal Active Management Area, and instead abruptly terminates at the boundaries of the Phoenix Active Management Area without explanation, despite the now-acknowledged hydrologic connection between the two Active Management Areas as noted elsewhere in the FEIS, *e.g.* at 950.

The Forest Service ignored this critical failing in its NEPA analysis of the Desert Wellfield, despite the fact that the drawdown contours from pumping the Desert Wellfield are shown in the FEIS to extend down past the southernmost boundary of this model by levels of at least 40 feet or more and into the Pinal Active Management Area model boundary.

As a result, the Forest Service did not identify or consider the direct, indirect and cumulative impacts from the pumping at the Desert Wellfield to groundwater levels or wells within the Pinal Active Management Area, meaning that the FEIS fails to disclose potentially catastrophic impacts from the Desert Wellfield pumping to groundwater resources within the Pinal Active Management Area. The Pinal Active Management Area groundwater flow model was updated by Arizona Department of Water Resources in October 2019 (as attached to Plaintiffs' DEIS comments) and again in 2021-2022 ("Pinal Stakeholder Model Revisions" and "ADWR's Review of Pinal Stakeholder Model Revisions"), as provided in Plaintiffs' April 2025 Supplement.

Among other things, the Arizona Department of Water Resources updates actually show a **shortfall** of 8.1 million acre-feet of water between demands and available groundwater resources (a/k/a "unmet demand") in the Pinal Active Management Area. This shortfall was not meaningfully evaluated by the Forest Service in the FEIS as NEPA requires.

In fact, "Modifications in the 2019 Pinal Model domain were concentrated in the northeast corner of the model where it overlaps with the SRV [Salt River Valley] model…" Given the rampant shortcomings in Resolution's groundwater modeling efforts for the Desert Wellfield, the Forest Service was required to perform an objective and independent analysis of the baseline conditions and of the direct, indirect, and cumulative impacts of pumping from the Desert Wellfield using the most recent modeling available.

The BLM reviewers also agreed that modeling for the Desert Wellfield was deficient. They questioned the Forest Service's failure to incorporate updated data on site geology into the model, consider future removal of stored water by other entities, and a lack of reference to any other water users within the 25-foot drawdown zone. BLM Hydrology Review at 25-26.

The Resolution model relied upon by the Forest Service in the FEIS is fundamentally flawed, likely grossly underestimates the decline in regional groundwater supplies in the East Salt River Valley that would be caused by the Desert Wellfield, and cannot be used by the Agency to examine the direct, indirect, or cumulative impacts from the Desert Wellfield pumping on individual wells in the area, or the local or regional water supply in the East Salt River Valley under NEPA.

The Mine Site (East Plant Site and Oak Flat)

Over the life of the Mine, groundwater modeling relied on by the Forest Service estimates that 87,000 AF of water will be dewatered (pumped) from the Mine and from ancillary facilities associated with the Mine at the East Plant Site and Oak Flat. FEIS at 428. This water will be substantially consumed by mining processes. Id. This is in addition to the massive amount of groundwater pumping planned for the Desert Wellfield as detailed above.

The Forest Service acknowledged in the FEIS that Mine dewatering and subsidence will impact or destroy between 18 and 20 groundwater-dependent ecosystems, including springs and surface water resources throughout the Oak Flat area. *See, e.g.*, FEIS at ES-25; FEIS at 396, Figure 3.7.1–11. The BLM reviewers noted that many more GDEs exist, but were not included in the FEIS. "The BLM reviewers did not see a discussion in the FEIS about why only a few of these GDEs were included within the study." BLM Hydrology Study at 18.

The work of hydrologist, Dr. Robert Prucha, whose report was attached to Plaintiffs' comments to the DEIS, illustrates the severe failures of the groundwater modeling approach used by the Forest Service to evaluate the adverse impacts of the mine Project, including the mine dewatering activities, predicted subsidence crater(s), and other mine activities. Dr. Prucha's work shows among other things: (1) formation of a pit lake or lakes associated with the subsidence at the mine site and thus ongoing impacts to the aquifer post mine-closure were not meaningfully evaluated by the Forest Service; (2) the true range of impacted groundwater-dependent ecosystems was severely underestimated; (3) the Forest Service examined surface water and groundwater in isolation, as if these two water resources are not hydrologically connected in key groundwater-dependent ecosystem locations when they are connected; and (4)

the model's evaluations of the relationship between stream flows and aquifer conditions (stream-aquifer flows) was not assessed.

The modeling used by the Forest Service fails to comply with industry standards in the larger modeling community—standards that consider many of the issues and factors outlined in the Prucha report, including the importance of simulating the dynamic interaction between surface and groundwater resources and the critical importance of conducting a predictive uncertainty analysis that would have provided critical information to the Forest Service regarding the range and possible extent of the drawdown (including the worst-case drawdown) and the corresponding impacts to groundwater-dependent ecosystems that would be caused by dewatering at least 87,000 AF of from the Mine, among other impacts.

The failures of the Forest Service's modeling efforts and corresponding failure to take a hard look at the impacts (including a range of impacts) from the Project and its impacts at the Mine violated NEPA, the NDAA and other public land laws. The BLM reviewers also noted that the FEIS failed to do any water budget analysis for the post-closure period. "[T]here is no indication that any water budget analysis was done for the period following year 45," nevertheless, "[w]ater budget values should be presented for out-years." BLM Hydrology Review at 19. Instead, the Forest Service failed to consider these long-term water impacts in the FEIS.

The Forest Service also acknowledged that a pit lake could form from the subsidence crater(s) at the Mine site: "We acknowledged in the DEIS that several conditions exist that suggest a lake could form, including the presence of a subsidence crater estimated to be 800 to 1,100 feet deep, recovering groundwater levels in the deep groundwater system after dewatering ends, and a block-cave zone that would hydraulically connect the deep groundwater system to the surface." FEIS, Appendix R at 359.

Yet, the potential for a pit lake to form in the subsidence crater(s) is later dismissed by the Forest Service without basis as speculative. FEIS at 492-93. However, Dr. Prucha's work demonstrates that it is reasonably foreseeable that a pit lake would form within the subsidence crater with water from the shallow alluvial aquifer and other sources that **would continue** to deplete the local and regional aquifer due to ongoing evaporation and other losses, well after the Life of Mine and closure. These post-closure water related impacts where not considered by the Forest Service or included in Resolution Copper's water balance/budget. This violates, *inter alia,* NEPA.

The BLM also rejected the Forest Service's conclusions regarding the potential formation of a pit lake. The BLM noted that once mining is completed, flows from the upper Apache Leap aquifer will drain into the lower until equilibrium is reached, "either by filling the extent of the workings and subsidence area or draining the Apache Leap aquifer." A description of post-mining groundwater system conditions is appropriate and "should not be avoided." BLM Hydrology Review at 25. The direct, indirect, and cumulative impacts from the pit lake are reasonably foreseeable and should have been considered by the Forest Service under NEPA.

Tailings Facility (Alternative 6 – Skunk Camp)

The Forest Service acknowledges generally that "Seepage from the tailings storage facilities has several unavoidable adverse effects. In all cases, the tailings seepage adds a

pollutant load to the downstream environment, including downstream aquifers and downstream surface waters where groundwater eventually daylights." FEIS at 564.

Yet the Forest Service failed to meaningfully analyze the direct, indirect, and cumulative effects to surface or groundwater quality for the preferred Alternative 6 Skunk Camp tailings site. Instead, the Forest Service says erroneously that because impacts to water quality are **assumed** to never occur, exceedances in surface water quality are not possible.

The Forest Service offers this circular reasoning: "Because concentrations in the aquifer just above the confluence with the Gila River are never anticipated to rise above surface water standards, there is no possibility that tailings seepage would lead to exceedances of surface water quality standards in the Gila River under any flow condition (median or low flow)." FEIS at 561. This is directly contradicted even by updated model runs done by the Forest Service since rescinding the prior FEIS, in which more than 10% of their runs "indicate exceedances of surface water quality standards near the Gila River," referencing the aquifer above the Gila River. FEIS at 551.

The direct, indirect, and cumulative impacts to surface and groundwater quality from the Skunk Camp tailings facility during construction and operations should have been considered by the Forest Service under NEPA. Yet they are not meaningfully analyzed in the FEIS.

As stated previously, the FEIS indicates that no meaningful baseline data has ever been collected for surface or groundwater quality for the Skunk Camp tailings site, but are instead assumed/approximated "based on single sample" collected seven years ago. FEIS at 547-548, Table 3.7.2-26.

> The Forest Service also summarily concludes, without any basis or support, that impairments to the aquifer are not expected to extend more than one mile from the tailings site. "Concentrations above aquifer water quality standards are only anticipated within about 1 mile of the toe of the tailings storage facility." FEIS at 561. Yet the tailings facility is expected to continue seeping, with concentrations of toxic constituents rising over time. "Concentrations of constituents of concern continue to increase over time, post-closure." FEIS at 553. In addition, seepage rates post-closure are "estimated to be 200 to 260 acre-feet per year." Id. And yet, despite this, the scope of post-closure period was severely limited: "it is estimated that active closure would be required up to 20 years after the end of operations." FEIS at 553.

The direct, indirect, and cumulative impacts to surface and groundwater quality from the Skunk Camp tailings facility during the post-closure period should have been considered by the Forest Service under NEPA. Yet this was not meaningfully analyzed in the FEIS.

Analysis of water in the post-closure period within and beyond this period are deficient and fail to meet the "hard look" required by NEPA. Despite all of this, the Forest Service states: "there are no committed mitigations for groundwater and surface water quality." FEIS at 563.

Reasonably Foreseeable Future Actions Were Not Included in Cumulative Effects Analysis.

The Forest Service's cumulative effects analysis also fails to adequately consider a number of "reasonably foreseeable future actions" that are in no way "speculative" and that are even currently underway in the East Salt River Valley. These include the Superstition Vistas mega residential development, other developments planned near Florence, and the development of numerous new agricultural production (groundwater) wells that are and will be developed due to impending shortages on the Colorado River, among other things.

As shown by the Objectors' previous Objections and comments (pp. 15-300 of AMRC's November 7, 2019 comments, pp. 3-65 of the ITAA's November 7, 2019 comments, and the Objectors' comments on water quality submitted to the USFS on October 30, 2020), the Draft EIS failed to comply with the Forest Service's mandatory public and environmental requirements under NEPA, the NDAA, FLPMA, the CWA and other applicable laws. These comments, and the FEIS' inadequate response, are contained in Volume 6 of the FEIS. See also Objectors supplemental comments submitted in October and December of 2020, and on April 11, 2025. Acting Supervisor Torres responded (albeit inadequately) to the Objectors' December 2020 comments in a January 12, 2021 letter to AMRC and ITAA, which are in the administrative record for these Objections.

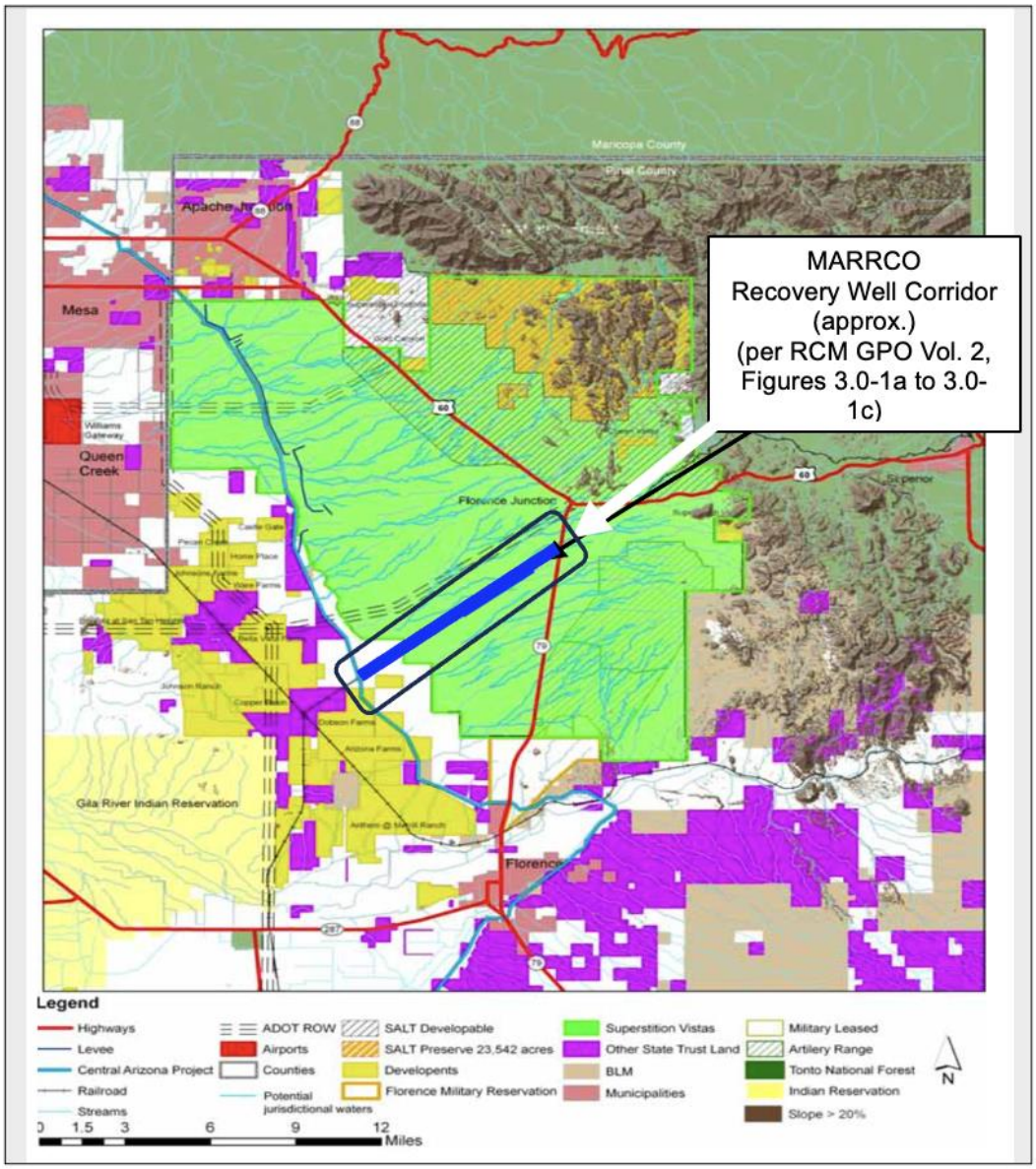
As the Forest Service acknowledges:

> A cumulative impact is one that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions, which are those Federal or non-Federal activities not yet undertaken for which there are existing decisions, funding, or identified proposals (36 CFR 220.3). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Cumulative impacts are the combination of impacts from[:]
>
> - the proposed action or alternatives
> - other past or present actions
> - reasonably foreseeable future actions

FEIS at 923.

A reasonably foreseeable future action is one that is reasonably "likely to occur in the future." FEIS at 923. For example, despite the existence of longstanding proposals and plans by the Arizona State Land Department to develop its State Trust Lands into the 275-square mile Superstition Vistas mega development, which is located within the Project's analysis and impacts area, and even after acknowledging the portions of the Superstition Vistas development that have since been auctioned, the Forest Service declined to consider the water demands (to be served by groundwater pumping) of the Superstition Vistas fully-built out development as a reasonably foreseeable future action under NEPA.

The Desert Wellfield pumping area for the Resolution Project sits at the heart of the 275-square mile Superstition Vistas land (shown in green). This can be seen in the illustration below.



In addition to the plans of the Arizona State Land Department, Superstition Vistas has also been anticipated and considered in planning documents maintained by Pinal County and numerous local cities and towns. *See* Pinal County Comprehensive Plan (2019) & Resolution No. 2020-PZ-PA-004-20 by Pinal County Board of Supervisors Approving Amendment Recorded November 19, 2020.

Objectors provided numerous documents to the Forest Service detailing the Arizona State Land Department plans for the Superstition Vistas development, and its ongoing advancement, including information showing the Department's decision to auction over 2,700 acres of State Trust Lands for this very development. *See* Phase I Environmental Site Assessment Arizona State Land Department Auction Site prepared by Geotek (October 2019);

see also "Homebuilders run up price of East Valley land to $245.5M in controversial state auction" (AZCentral, Nov. 5, 2020). Homes have already been built and sold, and plans for the sale and development of additional acres are already underway. Id.

As early as 2006, the Arizona State University Morrison Institute for Public Policy issued a study on the Superstition Vistas development, called "The Treasure of the Superstition Vistas" (Morrison Report, ECF 68-4). Per the Morrison Report, the 275-square mile planned proposal for the Superstition Vistas development would cover an area larger than the cities of Mesa, Tempe, Chandler, and Gilbert combined. Morrison Report at 9.

The Forest Service admits in the FEIS that at least 900,000 people will live in the Superstition Vistas area. FEIS at 984. The development is predicted to have a minimum water demand of at least 190,000 AF per year. Morrison Report at 15. Water demands for the Superstition Vista development, discussed for well over a decade, have been estimated to be between 100 and 156 gallons per capita per day. (Morrison Report at 23). *See also* "Snider: New development will bring water concerns" inMaricopa.com, Dec. 3, 2011, article provided by Plaintiffs in Dec. 2020 Supplement).

The 100 gallons per capita per day estimate reflects a highly aspirational water conservation goal, as the actual water usage may be much higher. Using an average of the current per-capita water usage figures available from the Arizona Department of Water Resources for the towns of Mesa, Gilbert, Chandler and Tempe (approximately 187 gallons per capita per day) shows that Superstition Vistas development is likely to use approximately 210,000 AF of water per year for its an anticipated population of 1 million people (Phoenix AMA Draft 4th Management Plan, January 2020, p. Municipal 5-44).

The per capita water demands prepared by Hilgartwilson in 2021 in its Master Water Plan for the Arizona State Land Department's auctioned 2,783 acre DH Horton subdivision (located in the Superstition Vistas development) was noted by the Forest Service in the FEIS, FEIS at 987, but seemingly ignored. This Master Water Plan estimates that average daily demands for the portion of Superstition Vistas in development with homes already sold is 7,312,250 gallons per day (approximately 8,190 AFY), with only a portion of this coming from the City of Apache Junction's existing (and soon-expiring) Assured Water Supply right. *Id*. at 22.

These demands could easily have been extrapolated to the full Superstitions Vistas development area, but again, they were ignored, and little, if any, of the water uses or other impacts associated with the Superstition Vistas development were considered by the Forest Service, in violation of NEPA and the NDAA.

Although the Forest Service claims in the FEIS to have included the portion of Superstition Vistas in the regional cumulative effects groundwater model, this appears to be untrue based on the FEIS and documents cited in support (Barter et al. 2020 and Garrett 2018a.). That model does not appear to have been updated to include this new information or, indeed, any new information arising within the last 5-7 years.

In short, the Superstition Vistas development is undoubtedly "likely to occur in the future" and developments for the project are already underway. In other words, it is a reasonably foreseeable future action whose impacts should have been analyzed under NEPA.

The Forest Service acknowledges the existence of longstanding plans and identified proposals for the Superstition Vistas development in the FEIS, *see*, *e.g.*, FEIS at 984, 987—proposals that lay out the footprint of the development and even calculate the likely population and potential water demands for the development. But it then refuses to analyze these purportedly "speculative" activities.

Indeed, the Arizona State Land Department criticized the Forest Service's Draft EIS for the adverse impacts from Resolution's dewatering on the plans on the Superstition Vistas development. The Department filed extensive comments on the DEIS, warning of significant impacts from Resolution's Desert Wellfield pumping and dewatering on the plans for the Superstition Vistas development, and correspondingly, on the Arizona State Trust that is administered by the Arizona State Land Department under the Arizona Enabling Act. FEIS, Appendix R at R-43.

The Arizona State Land Department explained: "The greatest potential adverse impact to the [Arizona] Trust will be the water (usage of approximately 600,000 acre-feet (AF) over the LOM [Life of Mine]) that will be extracted from the aquifer beneath the Superstitions Vistas Planning Area (SVPA)." FEIS, Appendix R at R-43. The Arizona State Land Department also observed that, "[b]ased upon the anticipated groundwater requirements contained in the DEIS, the negative impact of the proposed water consumption sourced from the Superstition Vistas Planning Area (SVPA) far outweighs the estimated financial benefits to the Trust resulting from other aspects of the project by a factor of 20:1." Id. at R-44. The Arizona State Land Department further stated that "…the extraction and transportation of groundwater out of the SVPA [Superstition Vistas Planning Area] greatly compromises the ability to develop these lands to their full planned potential, and as a result, reduces the income and value of the Trust." Id.

The Forest Service rejects out of hand all existing information before it that details the ongoing development at Superstition Vistas, including detailed proposals for the development and their anticipated water demands, concluding (erroneously) that NEPA requires much more. Specifically, the Forest Service concluded that because only a "portion" of the Superstition Vistas project (the DH Horton subdivision totaling 2,783 acres, FEIS at 987) had met the technical requirement for a "demonstrated water supply" under the assured water requirements of Arizona's 1980 Groundwater Management Act, only this part of the development could be considered a reasonably foreseeable future action. Id. In doing so, the Forest Service improperly rejected all other cumulative impacts associated with the full Superstition Vista development as "speculative" under NEPA. Id.

The Forest Service's conclusion that the residential development anticipated for the Superstition Vistas mega development is merely "speculative" is internally inconsistent with the Forest Service's own finding that by the year 2030 (less than 5 years from today) all of the lands located in the adjacent New Magma Irrigation and Drainage District "will be converted to residential housing." FEIS at 988.

Contrary to its approach above, the Forest Service appears to have cherry-picked its selected reasonably foreseeable future actions, particularly with regard to housing developments. At Sec. 4.3.4 (FEIS at 977), FEIS concludes that a majority of the Superstition Vistas development and other developments in the Desert Wellfield area are "speculative, not reasonably foreseeable" because their development plans are "conceptual and lack adequate

detail to allow substantial analysis of resource effects" including particularly an Assured Water Supply (AWS) designation from the State Department of Water Resources.

Yet, the Forest Service did address the Merrill Ranch Master Planned Community Project, only a small sliver of which is located within the designated analysis area (FEIS at 949, Fig. 4.3.3-6), even though this Project does not have an Assured Water Supply Designation. FEIS at 948 (noting that lack of Assured Water Supply Designation for Merrill Ranch and that "the exact water supplies for the project are not yet known.").

The Forest Service cannot have it both ways, setting a bar so high for reasonably foreseeable future actions that it avoids looking at true cumulative impacts, while cherry picking selected more distant and less overlapping development, and finding neither, much less the former, are immaterial.

As a result of these tactics, the Forest Service did not consider or meaningfully analyze, via modeling or otherwise, the cumulative water impacts of the full Superstition Vistas planned development relative to groundwater demands and the pumping of at least 550,000 AF at the Desert Wellfield as required by NEPA. But under NEPA, the Agency cannot simply ignore cumulative impacts by labeling them as "speculative," especially when planning for these activities is already well underway, indeed many houses have already been built, many homes have been sold, houses and lots are for sale, and many more homes are still planned. Here, concrete steps have been taken to facilitate the action, and the action is considered in numerous plans by state and local communities.

"[P]rojects need not be finalized before they are reasonably foreseeable. 'NEPA requires that an EIS engage in reasonable forecasting. Because speculation is . . . implicit in NEPA, [ ]we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as crystal ball inquiry.'" N. Plains Res. Council, Inc. v. Surface Transp. Bd., 668 F.3d 1067, 1078-79 (9th Cir. 2011)(citations omitted).

Significantly, the Forest Service even gets it wrong when, in considering the 2,783 DH Horton subdivision, it concludes that this water demand was already included in the Desert Wellfield analysis at Barter, et al. 2020; however, the Barter et al. 2020 report only looked at existing Assured Water Supply designations through 2017. Barter et al. 2020 at 11-12. And contrary to the assertion in the FEIS at 987, the Barter et al. 2020 (the sole source cited in support of this assertion) has not been updated to incorporate information regarding components of the Superstition Vistas development or any other development after 2017, nearly 8 years ago.

The Forest Service violated NEPA and the NDAA when its cumulative effects analysis failed to fully evaluate all portions of the planned Superstition Vistas mega development and its substantial water needs as a reasonably foreseeable future action *vis-a-vis* the Project's massive groundwater pumping plans for the Desert Wellfield (located in the same area).

Other Reasonably Foreseeable Development Activities Were Not Considered.

The FEIS also failed to consider and fully analyze the cumulative impacts of other reasonably foreseeable future actions under NEPA, including a number of reasonably foreseeable housing developments in/near the nearby Town of Florence. These developments, although well documented, were dismissed from analysis under the FEIS. FEIS at 977.

In addition, regarding overall demands and usage of water in the area, although the Forest Service mentioned Arizona's Drought Contingency Plan and the impending "shortages" on the Colorado River in its cumulative effects analysis section of the FEIS, *see, e.g.*, FEIS at 977, 978–81, the Forest Service declined to consider as reasonably foreseeable future actions the plans of farmers in the East Salt River Valley to develop new pumping infrastructure in Pinal County under the Drought Contingency Plan and before 2026 to facilitate the extraction of up to 70,000 AF of groundwater to replace water supplies lost through shortages on the Colorado River. FEIS at 980. The Natural Resource Conservation Service has already committed $10 million dollars to support the development of this new pumping infrastructure and it is believed that some of this new pumping infrastructure has been completed. ("$10 Million to Fund Pinal County Water Infrastructure," included with Plaintiffs' April 2025 Supplement submitted to the agency).

This new infrastructure will be located within the East Salt River Valley in Pinal County —of which a portion of the area is also located within the Phoenix AMA. The pumping infrastructure and its potential drawdown squarely falls within the area impacted by Resolution's Desert Wellfield pumping.

The Forest Service declined to consider the Pinal County pumping described above, concluding that because the State's Drought Contingency Plan guidelines extend only until 2026, the pumping by Pinal County farmers will also conclude in 2026, and thus, this activity "will expire before Resolution Copper begins pumping groundwater." FEIS at 979. That is wrong, and it completely ignores common understandings about the ongoing and anticipated continued shortages on the Colorado River that Arizona is facing (shortages the Forest Service acknowledges elsewhere in the FEIS). FEIS at 979.

Under the Drought Contingency Plan, during the period between 2020 and ongoing through 2026, Pinal County farmers have experienced and will continue to experience a significant ramp down in terms of their Central Arizona Project water deliveries, much of which is a "low" priority water supply, but, as a result, have and will continue to ramp up their groundwater pumping as Central Arizona Project becomes increasingly scarce. The FEIS fails to analyze this ongoing and reasonably foreseeable future activity.

After 2026, the Pinal County farmers will continue to pump from their groundwater wells and infrastructure—pumping that will continue as long as there is water to pump. This will span well into the period of Resolution Copper's pumping from the Desert Wellfield. The BLM agreed with this point. BLM reviewers stated that they "do not believe factors known to be associated with climate change" including "increased groundwater pumping due to the reduction of surface flows, and salinity, were thoroughly addressed within the FEIS." BLM Hydrology Review at 15-16.

The Forest Service is also incorrect in the FEIS when it concludes that 70,000 AF in significant new pumping in the region will not have long-term impacts even if the wells Pinal County farmers are increasingly having to rely on are shut down prior to 2026 (which they will not be). It is well understood that the effects of groundwater pumping and the drawdown associated with groundwater pumping continue for many years after the pumping is completed, which the FEIS did not analyze.

Thus, the impacts from Pinal County farmers' new pumping will continue into the period of time that Resolution is extracting massive quantities of water from the Desert Wellfield. This reasonably foreseeable future activity was not analyzed in the FEIS as a cumulative impact. This violates NEPA and the NDAA.

As with the other inadequacies noted herein, the FEIS does not meaningfully address the direct, indirect, and cumulative impacts to Arizona's water supplies and to Arizona's water users stemming from Resolution's water pumping in the context of the past, present, and reasonably foreseeable actions required for a cumulative impacts analysis.

In addition, the cumulative impacts from the nearby Florence Copper Project were not analyzed in the FEIS. Located near the town of Florence, a demonstration project has been in operation since 2019 and the Arizona Department of Environmental Quality has issued an amended Aquifer Protection Permit for the project to allow a total of 1,765 injection and recovery wells, 90 perimeter wells and approximately 45 observation wells. The project calls for additional drawdown of groundwater in the impact area of the Desert Wellfield and holds a groundwater withdrawal permit from ADWR to use up to 1,778 acre-feet of water per year. In addition to adding to water quantity drawdown, the mine project could potentially render unusable a large quantity of groundwater surrounding the project.

The Forest Service declined to consider the groundwater impacts from the Florence Copper project as a cumulative effect because it summarily concluded without support that "there are no groundwater impacts" that would overlap with the Desert Wellfield, and because the Florence Copper project "falls outside the cumulative effects analysis area for groundwater resources." FEIS at 983. This self-limiting, circular reasoning is not supported in the FEIS, since the cumulative effects analysis area around the Desert Wellfield was unreasonably narrowed to exclude nearly all reasonably foreseeable future actions within the proximity of the Desert Wellfield. FEIS at 951, Figure 4.3.3-7.

The Current Alignment of Alternative 6 Skunk Camp (Preferred Alternative) Was Never Subject to Public Comment

The Scoping process began in early 2016 and subsequently concluded in late 2017 after the Alternatives Evaluation Report was published. It was not until the end of 2018, after Scoping had closed, that the Alternative 6 Skunk Camp site was even introduced as an alternative. It was never subject to scoping and was developed entirely outside of public awareness. The single opportunity for comment on the Alternative 6 Skunk Camp site occurred in 2019 when the DEIS was published, however this contained an older proposed pipeline route which has since been discarded.

The pipeline route for Alternative 6 Skunk Camp was "substantially redesigned" in July 2020, after the DEIS comment period closed. *See* Skunk Camp Pipeline and Powerline Disturbance Comparison (Memo prepared by WestLand Resources, Inc. dated July 8, 2020, received as part of a records request to the Tonto National Forest in August 2020). This substantial redesign is now part of the agency's preferred alternative. Yet there has been no opportunity for public review or comment on the current design of the pipeline route for the Alternative 6 Skunk Camp site.

Failure to Properly Analyze the Kings Crown Peak Tunnel

This section of the Objections focuses on issues that arose after the publication of the DEIS and thus could not have been adequately commented on during the public review process for the DEIS, as well as issues raised by Objectors during the public review process.

Kings Crown Peak is a prominent mountain peak on Forest Service Land located just north of Oak Flat and the US-60, and just west of Queen Creek. It stands approximately 5,600 feet in elevation. A substantial portion of the Kings Crown Peak includes resources such as critical habitat area for the endangered Arizona Hedgehog Cactus, multiple washes and springs, historical and cultural resources, and a hiking trail.

The FEIS now indicates that the new Alternative 6 Skunk Camp Tailings Site Northern Corridor route (which as discussed above was never subject to public review) includes a "tunnel" nearly two miles long that will be blasted through Kings Crown Peak. *See* DROD Map Package (Figure 2, USFS Special Use Permit, Proposed North Pipeline Corridor). The FEIS, at 132, has a brief mention of the tunnel and a claim that it will "avoid sensitive habitat", but there is no analysis of the impacts of blasting the tunnel will have on that habitat, or even what that specific sensitive habitat they are referring to. Figure 2.2.2-11 (FEIS at 75) is a vague stock-photo compilation which notes only that "[h]orizontal directional drilling and/or micro-tunneling will be used to undercut roads, waterways, or for high-point mountain passes." Figure 2.2.8-3 (FEIS at 126) shows "pipeline north tunnel" but doesn't even clearly note the existence of Kings Crown Peak.

The FEIS lacks any straightforward description and no NEPA-compliant analysis of the direct, indirect, and cumulative impacts to, as well as the baseline conditions of, all resources that may be affected by this tunnel and related activities. It's mentioned only vaguely in brief passing, and never analyzed or discussed in any detailed manner as required by NEPA, the NDAA, Organic Act, FLPMA, and implementing regulations:

1) A vague mention of "Pipeline boring locations" on the "east and west sides of Kings Crown Peak" (FEIS at 804) gives little information and was raised only in the context of listing various surface vegetation disturbances. No information is given about whether "pipeline boring" and "tunnel" (in the Map Package) refer to the same things or not.

2) The final U.S. Fish and Wildlife Service ("USFWS") Biological Opinion (FEIS Vol. 5) lists the various pipeline designs only, with no explanation and no description whatsoever of how these blasting plans would be reconciled with Arizona Hedgehog Cactus critical habitat: "The pipeline designs will include being buried to the extent possible, horizontal directional drilling (underneath U.S. 60, cable-stay bridges (across Queen Creek and Devil's Canyon), tunnels (Silver King-Kings Crown Peak area), or underground boring (Mineral/Mill Creek). Installation design would vary based on topography throughout each corridor segment." FEIS Appendix P Biological Opinion, 12-31-20 letter from USFWS to Tom Torres/USFS, at p. 14.

On this last point regarding the Endangered Species Act, the Forest Service failed to properly consult with the USFWS on these new impacts, in violation of the ESA, as well as relying on an inadequate Biological Opinion which does not analyze these impacts and ensure

the protection of listed species and habitat as required by the ESA. Failure to protect the cactus also violates the agency Part 251 and 261 special use regulations.

The remainder of the FEIS is entirely silent about this nearly two-mile tunnel through Kings Crown Peak. No information is provided about exactly where it would begin, where it would end, seismic surface and subsurface impacts from blasting, what would be done with the post-blasting waste material, post-blasting stability of the mountain, the geochemical and other properties of this material, impacts to existing hiking trails and other resources, impacts to species including the endangered Arizona Hedgehog Cactus, impacts to surrounding springs and washes, impacts to cultural/religious/historic resources, details on tunnel construction and operation, nor anything about how any of these impacts would be identified, reduced, avoided, or mitigated.

After the DEIS comment period closed in November 2019, Alternative 6 Skunk Camp Tailings Site Northern Corridor was "substantially redesigned," and the Southern Corridor dropped from consideration (see Briefing Paper re Changes to Alternatives for the Resolution Copper Project and Land Exchange EIS, August 20, 2020). The Pipeline Protection and Integrity Plan published by Golder Associates on May 15, 2020 states: "In the Kings Crown Peak where it is impractical to maintain acceptable pipeline slope, multiple pipeline tunnel options were proposed and evaluated based on constructability, landowner feedbacks, and cost. The most suitable tunnel route has been selected to penetrate the ridge with a slope less than 15%."

The Pipeline Protection and Integrity Plan does not give details as to exactly when this tunnel route was selected. The presence of Kings Crown Peak and identifying this segment as a planned tunnel to be blasted through the peak were only ever first noted in the FEIS. Plans to blast a tunnel through the Peak were never analyzed nor provided for public review under NEPA, FLPMA, the NDAA, and the other laws noted herein.

From the DEIS maps, it is impossible to ascertain whether any plans existed for a tunnel through this area. The vague corridor outline maps in the DEIS (shown below) never noted the presence of the Peak and never identified this segment as a proposed tunnel, but they do show a similar straight line from an aerial perspective. No other details are provided anywhere in the DEIS that would have indicated any additional details or plans for this particular area. Additionally, no other alternative alignment corridors were shown through this area. We only now know that this is a proposed tunnel to be blasted through the Peak, but no NEPA analysis has ever been done on this. *See* Figures 7a, and 1, Appendix C "Draft Practicability Analysis"); *See also* Figure 2.2.8-1 "Alternative 6 – Skunk Camp Overview", p. 95 of DEIS. Kings Crown Peak and tunnel not mentioned but alignment is shown.

This proposed tunnel also presents significant concerns about water resource impacts. The lack of baseline water conditions in the area in and near the tunnel prevents USFS (and the public) from understanding what current conditions are. This missing information and analysis in turn makes it impossible to understand what the risks are to these precious resources as well as the potential for the tunnel/tunneling operations to encounter water and what would be done, should such a development occur. What would the anticipated quantity and quality be of such water? What would be done to dispose 7of this water if it is polluted? Would an evaporation pond be needed? If so, where would it be located and what are the risks and impacts such a pond would have on habitat, wildlife, historical and cultural properties? These are just a few of

the relevant concerns that USFS has failed to disclose or consider for this tunnel. And they are not remote or speculative questions. In a nearby mine, the Ray Mine owned by ASARCO, there have been significant issues with water that seeped into its Mineral Creek tunnel. Presumably due to pollutants in this water, ASARCO could not discharge the water to Mineral Creek, but has had to drain the water into an evaporation pond.

Full and proper analysis under NEPA and FLPMA should have performed by the Forest Service to examine the full scale of this particular aspect of the corridor including direct, indirect, and cumulative impacts from blasting, impacts to the mountain and wildlife including endangered species, impacts to trails and recreation, water resources, impacts from seismic activity from the blasting, among many other things. In addition, neither the DEIS nor the FEIS contain the required analysis of the baseline conditions of the affected environmental resources (*e.g.*, water resources, wildlife, cultural resources, recreation, scenic values, etc.).

Failure to Comply with Laws Protecting Native American Resources

The FEIS and DROD also violate the procedural and substantive laws protecting the rights of Native American Tribes and their members, including ITAA member Tribes, as well as the public as a whole, related cultural, religious, and historical resources, practices, and values. Objectors previously raised these issues in comments on the DEIS. See ITAA comments dated 11-7-19 (pp. 30-38); AMRC comments dated 11-7-19 (pp. 109-128).

In addition to the FEIS' inadequate response to these comments, the FEIS and DROD rely on the finalization and execution of a Programmatic Agreement ("PA") to purportedly satisfy the agency's duties regarding these issues. Yet, the Advisory Council on Historic Preservation ("ACHP") recently informed the Forest Service that the PA was inadequate under federal law and that the Forest Service could not rely on it in support of the FEIS and DROD.

> [I]t is clear that the proposed undertaking would destroy significant historic properties, including the highly significant Oak Flat, and the measures in the PA are not sufficient to adequately resolve those adverse effects. The ACHP believes that further consultation in this case would be unproductive and therefore, we are hereby terminating consultation pursuant to 36 CFR § 800.7(a)(4).

February 2, 2021 letter from John M. Fowler Executive Director of the Advisory Council on Historic Preservation ("ACHP") to Acting Forest Supervisor Tom Torres (attached to ITAA previous Objections and in the possession of the Regional Forester's office).

The FEIS and DROD are based on a deficient PA, which shows that the agency failured to properly consult with Arizona Tribes and interested members of the public about the historic resources located at Oak Flat, including resources associated with its integrity as a Traditional Cultural Property as well as those historic resources associated with Works Progress Administration ("WPA") built infrastructure and other historic buildings and structures. In addition, as noted, the agency failed to review and protect historic and Native American resources, and failed to comply with Section 3003 of the NDAA, the National Historic Preservation Act ("NHPA"), 16 U.S.C. § 470 et seq.; Executive Order 13007, Indian Sacred Sites, May 24, 1996, 61 Fed. Reg. 26771 ("E.O. 13007"), the American Indian Religious Freedom Act ("AIRFA"), 42 U.S.C. § 1996, et. seq., NEPA, and related laws, regulations and

policies, including the agencies' trust responsibility duties to the affected Tribes, including tribal members of the ITAA.

The Failure to Consider and Require Appropriate Avoidance, Minimization, or Mitigation for Project Impacts.

According to the Forest Service, the potential mitigation measures that needed to be analyzed in the FEIS included (to varying degrees):

- Avoiding the impact altogether by not taking a certain action or parts of an action;
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation;
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
- Reducing or eliminating an impact over time, through preservation and maintenance operations during the life of the action; and
- Compensating for an impact by replacing or providing substitute resources or environments.

FEIS at 135.

As shown by the Objectors' previous Objections and comments (pp. 15-300 of AMRC's November 7, 2019 comments, pp. 3-65 of the ITAA's November 7, 2019 comments, and the Objectors' comments on water quality submitted to the USFS on October 30, 2020), the Draft EIS failed to comply with the Forest Service's mandatory public and environmental requirements under NEPA, the NDAA, FLPMA, the CWA and other applicable laws. These comments, and the FEIS' inadequate response, are contained in Volume 6 of the FEIS. See also Objectors supplemental comments submitted in October and December of 2020, and on April 11, 2025. Acting Supervisor Torres responded (albeit inadequately) to the Objectors' December 2020 comments in a January 12, 2021 letter to AMRC and ITAA, which are in the administrative record for these Objections.

The Forest Service also explains that as part of the FEIS process it "has developed mitigation measures and monitoring actions to be included as project design features in the proposed action and action alternatives. The effectiveness of the mitigation measures and monitoring actions has been evaluated as part of the projected impacts analyses for the proposed action and action alternatives." Id.

However, in addition to the Forest Service's failure to comply with NEPA, the NDAA, and other public law (such as FLPMA) mandates that require a reasonable review of baseline conditions and all direct, indirect, connected, and cumulative impacts from the Project as discussed above, the Forest Service has also failed to meets its obligations under these laws to reasonably analyze all potential mitigation measures, and the effectiveness of any such mitigation measures, related to the Project's adverse impacts on groundwater resources, local wells, infrastructure, groundwater dependent ecosystems (GDEs), surface water resources, and other resources, and to impose necessary mitigation measures to minimize, rectify, or compensate for these adverse impacts.

Mitigation Related to Water Impacts from the Desert Wellfield—East Salt River Valley.

Even with the limitations identified above pertaining to Resolution Copper's Desert Wellfield, which (among other things) grossly underestimates declines in groundwater levels in the East Salt River Valley, and in the case of the Pinal Active Management Area, ignores groundwater declines completely, the Forest Service still predicts substantial groundwater declines in the region stemming from the Desert Wellfield pumping.

The FEIS estimates that the "[p]rojected drawdown [in the East Salt River Valley] would be greatest in the center of the Desert Wellfield, reaching a maximum drawdown of 228 feet, as shown in figure 3.7.1-2. FEIS at 444. "At the north and south ends of the wellfield, maximum drawdown ranges from 109 to 132 feet, and farther south, within NMIDD [New Magma Irrigation and Drainage District], maximum drawdown is roughly 49 feet (Bates et al. 2018; Garrett 2018a)." Id.

"Impacts resulting from drawdown could include loss of well capacity, the need to deepen wells, the need to modify pump equipment, or increased pumping costs." Id. The significant decline in groundwater levels resulting from drawdowns from the Desert Wellfield would adversely impact numerous individual wells throughout the East Salt River Valley, in both the Phoenix Active Management Area and the Pinal Active Management Area; however, the Forest Service fails to consider or require any measures under NEPA to avoid, minimize, or mitigate for these harms.

The Forest Service acknowledges that this drawdown could impact individual wells, rendering shallow wells dry or requiring other well owners to deepen their wells. FEIS at 416; *see also* FEIS at 986 ("[T]here likely would be certain areas that experience lack of well capacity and groundwater shortages, particularly around the edges of the basin."). The Forest Service also acknowledges that even an "hypothetical 10-foot drop in the water table could leave a shallow well completely dry (requiring it to be redrilled)...." FEIS at 416.

The Forest Service also admits the "overall the cost of pumping would increase as groundwater deepens, and infrastructure costs would increase as wells and pumps need to be lowered or replaced." FEIS at 986. The loss of water from the East Salt River Valley due to groundwater pumping is "an irretrievable impact." FEIS at 454. Yet, the Forest Service declined to analyze or require any form of mitigation for the above-described impacts to groundwater wells and resources in the East Salt River Valley resulting from the massive pumping at the Desert Wellfield.

In the 2021 Rescinded FEIS, the Forest Service analyzed and considered the inclusion of a "Potential Future Measure" (PF-WR-03) to partially mitigate for anticipated effects from groundwater declines in the East Salt River Valley stemming from Desert Wellfield pumping. 2021 FEIS at Appendix J-50. Under this Potential Future Measure, Resolution Copper committed to "work with any impacted stakeholder to mitigate effects of water level declines caused by the project." Id.

In the BLM Hydrology Review, the BLM recommended that this Potential Future Measure be implemented by the Forest Service as a required mitigation measure. "Measure PF-WR-03 is another 'potential future measure' that should become a required measure." BLM Hydrology Review at 21. "If no effects [to wells] are observed, there will be no action

necessary, however, the BLM reviewers believe it should be a mandatory mitigation if in fact negative impacts are observed. The uncertainty in occurrence should not preclude the requirement for action should it occur; as such, this should be a required measure." Id.

Instead of making PF-WR-03 mandatory, the Forest Service eliminated this mitigation obligation entirely in the 2025 FEIS, shifting all risks and burdens associated with declining groundwater levels from the Project (including the financial losses associated with having to deepen wells or losing wells entirely, which can severely impact property values) to individual well owners.

The Forest Service did not analyze or make any effort to avoid or minimize these impacts by limiting the degree or magnitude of the action and its implementation, choosing instead to select Alternative 6, which has one of the highest water demands of all alternatives, thereby rejecting alternatives that would have required less pumping from the Desert Wellfield. And despite adopting one of the highest water-demanding alternatives, the Agency did not analyze or even require Resolution to rectify these impacts through funding a well compensation or replacement program or committing to provide a substitute water supply. The Agency did nothing.

But an EIS must include a detailed discussion of mitigation measures. Robertson, 490 U.S. at 351. The omission of a reasonably complete discussion of possible mitigation measures would undermine the "action-forcing" function of NEPA. Id. In the response to comments, the Forest Service ultimately admits, "no specific monitoring or mitigation measures are included in the DEIS specific to the Desert Wellfield in the East Salt River valley. This groundwater pumping is subject to permitting by the ADWR." FEIS at R-235.

The Forest Service's attempt to punt mitigation into the hands of future permitting authorities like Arizona Department of Water Resources for when the Department would authorize mineral extraction wells or recovery wells at the Desert Wellfield is not legally appropriate. Under NEPA (and the NDAA), the Forest Service cannot defer the analysis of impacts, mitigation measures, and their effectiveness, to some future state permitting process. Great Basin Resource Watch v. BLM, 844 F.3d 1095, 1103–04 (9th Cir. 2016)(federal agency EIS could not rely on future state permitting as substitute for the environmental review requirements under NEPA).

Here, the Forest Service violated NEPA and the NDAA when it left it up to Resolution Copper to decide whether or not it might voluntarily "mitigate" for the potentially catastrophic impacts from the Desert Wellfield on local water supplies and wells, and where the Forest Service decided in the FEIS to defer to a subsequent state permitting process the determination of (1) whether or not there will be "unavoidable impacts" from the Desert Wellfield (a point that seems clear); and (2) whether or not, and how, these impacts should be mitigated.

In addition, under FLPMA, the Forest Service has a substantive duty to protect the environment when it issues the Special Use Permits required for the mine's infrastructure, as it may only grant a right-of-way/special use permit if it, "(4) will do no unnecessary damage to the environment." 43 U.S.C. 1764(a). A Title V right-of-way special use permit "shall contain terms and conditions which will … (ii) minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment." Id. § 1765(a). *See* 43 U.S.C. § 1765(b) (additional public land and resource protection requirements). Thus, in addition to

failing to adequately analyze all reasonable mitigation measures, the Agency failed to require sufficient mitigation to meet its FLPMA duties.

In short, the Forest Service readily acknowledges in the FEIS that (1) Resolution Copper would consume from the Desert Wellfield at least "550,000 acre-feet over the life of the mine" under the preferred alternative, FEIS at 448 (enough to meet the water demand for 2.2 million households in Arizona for a year); (2) the Wellfield would reduce groundwater levels substantially; and (3) the pumping by Resolution Copper at the Desert Wellfield would adversely impact individual groundwater wells and the needed water supply for the region and the State of Arizona overall. Nevertheless, the Agency failed to meaningfully consider or analyze any ways to avoid or minimize these substantial and adverse water impacts through mitigation. This violates NEPA, FLPMA, the NDAA, and applicable public land law.

An additional mitigation failure of the FEIS involves the direct and indirect effects on the physical infrastructure that exists in the East Salt River Valley which is associated with the massive depletion of groundwater at the Desert Wellfield to serve the Project. Depletions of this magnitude can contribute substantially to land subsidence and earth fissuring, which has become an increasing problem across the state of Arizona. *See* Plaintiffs' April 2025 Supplement (ADWR Land Subsidence Monitoring Report, and Land Subsidence Rate Maps).

As the Forest Service acknowledges, "[t]here are numerous societal costs associated with land subsidence caused by basin-wide pumping, but specific impacts are unpredictable. Gradual widespread regional subsidence may have no effect at all on infrastructure, whereas the opening of earth fissures due to subsidence can directly destroy infrastructure." FEIS at 437. However it is well-known that even widespread gradual subsidence can severely damage infrastructure.[11]

Some of the most "common" damage associated with earth fissures include cracked or collapsed roads, broken utility pipes, damaged or breached irrigation canals, cracked foundations and separated walls, damaged well casings or wellheads, and disrupted drainage. Id. "An important aspect of subsidence is that it is irreversible; once sediment layers collapse when dewatered, they remain collapsed even if water levels recover." FEIS at 412. These occurrences would be particularly concentrated in the East Salt River Valley subbasin, where at least 544,858 AF of water would be pumped for the Project under the preferred alternative as noted above.

The Arizona Department of Water Resources' Water Planning Atlas states: "Earth fissuring and subsidence have occurred in the ESRV [East Salt River Valley] sub-basin due to localized pumping. These occurrences are found near Apache Junction and in the vicinities of Queen Creek, North Scottsdale and Paradise Valley (Rascona, 2005)." Arizona Water Atlas Vol. 8, Active Management Area Planning Area, p. 8 (2010).

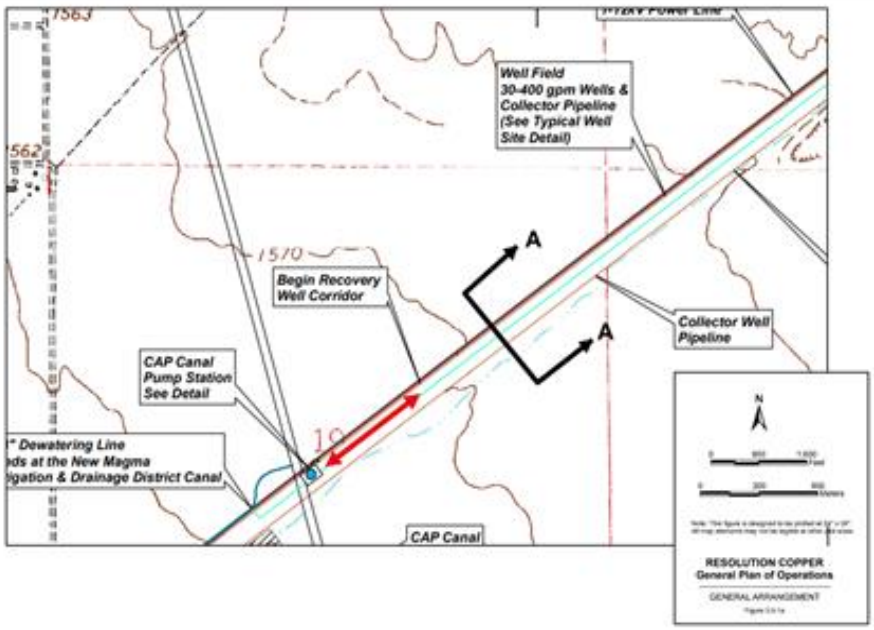
Based upon estimates of groundwater declines in the Desert Wellfield area, in a range of 228 feet, FEIS at 444 & Figure 3.7.1-2, the Forest Service acknowledges the potential for

[11] T. Davydzenka, P. Tahmasebi, N. Shokri, *Unveiling the Global Extent of Land Subsidence: The Sinking Crisis*, Vol. 51, Issue 4. Geophys. Research Letters (Feb. 2024). "Although it is a gradual process, taking years to decades to develop, land subsidence presents serious socioeconomic, environmental and security challenges globally".

significant land surface subsidence, admitting "drawdowns associated with the Desert Wellfield likely would result in subsidence of roughly 24 to 52 inches." FEIS, V-2 at 436.

Subsidence can be costly to farmers, since it can crack and break irrigation ditches and canals, disturb previously leveled farm fields, and disrupt the flow of irrigation water, among other things. Subsidence can also harm groundwater wells and well-casings, result in ruptured water and sewer lines, damage streets, highways and bridges, and damage the foundations of houses and buildings, all requiring costly repairs.

For example, the Central Arizona Project canal that delivers critical water supplies from the Colorado River all the way to Phoenix, and then down past Tucson, is less than half a mile from the Desert Wellfield well recovery corridor[12], and it is well within the projected subsidence impact area for the Desert Wellfield. Additionally, at least 20 miles of both the Federal US-60 and another 20 miles of State Route SR-79 are also well within in the projected subsidence impact area for the Desert Wellfield, as are irrigation canals, houses, utility lines, and other infrastructure.



Modified Excerpt of Figure 3.0-1a
from the General Plan of Operations, Resolution Copper Mining
(red arrow inserted to indicate distance)

Nevertheless, the Forest Service fails to meaningfully identify or consider any measures in the FEIS that would require Resolution Copper to monitor and mitigate for adverse impacts to the types of infrastructure described above from the land subsidence or fissuring in the East Salt River Valley caused or substantially contributed to by Resolution's groundwater depletions from the Desert Wellfield. Instead, the Forest Service concludes that while "mapped fissures have been identified near Apache Junction and along the San Tan Mountains," fissures have not been

[12] General Plan of Operations, Resolution Copper Mining (May 9, 2016) Vol. 2, Figure 3.0-1a.

identified "in the immediate vicinity of the Desert Wellfield" and then failed to go any further in determining what would be the impacts when, as a result of the proposed mine, the fissures or land subsidence occur within the vicinity of the Desert Wellfield. FEIS at 437.

The failures of the Forest Service to identify, analyze or require mitigation for the subsidence and fissuring impacts caused or contributed to by the Desert Wellfield violates NEPA, FLPMA, and the NDAA.

Mitigation Related to Water Related Impacts from the Mine Site—East Plant Site and Oak Flat.

The FEIS acknowledges that numerous groundwater-dependent ecosystems of critical value to this arid region, including the vitally important springs, seeps, and surface resources, will be lost due to the Mine and mine dewatering of at least 87,000 AF at the East Plant Site and Oak Flat over the Life of Mine. *See*, *e.g.*, Table E-1, Alternatives Impact Summary, FEIS at E-10-13; *see also* FEIS Appendix J at J-19; FEIS at 617. Other groundwater-dependent ecosystems will be irretrievable destroyed due to the subsidence caused by the Mine. "When block caving occurs, groundwater impacts would expand to overlying aquifers...." FEIS at E-25.

The Forest Service acknowledges in the FEIS, "that even relatively small changes in water levels can have large effects on natural systems." FEIS at 381. "The cumulative number of GDEs lost due to specific groundwater removal from the same aquifer has impacts on habitat for wildlife population health and extent, and large-scale changes in the nature and characteristics of the overall landscape." Table 4.3.1-1, FEIS at 929. In addition, the Mine's massive dewatering plans will impact numerous local wells in the area, requiring that they be deepened or in some instance, wells will be rendered dry by the dewatering.

The Forest Service required very limited mitigation for the Project's devastating impacts to groundwater-dependent ecosystems and local wells in the Oak Flat Area. *See* FS-WR-01, Monitoring and Mitigation Plan for groundwater-dependent ecosystems and Water Wells, FEIS, Appendix J at 9-19. FS-WR-01 "is not intended to address water sources associated with the perched shallow groundwater in alluvium or fractions" id., even though the surface disturbances and massive crater caused by subsidence from the Mine will destroy numerous GDEs that rely on these shallow sources and will deplete shallow alluvial sources throughout the region.

The plan limits mitigation to only the small, enumerated list of groundwater-dependent ecosystems described in the plan. Id. No other groundwater-dependent ecosystems will be the subject of mitigation. Id. The Forest Service purports in the FEIS that impacts to wildlife would be mitigated by "replac[ing] water sources for any riparian areas associated with springs or perennial streams (groundwater-dependent ecosystems) impacted by the drawdown from the mine dewatering and block caving." FEIS at 642. Yet, the FEIS only identifies potential actions that could be used to replace certain water sources and makes these potential actions dependent on "monitoring reach[ing] a specified trigger." FEIS at 598: Appendix J, J-19-20. This "trigger" can only be activated after a showing of 2 years of decline data plus additional regional data, and still allows for an exception to implementing mitigation "if a defensible argument could be made" that quantitative triggers have not otherwise been met. Id.

The "triggers" for monitoring render the potential for actual mitigation on the part of Resolution Copper unreasonably limited and unlikely. Moreover, although the FEIS identifies "[a] variety of potential actions that could be used to replace" adversely impacted water sources

(like installing spring boxes, guzzlers for rainwater harvesting, surface water capture systems and, in limited instances, new wells), there is no substantive analysis of the effectiveness of such measures despite NEPA requiring as much. Id.

There are numerous domestic, stockwatering, and other wells in the Oak Flat region that were identified by the Forest Service as early as 2008 that may be impacted by Mine subsidence and dewatering, but most of these wells are not eligible for monitoring or mitigation under FS-WR-01. FS-WR-01 would require monitoring and mitigation only for those wells located in the Town of Superior or at Top-of-the-World (and potentially Boyce Thompson Arboretum), FEIS at E-25. This is because, in the Forest Service's erroneous and unsupported view, that only "[g]roundwater supplies in Superior and Top-of World could be impacted by groundwater drawdown" from the Mine Project. Id. And, under the plan, mitigation for qualified wells would be required only after there is a demonstration that "no other source of water supply is available." FEIS, Appendix J at J-20.

The BLM found that mitigation measure FS-WR-01 was grossly inadequate and failed to comply with NEPA requirements, describing the proposal to use wells, guzzlers, or spring boxes, or catchments to mitigate for groundwater-dependent ecosystems spring flow loss as a "flawed approach which follows the 'rob Peter to pay Paul' logic and would more accurately be called 'passing the buck' or 'kicking the can' than 'mitigation'." BLM Hydrology Review at 20-21. The BLM correctly noted that this approach is merely "taking water that would have provided another resource downgradient", id. at 21, leading to the potential for "future negative impacts on other undetermined downgradient resources." Id.

The BLM found additional issues with the monitoring plan, including that monitoring "will only be done for 10 years after dewatering has ceased. The BLM reviewers believe 10 years is not adequate, considering the effects will be felt for hundreds of years, and that monitoring and mitigation action should be in place until the effects of mining on those sources have been mitigated from the effects of the mining project." BLM Hydrology Review at 20 and 22. BLM's finding of insufficiency for the purported mitigation measure and its suggestions as a cooperating agency related to FS-WR-01 were not addressed by the Forest Service in the FEIS.

The likely impacts to groundwater-dependent ecosystems and wells throughout the Oak Flat region are substantial. However, the Forest Service failed to identify, analyze, or ultimately require mitigation for the vast majority of these impacts. FW-WR-01 is grossly insufficient, as it does not in any meaningfully way rectify the impact, reduce or eliminate the impact over time, or compensate for the impact by providing an adequate substitute supply as proper mitigation dictates. This violates NEPA, the NDAA, and other requirements of public land law.

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Mitigation Related to Impacts from the Tailings Facility—Alternative 6 Skunk Camp.

"BLM reviewers recognize that the alternatives presented in the FEIS are not fully developed and that the purpose of the alternatives analysis is to consider a reasonable range of alternatives that can accomplish the purpose and need of the proposed project." BLM Hydrology Review at 17.

The Forest Service admits that "there are no committed mitigations for groundwater and surface water quality" for the Exchange and Mine. FEIS at 563. This means there would be no mitigation to surface or groundwater quality under any circumstances required as part of this NEPA process, whether from leaks, up to a major catastrophic failure of the tailings dam impacting water resources for miles around.

Mitigation measure RV-WR-03 (Skunk Camp water quality monitoring plan)—a previously required mitigation measure in the prior FEIS ("RC"), is now recoded as a voluntary measure ("RV"). FEIS at 563.

With this approach for mitigation, the Forest Service wrongfully defers all responsibility for requiring any water quality mitigation at Skunk Camp to future state agency permitting processes. "Authority for these measures will ultimately reside with ADEQ under the APP and AZPDES programs; however, it is anticipated that much of the sampling detailed in the plan will remain voluntary by Resolution Copper." FEIS, Appendix J at J-24.

In addition to being voluntary, the Skunk Camp water quality monitoring plan is not implemented and indeed, can be modified at any time as part of some future state permitting process. The Forest Service notes that under Alternative 6, "the downstream communities on the Gila River would experience an overall greater risk of being impacted in the event of a partial or complete failure of a tailings storage facility." FEIS at 960. The lack of any meaningful, enforceable monitoring and mitigation for water quality impacts from the Skunk Camp tailings facility is extremely concerning, and a violation of NEPA.

Failure to Adequately Analyze the Transmission and Power Infrastructure.

In addition to the issues and problems detailed above regarding the proposed Special Uses, the FEIS also notes that there are multiple new proposed power transmission lines and multiple new and/or expanded substations required for this Project and yet, the FEIS fails to fully disclose or analyze impacts on values such as wildlife and vegetation, visual impacts, cultural resources, air quality, water, or other resources resulting from the development of the power corridors and the necessary power related infrastructure needed for the Project. The Forest Service also fails to reasonably identify or analyze in the FEIS how it would avoid, minimize, or mitigate for such impacts, as required by FLPMA and the Organic Act. These failures to take a hard look at the power related issues associated with the Project also violates NEPA, FLPMA, and the NDAA.

The analysis needed to look at the alternatives, baseline conditions, impacts, and mitigations cannot be done later in time, but rather, must be done now under the "single FEIS" requirement of the NDAA. For example, the FEIS indicates two additional new 230kV proposed new transmission lines that appear to cross a portion of Forest Service lands and tie

into an existing transmission line (see callout box, Figure 2.2.2-15, FEIS p. 83), but the details of these new 230kV lines are never disclosed or analyzed.

The FEIS indicates two new 69/34.5kV proposed new transmission lines (Figure 2.2.2-15, FEIS p. 83), which also are never analyzed. The FEIS (p.81) notes that, "[s]ubstations also would need to be upgraded and/or new 230-kV substations would need to be constructed" but fails to ever give any specifics about where a new 230kV new substation (or substations) would be located. In addition, the FEIS notes that estimates of electricity use by the mine are "higher than previously estimated" FEIS at 81, and yet the transmission line analysis is unchanged.

The FEIS indicates two new proposed 69kV power lines, and one new proposed 12kV power line to run from the Abel substation "adjacent to the MARRCO corridor" (not within) (Table 2.2.2-7, FEIS p. 84). Yet Figures 2.2.2-12 and 2.2.2-13 (FEIS at 77–78) show only one "Proposed Transmission Line," not the three lines indicated just pages later. The DROD proposes to approve Special Use Authorizations for just two transmission lines: 1) One new 3.6-mile, 230kV power line from the Silver King substation to Oak Flat, and 2) a 16.9-mile, 115kV power line from the Silver King substation to the Skunk Camp tailings storage facility.

The Forest Service failed to conduct a meaningful review and analysis, required by FLPMA, NEPA, and the NDAA, of the many direct, indirect, and cumulative impacts from these two transmission line corridors on the environment. The FEIS' discussions on Project impacts are highly vague and largely unchanged from the 2019 Draft EIS, despite the recent and "substantial" redesign of the Skunk Camp transmission line corridor (USFS Briefing Paper, 8/20/2020). Additionally, the new 3.6-mile 230kV transmission line was misleadingly described as merely an "upgrade" of an existing line and as such, no new corridor footprint for this line was ever fully analyzed or provided for public comment as required under NEPA.

It is misleading to characterize this as an "upgrade," since the DROD at Figure 3 notes that the 115kV line will not be upgraded. Rather, it will remain, and a new 230kV line (and its new accompanying right-of-way) will be "co-located" alongside the existing 115kV line and its existing right-of-way. *See also* the General Plan of Operations at Vol. 2, p. 12. This will much more than double the footprint of this corridor, the impacts of which were not disclosed or analyzed in the FEIS.

Review of the Project record indicates that only a cultural resources report for the 230kV and 115kV lines (Charest 2020) may have been conducted. And still, only the title page is provided and it is impossible to determine the scope of what this document includes or does not include, or even which exact transmission lines (or design iterations thereof) it purports to address.

In addition, the FEIS contains no other similar report for any of the other myriad environmental impacts of the transmission lines including but not limited to water impacts, impacts to wildlife species, vegetation, visual resources, recreation, air, access, or otherwise. Any older reviews predating the substantial redesign of Skunk Camp tailings corridor are now outdated and cannot be reasonably relied upon to fulfill the requirements of a full NEPA review.

The impacts from blasting a miles-long tunnel through Kings Crown Peak as part of the Skunk Camp tailings pipeline (and 115kV powerline) alignment are not meaningfully disclosed or analyzed in the FEIS. Indeed, the existence of this massive tunnel to be blasted through the

mountain is only fleetingly alluded to by the Forest Service. There is no mitigation associated with this blasting as well.

The Forest Service modified the configuration of this proposed tunnel through Kings Crown Peak without any public notice or opportunity for review. The FEIS admits that "a portion of the MARRCO corridor is located on [National Forest Service] lands and would be subject to Forest Service regulatory jurisdiction." FEIS at ES-7. Yet as noted above, the Forest Service did not disclose or analyze the need for, or impacts from, a Special Use Permit for the uses along the MARRCO corridor.

A new substation would also be required at the Skunk Camp tailings site to convert the high-voltage power being transmitted through the new transmission line(s) into distribution voltages for use, as well as the access roads to service Skunk Camp. The potential impacts of this substation are not analyzed in the FEIS.

In its November 18, 2020 letter responding to Salt River Project on its Special Use Permit application for the transmission line(s), the Forest Service refers to the company's "proposal to construct, maintain, and operate high voltage transmission lines" (plural). The letter further says that "it is assumed" that the 500-foot corridor would be used. The agency admits that: "It is understood that this proposal is preliminary and additional design, review, and other regulatory process are required before an authorization will be issued." The agency then says, "[i]f the design and other regulatory processes have been completed and it is determined that the proposed high voltage transmission line cannot be located within the analyzed corridor, [Salt River Project] shall submit a revised proposal and a complete review will be required." FEIS, Appendix Q. Yet the FEIS did not include this.

To the extent that the application purports to request authorization for multiple transmission lines, this has not been disclosed or analyzed under NEPA, has not been included in the FEIS in violation of NEPA and the NDAA, and as such, approval of this application would be contrary to law.

The Special Use Permit for Salt River Project for the Skunk Camp tailings transmission line has not been updated since 2020, however the new FEIS now includes a new "Project Description" narrative that was slipped into the existing Special Use Permit section. The description indicates it is based on the pipeline design as of 2019, and notes that if design or regulatory constraints prevent SRP from constructing in the designated corridor, "additional environmental analysis may be required."

The 2025 FEIS states that "further assessment by the electrical utility operating Silver King substation (SRP) would be needed to determine the adequate voltage and construction engineering, including access roads to the transmission lines that would service the Skunk Camp tailings storage facility." FEIS at 130. The FEIS improperly failed to include this, and under the NDAA, all such impacts and alternatives must have been completed in the FEIS, as no further NEPA review is allowed. As the law requires, all aspects of this proposal must be contained in one single FEIS. All of the impacts from all transmission lines required for this project must have been (but were not) included in the single FEIS, in plain violation of the NDAA.

Failure to Analyze the Baseline Conditions of All Potentially Affected Resources.

As discussed, the FEIS fails to adequately analyze the affected environment, and baseline conditions, of all potentially affected resources. This is especially true regarding the baseline water conditions on and around the lands affected by Project facilities as detailed above. The FEIS also fails to adequately analyze the baseline conditions and impacts to wildlife. For example, the FEIS (Table 3.8.4-2, pp. 627-631) notes that thousands of acres of bird and other species' habitat, "potentially would be impacted under each action alternative," but no analysis is included as to how the Project activities—including but not limited to dewatering and water use and transmission lines—would directly, indirectly, and cumulatively impact wildlife, birds and habitat or the traditional, cultural or religious practices of the Tribes. Under the Land Exchange, the Oak Flat federal lands would leave Forest Service jurisdiction, which would reduce wildlife protections on these lands as the NFMA, Tonto National Forest Land and Resource Management Plan, the Organic Act, FLPMA, and provisions of the Endangered Species Act would no longer apply.

Socioeconomic Impacts of the Mine Were Ignored In the FEIS.

Under NEPA, the Forest Service must disclose and analyze the social and economic (socioeconomic) effects of the land exchange and mine Project, including its potential impacts on communities, employment, income levels, public services, and property values, among other things. In doing so, the Forest Service was required to provide sufficient information about potential socioeconomic impacts to the public and to consider comments from the public and other cooperating agencies related to these impacts. The Forest Service failed to meet its obligations under NEPA (and the NDAA) as these relate to socioeconomic impacts.

As shown by the Objectors' previous Objections and comments (pp. 15-300 of AMRC's November 7, 2019 comments, pp. 3-65 of the ITAA's November 7, 2019 comments, and the Objectors' comments on water quality submitted to the USFS on October 30, 2020), the Draft EIS failed to comply with the Forest Service's mandatory public and environmental requirements under NEPA, the NDAA, FLPMA, the CWA and other applicable laws. These comments, and the FEIS' inadequate response, are contained in Volume 6 of the FEIS. *See also* Objectors supplemental comments submitted in October and December of 2020, and on April 11, 2025. Acting Supervisor Torres responded (albeit inadequately) to the Objectors' December 2020 comments in a January 12, 2021 letter to AMRC and ITAA, which are in the administrative record for these Objections.

The Socioeconomic Impacts From The Loss of Recreational Resources Are Not Meaningfully Analyzed

While the FEIS does (very briefly) provide some figures on the economic values of tourism generally and certain types of popular recreation in Pinal County and the Tonto National Forest (FEIS at 846-847), the analysis is deficient and falls short of performing any kind of a meaningful analysis regarding what the actual impacts from this Mine could have on these general figures. It also fails to analyze or assess any data or figures for the specific visitation and recreational uses at Oak Flat.

Indeed the Forest Service admits that it has failed to perform this analysis. Despite admitting that the loss of Oak Flat would result in a reduction of recreation and visitor spending,

"[m]any of the potential economic effects on nature-based tourism are not quantified" FEIS at 856.

The FEIS notes that the "projected loss of Federal land from project features and the land exchange could be as much as 110,600 acres" (FEIS at 856), but again the Forest Service does not perform a meaningful socioeconomic analysis of what recreational resources would be lost on those lands, or what economic impacts those losses may have. Indeed, the FEIS improperly diminishes the scale of this loss in the surrounding sentences by noting that this is "less than 0.5 percent" of the Tonto National Forest area, and "about 2 percent" of the Federal land in Pinal County. This is not meaningful analysis.

This is despite the fact that the Arizona Game & Fish Department (a cooperating agency) has provided specifics about the negative impact this Mine will have on recreational resources. The FEIS acknowledges this briefly, but the analysis is deficient. "AGFD indicates that this alternative [Skunk Camp] would have the largest negative effect on recreation of any of the proposed alternatives due to the location of the tailings storage facility" – primarily because it is a popular hunting area (FEIS at 679). Yet the estimated annual economic impact from the loss of Skunk Camp as a hunting resource ($4.2 million over a 60-year period, the highest of any of the alternatives) was only looked at for the duration of the Mine's lifespan (FEIS at 858) despite the fact that any tailings site would be lost *forever* as a recreational resource and the associated economic losses would also extend forever.

No associated economic analysis was done for any other recreational uses of the Skunk Camp area. Although the recreational uses of the Oak Flat area are widely known, no such economic analysis was done from any the recreational uses at the Oak Flat Campground area or Ga'an Canyon, or the recreational uses on the other surrounding lands to which access would be lost as a result of this Mine and land exchange.

Impacts to Arizona State Land Department Trust Land Assets.

The Arizona State Land Trust was created by the Arizona State Constitution, the 1910 Enabling Act, among other authorities. The purpose of these legal authorities was to reserve certain lands within each township to be held in trust for the benefit of Arizona's schools and public institutions. These lands and the income they generate are assets held in trust status and managed by the ASLD. The ASLD functions as the trustee of the State Land Trust and it has a fiduciary responsibility to responsibly manage the assets of the State Land Trust to maximize financial revenues for its beneficiaries, typically done through land auctions, leasing and other permitted uses of the land. The ASLD is listed as being a cooperating agency, with "[j]urisdictional responsibilities and special expertise in matters related to management of, and potential impacts on, State Trust land." FEIS at 41.

The ASLD filed extensive comments on the Draft EIS enumerating **multiple** adverse impacts to State Trust lands (and the assets of the State Land Trust) stemming from the Project. Most of these were dismissed or ignored by the Forest Service, including the ASLD comments related to the socioeconomic impacts of the Project and State Trust Lands. FEIS, Appendix R at R-43-44.

The economic values associated with State Trust Lands and the assets of the State Land Trust will be economically harmed by the Project in a number of ways, including due to the

direct, indirect, and cumulative impacts associated with Project's development and operation near State Trust Lands, the water demands of the Project, the direct loss of State Trust Lands within the subsidence zone at Oak Flat, the use of or need for rights of way across State Trust lands for pipelines, power lines and access roads, and the loss of many thousands of acres of State Trust Land that are currently available for grazing leases.

For example, the ASLD notified the Forest Service about the significant direct, indirect, and cumulative impacts from Resolution's Desert Wellfield pumping and its dewatering effects on State Trust Land. FEIS Appendix R at R-43-44. ASLD stated that even with partial mitigation (if Resolution were to withdraw its storage credits from within the same impact area in which they are stored), "the loss of 3,440 acres of developable State Trust land represents a minimum potential loss to the Trust of at least $536,640,000 in revenue." FEIS, Appendix R at R-43. None of these socioeconomic impacts were considered by the Forest Service in the FEIS.

ASLD stated that the "greatest potential adverse impact to the [State Land] Trust will be the water (usage of approximately 600,000 acre-feet (AF) over the LOM [Life of Mine]) that will be extracted from the aquifer beneath the Superstitions Vistas Planning Area (SVPA)." FEIS, Appendix R at R-43. The ASLD also observed that based upon the Project's anticipated groundwater requirements, "the negative impact of the proposed water consumption sourced from the Superstition Vistas Planning Area (SVPA) far outweighs the estimated financial benefits to the Trust resulting from other aspects of the project by a factor of 20:1." Id. at R-44. The ASLD further stated that "…the extraction and transportation of groundwater out of the SVPA [Superstition Vistas Planning Area] greatly compromises the ability to develop these lands to their full planned potential, and as a result, reduces the income and value of the Trust." Id.

Despite ASLD position as a cooperating agency and the level of concern presented in the ASLD's comments, the Forest Service did not include any analysis in the FEIS related to the socioeconomic impacts to State Trust Lands or the economics of the State Land Trust and it did not disclose, analyze, or require any action to avoid, minimize or mitigate for the impacts of the Project on State Trust Land or the State Land Trust.

The Mine will also directly impact State Trust Land adjacent to and within the subsidence area at Oak Flat. FEIS at 65, Figure 2.2.2-5 (*shown on following page*). The State Trust Lands that will be subsumed by (swallowed up) by the Mine subsidence at Oak Flat, will be lost from the State Land Trust forever as will the potential of these State Trust Lands to generate revenue for the State Trust Fund. None of these socioeconomic impacts are disclosed, quantified, or evaluated in the FEIS. The FEIS only notes the Forest Service's "assumption" that the State Trust lands in the subsidence zone "would be sold rather than leased." FEIS at 318.

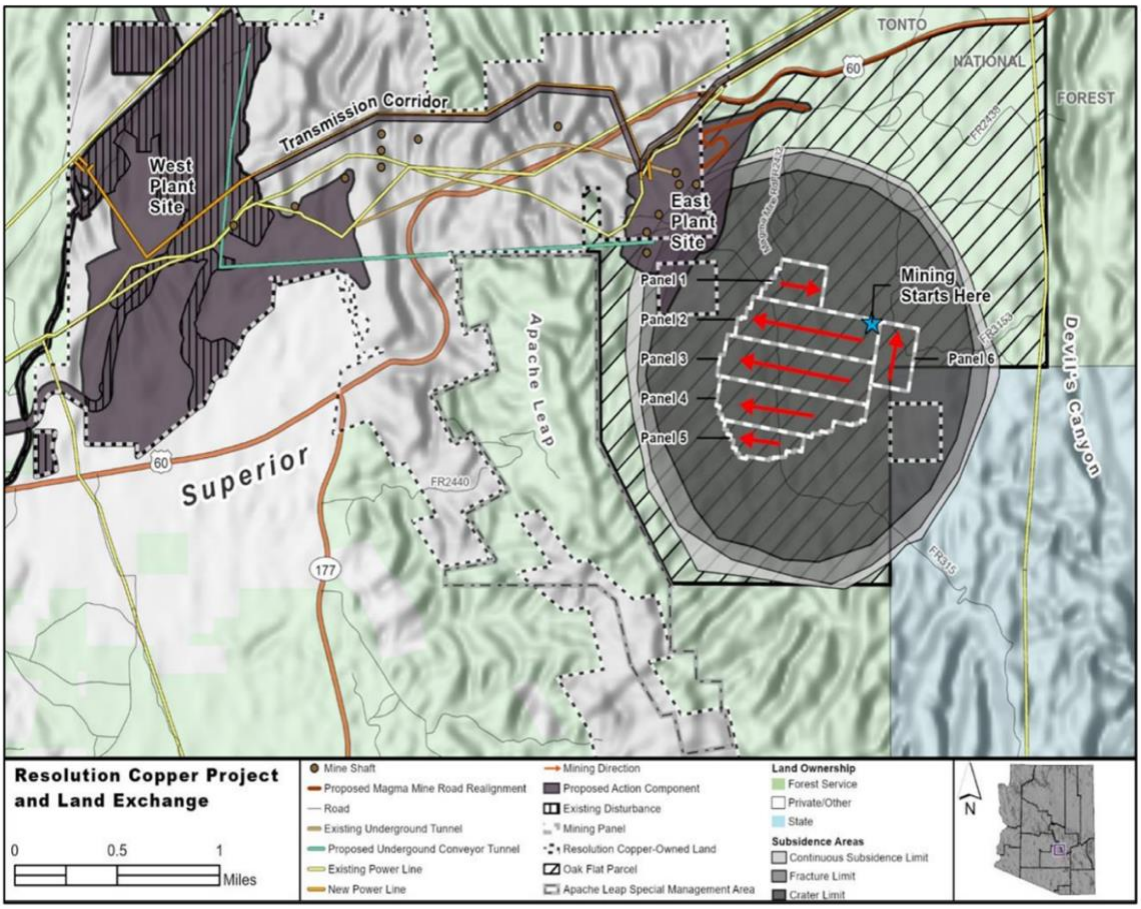

Figure 2.2.2-5. Predicted mining subsidence areas and the East Plant Site area

The Project will also impact State Trust Lands in and around the Skunk Camp tailings site footprint, as well as across the miles-long 500-ft. wide tailings pipeline alignment, impacting the surface and waters associated with those State Trust resources as well. The State Trust Lands that will be subsumed by (swallowed up) by the Mine subsidence at Oak Flat, will be lost from the State Land Trust forever as will the potential of these State Trust Lands to generate revenue for the State Trust Fund. None of these socioeconomic impacts are disclosed, quantified, or evaluated in the FEIS.

The FEIS only notes the Forest Service's "assumption" that the State Trust lands in the subsidence zone "would be sold rather than leased." FEIS at 318. The Project will also impact State Trust Lands in and around the Skunk Camp tailings site footprint, as well as across the miles-long 500-ft. wide tailings pipeline alignment, impacting the surface and waters associated with those State Trust resources as well. The ASLD stated in its comments on the Draft EIS that "ASLD is also concerned that a potential sale of the State Trust land directly at or near the Skunk Camp property would not adequately recognize the future value of the Skunk Camp property and fails to consider the inherent decrease in surrounding property values once the facility is established." None of these socioeconomic impacts are quantified or analyzed in the FEIS.

Instead, the Forest Service "kicks the can down the road" on these issues, vaguely concluding, "[o]btaining access to use ASLD-administered trust land and private land is the

responsibility of the applicant." (DEIS, p. 94)." FEIS, Appendix R at R-157. However, NEPA (and the NDAA) require that the Forest Service value and address the economic impacts to State Trust Lands and the losses to the State Trust Fund from the Project.

The Project (Alternative 6) will result in the loss of at least 8,210 acres of State Trust lands. FEIS at 122. It is not clear whether these 8,210 acres also include the many additional acres of pipeline right-of-way, Desert Wellfield, or the unknown thousands of additional surrounding acres of State Trust lands which will be impacted and devalued.

The FEIS further admits that "The proposed mine would likely affect residential property values within at least a 5-mile radius of the proposed location of the tailings facilities under each alternative." FEIS at 858. Why this statement was restricted to impacts just on residential property values is not clear. It is more likely that all property values within the vicinity of any tailings location will be negatively impacted, including the value of State Trust lands.

The Forest Service states perfunctorily, with no further explanation or analysis: "By encumbering a large area with mine tailing storage, the surrounding State Trust land will be depreciated to the detriment of the Trust." FEIS, Appendix R at R-43. But again, the Forest Service makes no effort in the FEIS to quantify the socioeconomic impacts of this depreciation or otherwise examine reasonable ways to mitigate for these impacts.

ASLD holds a surface water right ("36" filing) for water to Dripping Springs Wash. FEIS at 592. ASLD remarked that a Jurisdictional Determination from the U.S. Army Corps for the Dripping Springs Wash "could greatly compromise ASLD's ability to realize the highest value for those State Trust lands located downstream." FEIS, Appendix R at R-43.

The Forest Service nevertheless fails to consider or require mitigation for impacts to State Trust lands, stating "The effects of jurisdictional delineations on the ASLD's ability to realize the highest value for those State Trust lands located downstream, if any, are speculative and would be inappropriate for analysis." FEIS, Appendix R at R-245.

Impacts to Well Infrastructure and Property Values

The FEIS acknowledges that pumping from the Desert Wellfield and dewatering at the Mine could result in "loss of well capacity, the need to deepen wells, the need to modify pump equipment, or increased pumping costs." FEIS at 425, 438, 444. Hundreds of wells are located within the drawdown contours around the Mine and the Desert Wellfield. FEIS at 434-435, 444. Yet the Forest Service failed to analyze the socioeconomic and cultural impacts related to the costs associated with these well impacts or any corresponding losses to property values resulting from wells going dry or a lack of affordable water access.

Impacts to Central Arizona Project Canal and Other Infrastructure.

FEIS anticipates the Desert Wellfield will be located inside the MARRCO Corridor in close proximity to power lines, roads, irrigation canals, and the Central Arizona Project Canal, among other types of infrastructure. According to the FEIS:

> The [MARRCO] corridor currently contains multiple utility lines and water pipelines and infrastructure. The existing infrastructure within the corridor includes the following: a buried fiber-optic line, an overhead transmission line and telephone line, buried natural gas pipelines, Arizona Water Supply pipelines and infrastructure providing water supply to the town of Superior, and an 18-inch dewatering line transporting water being dewatered from the East Plant Site to the New Magma Irrigation and Drainage District (NMIDD). New corridor facilities would include additional water pipelines, water pumps and recovery wells, and copper concentrate pipelines to transport ore concentrate to the filter plant and loadout facility." FEIS at 76. *See also* Appendix G at G-9 through G-11.

The Desert Wellfield well corridor will also be located less than half a mile from the Central Arizona Project (CAP) Canal which delivers surface water throughout the state. FEIS at 78, Figure 2.2.2-13. The FEIS acknowledges that "drawdowns associated with the Desert Wellfield likely would result in subsidence of roughly 24 to 52 inches." FEIS at 436. If there is land subsidence or potential fissuring from the Desert Wellfield between 24 inches (2 feet) and 52 inches (4.3 feet) near the CAP Canal or in proximity the existing infrastructure in the MARRCO corridor this infrastructure could be damaged and require repair or replacement.

However, the socioeconomic and other impacts related to damage to infrastructure from groundwater pumping-related surface subsidence or fissuring were not accounted for or analyzed in the FEIS and the Forest Surface does not require any mitigation for these socioeconomic impacts.

Additional Critical Issues Ignored by the FEIS.

As shown by the Objectors' previous Objections and comments (pp. 15-300 of AMRC's November 7, 2019 comments, pp. 3-65 of the ITAA's November 7, 2019 comments, and the Objectors' comments on water quality submitted to the USFS on October 30, 2020), the Draft EIS failed to comply with the Forest Service's mandatory public and environmental requirements under NEPA, the NDAA, FLPMA, the CWA and other applicable laws. These comments, and the FEIS' inadequate response, are contained in Volume 6 of the FEIS. *See also* Objectors supplemental comments submitted in October and December of 2020, and on April 11, 2025. Acting Supervisor Torres responded (albeit inadequately) to the Objectors' December 2020 comments in a January 12, 2021 letter to AMRC and ITAA, which are in the administrative record for these Objections.

Impacts to Apache Leap.

The NDAA established the Apache Leap Special Management Area "to preserve the natural character of Apache Leap; to allow for traditional uses of the area by Native American people; and to protect and conserve the cultural and archeological resources of the area." Section 3003(g)(2)(A)-(C). "In Section 3003(g) of PL 113-291, Congress designated a portion of the Tonto National Forest as the Apache Leap Special Management Area (SMA) for the purposes of preserving the natural character surrounding the Apache Leap escarpment, allowing traditional and religious uses by Indian Tribes, and protecting and conserving the cultural and archaeological resources of the area." FEIS at 47.

The potential for subsidence from the crater to impact the Apache Leap Special Management Area mandates that the Forest Service require mitigation measures to avoid, minimize, and otherwise mitigate subsidence impacts, and NEPA requires that the Forest Service analyze the effectiveness of such measures in the FEIS. Appendix J, J-11 (noting USFS authority under 36 C.F.R. § 251.56 and 36 C.F.R. § 228.8).

The block caving operation is anticipated to create a nearly a 2-mile diameter crater estimated to be between 800 and 1,115 feet deep. To accompany proposed monitoring of subsidence, the FEIS unveiled a proposal to establish three tiers of triggers to inform potential mitigation for subsidence, should it be greater than what the modeling anticipated. These triggers, Level 1, Level 2, and Level 3, if met, may prompt additional monitoring and review and potential responsive actions. FEIS at 194.

Level 1 is triggered if subsidence extends farther than the model results anticipated by less than 30 percent and would prompt only "focus on data validation and more intensive monitoring." FEIS at 194. Only Level 2 and Level 3 could provide any potential for substantive mitigation in response to larger than intended subsidence, namely in the form of potentially altering the mining operation. Level 2 is triggered if subsidence extends farther than the model results by 30 to 60 percent and could prompt reduction or modification of the amounts and locations of ore removal. FEIS at 194. Level 3 is triggered by subsidence that extends farther than the model results by 60 percent, and could include the cessation of mining. FEIS at 194.

Although NEPA requires the Forest Service to analyze the effectiveness of mitigation measures for this anticipated subsidence, and thus the effectiveness of the percentages for triggering mitigation actions, the FEIS is devoid of any such analysis. Also, these proposed triggers are new since the DEIS and were never provided for public review or comment.

The Forest Service's decision to use a 30 percent increase as the threshold of when substantive mitigation measures may be undertaken, renders the proposed mitigation worthless for protecting Forest Service resources, particularly the Apache Leap Special Management Area. Apache Leap is less than a quarter-mile away from the modeled upper-end subsidence diameter (1.8 miles). Thus, a 30 percent increase would result in a 2.34 mile wide diameter, and would be the minimum required for Level 2 trigger and could potentially lead to modifications of the mine plan. But this would be too little too late, as Apache Leap would already be engulfed. The lack of analysis of the effectiveness of these triggers for mitigation is a grave error in the Forest Service's NEPA analysis. This failure also violates the NDAA in failing to ensure the very purposes for which the Apache Leap Special Management Area was established will be met and will be protected.

Failure to Fully Review Water Quality Impacts and Baseline Conditions.

The FEIS acknowledges the Mine's significant water quality problems. ES-25. The Project would impact groundwater and surface water quality throughout the region. Id.

> The proposed mine could potentially impact groundwater and surface water quality in several ways. The exposure of the mined rock to water and oxygen, inside the mine as well as in stockpiles prior to processing, can create depressed pH levels and high concentrations of dissolved metals, sulfate, and dissolved solids. After processing, the tailings would be transported for disposal into the tailings storage

> facility. Seepage from the tailings has the potential to enter underlying aquifers and impact groundwater quality. In addition, contact of surface runoff with mined ore, tailings, or processing areas has the potential to impact surface water quality.

FEIS at 454.

Yet, the FEIS contains virtually no information pertaining to the level of contaminants that would be likely to occur from the mine discharges, runoffs, seepage, or other aspects of the Project. Similarly, the FEIS also does not disclose or consider if or where these contaminants might result in water quality impacts to surface waters and to what levels.

The FEIS at ES-25 acknowledges: "[a]ll of the tailings facilities would lose seepage with poor water quality to the environment," but then asserts that seepage from Alternative 6, "does not result in any anticipated water quality problems."

The Skunk Camp TSF [Tailings Storage Facility] Seepage Assessment Report[13] contains no information about the possible contaminants in tailings seepage water, and no information on background ground and surface water quality or potential impacts thereto from seepage water contamination, nearby impaired waterways, etc. Rather, the report just vaguely acknowledges that a seepage management plan, "has not been optimized, rather, it is intended to demonstrate that compliance is expected to be achievable for the Skunk Camp TSF. Future designs and studies will optimize the plan to reduce impacts to groundwater and uncertainties" (p.15). Yet "future studies" are not permitted under NEPA and the single-EIS requirement of NDAA 3003(c)(9)(B), and therefore, these studies were required to have been done already.

The agency admits that a final post-closure management plan for the tailings storage facility is not completed but rather deferred to some vague future point in time. "The final method of post-closure management for seepage collection water would be determined as the project progresses through the current NEPA process and engineering design. The final post-closure management plan would be based on overall expected volumes, anticipated seepage rates, and duration, in combination with the water chemistry assessment." FEIS at 90.

Many sections of the posted Skunk Camp TSF Reclamation Plan document[14] are marked as "preliminary," and references abound throughout to "preliminary estimates" and matters that "will be reviewed in future design stages," all confirming that this is not in final form based on the aforementioned language in the FEIS. This is a violation of the NEPA and the single-EIS requirement of the 2015 NDAA and is not permissible.

Regarding the extremely high temperature of the groundwater encountered at the site, the FEIS does not contain any discussion regarding how the groundwater model was adjusted or corrected in any way when, in 2014, it failed to predict the hot (180-degree F) water encountered while drilling Shaft No. 10. The Forest Service also failed to include or meaningfully analyze any similar issues of geothermally influenced water circulation or the

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[13] https://www.resolutionmineeis.us/documents/kcb-skunk-camp-seepage-assessment-2020 (last visited August 1, 2025).

[14] https://www.resolutionmineeis.us/sites/default/files/references/kcb-skunk-camp-tsf-reclamation-plan-2020.pdf (last visited August 1, 2025).

direct, indirect, or cumulative impacts thereof, including on groundwater dependent ecosystems and water quality, and including within the post-closure subsidence fracture zone/pit lake.

Regarding baseline conditions and impacts closer to the town of Superior, the FEIS states, "groundwater drawdown caused by the mine could affect groundwater supplies for wells that may draw from either the regional Apache Leap Tuff aquifer or the deep groundwater system. Drawdown from 10 to 30 feet is anticipated in wells in the Superior area, as shown in table 3.7.1-4. In addition, in about 20 percent of sensitivity modeling runs, impacts from 10 to 30 feet could also occur in wells near Top-of-the-World. In total, 53 registered wells are located within the 10-foot drawdown contour for the best-calibrated base-case model (48 exempt wells, five non-exempt wells), and 124 registered wells lie within the expanded 10-foot drawdown contour from the sensitivity modeling runs (111 exempt wells, 13 non-exempt wells." FEIS at 434.

Yet the agency fails to include a detailed analysis of these impacts and purported mitigation for public review as required by NEPA, FLPMA, and the NDAA.

The FEIS makes no mention of the ongoing Queen Creek TMDL being required pursuant to a Consent Decree entered in Federal Court. Instead, the FEIS continues to erroneously cite to the old draft Queen Creek TMDL from 2017 (FEIS at 480-481, 1013) which was never finalized nor completed and is now based on outdated information.

Despite the fact that Resolution holds an active AZPDES discharge permit issued by the State of Arizona which allows them to discharge water into Queen Creek, the FEIS notes that "discharges are not anticipated as part of the proposed project" and never meaningfully analyzes the impacts from any discharge into Queen Creek. FEIS at 481. This is despite the fact that ADEQ, the permit-issuing agency with knowledge of the status of that permit and its permissions, is a cooperating agency.

Regarding the water resources at the Skunk Camp tailings waste facility, the FEIS states that: "A single downvalley seepage collection pond would be the primary means for seepage and embankment construction and surface water collection during operations, with the collected water then pumped to a recycled water pond located within the operating PAG cell for use as process water at the cyclone house and/or at the West Plant Site, or for dust management at the tailings storage facility." FEIS at 130.

But there is no meaningful analysis of how the tailings seepage water would be transported to the West Plant Site, or consideration of that water use at the West Plant. Further, if the seepage is collected below the tailings facility, the FEIS is devoid of the required analysis of the infrastructure needed for a return pipeline/pump system at the bottom of the facility. *See* FEIS at 125, Figure 2.2.8-2.

Additionally, there is no detailed analysis of the quality of the seepage from the tailings that may be spread on the ground for dust suppression, allowed to reach groundwater at the site, or be transported back to the West Plant site and then discharged as noted above. Indeed, the Forest Service recently admitted that seepage from the tailings will only meet the applicable, "Arizona numeric aquifer water quality standards in the downgradient aquifer beyond the immediate vicinity of the tailings storage facility." January 10, 2021 letter from Defendant Thomas Torres the Terry Rambler, Chairman of the San Carlos Apache Tribe, at 5.

In other words, because the seepage water quality would exceed the applicable water quality standards at the site, the Agency cannot allow this contaminated water to be used for dust suppression, or transported via the pipeline back for discharge at the West Plant site or beyond. At a minimum, the FEIS's failure to fully analyze the quality and uses of this contaminated water violates NEPA, FLPMA, and the NDAA.

Further Violations of the Clean Water Act.

a. The FEIS and DROD Fail to Recognize the Need for a CWA Section 401 Certification for All of the Project Discharges.

The FEIS and DROD do not analyze, and fail to ensure full compliance with, all standards and requirements of the CWA. Objectors raised significant water quality concerns in their November 2019 and October 2020 comments to the Forest Service. *See* AMRC November 7, 2019 comments at 98-108 (as well as discussion related to the Army Corps Section 404 permit, at 304-317); ITAA November 7, 2019 comments at 10, 49-56 (as well as discussion related to the Army Corps Section 404 permit, at 9-19). AMRC's October 30, 2020 comments were focused entirely on water quality, yet were never adequately addressed. The EPA also raised substantial concerns about water quality impacts (FEIS at R-62 to R-66), yet the FEIS and DROD failed to adequately respond to these comments as well.

At the outset, the FEIS and DROD are inadequate and legally flawed as they review only the discharges associated with the proposed Clean Water Act Section 404 permit. This is due to the mistaken view that the Army Corps 404 permit is the only "federal license or permit" that has been proposed regarding the Resolution Copper Project. "The proposed mine development includes the construction of a TSF, known as the Skunk Camp TSF [Tailings Storage Facility]. Construction of this TSF, its appurtenant facilities, and associated pipelines **are the only aspects of Resolution's overall project that triggered Section 404 permitting and the associated Section 401 certification that is the subject of this WQC**." Arizona Department of Environmental Quality ("ADEQ") Draft Water Quality Certification ("WQC") at 2 (emphasis added).

Objectors raised this issue in their October 30, 2020 comments to ADEQ and the Forest Service. The new FEIS acknowledges that "ADEQ issued the 401 water quality certification for the Resolution Copper Project on December 22, 2020" FEIS at 31. However it only covers the Skunk Camp tailings site.

Under the CWA, federal caselaw, and USFS policy, the issuance of a Special Use Permit by the Forest Service, as well as approval of a proposed mining plan of operations, such as Resolution's "General Plan of Operations," or any other requested approval of Project operations by the USFS, is considered a "federal license or permit" triggering Section 401 Certification. *See* Hells Canyon Preservation Council v. Haines, 2006 WL 2252554, at *3-4 (D. Or. 2006)(Section 401 applies to mining PoO submitted to USFS). As stated by the USFS:

> Pursuant to CWA § 401, both the Forest Service and the mining operator have CWA requirements to meet. If the mining activity "may result in any discharge into the navigable waters," (CWA, Title IV, § 401(a) (1), 33 U.S.C. 1341(a), 1972) the mining operator must obtain a 401 certification from the designated CWA federal, state or tribal entity, typically the state. This 401 certification from the designated entity certifies that the operator's mining activities and associated best management practices (BMPs), mitigation and/or reclamation are in compliance with applicable provisions of state,

> federal and/or tribal water quality requirements of the CWA. The mining operator must give a copy of this 401 certification to the Forest Service prior to the Agency approving the Plan of Operations. Pursuant to CWA, the Forest Service cannot authorize a Plan of Operations until the 401 certification has been obtained or waived by the designated entity. Finally, the Forest Service may not authorize a Plan of Operations if the designated entity denies the certification.

USFS Manual, Section 2817.23a.

There is no dispute that the Resolution Project "may result in any discharge into the navigable waters" (Id.) that are in addition to the limited discharges associated with the Tailings Storage Facility and related infrastructure reviewed by the limited WQC. For example, Outfalls 1 & 2 that allow discharge from the West Plant (and now water from shafts 9 & 10) into Queen Creek, were not considered by ADEQ. Nor were all potential stormwater discharges associated with the Project analyzed and included in the WQC.

In addition, the Forest Service does not have the required Certification, as the ADEQ WQC does not consider potential discharges associated with the MARRCO corridor, including the loadout facility for copper concentrate slurry and pumpback storage and delivery back to the West Plant (including water from the CAP and other sources for the West Plant). There is the potential for discharges that could end up in Queen Creek or the Gila River. Also, on the MARRCO corridor are the water pipelines and the 30+ water wells (Desert Wellfield). The MARRCO corridor crosses Queen Creek at least once. There is the potential for spills into Queen Creek from these and other facilities (*e.g.*, West Plant facilities, ore/material conveyance structures).

At the mine site itself there would be (at a minimum it is reasonably foreseeable there would be) the pit lake in the subsidence crater (which the FEIS inadequately considered/acknowledged) as well as washout bays, and numerous other potential sources of water discharge from the buildings that are or would be at the East plant. This includes potential discharges from the chilling plant/cooling towers.

In addition, there is no Certification regarding the other potentially impacted waters, such as those affected by the buried pipeline and the power lines and the impacts these pipelines and power lines will likely have on water quality in the critical habitat areas on Mineral Creek. Mineral Creek is critical habitat for Gila Chub and is proposed critical habitat for yellow billed cuckoo. Also, critical habitat for Mexican spotted owl is less than 2 miles away from portions of the pipeline route.

There are also dozens of such unnamed washes (one report said 60) that, when dug up to install or maintain the buried pipeline, will result in the inevitably discharge of some amount of sediment or contaminants downstream. Even the named Lyons Fork and Mill Creek which flow into Mineral Creek will have pipelines buried beneath. Ga'an Canyon will face the same situation with likely contamination of the plunge pools located on the State Trust land.

As detailed above, the Agency cannot limit its review to only those direct impacts from the Project's discharges directly associated with the 404 permit. In addition to improperly failing to consider the Special Use Permits (and mining plan as reviewed in the FEIS) as noted above, this self-imposed restriction violates the CWA. As held by the U.S. Supreme Court, the 401 Certification is not limited to only direct impacts from the discharge, but rather, all impacts

associated with a project once the threshold prerequisite of the potential for a discharge exists (which is not in dispute here):

> Section 401, however, also contains subsection (d), which expands the State's authority to impose conditions on the certification of a project. Section 401(d) provides that any certification shall set forth "any effluent limitations and other limitations ... necessary to assure that *any applicant*" will comply with various provisions of the Act and appropriate state law requirements. 33 U.S.C. § 1341(d) (emphasis added). The language of this subsection contradicts petitioners' claim that the State may only impose water quality limitations specifically tied to a "discharge." The text refers to the compliance of the applicant, not the discharge. Section 401(d) thus allows the State to impose 'other limitations' on the project in general to assure compliance with various provisions of the Clean Water Act and with 'any other appropriate requirement of State law'… Section 401(a)(1) identifies the category of activities subject to certification--namely, those with discharges. And § 401(d) is most reasonably read as authorizing additional conditions and limitations on the activity as a whole once the threshold condition, the existence of a discharge, is satisfied.

Jefferson County PUD No. 1 v. Washington Dept. of Ecology, 511 U.S. 700, 711-12 (1994). As the Court stated: "activities—not merely discharges—must comply with state water quality standards." Id.

As noted in EPA's guidance on Section 401 certification: "[I]t is important for the § 401 certification authority to consider all potential water quality impacts of the project, both direct and indirect, over the life of the project." Clean Water Act Section 401 Water Quality Certification: A Water Quality Protection Tool For States and Tribes (2010)("EPA 401 Handbook"), at 17. https://19january2017snapshot.epa.gov/sites/production/files/2016-11/documents/cwa_401_handbook_2010.pdf (viewed July 23, 2025).

As EPA summarized:

> Section 401 applies to any federal permit or license for an activity that may discharge into a water of the U.S. The Ninth Circuit Court of Appeals has ruled that the discharge must be from a point source, and agencies in other jurisdictions have generally adopted the requirement. **Once these thresholds are met, the scope of analysis and potential conditions can be quite broad. As the U.S. Supreme Court has held, once § 401 is triggered, the certifying state or tribe may consider and impose conditions on the project activity in general, and not merely on the discharge, if necessary to assure compliance with the CWA and with any other appropriate requirement of state or tribal law.**

EPA 401 Handbook, at 18 (emphasis added), *citing* Jefferson County PUD, 511 U.S. at 711-712; S. D. Warren Co. v. Maine Board of Environmental Protection et al, 547 U.S. 370, 126 S.Ct. 1843 (2006).

Thus, all aspects of the Project contained in the Special Use Permit applications (as well as the ore concentrate pipeline in the MARRCO corridor that has improperly been excluded from USFS permitting as detailed above), must be considered in the 401 Certification review, not just the Skunk Camp tailings site Because the Forest Service does not have the required 401 Certification which covers all of the operations and discharges associated with the Project

(outside of the Tailings facility), the USFS cannot approve any Special Use Permits, Road Use Permits, or any other activity associated with the Project.

b. The Forest Service Failed to Protect All Water Quality Standards, Including All Beneficial Uses.

The FEIS and DROD are only concerned with ensuring that the numeric water quality standards are not violated by the 404 discharge. In addition to improperly limiting its review to only the direct 404 discharges discussed above, this ignores the fact that all aspects of water quality protection, not just numeric standards, must be considered and protected.

The CWA is primarily implemented through the establishment and maintenance of water quality standards, and the CWA directs each state to establish its own water quality standards. 33 U.S.C. §§ 1313(a) and (c)(2)(A). "A water quality standard defines the water quality goals of a water body, or portion thereof, by designating the use or uses to be made of the water and by setting criteria necessary to protect the uses." 40 C.F.R. § 131.2. The minimal designated use for a water body is the "fishable/swimmable" designation which "provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water." 33 U.S.C. § 1251(a)(2). As the Supreme Court stated:

> The text [of the CWA] makes it plain that water quality standards contain two components. We think the language of § 303 is most naturally read to require that a project be consistent with *both* components, namely, the designated uses *and* the water quality criteria. **Accordingly, under the literal terms of the statute, a project that does not comply with a designated use of the water does not comply with the applicable water quality standards.**

Jefferson County PUD, 511 U.S. at 714-715 (*italics* emphasis in original, **bold** emphasis added). Thus, the CWA prohibits any activity that will not fully protect all of the designated uses for that waterbody.

Similarly, the Project also implicates the CWA's "antidegradation" requirements. Antidegradation policies "shall, at a minimum, be consistent with . . . [e]xisting instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected." 40 CFR § 131.12(a)(1). Under this regulation, "'no activity is allowable . . . which could partially or completely eliminate any existing use.'" Jefferson County PUD, 511 U.S. at 718-19 (*citing* EPA, Questions and Answers on Antidegradation 3 (Aug. 1985)).

Under Arizona Administrative Code (AAC) R18-11-107.01(D) – Antidegradation – ADEQ is required to conduct an antidegradation review of the Army Corps 404 permit if any of the impacted surface waters are listed as impaired under the State's 303(d) list, such as Queen Creek. This must be done on a pollutant-by-pollutant basis. ACC R18-11-107(A). Specifically, R18-11-107.1D states:

> Antidegradation review of a § 404 permit shall be conducted as follows:
> 1. For a Corps-issued § 404 permit. The Director shall conduct the antidegradation review of any discharge authorized under a nationwide or regional § 404 permit as part of the § 401 water quality certification prior to issuance of the nationwide or regional permit. The Director shall conduct the antidegradation review of an individual § 404

> permit if the discharge may degrade existing water quality in an OAW or a water listed on the 303(d) List of impaired waters. For regulated discharges that may degrade water quality in an OAW or a water that is on the 303(d) List of impaired waters, the Director shall conduct the antidegradation review as part of the § 401 water quality certification process.

https://apps.azsos.gov/public_services/Title_18/18-11.pdf. That did not happen here.

As noted herein and in Objectors' previous comments to ADEQ, USFS, and the Corps, including the Objectors' previous comments to the USFS, neither the Agency nor Resolution have shown that the Project will protect all beneficial uses, comply with all numeric and narrative standards, and comply with all antidegradation requirements. As such, the FEIS violates NEPA and the NDAA, and the Forest Service cannot approve any aspect of the Project.[15] In addition, because the Project would not fully comply with all CWA requirements, any authorization of Project activities would violate the provisions of Tonto National Forest Plan and thus NFMA § 1604 (i).

State water quality regulations dictate numeric water quality standards both for surface waters and for groundwater. State regulations also identify a narrative water quality standard for surface water. The narrative water quality standards also state that a wadeable, perennial stream, such as those affected by the Project, shall support and maintain organism richness comparable to that of a stream with reference conditions in Arizona. According to state regulations, "A wadeable, perennial stream shall support and maintain a community of organisms having a taxa richness, species composition, tolerance, and functional organization comparable to that of a stream with reference conditions in Arizona." R18-11-108.E. "The narrative biological criteria in this Section apply to a wadeable, perennial stream with either an aquatic and wildlife (cold water) or an aquatic and wildlife (warm water) designated use." R-18-11-108.01.A.

The Draft WQC lists, some, but not all, water bodies that will be affected by the discharges:

> State of Arizona Surface Water Quality Standards (SWQS), Arizona Administrative Code (A.A.C.) Title 18, Chapter 11, Article 1. Designated uses for impacted washes are:
> • Devil's Canyon: Aquatic and Wildlife Warm, Full Body Contact, Fish Consumption and Agricultural Livestock;
> • Mineral Creek: Aquatic and Wildlife Warm, Full Body Contact, Fish Consumption and Agricultural Livestock; Impairments: Dissolved Copper, Selenium, Dissolved Oxygen;
> • Queen Creek: Aquatic and Wildlife Warm, Partial Body Contact, and Agricultural Livestock; Impairments: Copper, Selenium, Lead;
> • Dripping Springs Wash and unnamed ephemeral tributaries: Aquatic and Wildlife Ephemeral and Partial Body Contact;
> • Skunk Camp Wash and unnamed ephemeral tributaries: Aquatic and Wildlife Ephemeral and Partial Body Contact;
> • Stone Cabin Wash and unnamed ephemeral tributaries: Aquatic and Wildlife Ephemeral and Partial Body Contact

[15] Under the 1897 Organic Act and agency implementing regulations, the USFS cannot approve any activity or operation that may violate or not comply with all applicable water quality standards and requirements.

Draft WQC at 4. *See also* Current RCM AZPDES permit (same). As noted herein, this list does not include all of the water bodies potentially affected by the Project, such as those affected by the approval of the Special Use Permits (and the omitted ore concentrate pipeline).

State regulations define the following designated uses: "'Aquatic and wildlife (warm water) (A&Ww)' means the use of a surface water by animals, plants, or other warmwater organisms, generally occurring at an elevation less than 5000 feet, for habitation, growth, or propagation." R18-11-101.8 (definitions). "'Full-body contact (FBC)' means the use of a surface water for swimming or other recreational activity that causes the human body to come into direct contact with the water to the point of complete submergence. The use is such that ingestion of the water is likely and sensitive body organs, such as the eyes, ears, or nose, may be exposed to direct contact with the water." R18-11-101.21. "'Fish consumption (FC)' means the use of a surface water by humans for harvesting aquatic organisms for consumption. Harvestable aquatic organisms include, but are not limited to, fish, clams, turtles, crayfish, and frogs." R18-11-101.20.

The Arizona wadeable/perennial narrative water quality standard at R18-11-108.E. applies to the perennial reaches of streams/water bodies that may be affected by the Project's dewatering of the aquifer/groundwater, as well as its discharges. As shown by the Objectors previous comments, this standard will not be meet on all stream reaches of the affected water bodies. For example, the change from being a perennial stream to an ephemeral or intermittent stream caused by the dewatering (alone and in combination with modeled impacts from climate change), such as could occur here, would violate the Arizona wadeable/perennial water quality standard R18-11-108.E; R-18-11-108.01.A.

c. <u>The FEIS and DROD Impermissibly Defer Submission and Review of the Requisite Surface Water Mitigation Plan</u>

The Forest Service and ADEQ propose to allow Resolution to submit a water quality mitigation plan in the future. As detailed above, this violates NEPA and the one-FEIS mandate under NDAA. The Objectors raised this issue with the Forest Service and ADEQ in their October 30, 2020 comments. In response, ADEQ admitted that there was no water quality mitigation plan and that one would be submitted in the future to the Army Corps of Engineers.

> **Comment No. 15 received from WMAP, et al**
> The Draft WQC impermissibly defers submission and review of the requisite surface water mitigation plan. Deferring to Resolution's submittal of an adequate mitigation plan until after it obtains a 404 permit and plan of operations approval deprives the public of the ability to review and comment on that mitigation plan, in violation of state water quality law/regulations, the CWA, and public land and environmental laws applicable to the USFS (Organic Act, etc.).
>
> **Response No. 15**
> *The review and approval of surface water mitigation plans lies with the USACE and is therefore out of the scope of the 401 WQC and the ADEQ's authority.*

ADEQ, **RESPONSE TO PUBLIC COMMENTS** LTF No. 80929, §401 Water Quality Certification, Applicant: Resolution Copper Skunk Camp TSF, at 6 (italics in original, bold emphasis added)(previously submitted).

Deferring Resolution's submittal of an adequate mitigation plan until after it obtains a 404 permit or Special Use Permits deprives the public of the ability to review and comment on that mitigation plan, in violation of state water quality law/regulations, the CWA, public land and environmental laws applicable to the USFS (Organic Act, etc.), and NEPA and the NDAA as detailed above.

Violation of the Clean Air Act ("CAA")

As noted herein, because of the FEIS' and DROD's failure to fully consider all of the project's direct, indirect, and cumulative impacts, as well as a complete analysis of all background/baseline conditions and a lack of adequate mitigation analysis, the USFS cannot ensure that the project will comply with all applicable air, water, and other environmental standards, as required by NEPA, FLPMA, and the Organic Act, as well as the CWA and CAA. This is true whether the USFS regulates the project under its Part 228 or Part 251/262 regulations. For example, under § 251.56(a)(1)(C), the USFS must: "Require compliance with applicable air and water quality standards established by or pursuant to applicable Federal or State law." The "Operator shall comply with applicable Federal and State air quality standards, including the requirements of the Clean Air Act, as amended (42 U.S.C. 1857 et seq.)." *See also* 36 C.F.R. §§ 228.8(a); § 228.8(b)(same, for water quality requirements/standards and the Clean Water Act).

Objectors specifically highlighted the Project's failure to comply with all required Clean Air Act standards and related public health requirements. *See* AMRC November 7, 2019 comments at 3, 31, 57-60, 134-146, 317. Yet the FEIS and DROD do not comply with these mandates.

For example, as EPA Region IX pointed out in its November 1, 2019 comments (reprinted at FEIS R-62 to R-66), the Forest Service should have obtained a conformity determination for projected PM 10 emissions that would be associated with its East Plant Site that would impact the Hayden and Miami PM 10 Nonattainment Areas. In the FEIS the Forest Service argues that it can demonstrate that a conformity determination would be merited for the Hayden PM 10 Nonattainment Area based on just modeling. FEIS at 360. In addition, the FEIS provides no analysis and asserts no facts regarding the potential that the project could demonstrate attainment in the Miami PM 10 Nonattainment Area. No is there a conformity determination for PM2.5, nor assurances that all NAAQS will be met at all times.

As part of its State Implementation Plan (SIP), Arizona has adopted EPA's general conformity regulations. These regulations include public participation requirements regarding conformity determinations. The SIP public participation requirements for conformity determinations include the following: 1) the agency [AZDEQ] must make available for review its draft conformity determination; 2) agency must make public its draft conformity determination by placing a notice by prominent advertisement in a daily newspaper of general circulation in the area affected by the action and by providing 30 days for written public comment prior to taking any formal action on the draft determination; and, 3) the agency must document its response to all the comments received on its draft conformity determination and make the comments and responses available. To our knowledge none of the public participation requirements associated with obtaining such a determination have been followed.

The NDAA requires that the FEIS to be adequate 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." Because the Arizona SIP is federal law, the needed conformity determination would be a "decision[] under Federal law related to the proposed mine and the Resolution mine plan of operations."

As a result, the FEIS was required to be adequate to support conformity determinations regarding the Hayden and Miami PM 10 Nonattainment Areas. We question whether the FEIS discussion of the Hayden PM 10 Nonattainment Area is sufficient under the NDAA. More important, however, is the fact that the FEIS completely ignores the Miami PM 10 Nonattainment Area. Therefore, it is clear that the FEIS fails to comply with the NDAA with respect to Clean Air Act conformity with respect to the Miami PM 10 Nonattainment Area.

Violation of the National Forest Management Act

The FEIS and DROD do not ensure that all requirements of the Tonto National Forest Plan, the 2012 Planning Rule, and associated Regional Guide for Region 3 will be met at all times, in violation of the National Forest Management Act ("NFMA"), 16 U.S.C. § 1601 *et seq.* Because the Forest Plan was amended in 2023, neither the Objectors nor the public had the opportunity to comment on violations of the current plan during the DEIS comment period in 2019.

Among other mandates, the NFMA requires the Forest Service to prepare a land and resource management plan, or "forest plan," for each National Forest. 16 U.S.C. § 1604(a). Each plan must include standards and guidelines for how the forest shall be managed. 16 U.S.C. §§ 1604(c), (g)(2) & (g)(3).

Once a forest plan is adopted, all resource plans, permits, contracts, and other instruments for use of the lands, such as Special Use Permits, Road Use Permits, mining plan approvals, etc., must be consistent with the plan. 16 U.S.C. § 1604(i). "It is well-settled that the Forest Service's failure to comply with the provisions of a Forest Plan is a violation of NFMA." Native Ecosystems Council v. Dombeck, 304 F.3d 886, 961 (9th Cir. 2002). *See also* Save Our Cabinets v. U.S. Dept. of Agric., 254 F.Supp.3d 1241, 1258-59 (D. Mont. 2017)(Forest Service approval of mining project that would not meet the Forest Plan's "desired conditions" protecting water quality violated the NFMA).

Failing to follow, or to evaluate and document compliance with, a Forest Plan provision is also a NEPA violation. *See* ONDA v. BLM, 625 F.3d 1092, 1110–11 (9th Cir. 2010) (NEPA analysis must include "considerations made relevant by the substantive statute driving the proposed action"); Westlands Water Dist. v. United States Dept. of Interior, 376 F.3d 853, 866 (9th Cir. 2004) ("When an action is taken pursuant to a special statute, the objectives of that statute serve as a guide by which to determine the reasonableness of alternatives" examined under NEPA).

As shown above, the Project will result in massive and permanent environmental and cultural resource impacts, which could not occur without the issuance of the Special Use Permits (including the omitted permit for the ore concentrate pipeline). These impacts violate the Forest

Plan and Regional Guide. For example, for "Soils, Water and Air Quality," the Forest Plan requires the Agency to:

> Provide direction and support to all resource management activities to (1) meet minimum air and water quality standards, (2) emphasize improvement of soil productivity, air and water quality, (3) augment water supplies when compatible with other resources, (4) enhance riparian ecosystems, by improved management. All major riparian areas under intensive management by 1995, (5) obtain water rights necessary to ensure orderly resource development, and (6) inventory and interpret soil, air and water resources. Resource planning and management activities within the desert zone must fully recognize the limitations this unique ecosystem has to the impacts of man's uses and activities.

Tonto Forest Plan at 19. In addition to these requirements, the Plan requires specific compliance with the standards and guidelines of the Regional Guide:

> The standards and guidelines for conservation of soil and water resources; protection and treatment of streams, streambacks, shorelines, lakes, wetlands, and other water bodies are found in the Regional Guide; Region 3 TE Note 23 and Hydrology Notes 11 and 14; and individual management prescriptions. The majority of the specific standards and guidelines are in the Forest-wide prescription decision units 33, 34, 63, 45, 48, 62, 51 and activities F01, F02, F03, F04, F05, K01, K03, K04, K05, K06. Some individual management area prescriptions contain additional specific standards and guidelines in these decision units and activities. Standards and guidelines for air quality are found in the Regional Guide, and individual management prescriptions under decision units 2 and 3 and activities A03, P16, and P17.

Tonto National Forest Plan at 20.

The 2025 FEIS and DROD, for the first time, propose to amend (i.e., eliminate) a number of Forest Plan requirements. DROD Section 2.1.4. But those amendments do not cover all the Plan requirements that will be violated.

For example, the Plan requires the Agency to "preserve the character and use" of "Locations identified as important by American Indian tribes." "Locations identified as important by American Indian tribes are acknowledged and ***there is an emphasis on the resilience and protection of natural and cultural resources and to preserve the character and use of these places***." Desired Conditions (TRB-DC), Plan at 58 (Tribal Relations and Areas of Tribal Importance (TRB)(emphasis added). That requirement will certainly be violated by the agency's approval of the Special Use Permit for the tailings waste and water pipelines in the Ga'an Canyon sacred site and TCP. *See* Save Our Cabinets v. U.S. Dept. of Agric., 254 F.Supp.3d 1241, 1258-59 (D. Mont. 2017)(Forest Service approval of mining project that would not meet the Forest Plan's "desired conditions" protecting water quality violated the NFMA).

As shown herein, there is no question that the cultural and religious values of Oak Flat and surrounding lands will be destroyed or significantly altered by the Project. As noted herein, the fact that majority of this destruction will occur on the lands to be exchanged-away does not excuse the Agency's noncompliance with these requirements, as without issuance of the Special Use Permits the Project could not proceed and thus the damage would not occur.

As noted herein, the Project's devastating and permanent impacts to lands, fish, wildlife, water quality and quantity, among the other impacts detailed herein, violate these requirements.

Another fundamental error in the Agency's NFMA analysis is that it did not consider the connection between the impacts from the overall Project on public lands that would result from issuance of the Permits. For example, the Review does not consider the impacts on water, wildlife, cultural resources, etc. that will be caused by the Project's massive dewatering of the regional aquifers. As noted herein, because it is undisputed that the Project could not proceed without the issuance of the Special Use Permits for Project infrastructure, the impacts from Project operations occurring on private lands (assuming the Exchange takes place as the FEIS and DROD do) to public land resources were required to be fully considered.

The Proposed Significant Amendments to the Tonto Forest Plan, Without Any Public Comment or Review, Violate the NFMA, NEPA, and Federal Public Land Law.

The June 2025 FEIS and DROD included, for the first time, a new proposal to substantially amend the current Tonto National Forest Plan, exempting the Project's pipelines, transmission lines, roads, and other infrastructure from the Plan's current requirements protecting cultural resources, wildlife, recreation, soils, and other critical public resources. *See* new FEIS Appendix T and DROD Section 2.1.4.

"The Resolution Copper Project preferred alternative (Alternative 6 – Skunk Camp) proposes a multi- component forest plan amendment that would except the Resolution Copper Project from nine guidelines and seven desired conditions." FEIS at T-1. As admitted by the Agency, these amendments are needed in order to ensure compliance with the Tonto Forest Plan, which is required under the NFMA.

"A review of the Resolution Copper Project FEIS in relation to the December 2023 'Tonto National Forest Land Management Plan' indicated that the preferred alternative, as proposed, cannot adhere to nine forest plan guidelines and seven forest plan desired conditions that are intended to protect soil productivity, scenic resources, national scenic trails, recreation resources, wildlife habitat, and cultural resources. … This appendix (appendix T) describes how the Forest Service proposes to … amend the forest plan contemporaneously with the approval of the project so that the project would be consistent with the plan as amended." FEIS at T-2. Appendix T does not show how these amendments comply with the 2012 NFMA Planning Rule, 36 C.F.R. Part 219, (as the DROD, at 42, alleges).

Under the NFMA, none of the Project facilities could be approved if they would not be consistent with the Tonto Forest Plan. 16 U.S.C. § 1604. None of these proposed sixteen Plan amendments were subject to any public review and opportunities for comment, as they were first seen in the June 16, 2025 FEIS and DROD.

This was a complete reversal from the 2021 DROD, which specifically stated that: "I find that the authorized uses do not require an amendment to the forest plan." 2021 DROD at 32. That has now fundamentally changed, as Appendix T and the new DROD now say that the sixteen Plan amendments are needed in order to allow the Project to be approved.

Neither the 2025 FEIS or new DROD explain the Agency's dramatic departure to its policies and regulation from 2021 to 2025, nor why it failed to provide for public review of these significant amendments, despite having over 4 years to do so.

The NFMA and its Forest planning regulations, 36 C.F.R. Part 219, require that proposed Forest Plan amendments be subject to public review, comment and notice—which did not occur here. For Plan amendments, "the responsible official shall: … Provide opportunities for public participation as required in § 219.4 and public notification as required in § 219.16." 36 C.F.R. § 219.13(b)(2). Public "[p]articipation opportunities must be provided throughout all stages of the land management planning process, including during plan revision and amendment." 77 Fed. Reg. 21195 (April 9, 2012)(preamble to current part 219 rulemaking).

Despite this, the proposed significant amendments to the Plan were only first divulged to the public on the Agency's website on June 16, 2025 (when the FEIS and DROD were released).

This is not an idle exercise, as the eliminated Forest Plan requirements were put in place to protect valuable resources such as the recognized Traditional Cultural Property of Ga'an Canyon (through which the massive waste pipeline would be constructed) as well as wildlife migration routes.

The direct effect of the amendments would cover "about 2,500 acres of National Forest System (NFS) land on the Tonto National Forest that will be disturbed by the preferred alternative. . . This is composed of 2,458 acres of mine infrastructure and 44 acres of NFS land where recreation mitigation is required, for a total of 2,502 acres. This area is referred to as the 'preferred alternative area of disturbance.' This is the area in which construction of electrical transmission lines, pipelines, and associated infrastructure would be located." FEIS at T-3 to -4.

That is only the direct acreage effects, as without the amendments the whole Project would not occur—the true result of approving the amendments, however, encompasses the full range of Project impacts detailed above, including the destruction of Oak Flat and the massive loss of groundwater affecting the entire region,.

The current Forest Plan requires: "**Cultural and Historic Resources Desired Condition 01 (CUH-DC-01)** - Historic properties, including traditional cultural properties, retain all of the characteristics that qualify the property for listing in the National Register of Historic Places and convey its historical significance, including any aspects of the property's integrity (e.g., location, design, setting, materials, workmanship, feeling, or association) that have been identified as supporting its eligibility (Forest Plan p. 55). FEIS at T-5.

Yet these protections would be eliminated: "Although the preferred alternative includes mitigation measures designed to avoid, minimize, rectify, reduce, or compensate for resource impacts, impacts to historic properties cannot be avoided or fully mitigated. It is not feasible to retain all characteristics that qualify impacted properties for listing." FEIS at T-5.

The same is true for other Forest Plan requirements enacted to protect cultural resources: "**Cultural and Historic Resources Desired Condition 02 (CUH-DC-02)** - Historic properties are not threatened by human disturbances (forest plan, p. 55). The pipeline, electrical transmission, lines and associated infrastructure constructed and operated with the preferred

alternative would impact historic properties." FEIS at T-5.; Cultural and Historic Resources Desired Condition 07 (CUH-DC-07), requiring that Cultural resources (including artifacts) are preserved in place (forest plan, p. 55)." FEIS at T-5.

The Forest Plan wildlife protections are also proposed to be eliminated for the Project:

> **Fish, Wildlife and Plants Guideline 06 (WFP-G-06)** - Landscape and vegetation alterations that significantly contribute to uncharacteristic habitat fragmentation should be avoided. Project design should provide for movement and dispersal of species between treated and untreated areas (forest plan, p. 142). The analysis of wildlife connectivity concludes that there would be a loss of long-term movement habitat along pipeline corridors by the preferred alternative; therefore, dispersal and movement of species would be adversely affected.
>
> **Fish, Wildlife and Plants Guideline 07 (WFP-G-07)** - New infrastructure or constructed features (e.g., fences, roads, recreation sites, facilities, drinkers, and culverts) should be designed and maintained to minimize negative impacts to the movement and dispersal of wildlife, fish, and rare plants. Infrastructure and constructed features already present that negatively impact movement and dispersal should be modified or removed when no longer in use in order to improve connectivity. Barriers may be used to protect native species or prevent movement of nonnative species (forest plan, p. 142). The analysis of wildlife connectivity concludes that there would be a loss of long-term movement habitat along pipeline corridors with the preferred alternative; therefore, dispersal and movement of wildlife would be adversely affected.

FEIS at T-6. The Project's pipelines, transmission lines, roads, and infrastructure would also be exempted from other current Forest Plan protections for soils, recreation and other public values. FEIS at T-5 to 7.

Despite the undeniable fact that the full Project itself, let alone the 2,500 acres directly affected by the pipelines, transmission lines, roads, and other facilities, the Agency determined that the result of the exemptions and Project approval represented an insignificant impact to the environment, cultural resources, and public values. "This amendment applies only to the Resolution Copper Project; therefore, the amendment is not considered a significant change in the plan for the purposes of the NFMA." FEIS at T-36.

But this "insignificance" finding contradicts the Agency's own NFMA planning regulations, which equate the "significance" of the impacts from the amendment with the "significance" determination made under NEPA. "[T]he final rule makes the NEPA and NFMA findings of 'significance' one finding. If under NEPA a proposed amendment may have a significant effect on the environment and an EIS must be prepared, the amendment would automatically be considered a significant change to a [Forest] Plan." 77 Fed. Reg. at 21238.

It is undisputed here that an EIS was conducted for the Project, due to its significant impacts. Indeed, Section 3003 specifically determined that the FEIS "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." 16 U.S.C. § 539p(c)(9). These are the very same facilities that are governed by the proposed Plan amendments, without which the Project could not be approved, constructed, or operated.

Thus, the Agency's decision to bypass public review and propose amending the Forest Plan at the expense of recognized and irreplaceable public resources and values violates the substantive and procedural requirements of the NFMA, as well as the substantive protection and review requirements of FLPMA and the Organic Act. The Agency has not shown that eliminating these protections for cultural values/uses, wildlife, recreation, soils, and other public values complies with the Agency's substantive protection duties under FLPMA and the Organic Act. This also includes the failure to comply with and federal requirements protecting Native American religious, cultural, and historical values and uses—such as, for example, Executive Order #13007 (sacred sites), the National Historic Preservation Act, and the American Indian Religious Freedom Act. The DROD simply states that "I find that the selected Federal action complies with Executive Orders 13175 and 13007." DROD at 42, but no details or supporting justifications is provided.

CONCLUSION

As detailed above and in previous comments and Objections submitted by the Objectors, the FEIS and Draft ROD fail to fully comply with numerous federal and state laws, regulations, policies, and other requirements. As such, the Regional Office must withdraw the FEIS and DROD and vacate and remand both documents and order the correction of all errors noted herein.

The Forest Service cannot approve or authorize any of the action alternatives described in the FEIS and DROD, including the Exchange and Special use Permits, or any action alternative at all that the applicant may propose, unless and until all laws, etc., noted herein are satisfied.

Please direct all communications regarding this Objection to the undersigned attorneys.

Thank you,

/s/ Roger Flynn
Roger Flynn
Jeffrey C. Parsons
WESTERN MINING ACTION PROJECT
P.O. Box 349, 440 Main St. # 2
Lyons, Colorado 80540
(303) 823-5738
roger@wmaplaw.org

Marc D. Fink
CENTER FOR BIOLOGICAL DIVERSITY
209 East 7th Street
Duluth, Minnesota 55805
218-464-0539
Email: mfink@biologicaldiversity.org

Allison N. Henderson
CENTER FOR BIOLOGICAL DIVERSITY
P.O. Box 3024
Crested Butte, CO 81224
970-309-2008
Email: ahenderson@biologicaldiversity.org

Attorneys for All Objectors

/s/ Susan Montgomery
Susan B. Montgomery (AZ Bar # 020595)
Robyn L. Interpreter (AZ Bar # 020864)
MONTGOMERY & INTERPRETER, PLC
3301 E. Thunderbird Rd.
Phoenix, AZ 85032
(480) 513-6825
smontgomery@milawaz.com
rinterpreter@milawaz.com

Attorneys for the ITAA

Contact Information for Objectors:

Susan B. Montgomery (ITAA General Counsel)
MONTGOMERY & INTERPRETER, PLC
3301 E. Thunderbird Rd.
Phoenix, AZ 85032

Curt Shannon, Interim Director
Arizona Mining Reform Coalition
PO Box 43565
Tucson, AZ 85733-3565

Access Fund
PO Box 17010
Boulder, CO 80308

Center for Biological Diversity
PO Box 710
Tucson, AZ 85702

Earthworks
1612 K Street, NW, Suite 808
Washington, DC 20002

Sierra Club – Grand Canyon Chapter
202 E. McDowell Rd., Suite 277
Phoenix, AZ 85004

Enclosures (transmitted with Objections via USFS Portal in four parts)

2025_08_04 ITAA et al. Objections to FEIS & DROD - Attachments Part 1
2025_08_04 ITAA et al. Objections to FEIS & DROD - Attachments Part 2
2025_08_04 ITAA et al. Objections to FEIS & DROD - Attachments Part 3
2025_08_04 ITAA et al. Objections to FEIS & DROD - Attachments Part 4

Attachment Contents
ITAA, et al. Objections to the FEIS and DROD (Jan. 26, 2021)
ITAA, et al. Supplement to Objections to the FEIS and DROD (Feb. 26, 2021)
CBO Cost Estimate (July 11, 2013)
H.Rept. 113-167 (July 22, 2013)
April 2025 Supplement letters from ITAA and AZMRC (previously provided to the Agency on April 11, 2025 with all attachments)
BLM Hydrology Report (June 13, 2022) (previously provided with April 2025 Supplement)
2019 Pinal AMA Model Technical Memo (Oct. 11, 2019) (previously provided with DEIS comments and April 2025 Supplement)
2024 Phoenix AMA Model Technical Memo (Nov. 2024) (previously provided with April 2025 Supplement)
Master Planned Community Plan, Auction Property at Superstition Vistas (Aug. 30, 2021) (previously provided with April 2025 Supplement)
Master Planned Community Plan, Retained Property at Superstition Vistas (Aug. 30, 2021) (previously provided with April 2025 Supplement)
Master Water Plan for Superstition Vistas, HilgartWilson (Sept. 2021) (previously provided with April 2025 Supplement)
Non-Potable Water Infrastructure Master Plan for Superstition Vistas (Sept. 7, 2021) (previously provided with April 2025 Supplement)
Homebuilder Lennar buys more lots at giant Blossom Rock Community; more builders on tap, Phx Business Journal (Jan. 10, 2025)

Exhibit 2

P.O. Box 40
San Carlos, Arizona 85550
Tel. (928) 475-3344
alex.ritchie@scat-nsn.gov
justine.jimmie@scat-nsn.gov
laurel.herrmann@scat-nsn.gov
jana.sutton@scat-nsn.gov
bern.velasco@scat-nsn.gov
Attorneys for the San Carlos Apache Tribe

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF ARIZONA

SAN CARLOS APACHE TRIBE, a federally recognized Indian tribe, *Plaintiff* v. UNITED STATES FOREST SERVICE, an agency of the U.S. Department of Agriculture, *et al.*, *Defendants* v. RESOLUTION COPPER MINING, LLC, *Intervenor-Defendant*	No. CV-21-0086-PHX-DWL (Hon. Dominic W. Lanza) **DECLARATION OF STEVEN H. EMERMAN, PH.D.**

Steven H. Emerman, Ph.D. declares as follows:

1. My name is Steven H. Emerman of Spanish Fork, Utah, and I am the owner of Malach Consulting, which specializes in analyzing groundwater and mining.

2. I hold a Ph.D. in Geophysics from Cornell University, which I obtained in 1984.

3. My *curriculum vitae*, attached as Exhibit A, describes my professional experience, which includes academic research, peer-reviewed publications, expert consulting reports, testimony before various governmental bodies, and leadership and membership in various professional organizations related to the impact of mining operations, including tailing storage facilities, on groundwater issues in the surrounding area.

4. In my work as a geophysical consultant, I have analyzed and commented on numerous environmental impact statements that have been prepared under the National Environmental Policy Act of 1969 ("NEPA") for mines and other mining infrastructure and am familiar with their contents and the degree of analysis that federal agencies are required to conduct.

5. I have reviewed the Final Environmental Impact Statement ("2021 FEIS") that the United States Forest Service ("USFS") published in January 2021 and am familiar with the tailings dam that Resolution Copper Mining, LLC ("Resolution") intends to construct to store tailings produced in conjunction with the copper mine that Resolution intends to construct beneath Oak Flat ("Project") that is the subject of this lawsuit.

6. I have reviewed the September 28, 2020 letter that Forest Supervisor Neil Bosworth of Tonto National Forest ("TNF") sent to Vicky Peacy of Resolution, accepting Resolution's application for a special use permit to construct three tailings pipelines, a recycled water pipeline, access roads, and temporary construction laydown yards on and across USFS land ("Application"), attached as Exhibit B.

7. I have reviewed the United States Army Corps of Engineer's 2019 Public Notice No. SPL-2016-00547-MWL that reflects Resolution's Application to construct a tailings storage facility on the Skunk Camp site to store 1.37 billion tons of tailings that Resolution predicts the Project will produce, attached as Exhibit C.

8. I have extensively studied and produced reports on long-distance tailings pipelines, like those in Resolution's Application, and the risks they present if and when they fail, as well as the factors present here that increase such risks, such as crossing canyons and mountains. These risks, among many others, include catastrophic water and land contamination and risks to nearby residents and the environment.

9. I have extensively studied and produced reports on tailing storage facility dams, like that in Resolution's Application, and the risks they present when they fail. These risks, among many others, include catastrophic water and land contamination to the downstream environment and severe risks to downstream residents including flooding, death, and untold property damage.

10. I have reviewed 16 U.S.C. 539p, which requires the Secretary of the Department of Agriculture to prepare a single environmental impact statement under NEPA 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."

11. The 2021 FEIS fails to address and analyze the risks and potential environmental impacts presented by the Application to the degree required under NEPA for the tailings storage facility, pipelines, and other infrastructure described in the Application and the special use permit application procedure does not meet the statutory requirements under 16 U.S.C. § 539p.

12. To my knowledge, USFS has not produced any reports in draft or final form for public review on these or any other issues related to the Resolution Project since USFS withdrew the 2021 FEIS on March 1, 2021.

13. In order to capably analyze any FEIS that the USFS may publish in the future, I would need at least forty-five days from the date it is provided to me to review the document, cross-reference any assertions and risk factors, and research issues that arise, and likely many months more to do so thoroughly.

14. I affirm that the foregoing is true and complete to the best of my knowledge under penalty of perjury.

Steven Emerman May 29, 2025
Steven Emerman (Date)

Exhibit 3

Memorandum

To: Bern Velasco, Justine Jimmie, Alex Ritchie, SCAT Office of Attorney General
Joe Sparks, The Sparks Law Firm

From: James Wells, PhD, PG, LEA Environmental, Inc.

Date: July 10, 2025

Subject: Comments on 2025 Final Environmental Impact Statement for the Resolution Copper Project and Land Exchange

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At the request of the San Carlos Apache Tribe (SCAT) Office of Attorney General, I have reviewed the Final Environmental Impact Statement (FEIS) for the for the Resolution Copper Project and Land Exchange which was recently reissued by the U.S. Forest Service. In particular, I evaluated the adequacy of the hydrogeological aspects of the FEIS as compared to the 2020 Draft EIS and the previously withdrawn 2021 FEIS.

I have four principal concerns about the current version of the FEIS with respect to hydrogeological issues: 1. The need for a Supplemental Draft EIS due to significant new studies conducted subsequent to the DEIS; 2. Unreliable groundwater modeling results in the FEIS leading to inadequate evaluation of impacts to springs and groundwater dependent ecosystems (GDEs)[1]; 3. Errors in the DEIS. Specifically, Tonto National Forest (TNF) acknowledged in the FEIS that it had misconstrued modeling results reported in the DEIS, leading to "inappropriate estimates"; and 4. Unsupported conclusion that there would be no acid rock drainage during mine operations. These concerns are expressed more fully below.

Qualifications and Experience

I have been a practicing environmental geologist for more than 30 years. For the last eight years, I have advised the San Carlos Apache Tribe on environmental and water resource matters related to the proposed Resolution Copper Mine, as well as other matters.

I am a Professional Geologist (CA PG #7212), licensed by the California Board for Professional Engineers, Land Surveyors and Geologists. I received a PhD in Geological Sciences from the University of Washington in 1990. I received a Master's of Science Degree in Geological Sciences from the University of Washington in 1986. I received a

[1] Groundwater-dependent ecosystems or GDEs are natural systems that are supported by groundwater. These places include springs, seeps and stream segments. Where groundwater meets the surface (especially in arid regions), a unique community of plants and animals (including rare, threatened, and endangered species) can flourish.

Bachelor's Degree in Earth Sciences from Dartmouth College in 1981. Currently, I am President and Principal Geologist for LEA Environmental, Inc., an environmental consulting and remediation company. My curriculum vitae, included here as Attachment A, describes my education and professional experience.

For the last ten years, I have advised the San Carlos Apache Tribe on environmental and water resource matters related to the proposed Resolution Copper Mine, as well as other matters. In my work as an environmental geologist, I have reviewed numerous environmental impact statements that have been prepared under the National Environmental Policy Act of 1969 (NEPA) for mines and other mining infrastructure and am familiar with their contents and the degree of analysis that federal agencies are required to conduct.

During the course of my career, I have evaluated issues of soil and groundwater contamination at dozens of sites around the country. My professional work experience includes conducting subsurface investigations to define the nature and extent of contamination in soil and groundwater, groundwater modeling, vapor intrusion evaluations, conducting contaminant fate and transport studies, and evaluating remediation strategies. I have testified on environmental matters at legislative hearings at both the California State Assembly in Sacramento and US House of Representatives in Washington, D.C.

I am a member of the Editorial Board of the journal, *Environmental Forensics*, a quarterly peer-reviewed scientific journal of national and international circulation. In this role, I evaluate the work of others through peer-review of manuscripts submitted for publication to the journal. I also participate in publication decisions, as well as establishing and maintaining the editorial direction of the journal.

I was appointed by the State of California Department of Toxic Substances Control and South Coast Air Quality Management District to serve as the Technical Advisor to the Exide Community Advisory Group. In this capacity, I serve as technical liaison between community stakeholders and state regulators for this project involving evaluation and cleanup of up to 10,000 homes impacted by lead emissions from a secondary lead smelter, perhaps the largest environmental cleanup project in California history.

At the invitation of the US Forest Service, I served on the Groundwater Modeling Workgroup which advised TNF on its preparation of the Draft EIS for the Resolution Copper Project and Land Exchange, using complex groundwater modeling methods to predict water and ecosystem impacts from the proposed mine. The working group consisted of Forest Service and Resolution Copper personnel, as well as professionals from stakeholder agencies

such as U.S. Environmental Protection Agency ("EPA" or "USEPA"), U.S. Geological Survey, Arizona Game and Fish, and Arizona Department of Environmental Quality. Also, at the invitation of Tonto National Forest, I was subsequently a member of the Resolution Copper Mine Water Resources Working Group which –last year– advised the Forest Service on its efforts to respond to public comments on the Draft EIS. For context, of roughly 30,000 comments submitted to the Forest Service concerning issues about the Draft EIS during the public comment period, approximately 20% of the substantive comments related to water resources or water quality, demonstrating the public's deep concern about this issue.

I am also the author of the widely-cited September 2021 report entitled, The Proposed Resolution Copper Mine and Arizona's Water Future, sponsored by SCAT and the non-profit Mica Group.

Need for Supplemental DEIS before FEIS can be Issued

The FEIS acknowledges that new studies and new data have been collected since the DEIS: "The Skunk Camp DEIS water quality model is supplemented with a refined modeling approach that takes advantage of the additional information collected at the Skunk Camp site since the DEIS…" (FEIS, p. 468).

In my August 7, 2020 letter to Mary Rasmussen of TNF (EIS Project Manager), I expressed my opinion that it was improper to issue the FEIS and that a Supplemental Draft EIS should have been prepared and made subject to full public review under NEPA because there is significant, technically substantial new information consisting of at least a dozen new studies and reports totaling thousands of pages that are relevant to environmental concerns. It is still my opinion that it is improper to issue a FEIS at this time. New studies and data related to Skunk Camp ("Alternative 6" for the TSF and the preferred alternative in the FEIS) include the following:

- KCB Consultants, November 2019, Skunk Camp Site Investigation, documenting geophysical surveys, test pits, a geotechnical drilling program, a hydrogeological drilling program and hydraulic testing. Together with its appendices, this report contains more than 2,700 pages of technical documentation relevant to the adequacy of Skunk Camp as the preferred alternative for the TSF. Absent this data, it is hard to see how the public can be adequately informed of the potential impacts of the TSF on Dripping Springs Wash, the Gila River and the underlying groundwater.
- KCB Consultants, January 2020, Letter Report: Skunk Camp TSF Stability Implications Post Site Investigation.

- Montgomery and Associates, November 7, 2019, Aquifer Testing Results for Skunk Camp Hydrogeologic Investigation.
- Lettis Consultants International, January 6, 2020, Site-Specific Seismic Hazard Analyses and Development of Time Histories for Tailings Storage Facility, Southern Arizona.
- Montgomery & Associates, April 24, 2020, Skunk Camp Area Data Submittal, Summary and Data for Water Quality and Water Level Database for Skunk Camp and Gila River.
- KCB Consultants, June 2020, Skunk Camp TSF Seepage Assessment.
- Montgomery & Associates, July 17, 2020, Numerical Groundwater Flow Model for the Skunk Camp Tailings Storage Facility.
- Montgomery & Associates, July 3, 2020, Summary of Results for 2020 Site Investigations at the Skunk Camp Storage Facility Site.
- Montgomery & Associates, June 29, 2020, Conceptual Hydrogeologic Model: Skunk Camp Tailings Storage Facility Alternative.

A new groundwater model was also constructed for the Skunk Camp TSF site after issuance of the DEIS. Predictions of water quality impacts from the new modeling effort differ substantially from the information contained in the DEIS. As a result, TNF has made the unusual decision of including both the old and new modeling results for Skunk Camp in the FEIS. These results are different from one another. For example, the original DEIS model predicts only 0.0003 mg/L of arsenic in the first groundwater modeling cell downgradient of the TSF but the FEIS model predicts more than double that concentration at a more distant location about a mile downgradient of the TSP. Similarly, the DEIS model predicts three times less barium at the first downgradient groundwater location compared to what the FEIS model predicts fully one mile downgradient. The FEIS model does not provide predictions of copper in groundwater.[2] The decision to include two incompatible analyses of the same phenomenon muddies the waters with respect to disclosure of impacts and is arguably impermissible under NEPA due to the inherent unreliability of the disclosure (obviously, at least one of the disclosed models must be wrong, since the two models give different results).

There was also a significant new groundwater modeling effort after publication of the DEIS focused on the East Salt River Valley to evaluate cumulative impacts on the groundwater basin from Resolution's proposed pumping. The new modeling found a maximum drawdown in the East Salt River Valley of 212 feet and disclosed that an area encompassing

[2] See FEIS Table 3.7.2-26 for a summary of the DEIS groundwater modeling results for the Skunk Camp TSF alternative and Table 3.7.2-28 for a summary of the FEIS groundwater modeling results.

approximately 150 square miles would experience drawdown of at least 25 feet due to RCM's pumping in the Desert Wellfield.[3] This was a major issue of concern for many people who commented on the DEIS, with no fewer than 100 comments expressing concern about water scarcity or the need for improved analysis of cumulative impacts.

Briefly stated, these voluminous documents are full of data not previously disclosed to the public, and these provide the fundamental basis for TNF's selection of Skunk Camp as the preferred alternative for the TSF. However, the public has not been granted the opportunity to review and comment on any of it.

The Supplement is needed to allow the public to review and comment on the vast body of new information now available about this project. In particular, there is a substantial new groundwater modeling work to evaluate cumulative impacts to groundwater resources in the East Salt River Valley (site of the proposed Desert Wellfield where much of the water required by the mine would be pumped), voluminous new studies of water quality impacts from the Skunk Camp tailings storage facility ("TSF") and a brand new assessment of possible surface water discharges from the mine operations under Resolution's Arizona Pollutant Discharge Elimination System ("AZDEPES") permit. All of this information was developed after publication of the Draft EIS, thus has not been subject to public review or comment.

In the course of my professional work, I routinely review compliance standards which are contained in federal or state environmental regulations. 40 C.F.R. §1502.9 of the Council on Environmental Quality's ("CEQ") NEPA implementing regulations requires that Agencies:

> (1) Shall prepare supplements to either draft or final environmental impact statements if a major Federal action remains to occur, and
>
> (i) The agency makes substantial changes to the proposed action that are relevant to environmental concerns; or
>
> ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. (Emphasis added).

In his January 10, 2021 letter to Chairman Rambler of the San Carlos Apache Tribe, Acting Forest Supervisor Torres of TNF acknowledged that the new information developed after publication of the DEIS is "voluminous" but that the new data and analyses resulted in only minor changes to the analysis conclusions. This is not the standard for issuing a

[3] Montgomery & Associates, January 23, 2020, Technical Memo: Desert Wellfield Pumping 100-Year Drawdown Analysis for ADWR Evaluation in Support of the Resolution Copper EIS.

Supplemental Draft EIS. The standard is whether or not the new information is "relevant to environmental concerns."

Acting Forest Supervisor Torres misquoted the NEPA regulation when he stated in his January 10, 2021 letter that "an agency may supplement either draft or final EISs if there are…significant new circumstances or information relevant to environmental concerns…" As cited above, the relevant regulation uses the word, "shall" not "may". It is my professional opinion that TNF had no discretion under NEPA regulations and should have published a Supplemental Draft EIS because there were significant new circumstances or information relevant to environmental concerns bearing on the proposed action.

Since my August 2020 letter to Ms. Rasmussen, new information has come to light further supporting my opinion that the FEIS must be withdrawn and a Supplemental Draft EIS must be issued. Specifically, after publication of the DEIS, TNF's own consultants issued a report highly critical of the Skunk Camp groundwater modeling effort. Those criticisms and suggestions have not been addressed in the FEIS.

The critical report came about because TNF commissioned a review of the new groundwater flow and transport model for the proposed Skunk Camp TSF. The computer model—which is part of the new work conducted since publication of the DEIS—was prepared by Montgomery & Associates on behalf of Resolution Copper (Montgomery & Associates, July 17, 2020, Report, Numerical Groundwater Flow Model for the Skunk Camp Tailings Storage Facility), and the review was conducted by BGC Engineering USA, Inc., a subconsultant to TNF (BGC, October 26, 2020, Project Memorandum: Skunk Camp Model Review). The purpose of the model was to predict downstream groundwater and surface water quality impacts from the Skunk Camp TSF and to evaluate the adequacy of proposed TSF seepage control measures. The BGC review contains numerous criticisms of the model and suggestions for improvement. TNF did not incorporate the suggestions into the model or into the FEIS and did not explain its reasons for failing to do so. These shortcomings appear to be the reason that the Forest Service now describes the new modeling effort as a "screening level model only." The Forest Service explained, "The model results show much lower concentrations of constituents of concern compared to the prior mass balance model [referring to the 'GoldSIM' model that was used in the DEIS]…While the model results should not be considered quantitative predictions, they could allow a comparison between the different TSF and mitigation alternatives." (Chris Garrett, SWCA [TNF's EIS Consultant], December 11, 2020 email to Water Resources Working Group, quoting the forthcoming Final EIS). The Water Resources Working Group did not intend for the new analysis of Skunk Camp water quality impacts be a screening level effort. Indeed, one

reason for the need for this new work was that the GoldSIM modeling reported in the Draft EIS was only a screening level model.[4]

As with public comments on the DEIS, TNF should have considered BGC's comments and should have required Resolution Copper and its consultants to fix the water quality model for Skunk Camp. Tellingly, Mr. Torres does not address the substantive technical problems identified by BGC and discussed in my December 21, 2020 letter. TNF is aware of the substantive problems with this modeling effort but reached the inexplicable conclusion that it did not need to fix them. In my professional opinion, TNF should have published this new information as a supplemental DEIS so that the public could have had an opportunity to review and comment on its adequacy in light of the deficiencies in the analysis of water quality impacts highlighted by BGC. In accordance with 40 C.F.R. § 1502.9(1)(ii), the means for achieving this would be for TNF to issue a Supplemental Draft EIS and provide an opportunity for public comment and for TNF to substantively respond to those public comments.

In his January 10, 2021 letter, Mr. Torres points out that the focus of an EIS should be on information "essential to a reasoned choice among alternatives." Currently, TNF does not have a reliable basis for comparing the alternative TSF sites for relative impacts to water quality. Despite the TNF claim that the new Skunk Camp model can be used for comparison between the different TSFs and mitigation alternatives, this is not the case. For some of the other TSF sites being considered, the FEIS contains assessments that are still based on the earlier modeling efforts reported in the Draft EIS, which cannot be compared quantitatively to the new Skunk Camp analysis which was performed using different methods. As shown by the work at Skunk Camp, the new modeling effort gives different results than the previous GoldSIM modeling. It is highly irregular (from a policy as well as scientific perspective) that water quality impacts from the various alternatives would be addressed using different methodologies. The use of different methodologies for different alternatives hampers (if not precludes) the public's ability to make meaningful comparisons of the relative environmental impacts of each alternative. We are being given some apples and some oranges and being told to make believe they are all apples.

Instead of applying the new methodology to all TSF alternative sites, TNF only updated Skunk Camp. In my professional opinion, the new modeling methodology is an improvement for the Skunk Camp analysis. In my professional opinion, I also conclude that the water quality analyses for the other alternative TSF sites are unreliable because it would not be scientifically sound to compare the new Skunk Camp modeling results

[4] A summary of the BCG criticisms of the new Skunk Camp groundwater model is provided in my December 21, 2020 letter to Chairman Rambler.

against the old modeling results for other TSF alternatives which used different methodologies.

I have, therefore, concluded that the FEIS is unable to reliably compare water quality impacts between alternative TSF sites. This in turn, leads to the conclusion that the FEIS is not be capable of justifying the selection of a preferred alternative from the perspective of TSF water quality impacts, rendering such decision arbitrary.

Mr. Torres asserted back in 2021 that TNF was not constrained in how it evaluated water quality impacts ("we could have chosen any number of paths…" January 10, 2021 letter to Chairman Rambler, p. 6). Agencies do have wide latitude in conducting environmental reviews. However, the agency's methods must be reliable. It is my professional opinion that the analysis of water quality impacts of the various TSF alternatives cannot be considered reliable.

In summary, there was significant new information developed after publication of the DEIS that is relevant to environmental concerns and bearing on the proposed action and its impacts. The new information includes substantial new groundwater modeling for Resolution's proposed Desert Wellfield in the East Salt River Valley, new studies of water quality impacts at the Skunk Camp TSF and a new assessment of possible surface water discharges from the mine operations into Queen Creek. None of this information was disclosed in the DEIS. In addition, the Resolution Copper Project and Land Exchange EIS should be revised such that water quality impacts from each TSF alternative are analyzed using consistent methodology and problems with the Skunk Camp analysis (known to TNF since at least 2021) can be corrected. This is precisely the situation envisioned by NEPA for Supplementation. It unusual for a project with so much new and previously undisclosed information (developed *after* the DEIS) to proceed directly to a Final EIS, without the issuance of a Supplemental Draft which would allow for additional public review and comment.

Uncertainties in Groundwater Modeling and Groundwater-Dependent Ecosystems

"Remember that all models are wrong; the practical question is how wrong do they have to be to not be useful." -- George Edward Pelham Box

This quote by the esteemed British statistician, George Edward Pelham Box, reminds us that even the most sophisticated models are not useful if the errors and uncertainties render the model a poor simulation of the real world. 40 CFR §1502.24 requires that agencies ensure scientific integrity of analyses in environmental impact statements. This means that scientific analyses must be reliable. As noted in the FEIS,

> The Groundwater Modeling Workgroup recognized that a fundamental limitation of the model—of any model—is the unreliability of predictions far in the future, and the workgroup was tasked with determining a time frame that would be reasonable to assess. (FEIS, p. 393)
>
> Based on combined professional judgment, the Groundwater Modeling Workgroup determined that to properly reflect the level of uncertainty inherent in the modeling effort, results less than 10 feet should not be disclosed or relied upon, as these results are beyond the ability of the model to predict. (FEIS, pp. 394).

This is a problem because quite obviously, water level declines of less than 10 feet could dry out desert springs in the study area, thus the FEIS appears incapable of reliably assessing impacts of the proposed project to springs and GDEs. These statements acknowledge that due to the sheer enormity of the proposed mining project and its profound and permanent impacts on the natural hydrogeologic system, even the most sophisticated groundwater model (selected, developed and run by RCM, not TNF) has inadequacies in predicting impacts on both spatial and temporal scales.

TNF was asking too much of a single groundwater model. It was asking the model to predict future impacts from mine dewatering and from the subsidence crater. As RCM admits, that crater will develop into a 2-mile diameter hole into the Apache Leap Tuff Aquifer for time immemorial) across a vast area of more than 190 square miles. On a smaller scale, TNF then asked the model to predict small changes in water levels at specific groundwater-dependent ecosystems (such as springs and creeks).

The smallest cell size in the model is 200 x 200 feet, meaning that in this model, all hydrogeological characteristics and all modeling results are reported as a constant or average across each 200 x 200 ft cell. WSP notes a consequence of the large lateral and vertical extent of the model is that it "makes the grid resolution required to represent point feature (i.e. spring discharges) unfeasible." (WSP, March 23, 2020, Memo: Response to Integrated Hydro Systems Review, p. 3). The model calibration data illustrate how small-scale predictions (such as groundwater declines of 10 feet or less under specific GDEs) are rendered highly unreliable due to the scale and complexity of the groundwater model. There was nothing preventing TNF from constructing a more detailed but smaller scale model focused solely on the area immediately around the mine site, including Ga'an Canyon.

The attached figure (Attachment B) is reproduced from WSP's July 17, 2020 Memo, "Additional Mine-Site Groundwater Model Output." This figure summarizes the calibration

performance of the groundwater computer model. The figure shows that in different areas, the model's predictions deviate from actual measured groundwater heads by as much as 200 feet. In some parts of the modeling domain the model underpredicts actual groundwater levels and in other parts, it overpredicts.

Entries 47-50 on the attached figure show calibration results for DHRES-14, the only deep monitoring well east of Ga'an Canyon. Depending on depth, the model overpredicts water levels by between 100 and 200 feet. For monitoring wells in the Apache Leap Tuff (the Apache Leap Tuff Aquifer is important because—among other reasons—its groundwater has been shown to support GDEs in and around Ga'an Canyon) the maximum residual was 54 feet and the mean deviation between predicted water level and actual water level was -14 ft, indicating that the model consistently overestimates heads across the Apache Leap Tuff (WSP, February 2019, Resolution Copper Groundwater Flow Model Report, pp. 29-30). TNF's response to calibration criticisms is essentially that this is the best one can do for a complex modeling project. I do not dispute that it is a great technical challenge to construct a groundwater model of this size and complexity, but "best we can do" is not an adequate answer if the calibration issues render the model unreliable for its intended purpose.

Considering that the FEIS specifies that a change of 10 feet in the groundwater elevation qualifies as an impact to GDEs, it is problematic for the groundwater model to contain errors of 200 feet or more in the vicinity of GDEs. There is a concept in science of signal to noise ratios: if a measurement technique has too much error or uncertainty (i.e., "noise") then it compromises the accuracy of the intended measurement (i.e., "the signal"). If a radio transmission has just a small amount of static, we can still understand the broadcast but if there is too much static (i.e., noise) then we cannot understand the broadcast and the ability to transmit information is compromised. The groundwater modeling in this FEIS is a situation in which the noise (calibration residuals) appears to be overwhelming the signal (accurate predictions of groundwater changes due to mine dewatering and assessment of impacts to GDEs).

TNF and RCM also reply that relative changes in predicted water levels are still accurate even if absolute predictions are poor. This is only true if the model is truly capturing the interplay between the physical processes and material properties that combine to control groundwater dynamics. The fact that the model consistently overpredicts water levels in the Apache Leap Tuff is just one example suggesting that the model may be unable to simulate conditions (such as mine dewatering) that are contributing to groundwater declines, thus is unreliable as a predictive tool for all the disparate objectives intended to be informed by modeling.

In this instance, the Forest Service is not meeting its obligation under 40 CFR §1502.24, because it is relying on a scientific method (groundwater modeling) that is not capable of accurately predicting hydrogeological impacts for this complex project. TNF is giving the public a false sense that it understands the future groundwater impacts from this project at the scale of individual GDEs when, in reality, the uncertainties in the groundwater modeling are often too large for the modeling results to be considered reliable at that scale.

Previously Undisclosed Misinformation in the DEIS

As with many mining projects, there is great concern about post-closure water quality at the proposed Resolution Mine. The 2-mile wide collapse zone will penetrate the Apache Leap Tuff Aquifer, thus causing (along with direct precipitation) a perpetual flow of water into the block cave zone where it will encounter lower-grade mineralization that will not be recovered by the extraction process. This is undeniably a potentially acid generating environment. The Forest Service now acknowledges that in the DEIS it "misconstrued" geochemical modeling results for estimating water quality in the block-cave zone after closure (2025 FEIS, p. 488). In the 2025 FEIS, the Forest Service now states that it gave "inappropriate estimates" of this matter in the DEIS (2025 FEIS, p. 488).

In summary, even the Forest Service admits that its disclosures in the DEIS of post-closure water quality impacts were inappropriate. This is another reason the Forest Service needs to issue a Supplemental Draft EIS that incorporates corrections to this misinformation and to provide the interested public an opportunity to review an accurate assessment of water quality impacts from this project, and then to respond substantively to those comments.

Unsubstantiated Conclusion of No Acid Rock Drainage During Mine Operation

The FEIS concludes there would be no acid rock drainage (ARD) during mine operation as water from the surface, Apache Leap Tuff Aquifer and deep groundwater percolates down the collapse zone, through the mineralized zone eventually gets captured & removed in the mine sump.[5] It reaches this conclusion by assuming the "fractured rock in the collapsed block-cave zone does not contact oxygen and chemical weathering does not supply any chemical load to the sump water." (FEIS, p. 461). This is hugely optimistic; it is also something of a bait-and-switch situation because the FEIS claims that it actually evaluated:

> "geochemical changes of the groundwater within the underground block-cave zone caused by the interaction of exposed rock surfaces to water and

[5] To its credit, TNF describes the assumption about no oxidation [no ARD] in the block-cave zone as "One of the most uncertain aspects of the modeling…" (FEIS, p. 473).

> oxygen. These changes are estimated using a block-cave geochemistry model." (FEIS, p. 458).

It did not. In reality, the block-cave geochemistry model was constrained to disallow oxygen into the block-cave zone, so it was explicitly precluded from performing the analysis TNF claims it performed. As a result of the constraints applied to the block-cave geochemistry model (rendering its results largely irrelevant), it is my professional opinion that this highly important topic is inadequately addressed in the FEIS.

This concern about unreliable assessment of ARD production is exacerbated by TNF's seemingly contradictory conclusion that after mine closure, the very same situation would cause ARD to occur in the block-cave zone: "Upon closure, the first flush of water into the block-cave zone releases residual sulfide oxidation products into solution. This first flush of water is anticipated to have poor water quality; however, as the block cave continues to reflood, the initial flush of oxidation products becomes diluted." (FEIS, 2025, p. 488).

In addition to being highly relevant to long-term groundwater quality at the mine site, this issue points to a potential flaw in the FEIS analysis of water quality issues related to the TSF at Skunk Camp. Much of the groundwater passing through the block-cave zone will be will be captured by Resolution, pumped out of the mine and used for ore processing. Thus, all this water will be incorporated into the tailings. If the FEIS underestimates the level of contamination in the groundwater recovered from the collapse zone (as I have shown is likely), the FEIS is also underestimating contaminant levels in the moisture content of the tailings, thus is also underestimating contaminant levels in seepage from the TSF. This in turn suggests that the FEIS underestimates groundwater impacts downstream of the TSF.

In short, the FEIS fails to take a hard look at one of the most important environmental issues facing virtually any hard-rock mine: acid rock drainage. It's conclusions on this issue are illogical and unsupported by reliable scientific analysis.

Attachment A

Curriculum Vitae for James Wells, PhD, PG

LEA Environmental, Inc.

James T. Wells, PhD, PG

Environmental Geologist

LEA Environmental, Inc.
220 W. Gutierrez Street
Santa Barbara, CA 93101
805-880-9302
jwells@everettassociates.net

Education

University of Washington, Ph.D., Geological Sciences, 1990

University of Washington, M.S., Geological Sciences, 1986

Dartmouth College, B.A., Earth Sciences, 1981

Professional Registration

2001/California: Professional Geologist (Reg. No. 7212)

Professional Societies

Geological Society of America

American Ground Water Association

American Chemical Society

International Society of Environmental Forensics

Dr. Wells is an environmental geologist with over 30 years of experience in hydrogeology and geochemistry and is a Professional Geologist, licensed by the California Board for Engineers, Land Surveyors and Geologists. Dr. Wells is President of LEA Environmental, Inc., an environmental hydrogeology and remediation company. He earned his PhD in Geological Sciences from the University of Washington in 1990; Masters of Science Degree in Geological Sciences from the University of Washington in 1986; and his Bachelor's Degree in Earth Sciences from Dartmouth College in 1981.

During the course of his career, Dr. Wells has evaluated soil, soil vapor and groundwater at dozens of sites around the country. His professional work experience includes conducting subsurface investigations to define the nature and extent of contamination in soil, soil vapor and groundwater, vapor intrusion studies, groundwater modeling, conducting contaminant fate and transport studies, and evaluating remediation strategies. He has extensive experience in groundwater and vadose zone computer modeling, as well as in the statistical analysis of hydrogeological systems. Dr. Wells is regularly asked to serve as an expert witness in environmental lawsuits involving subsurface contamination.

Dr. Wells is a member of the Editorial Board of the journal, Environmental Forensics, a quarterly peer-reviewed scientific journal of national and international circulation. In this role, he evaluates the work of others through peer-review of manuscripts submitted for publication to the journal. He also participates in publication decisions, as well as establishing and maintaining the editorial direction of the journal. He has given technical presentation and guest lectures at scientific conferences and universities and is author and coauthor of numerous scientific publications, including the forensic review articles in Environmental Science & Technology (U.K. Edition) Special Issue dedicated to Environmental Forensics.

In 2015, Dr. Wells was appointed by the State of California Department of Toxic Substances Control and South Coast Air Quality Management District to serve as the Technical Advisor to the Exide Community Advisory Group. In this capacity, he serves as technical liaison between community stakeholders and state regulators for this project involving evaluation and cleanup of up to 10,000 homes impacted by lead emissions from a secondary lead smelter. Dr. Wells has provided expert testimony on the Exide case before a legislative hearing at the state capitol in Sacramento. He has also twice testified before the U.S. House of Representatives Natural Resource Committee on environmental matters.

LEA Environmental' s billing rate for Dr. Wells is $300/hr. His hourly rate for deposition and trial testimony is $500/hr.

Employment History

LEA Environmental/L. Everett & Associates. 2010-present

Haley & Aldrich. 2006-2010

Shaw Environmental. 2005-2006

Haley & Aldrich. 2001-2005

Ogden Environmental. 2000-2001

Metcalf & Eddy. 1991-2000

Representative Project Experience

Applies expertise in geo-chemistry and hydrogeology to solve environmental problems

San Roque Cleanup Fund – Groundwater Remediation, Santa Barbara, CA. Groundwater and soil vapor monitoring, vapor intrusion mitigation, and in-situ groundwater remediation at a site with comingled plumes from four different dry cleaners. Developed conceptual site model and collected corroborating data to persuade Regional Water Quality Control Board to name additional responsible parties.

CA Department of Toxic Substances Control (DTSC) – Exide Technical Advisor, Vernon, CA. Appointed by DTSC and South Coast Air Quality Management District to serve as the Technical Advisor to the Exide Technologies Advisory Group. Has served since 2015 as technical liaison between community stakeholders and state regulators for this project involving evaluation and cleanup of up to 10,000 homes impacted by lead emissions from a secondary lead smelter. In addition to speaking at many community meetings, Dr. Wells provided expert testimony on the Exide case before a legislative hearing at the state capitol in Sacramento.

Hope Ranch Air Quality Assessment, Santa Barbara, CA. Tested indoor and outdoor air quality, sampled source area emissions at a unique phenomenon involving spontaneous combustion of organic matter in marine sediments exposed along Santa Barbara's coastal bluffs. Determined the smoldering rocks were emitting problematic levels of benzene and other VOCs which reached nearby homes, constituting a nuisance and a potential health risk.

Magnolia Elementary School – Litigation Support, El Cajon, CA. Combined monitoring data and modeling to reconstruct historical groundwater and indoor air impacts at an elementary school adjacent to aerospace parts manufacturer.

SIMA Corporation – Chlorinated Solvents, Camarillo, CA. Conducted site characterization, subsurface remediation, regulatory negotiation for PCE in soil, soil vapor and groundwater at this dry cleaner site, with special emphasis on the potential for vapor intrusion into nearby commercial buildings.

Earthjustice – Evaluation of Neighborhood Lead Impacts, City of Industry, CA. Worked with the nonprofit environmental law organization, Earthjustice, to identify deficiencies in soil sampling plans and statistical analyses that were

meant to measure lead impacts due to emissions from the Quemetco Secondary Lead Smelter to soil in surrounding residential neighborhoods.

Elem Indian Colony – Mercury and Arsenic-Bearing Mine Waste, Clearlake, CA. Served as independent technical advisor to the Elem Indian Colony regarding remediation plans for the Sulphur Bank Mercury Mine Superfund Site. Provided assistance through EPA's TASC (Technical Assistance Services for Communities) program.

Humphrey, Farrington & McClain – Radionuclides in West Lake Landfill Superfund Site, St. Louis, MO. Provided expert opinions on threats to human health and the environment from radioactive waste and other contaminants that had been improperly disposed of in this landfill in the early 1970s. The material consisted of uranium-ore-processing residues that had been generated in St. Louis as part of the Manhattan Project in the 1940s.

His area of expertise includes environmental forensics and fate and transport of organic and inorganic contaminants in soil and groundwater

Reedley Remediation Trust – Chlorinated Solvents, Reedley, CA. Provided site characterization and remediation planning advice for this comingled PCE groundwater plume. Also advised on the formation of a remediation trust to insure adequate resources for a long-term cleanup program.

Isola Law Group – Rialto-Colton Superfund Site, San Bernardino County, CA. Provided litigation support in complex, multi-party lawsuit concerning cost allocation, contaminant fate and transport and remediation technologies for large (5-mile long) perchlorate and TCE groundwater plume.

San Carlos Apache Tribe – Technical Advice on Proposed Copper Mine, Superior, AZ. Advised the Tribe on environmental aspects of large proposed copper mine project which the Tribe opposed. This work involved meetings and negotiations with mining company and officials of the US Forest Service regarding intergovernmental consultations and the EIS process, expert testimony in an administrative hearing, presentations at Tribal Council meetings, meetings in Washington DC with Council on Environmental Quality, EPA, USDA and Congressional staff. Testified before the U.S. House of Representatives Committee on Natural Resources.

KB Gardena – Litigation Support & Subsurface Remediation, Gardena, CA. Provided attorneys with technical advice and assistance with cost allocation strategy for multi-million dollar case with multiple PRPs. Conducted site remediation under existing warehouse for PCE, metals and other VOCs.

Pacific Gas & Electric Company – Forensic Geochemistry, Chico, CA. Analyzed high-resolution petroleum hydrocarbon data, including PIANO analysis, relative solubility and hydrocarbon weathering assessments to evaluate the theory that contamination discovered on client's property originated from off-site sources and was not due to on-site releases. PIANO analysis is a forensic technique for complex hydrocarbon mixtures using gas chromatography to speciate individual hydrocarbon compounds and group the compounds into their molecular classifications: paraffins (P), isoparaffins (I), aromatics (A), naphthalenes (N) and olefins (O).

Rand Family Trust – Petroleum Hydrocarbons, Santa Barbara, CA. Conducted site characterization and site remediation for a commercial site in Santa Barbara, California that was impacted with legacy contamination from a sawmill operation from the late 1800's. Achieved closure of this case from the local regulatory agency.

U.S. EPA – Del Amo and Montrose Superfund Sites, Los Angeles County, CA. Provided independent technical analysis and advice to community group affected by two adjacent Superfund sites. Analysis of potential exposure scenarios and efficacy of remediation plans from PCBs, metals and VOCs from Superfund sites in Los Angeles under EPA's TASC program (Technical Assistance Services for Communities).

Terracon, Inc. – Groundwater Modeling and Litigation Support, Weld County, CO. Complex construction defect case involving claims of $60 million in damage allegedly due to soil expansion caused by rising groundwater from irrigation of nearby golf course and residential areas. Opposing experts spent two years and $2 million on groundwater modeling which was eventually excluded from trial after we demonstrated unreliability and lack of relevance to judge.

Wagstaff & Cartmell – Chromium in Tannery Waste, St. Joe, MO. Provided litigation support for case in which tannery waste had been spread as a soil amendment over approximately 56,000 acres of agricultural land. It had been known that the sludge contained elevated levels of metals, including chromium. It was apparently not known that some of the chromium was in the form of toxic Cr(VI) which posed a serious risk to human health and the environment.

EPA/State of Idaho – Soil Remediation Pilot Study for Metal Stabilization, Coeur d'Alene, ID. Conducted field pilot study on metal stabilization along the Coeur d'Alene River. The river feeds Lake Coeur d'Alene which is highly-impacted by the cumulative effects of 100 years of mining in the watershed and is the primary source of drinking water for over 50,000 residents of northern Idaho. Work was sponsored by the U.S. Environmental Protection Agency (EPA) and State of Idaho in an effort to find a cost-effective means of addressing widespread soil contamination along a 30 mile stretch of the Coeur d'Alene River.

Koch Oil – Forensic Geochemistry, Oklahoma. Conducted forensic geochemical evaluation on naturally-occurring compounds in groundwater to assess whether historical groundwater concentration trends constituted natural background variability or potential releases from client's brine impoundments.

Tri-County Public Airport – Forensic Geochemistry Herington, KS. Conducted oxygen, deuterium, chlorofluorocarbon (CFC), carbon isotope analysis of groundwater and chlorinated contaminants in order of evaluate contaminant fate and transport at a former military facility.

Gonzalez & Robinson – Groundwater Modeling, Santa Rosa, CA. Used groundwater computer modeling to simulate groundwater flow in a residential region of Sonoma County, California.

Weitz, Luxenberg – Environmental Forensics for Chlorinated Solvents, Grand Island, NE. Conducted forensic analysis of chlorinated solvent contamination extending in groundwater over two miles under a community. The site involved multiple releases from multiple locations and complex hydrogeology and attenuation histories.

Kimberly-Clark – Forensic Geochemistry, Ohio. Conducted forensic geochemical analysis to demonstrate that significant component of groundwater contamination under client's site had migrated from an off-site source. Utilized compound-specific carbon isotope analysis of chlorinated compounds and daughter product abundance. This analysis was complicated by the fact that there were low levels of residual contamination from an old on-site release, which needed to be definitively differentiated from the larger off-site flux of contaminants.

Western States Petroleum Association – Risk-Based Clean-up Studies. Conducted a study to develop risk-based clean-up standards for crude-oil-impacted soils, including studies of the comparative environmental risks posed by crude oil, gasoline, and diesel oil in the subsurface. Applied leaking underground fuel tank evaluation methods to crude oil sites and developed cost-effective site assessment strategies.

Tesoro Petroleum Company –MTBE Groundwater Plume, San Fernando Valley, CA. Managed a project in Southern California to delineate and clean-up a large release of methyl tert-butyl ether (MTBE) to soil and groundwater. A particular challenge of this project was to account for the presence of multiple high-volume water supply wells near the project site, a situation involving extensive regulatory negotiation with California Regional Water Quality Control Board and Upper Los Angeles River Area Watermaster.

Gallagher & Kennedy – Perchlorate and Chlorinated Solvents, Santa Clarita, CA. Provided litigation support for a lawsuit involving a 996-acre brownfield site. The site, used since the 1930s for munitions manufacturing, had soil and groundwater contamination from historic releases of metals, perchlorate and chlorinated solvents. When the local municipality took 13 acres of the property by eminent domain to build a new regional highway, the property owner sued to recoup the cost of the land. The municipality estimated a cleanup cost of $220 million and, based on this, valued the land at only $142,000. With colleagues, developed a soil and groundwater remediation plan and cost estimate. Through extensive soil and groundwater data analysis and 3D modeling, we developed an alternative remediation plan that dovetailed with extensive pre-development grading and employed state-of-the-art remediation technologies for perchlorate at a cost $27 million. A jury accepted the accuracy of our remediation estimate and awarded the owner over $12 million for land value and severance damages.

ContiGroup Companies – Groundwater Remediation, Stockton, CA. Completed subsurface characterization and designed a remediation strategy for this grain elevator site with carbon tetrachloride and other volatile organic

compounds in groundwater. Due to the complex stratigraphy and heterogeneous distribution of contaminant throughout the aquifer, an in-situ chemical treatment strategy was designed for this site coupled with an initial, short-term phase of groundwater extraction to achieve containment of the contaminant plume.

The Boeing Company – Service Delivery Leader, California. Served as Service Delivery Leader, responsible for coordinating quality and consistency for a project team located in six offices and providing environmental services simultaneously on up to ten large projects. Also conducted vadose zone computer modeling to evaluate clean-up standards for soil that would be protective of future groundwater quality.

Northrop-Grumman Corporation—Remediation Planning, Hawthorne, CA. Provided analysis of environmental data and regulatory requirements for large site with multiple occurrences of contamination in soil and groundwater. Advised client on cost-effective strategies and technologies for resolving environmental impairment.

Tesoro Petroleum Company – Groundwater Contamination at Refinery, Kenai, AK. Conducted a feasibility study for containment and remediation of a large plume of free phase petroleum at a refinery in Kenai, Alaska. Migration of the light non-aqueous phase liquid was influenced by complex fluvio-glacial stratigraphy and by fluctuating groundwater levels.

Exxon Company, U.S.A. – Remediation Planning, Los Angeles, CA. Developed remediation and regulatory strategies for the closure of a large urban oil field in California consisting of over 500 production sites over four square miles of residential and commercial districts. The proposed strategy was a risk-based approach addressing such factors as cost, schedule, future liability and land use.

The Boeing Company - Aircraft Manufacturing Site Redevelopment Environmental Program, Long Beach, CA. Team member for comprehensive subsurface investigation program for 343-acre former manufacturing facility. This complex project involved over 1500 soil borings, web-based data repository, risk-based formulation of clean-up standards, production of data reports specifically designed for use by potential buyers and other stakeholders and close coordination with redevelopment staff.

Nestlé, U.S.A. –Aquifer Remediation, Palm Desert, CA. Working with Nestlé technical staff, developed a technical strategy and gained regulatory acceptance of a passive bioremediation approach at an underground storage tank site which contained hydrocarbon contamination in groundwater in a beneficial-use aquifer.

County of San Luis Obispo Water Supply – Nitrate in Groundwater, Los Osos, CA. Conducted a study of nitrate contamination in shallow groundwater at Los Osos, California, a community that relies solely on groundwater for its municipal water supply. The study incorporated site-specific data on the transport and transformation of nitrogen in the subsurface to develop a nitrogen mass balance for all significant nitrate sources. This work resulted in quantitative

estimates of the contribution of septic system effluent to nitrate levels in groundwater.

U.S. Navy – Groundwater Investigations and Remediation Planning, San Diego County, CA. Managed site investigations, feasibility studies and remediation planning at eight contaminated sites overlying the sole-source aquifer at Camp Pendleton Marine Corps Base.

Santa Barbara Historical Society – Manufactured Gas Plant Contamination, Santa Barbara, CA. Provided environmental consulting services, advocacy and participated in negotiations with Southern California Edison (the responsible party) on behalf a Santa Barbara nonprofit organization. This work focused on soil and groundwater investigations, remediation plans and associated risks related to soil and groundwater contamination at a former manufactured gas plant on the nonprofit's property.

Sequoia Voting Systems – Groundwater Investigations, Exeter, CA. Managed a project involving chlorinated compounds in groundwater and developed strategy to suspend active remediation on the grounds of natural contaminant of the chlorinated plume. Our approach was approved by the state.

Los Angeles Metropolitan Transportation Authority – Comprehensive Environmental Services. Project manager for comprehensive hazardous waste assessment contract with the LACMTA. For this project, we provided environmental services in support of land acquisition and construction for a light-rail commuter line in the Los Angeles area.

State of California – Soil and Groundwater Remediation, Camarillo, CA. Implemented an air sparging/soil vapor extraction soil and groundwater remediation system for extensive vadose zone and dissolved groundwater petroleum plumes at the future site of a Cal State University campus.

Various Clients – Geostatistical Programs. Developed programs for the statistical analysis of groundwater monitoring data for a mining facility, petroleum refinery, wastewater reclamation operation and a municipal waste landfill, all in Central California. Projects involved the implementation of EPA-approved statistical techniques to evaluate the differences between background and downgradient concentrations of groundwater contaminants.

Depositions and Trial Testimony in Last Four Years

2025, Weiand Automotive Industries, Inc. et al., Delaware, Trial Testimony.

2023, Funderburk, et al., vs Johnson Controls, Inc., et al., Deposition Testimony.

2023, Taylor, et al., v. Schaeffler Group USA, Deposition Testimony.

2023, HEG Trust v. Altawood, Inc., et al., Deposition Testimony.

2023, Weiand Automotive Industries, Inc. et al., Deposition Testimony.

2023, 2022, Wright v. Unocal, et. al., Deposition Testimony (2022, 2023), Trial

Testimony (2023).

2022, Lomas, et al., v. Delta Airlines, Deposition Testimony.

2022, 2021, Millman, et al., vs United Technologies Corporation, Deposition Testimony (November 2021, February 2022).

2021, 2020, Torres v. Igdaloff, Deposition Testimony (Sept 2020, June 2021).

2020, Houlihan v. UTC, et al., Deposition Testimony.

2020, Goldberg vs. Goss-Jewett, et al., Deposition Testimony (June and August).

2020, Acosta v. Shell Western E&P, et al., Trial Testimony.

2019, Strong v. Republic Services, et al., Deposition Testimony.

2019, McClurg, et al. v. Mallinckrodt, Inc., et al., Deposition Testimony.

2019. Brooks v. PB Products North America, et al., Deposition Testimony.

Publications and Papers

Expert Witness Services for Environmental Scientists and Engineers: Professional Opportunities at The Intersection of Law and Science, in: *Applied Geology of California*, Anderson and Ferriz, eds., Chapter 29 (with Schaal, Matos and Everett).

"Emerging Trends in Environmental Forensics," presentation and paper for American Law Institute Conference on Environmental Litigation, Washington, DC, 2013.

"Tracking Chlorinated Solvents in Nature – Classic and Emerging Forensic Techniques", with I. G. Petrisor, in *Environmental Forensic*s, Volume 26 in the Issues in Environmental Science and Technology series, 2008.

"Perchlorate: Is Nature the Main Manufacturer?", with I. G. Petrisor, in *Environmental Forensics*, Volume 26 in the Issues in Environmental Science and Technology series, 2008.

"Environmental Forensics," presentation to the AIHA Joint Symposium, Long Beach, California, 2004.

"A Lattice Gas Model for Heterogeneous Chemical Reactions at Mineral Surfaces and in Pore Networks," with D.R. Janecky, and B. Travis, *Physica D, vol. 47, pp. 115-123,* 1991.

"Coupled Fluid Flow and Chemical Reactions in Mid-Ocean Ridge Hydrothermal Systems: The Behavior of Silica," with M.S. Ghiorso, *Geochimica et Cosmochimica Acta, vol. 55, pp. 2467-2482,* 1991.

"The Influence of Fluid Flow and Reaction Kinetics on Mass Transfer in Mid-Ocean Ridge Hydrothermal Systems." Dissertation, University of Washington,

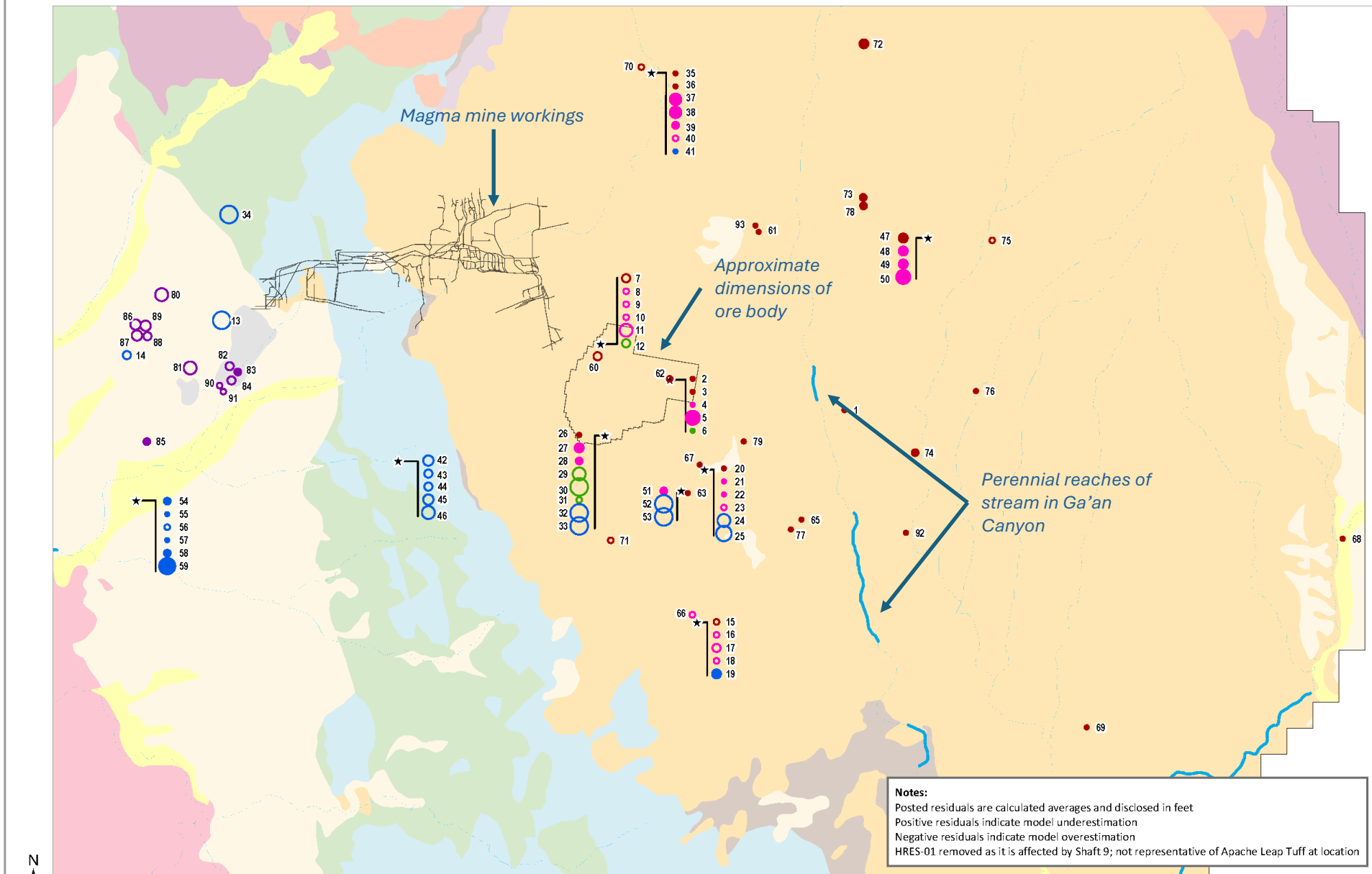
1990.

"3-D Numerical Models for Examining Processes in Geothermal-Hydrochemical Systems," with D.R. Janecky, B.J. Travis, G. Zyvloski, N. Rosenberg. Chapman Conference on Crustal-Scale Fluid Transport, Snowbird, Utah, 1990.
"Cellular Automata Simulations of Mineral Surface Reactions," with D.R. Janecky, and B. Travis, Geological Society of America Annual Meeting, St. Louis, 1989.

"Determining Fluid Velocity of Black Smoker Jets from Digital Correlation of Video Images," with M.O. Smith, V.A. Atnipp, and R.E. McDuff, American Geophysical Union Fall Meeting, San Francisco, 1989.

Attachment B

Figure Showing Groundwater Modeling Residuals



ID	Target	Avg Res [ft]
1	A-06	-42
2	DHRES-01_973	0
3	DHRES-01_772	-19
4	DHRES-01_683	-30
5	DHRES-01_374	-214
6	DHRES-01_WL	-28
7	DHRES-02_915	52
8	DHRES-02_666	16
9	DHRES-02_608	48
10	DHRES-02_458	39
11	DHRES-02_319	160
12	DHRES-02_WL	77
13	DHRES-04_WL	300
14	DHRES-05B_WL	66
15	DHRES-06_1152	22
16	DHRES-06_1022	17
17	DHRES-06_994	74
18	DHRES-06_928	31
19	DHRES-06_WL	-118
20	DHRES-07_920	-35
21	DHRES-07_800	-14
22	DHRES-07_374	-20
23	DHRES-07_169	20
24	DHRES-07_95	171
25	DHRES-07_-108	234
26	DHRES-08_980	-15
27	DHRES-08_792	-127
28	DHRES-08_512	-52
29	DHRES-08_406	193
30	DHRES-08_196	416
31	DHRES-08_-231	8
32	DHRES-08_-580	282
33	DHRES-08_-657	300
34	DHRES-09_WL	457
35	DHRES-11_967	-49
36	DHRES-11_705	-1
37	DHRES-11_565	-159
38	DHRES-11_457	-196
39	DHRES-11_320	-70
40	DHRES-11_214	9
41	DHRES-11_WL	-49
42	DHRES-13_846	131
43	DHRES-13_788	73
44	DHRES-13_730	93
45	DHRES-13_649	111
46	DHRES-13_WL	181

ID	Target	Avg Res [ft]
47	DHRES-14_1071	-103
48	DHRES-14_888	-122
49	DHRES-14_822	-125
50	DHRES-14_WL	-228
51	DHRES-15_710	-87
52	DHRES-15_398	418
53	DHRES-15_355	303
54	DHRES-16_743	-75
55	DHRES-16_577	-3
56	DHRES-16_535	4
57	DHRES-16_287	-1
58	DHRES-16_-157	-78
59	DHRES-16_-387	-320
60	HRES-02	51
61	HRES-03	-17
62	HRES-04	11
63	HRES-05	-18
64	HRES-06	-6
65	HRES-07	-34
66	HRES-08	44
67	HRES-09	-15
68	HRES-10	-15
69	HRES-11	-10
70	HRES-12	29
71	HRES-13	25
72	HRES-14	-131
73	HRES-15	-97
74	HRES-16	-58
75	HRES-17	45
76	HRES-18	-6
77	HRES-19	-40
78	HRES-20	-96
79	HRES-21	-26
80	MCC-1	192
81	MCC-2	163
82	MCC-3A	69
83	MCC-3B	-68
84	MCC-3C	77
85	MCC-4	-74
86	MCC-6A	113
87	MCC-6B	146
88	MCC-6C	91
89	MCC-6D	106
90	MCC-9	24
91	MCC-9A	23
92	MJ-11	-26
93	OakFlatWell	-25

Attachment B. Figure reproduced from WSP's July 17, 2020 Memo, "Additional Mine-Site Groundwater Model Output." This figure summarizes the calibration performance of the groundwater computer model. The figure shows that in different areas, the model's predictions deviate from actual measured groundwater heads by as much as 200 feet. In some parts of the modeling domain the model underpredicts actual groundwater levels and in other parts, it overpredicts. (Annotations in blue added to original figure)

Exhibit 4

Bureau of Land Management Review of Hydrology Aspects of the Resolution Copper Project

Lisa Dubas[1], James Johnsen[2], Steve Rice[3]

June 13, 2022

At the request of the Department of Agriculture – U.S. Forest Service (USFS), the Bureau of Land Management (BLM) provided a targeted technical review of the 2021 Final Environmental Impact Statement for the Resolution Copper (RC) Project and Land Exchange (FEIS) and supporting documents.

For this review, a team of Bureau of Land Management hydrology specialists (BLM reviewers) reviewed the hydrology and water resources aspects of the project and assessed whether the FEIS adequately addressed comments received during the FEIS development. The team focused on comments and questions raised by the Salt River Pima-Maricopa Indian Community (SRPMIC), other Tribes, and governments. All but the targeted list of SRPMIC concerns were in Volume 6 of the FEIS. Due to the substantial number of supplemental studies and amount of analysis conducted to develop the multi-volume FEIS, and the relatively short time in which to evaluate, the BLM reviewers consider this document to be a high-level review which focuses on broader topics that we believe may be deficient, under-developed, or improperly analyzed rather than a point-by-point list of technical comments.

The BLM reviewers would like to acknowledge the extensive amount of time and effort that has gone into developing this FEIS and for the obvious high level of staff and time commitment by the Tonto National Forest on the National Environmental Policy Act (NEPA) process. The NEPA process and the resulting documents in the hydrology focus area were considered sufficient except where highlighted in this summary document.

While not unexpected, the FEIS struggles under the extensive scope of the proposed project and the scale of the studies needed to inform it. Several perceived deficiencies in data analysis and interpretation or in adequacy of describing cumulative effects were later rationalized by searching the enormous number of supplementary reports, studies, and memos to file. By not adequately incorporating this information into the FEIS, the final document often reads as incomplete and subjective in its preferred approaches. As difficult as it is for seasoned technical reviewers to follow the analyses, discussion, and reasoning for the assumptions and conclusions made in this FEIS, it must pose significant difficulty for a lay audience to process the scope and scale of the impacts predicted by this project, and whether they were predicted in an adequate and reasonable way. It is understood that the magnitude of a project such as this is difficult to convey in a single document, even an expansive multi-volume one, but the reviewers felt that excessive time was spent tracking down the source material and studies necessary to understand the information and conclusions that are presented in the FEIS.

This document is structured to provide a general assessment of the FEIS and supporting documentation, followed by more specific topic area discussion containing comments and findings the BLM reviewers felt

[1] Hydrogeologist, Arizona State Office
[2] Hydrologist, Upper Snake Field Office, Idaho
[3] Hydrogeologist, BLM National Operations Center, Colorado

did not meet the analysis standards of NEPA, or suffered from insufficient evaluation or unsupported conclusions.

Table of Contents

Executive Summary

The BLM reviewers believe that all additional studies referenced in the FEIS should be summarized in the FEIS to promote accessibility. These additions would ultimately benefit the FEIS and the public's understanding of the action. These summaries should be sufficiently technical (as to provide the needed information) and approachable (for less technical readers to grasp the concepts). Where feasible, selected public comments could also be referenced in the FEIS in their respective sections, especially when the comment led to additional studies being performed.

The BLM reviewers identified the need for figures, coupled with a short discussion of terminology, to explain how the effects of this project are limited spatially and temporally. An example would be a figure of the geographic limitations on surface and groundwater flow.

The BLM reviewers found a few references to Arizona water law throughout the documents they reviewed but believe there is a need for a consolidated section within the FEIS that gives a brief overview of Arizona water rights related to this project.

The BLM reviewers note that the Council on Environmental Quality (CEQ) Executive Office of the President recently issued new regulations concerning NEPA.[4] Our understanding of the regulations is that the USFS *may* (but is not required to) apply the new regulations to this FEIS since the NEPA process started before September 14, 2020.[5] However, we suggest that the USFS consult with their Solicitor's Office or USFS implementation guidance (if available) about the implications of the new regulations.

With literature suggesting a higher likelihood for severe storm events in the future, the BLM reviewers believe alternatives lack sufficient discussion on climate change and the potential for catastrophic events. Climate change predictions should be discussed, and potential impacts of floods greater than the 200-year event should be incorporated into the FEIS analysis and discussion.

The FEIS groundwater model scenarios used to predict water resources impacts into the future did not incorporate any changes over time for precipitation and recharge in transient simulations. The FEIS docket contains a "Climate Change" scenario run that does not appear to be discussed in the FEIS. That scenario indicated that when reductions in recharge were simulated (which is common during drought), there were higher rates of drawdown at wells and springs compared to the static recharge scenarios presented in the FEIS, particularly to the north and east of the model area. The BLM reviewers believe the "Climate Change" scenario model run and the results from the model run should be discussed in the FEIS.

The BLM reviewers believe the potential to store some or all tailings in existing open pits in the area was dismissed too quickly and that this option should be given more than passing consideration and rise to the level of "detailed analysis". To minimize impacts, it may be feasible to place a portion of the tailings in existing pits in the area. If these existing pits cannot accommodate all the tailings from the proposed

[4] Effective May 20, 2022. See https://ceq.doe.gov/docs/laws-regulations/NEPA-Implementing-Regulations-Desk-Reference-2022.pdf

[5] See § 1506.13 Effective date.

action, a smaller tailings storage facility (TSF) alternative than that which was analyzed could be proposed for the remaining tailings.

The BLM reviewers note that the Global Tailings Review published new guidelines and industry standards for tailings management in August 2020.[6] If practicable, the FEIS would benefit from TSF breach analysis consistent with the Global Tailings Review guidelines and standards for all alternatives. If breach analysis for all alternative TSF's is impactable, a breach analysis for the preferred alternative is recommended. Based on the changing industry standards for TSFs, it may be feasible to reconsider all alternatives, including those alternatives that were originally dismissed from the analysis.

The BLM reviewers suggest looking at alternate Pyrite Cell locations within the Skunk Camp TSF layout to potentially negate exposure of the highest concentration tailings to stormwater runoff greater than the 200-year flood event. Alternatively, analysis is recommended for the permanent rerouting of Stone Cabin and Skunk Camp Washes to the west of the Skunk Camp TSF. The BLM reviewers believe a more thorough surface water hydrology characterization, as it concerns to climate change, needs to be completed for the Skunk Camp TSF.

Additional geologic cross sections should be developed, expanding beyond the eastern bounds of the groundwater model area to the Cutter Basin to highlight both the distance and the controls to groundwater flow between these two areas. The potential for the Cutter Basin to be viewed as a potential alternate water supply in the future is a plausible indirect effect of the proposed mine.

The BLM reviewers found no mention of a date for steady state in the Skunk Camp groundwater model, other than a statement that average values were used. The reviewers also found no mention within the Skunk Camp model of flood events being incorporated into the groundwater model. It is unclear whether 100, 200, and 500-year flood events factored into the projection runs.

While dewatering of the Resolution graben has been occurring since 2009, the baseline condition for analysis would be set to the start of mining. The BLM reviewers note that baseline monitoring occurred from 2003 to 2017, but dewatering started in 2009. Please explain whether the short time-period between the start of dewatering and the end of monitoring is cause for concern. For example, did the short time-period account for a delay in response between deep dewatering and a near-surface expression of the dewatering?

The BLM reviewers strongly recommend: implementing an adaptive monitoring and mitigation plan until the effects of mining have stabilized; using site photographs, vegetation monitoring, and water levels at the associated primary monitoring well (PMW) where direct measurements of spring discharge are not feasible; obtaining mitigation make up water from outside the project area; and using a threshold for potential effects to springs and GDEs that is more stringent (expanded area of impact) than the threshold used for wells. In addition, the BLM reviewers recommend that control sites be proactively implemented for data collection, a one-mile buffer be added around the modeled extent of mining impacts to the Apache Leap tuff aquifer, and that the wells, springs, and GDEs between the 10-foot

[6] See "Global Industry Standard on Tailings Management," available at https://globaltailingsreview.org/global-industry-standard/ (accessed May 10, 2022). The Global Tailings Review was convened by the International Council on Mining and Metals, the United Nations Environment Programme, and the Principles for Responsible Investment. The stated goal is to "establish an international standard for the safer management of tailings storage facilities."

contour and the 1-mile buffer be part of the monitoring and mitigation plan. Finally, the BLM reviewers suggest some of the 'potential future measures' like PF-WR-03 become a required measure.

BLM reviewers do not believe the north, south and east groundwater boundaries of the mine model are sufficient because the boundaries were not extended beyond the area of potential impact. Mineral Creek is defined as a boundary in the mine model, but the Apache Leap tuff aquifer extends past this creek and literature states that Mineral Creek is fed by the Apache Leap tuff aquifer. Additionally, the BLM reviewers suggest a figure be added that shows the spatial distribution of error between measured and simulated water levels of the mine model. How many wells will be impacted by the proposed mining and what could be the potential impacts?

The BLM reviewers note that several comments were directed at the surface water and the potential for contamination. The reviewers believe that the predicted outcome of impacts at 200 years is insufficient to address the true cumulative hydrological impacts of the action. The reviewers believe the surface water time scale should match the groundwater predictions (noting that the groundwater model was run out 1,000 years). Further, with literature pointing to less frequent but larger storms in the future because of climate change, the 1000-year flood event calculated today has the potential to be recalculated soon with a higher possibility of recurrence. A longer view of the impacts would help the public understand what impact a 1000-year stormwater event would have on the preferred alternative TSF and what the final condition of the aquifers in the mine model would be once they have adjusted to the new equilibrium. The BLM reviewers suggest additional cross-sections showing the north, south, and east mine model boundaries with justification for why the model boundaries were chosen.

Other comments from the BLM reviewers address the groundwater models for Skunk Camp and the East Salt River Valley Project.

General comments on the FEIS

Summarize Additional Studies within FEIS

Several perceived deficiencies in data analysis and interpretation or inadequacy of describing cumulative effects were later rationalized by searching the enormous number of supplementary reports, studies, and memos to file. By not adequately incorporating this information into the FEIS, the final document often reads as incomplete and subjective in its preferred approaches. The BLM reviewers believe all additional studies referred to in the FEIS should be summarized in the FEIS to promote accessibility. These comments should be sufficiently technical as to provide the needed information, but also approachable for less technical readers to grasp the concepts. Where feasible, selected comments could also be referenced in the FEIS in their respective sections, especially when the comment led to additional studies being performed.

For example, the BLM reviewers believe the mining methods section does not sufficiently present or discuss why other known mining methods were not appropriate for the project location. In Appendix F of the FEIS under *Post-DEIS Analysis of Alternative Mining Techniques*, where M3 Engineering and Technology Corporation is listed as a source for in-situ mining, the USFS could simply add the following paragraph, which was in the referenced July 13, 2020 M3 report, *Viability of In-Situ Leaching of the Resolution Copper Deposit*: "Expected copper recovery would be approximately 15%, as the Resolution Copper deposit is mostly comprised of chalcopyrite and bornite ore and not copper oxide ore, which is readily leachable." Instead, the FEIS just states it was reviewed but found not appropriate, with the M3 report listed as a source of that statement. The Reviewers believe that short statements like these, added to the FEIS for all the considered mining methods, would satisfy the comments concerned about why other mining methods were not discussed.

In another example, a comment questioned whether riparian habitats was adequately addressed in the DEIS. The response in Volume 6 of the FEIS was that the commenter was "unaware of the substantial background information, either in the project record or cited as DEIS references, that contributed to the analysis statements contained in the DEIS." The BLM reviewers believe this comment would likely have not been submitted if previous studies had been summarized within the FEIS,.

Additional Figures Would Benefit the Readers

The BLM reviewers understand hydrologic concepts like model boundaries, boundary conditions and what they represent, cumulative impacts on surface and subsurface waters from stormwater runoff with dilution, and deposition of contaminated sediments later mobilized and transported further downstream, etc. However, some of the comments indicate there are others who do not have this knowledge but are attempting to understand the effects of the proposed project.

The following comments by the BLM reviewers relate to the need for figures, coupled with a short discussion of terminology, to explain how the effects of this project are limited spatially and temporally because of geographic limitations on surface and groundwater flow. The BLM reviewers believe that the FEIS would benefit from at least one figure that shows the various basins/subbasins in the area, with a discussion about what basins/subbasins are and how they contribute to the flow of surface water and groundwater.

For example, one of the comments received by the USFS included a figure that connected the contour lines provided in the East Salt River Valley (ESRV) groundwater model report with the contour lines provided in the mine groundwater model report, and then stated there would be cumulative effects within the mine area from pumping being done in the ESRV area. The aquifer in the ESRV is not connected to the Apache Leap tuff aquifer, which could have been more apparent to the readers if a figure of basins/subbasins had been included in the FEIS and/or the geologic controls delineating these basin boundaries was shown.

The BLM reviewers also noted comments submitted that referenced shortages of water in the Pinal Active Management Area (AMA), with reference to the ESRV model domain and the area of the mine project. ADWR's Pinal AMA groundwater model covers the Maricopa-Stanfield subbasins only, and the estimates provided on depletions within the aquifer are limited to those two subbasins and do not cross into the ESRV area adjacent to the wellfield, or the area of the proposed mining activity. The BLM reviewers believe the above-mentioned figure of basins/subbasins with supporting text could have helped someone who was speculating that the depletion estimates from the Pinal AMA groundwater model could be applied to this study area. A figure of basins/subbasins would have showed that these areas are not connected, and that any reference to a depleted aquifer in the Pinal AMA should not be used to prove depletions today or in the future for the areas referenced in the FEIS.

The BLM reviewers believe there should be a map (or several maps) that show the six alternative locations plus the HUC 12 or HUC 10 outlines from USGS (depending on the circumstances) that show each alternative and how it relates to places like "Cutter Basin", Maricopa-Stanfield, the ESRV area, the Gila River, and Top of the World. The BLM reviewers would also like to see such a map under the discussions for each alternative.

Arizona Water Law

A general discussion of water law in Arizona could be warranted – for example surface water rights not being adjudicated yet and no groundwater water rights in Arizona. Additional topics that could be addressed in this discussion are if there are any Federal or State regulations that prevent destruction of springs, if anything in the basin has been assigned a water right by the Arizona Adjudication Court, if the wells take groundwater out of the Phoenix AMA and if so, what does the law state on taking water out of an AMA? The BLM reviewers found a few references to Arizona water law throughout the documents they reviewed but believe there needs to be a consolidated section within the FEIS that gives a brief overview of Arizona water rights related to this project.

The BLM reviewers believe there needs to be a discussion about the potential for a subflow zone to be established in the project area, and if the project could potentially remove water from any proposed subflow zone. Even though a subflow zone has not been established within the project area, past precedence tells us any future subflow zone will be defined using floodplain alluvial sediments, but not bedrock or older consolidated sediments. This suggestion is not implying that the USFS needs to show where that subflow zone would be drawn, just an acknowledgement that one will be defined and if the project would impact it. The FEIS also needs a discussion about only major rivers and potentially mountain front streams being involved in Arizona Adjudication proceedings, and if there is a potential to impact these rivers. The BLM reviewers would also like to see a list of the Statement of Claimants (39s)

in the study area that would likely lose their ability to claim a water right when the Adjudication Court reaches the area as part of the Adjudication proceedings.

RC is currently dewatering the aquifer and some of the comments that were expressed denote confusion about the purpose and reasoning for the pumping. The BLM reviewers suggest a paragraph be added to the FEIS to tell readers what a mineral extraction withdrawal permit is, what the purpose of such withdrawals are, and how long RC can withdrawal under that permit, even without the new project. This paragraph should also state that permits must be renewed through the State of Arizona and state how often the permits need to be renewed.

Does the General Mining Law of 1872 have a higher priority than state and federal water rights? If the General Mining Law of 1872 is a dominant factor in the water rights at stake in the project area, the BLM reviewers want to see a paragraph stating as such in the FEIS. If the law of 1872 is not a dominant factor, the BLM reviewers want to see a discussion about other Federal rights already given and any state-based water right claims that would have an earlier priority date than RC.

A GIS layer of NHD points obtained by the BLM reviewers shows a lot more springs in the area of interest than are shown in the FEIS. Are the rest of these springs/seeps already dry? Why are they not mentioned? If they are mentioned in other literature available through the FEIS web page the BLM reviewers believe there needs to be a summary in the FEIS where the groundwater dependent ecosystem (GDEs)/springs are discussed. Would it help to tally up the number of springs that would not be impacted by the project versus how many would be impacted? Do they have 39s filed on them?

The BLM reviewers noted the mention of Superstition Vistas within Chapter 4, with the statement that the project is speculative and therefore not included in the analysis. We think it is important to provide more information related to what Superstition Vistas has managed to procure with regards to Assured and Adequate Water Supply permits and what is currently considered speculative. Superstition Vistas has obtained the rights to pump in that area, but only for a fraction of their conceptual project area.

The 39s filed with ADWR as part of the Gila River Adjudication are not mentioned in the FEIS. There are several comments that were submitted about how this project will affect water rights, but only Federal water rights would have been decided to date. Have any Federal water rights been approved within the project area? How many state-based claims have been filed with ADWR within the project area? Are there any surface water claims filed with ADWR in the area? How many parties will not be able to get a state-based water right because the water source no longer exists due to the dewatering of the Apache Leap tuff aquifer? The BLM reviewers found information within the FEIS lacking about water rights in Arizona, but we acknowledge the information could have potentially been included in another report related to the FEIS that was not reviewed by the BLM reviewers. There should also be a paragraph added that state-based rights in the area have not yet gone through the adjudication court.

Review Applicability of New CEQ Regulations

As stated in the Executive Summary, the CEQ issued new regulations concerning NEPA. The BLM reviewers believe that the USFS *may* (but is not required to) apply the new regulations to this FEIS since the NEPA process started before September 14, 2020. This understanding is based on § 1506.13 Effective Date which reads "the regulations in this subchapter apply to any NEPA process begun after

September 14, 2020. An agency may apply the regulations in this subchapter to ongoing activities and environmental documents begun before September 14, 2020."

We understand that the USFS (or the U.S. Department of Agriculture) may have implementation guidance on how to interpret or comply with the CEQ regulations with respect to the FEIS. Therefore, we suggest that the USFS consult with their Solicitor's Office or USFS implementation guidance (if available) about the implications of the new regulations.

The BLM reviewers note that if the USFS applies the new CEQ regulations to the FEIS, it could require the addition of information to the FEIS. For example, information might be required related to the proposed or potential smelting operations. Page 58 of the FEIS states the final smelter destination for copper concentrate has not been determined. Though this has not been determined, it will occur somewhere, and smelting is known to have potentially significant effects on the local air and water quality at which it occurs. If the smelter location is beyond the extent of cumulative effects analysis, it still should be acknowledged as an associated environmental consequence of the action. Not currently knowing the location does not preclude a discussion of potential effects.

General Comments About Report Organization (not related to submitted comments)

Volume 1 p. 87 of the FEIS states "This alternative is required by regulation 40 CFR 1502.14(d)." The placement of this statement makes it appear that the mine is required to do these activities because of this regulation. The BLM reviewers looked up this regulation and it stipulates that when a study with alternatives is completed, then a no-action alternative must be considered. The statement in the text is misleading.

If discussions about the alternatives were decided based on information presented in other sections within the FEIS, the BLM reviewers believe those sections should be called out in the FEIS text along with the decision. For example, "For a discussion of the potential impacts to water rights from this alternative see Chapter #, Section #".

Add the water use number to the summary table given in each alternative. For example, the text earlier in the section says 590,000 acre-feet (AF) so add a line to the table that says 590,000 AF of water will be used for that alternative. Land acreage could also be added to the table as well (private, FS, BLM, State, etc.).

Technical Comments

Introduction

Adequate understanding of the surface water hydrology and hydrogeology of the mine area and proposed TSFs are key to accurately assessing the effects of mining, recovery, and for long-term stability. This includes baseline conditions, dewatering needs, drawdown in the Apache Leap tuff aquifer, impacts to groundwater dependent ecosystems and stream baseflow, seepage and transport of contaminants from the mine workings and tailings facilities, and effects of climate change, among others.

Considering the complex geology and mining-specific changes with time and the spatial and temporal scope of evaluation, all modeling and assumptions resulting from it need to be tempered with the appropriate level of acknowledgement of its limitations and uncertainty. It will be imperative that adequate monitoring be conducted and that observations are fed back into the model on a regular basis to increase the predictive capacity of the models as tools to estimate impacts. The presented extents of modeled impacts provide best estimates with reasonable degrees of certainty, but these extents should not be construed as evidence that impacts are not occurring beyond the boundaries of the presented extents. It will be imperative that adequate monitoring be conducted and that observations are fed back into the model on a regular basis to increase the predictive capacity of the models as tools to estimate impacts.

The RC project has the potential to generate significant tonnage of important ore materials, but as a result will have a significant lasting impact on the landscape that will not be repaired with any level of mitigation. Even after mining and dewatering ceases, and water levels begin to recover, hydrologic features and processes in the project area will be altered forever and, in many cases, destroyed in perpetuity.

Future precipitation and recharge conditions must be adequately addressed to evaluate the cumulative effects of mine dewatering on the impacts and recovery of water levels in wells, spring discharge, and baseflow to streams. Climate predictions of an increase in the severity of convective storm events must be adequately incorporated into assessments of future event magnitude and severity of storms related to the proposed tailings facility at Skunk Camp.

When it comes to surface features and mine waste it is important to ensure that impacts are disclosed well past the life of the mine. This involves identification of potential failure modes and more robust facilities design as these features continue in perpetuity. Because of the episodic nature of stresses like climate, earthquakes, wildfire, and stormwater events, catastrophic failure and rare natural events were not often seen as driving factors in alternative selection or mitigation planning. However, in the last few decades, with increasing news reports of tailings facility failures occurring, the potential impacts of these rare natural events appear to be increasing in importance.

According to Table R-2 in Appendix R of the FEIS, 472 comments were received with the general category of “Water resources” and comments that could touch on water related issues could also be within the general categories of “Alternative-related comments” and “Mitigation-related comments”. The number of comments received on water and water resources alone, speaks to the importance of this issue to the submitters of comments. Table 1 summarizes the topics of interest found within these comments in Volume 6 Appendix R, and those topics of interest served as a guide through the review process and for writing this report.

Table 1. Comments to the DEIS Which Guided the BLM Reviewers Strategy During Their Review

Sub-Topic	Comment/Response Number	Number of Comments
Characterization of Skunk Camp Alternative	30078-34 (WT7), 30078-35 (WT7), 463-3 (MIT3), 28824-1 (MIT1), 314-1 (MIT1), 524-15 (MIT17) lack of 200-yr, 524-18 (WT92), 524-21 (ALT1),	8
Impacts of Climate Change	30078-18 (WT4), 30075-9 (AQ11), 28449-54 (WT4)	3
Environmental Impacts	463-2 (CR12), 8030-12 (ALT22), 30078-1 (NS1), 261-10 (MIT1), 30075-3 (WT8), 30075-4 (DOC1), 30075-6 (DOC1), 30075-29 (WT17), 524-9 (WT76) only median flow used, 28449-54 (WT4)	10
Impacts to Water Sources (springs, seeps, aquifer)	235-2 (CR4), 235-18 (WT30), 235-20 (CR21), 235-23 (WT50), 8030-9 (ALT22), 30078-3 (CR4), 30078-13 (WT4_A), 30078-14 (WT42), 30078-15 (WT4), 30078-24 (WT69), 30078-25 (NS2), 30078-26 (WT19), 30078-29 (MIT3), 30078-30 (MIT1), 30078-31 (MIT1), 30078-32 (MIT1), 30078-36 (WT4), 30078-37 (DOC1), 30078-44 (NEPA-44), 30078-45 (WT54), 30078-51 (WT10), 30079-3 (WT4), 30079-4 (WT4), 322-5 (MIT1), 261-3 (MIT1), 30075-21 (MIT3), 30075-30 (MIT30), 30075-44 (WI3), 30075-46 (MIT1), 562-2 (NS1)?, 562-4 (WT4_G), 562-7 (MIT1), F1 (ALT22, ALT5, NEPA2, NS1, TS2, WT1), F2 (ALT22, ALT5, NEPA2, NS1, TS2, WT1), F3 (NS1), F4 (ALT22, ALT5, NEPA2, NS1, TS2, WT1), F6 (ALT22, NEPA2, NEPA33, NS1, TS2, WT1, WT8), 29449-56 (NEPA54), 28449-55 (WT33), F10 (ALT22, NS1, WT4, WT6)	40
Mitigation	30075-96 (MIT38), 30075-108 (MIT3), 30075-133 (MIT1), 30075-117 (MIT1), 30075-123 (MIT1), 524-6 (MIT27), 524-7 (MIT1)	7
Concerns About Native Waters	30078-17 (WT4), 30079-5 (CR4),	2
Arizona Water Law	30078-19 (WT4_H), 30078-42 (NEPA14), 30078-43 (NEPA14), 30078-44 (NEPA14), 30078-46 (WT21_C), 30078-48 (WT19), 562-6 (NEPA20) jurisdictional waters, 524-2 (MIT27) jurisdictional waters, 524-3 (MIT27), 524-5 (MIT27) jurisdictional waters	10
Baseline Conditions	30078-20 (NEPA19), 30078-21 (NEPA19), 524-1 (ALT22)	3
Basin/Sub-Basin Concerns	30078-23 (WT71), 30078-40 (WT30), 30078-41 (WT30)	3
Alternative Mining Methods	30078-28 (AMT1_B), 30078-38 (AMT1), F5 (AMT1), F6 (ALT22, NEPA2, NEPA33, NS1, TS2, WT1, WT8)	4
Limitations of Modeling Effort	30078-27 (WT61),30078-33 (WT49), 30075-18 (WT79), 30075-20 (WT79), 30075-22 (WT79), 30075-1 (WT82),	14

Sub-Topic	Comment/Response Number	Number of Comments
	30075-23 (WT79), 30075-25 (WT8), 30075-24 (WT62), 30075-2 (WT16), 30075-26 (WT61), 30075-34 (DOC1), 28449-155 (WT81), 28449-52 (WT7)	
Impacts to Water Sources	235-2 (CR4), 235-18 (WT30), 235-20 (CR21)?, 235-23 (WT50), 8030-9 (ALT22), 30078-3 (CR4), 30078-13 (WT4_A), 30078-14 (WT42), 30078-15 (WT4), 30078-24 (WT69), 30078-25 (NS2), 30078-26 (WT19), 30078-29 (MIT3), 30078-30 (MIT1), 30078-31 (MIT1), 30078-32 (MIT1), 30078-36 (WT4), 30078-37 (DOC1), 30078-44 (NEPA-44), 30078-45 (WT54), 30078-51 (WT10), 30079-3 (WT4), 30079-4 (WT4), 322-5 (MIT1), 261-3 (MIT1), 30075-21 (MIT3), 30075-30 (MIT30), 30075-44 (WI3), 30075-46 (MIT1), 562-2 (NS1)?, 562-4 (WT4_G), 562-7 (MIT1), F1 (ALT22, ALT5, NEPA2, NS1, TS2, WT1), F2 (ALT22, ALT5, NEPA2, NS1, TS2, WT1), F3 (NS1), F4 (ALT22, ALT5, NEPA2, NS1, TS2, WT1), F6 (ALT22, NEPA2, NEPA33, NS1, TS2, WT1, WT8), 29449-56 (NEPA54), 28449-55 (WT33), F10 (ALT22, NS1, WT4, WT6)	40
Contamination/Water Quality	30078-33 (WT49), 30078-52 (TS24), 30078-53 (TS24), 30078-54 (TS24), 30075-31 (WT49), 30075-32 (WT44), 30075-33 (WT48), 30075-35 (WT44), 30075-36 (WT49), 30075-37 (DOC1), 30075-38 (WT44), 30075-42 (WT44), 30075-43 (WT44), 30075-33 (WT48), 30075-41 (WT7), 30075-45 (WT57), 30075-130 (DOC1) is only asking for something to be added to a table, 30075-131 (DOC1) correction to table, 30075-132 (DOC1), correction to table, 28449-5 (DOC1) asks for an add to a sentence, 28449-49 (WT32), 28449-89 (DOC1), 524-1 (ALT22), 524-4 (WT7), 524-8 (WT37), 524-10 (WT84), 524-11 (WT32), 524-12 (WT78), 524-13 (WT47), 524-14 (WT46), 524-16 (WI26), 28449-53 (DOC1),	32

Detailed Technical Comments

Baseline Conditions

In reference to comment response WT31 and WT45, many comments centered on when the baseline condition started, on which impacts due to mining will be compared. The Groundwater Modeling Workgroup also discussed the issue, but no consensus was ever reached on which baseline condition would be most appropriate for groundwater modeling and the NEPA analysis. Concern was expressed in the comments that while dewatering of the Resolution graben has been occurring since 2009, the baseline condition for analysis would be set to the start of mining. The BLM reviewers share this concern because baseline monitoring occurred from 2003 to 2017, but dewatering started in 2009. The short time-period between the start of dewatering and the end of monitoring did not take into consideration a delay in response between deep dewatering and a near-surface expression of the dewatering. The BLM reviewers believe it may be more appropriate to analyze available groundwater level information from wells, between where dewatering is occurring and the four springs in Devils Canyon and the 14 sites on Oak Flat. A study of historical groundwater level information could identify if pre-mining dewatering appears to be expanding towards the locations being monitored, or if impacts are already being realized.

CEQ regulations define cumulative effect as one that "results from the incremental impact of the action when added to other past, present, and reasonably foreseeable actions, regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7) p. 911. By not adequately addressing the importance of regional pre-mining groundwater conditions and the effects of early dewatering associated with the Magma mine, and by including continued dewatering in the analysis of the No Action alternative, the approach to assessing cumulative impacts does not meet the requirements of the above definition.

Concerns about Native Waters / Tribal Water Supplies

The San Carlos Sub-Basin of the Safford Groundwater Basin, otherwise known as the Cutter Basin, is located east of the predicted extent of mining influence but remains a concern to tribal entities who obtain groundwater there. Modeling results and geologic controls, mainly the basement rock complex of the Pinal Mountains, indicate that the likelihood of mining impacts propagating to the Cutter Basin is low. To better address the concerns regarding the Cutter Basin, an additional geologic cross section should be developed, expanding beyond the eastern bounds of the model area to the Cutter Basin, highlighting both the distance and the controls to groundwater flow between these two areas. Comment response WT30 addresses the structural and distance controls between the modeled extent of impact and the Cutter Basin, but the text of the FEIS does not appear to.

However, the BLM reviewers believe that geologic isolation does not preclude indirect effects of mining impacting groundwater resources in the Cutter Basin. Should the effects of mining degrade water availability or water quality in the Superior Basin, the Top-of-the-World area, or potential new areas of population development, especially beyond the boundaries of model-predicted effects that may not be subject to mitigation/compensation for loss, water users may have to go elsewhere for water supply. As

an adjacent basin, the Cutter Basin may be viewed as a potential alternative supply, which could lead to an indirect effect of mining on the water resources within the Cutter Basin.

Impacts of Climate Change

Alternatives Analysis and Climate Change

All alternatives for the tailing facilities have advantages and disadvantages in their location, construction, drainage management, breach control, and other factors. With literature in the last decade pointing to a higher likelihood for severe storm events in the future, the BLM reviewers believe there could be an increase in their recurrence. Examples include:

- "Average air temperatures are rising, and it is likely that continued warming will accentuate the temperature difference between the Southwest and the tropical Pacific Ocean, enhancing the strength of the southwesterly winds that carry moist air from the tropics into the Southwest during the monsoon. This scenario may increase the monsoon's intensity, or its duration, or both, in which case floods will occur with greater frequency. Hurricanes and other tropical cyclones are projected to become more intense in the future. Since Arizona and New Mexico typically receive 10 percent or more of their annual precipitation from tropical storms, it is likely that this change will also increase flooding." https://climas.arizona.edu/blog/climate-and-floods-southwest

- "We find that floods generated by convective storms have become more common and more extreme. On the other hand, rain-on-snow floods have become rarer and less extreme." https://doi.org/10.1029/2021GL097022

- "A growing body of work suggests that the extreme weather events that drive inland flooding are likely to increase in frequency and magnitude in a warming climate, thus potentially increasing flood damages in the future." https://doi.org/10.5194/nhess-17-2199-2017

The BLM reviewers located only brief references to the analysis of flood events at each of the alternative TSF. In addition, discrepancies were noted in discussions of 100-year vs 200-year flood events. Furthermore, no discussion was found of flood events greater than 200 years. We believe each alternative lacks sufficient discussion on climate change and the potential for catastrophic events.

Please incorporate climate change predictions into the stormwater event discussion and analyze the impacts of larger floods (1,000-year flood event has been suggested by the review team) into the analysis of all alternatives. In addition, please provide a summary for each alternative that states the predicted 1,000-year event entering and exiting the TSFs. Please provide the expected spill threshold for all alternatives. This could include buffering and storage based on the TSF pond depth. Also, please provide the expected contaminants and concentrations and their change as the contact water moves downstream and additional waters dilute. Finally, please provide the required mitigation measures if such an event takes place and provide impacts analysis and extent of the contaminants. Results should

be reported in acre feet per day and ft^3/s. Results should also be added to the text of the FEIS and provided in simple visual figures and tables for reference.

Groundwater Model and Climate Change

Regarding comment response WT4 on water scarcity and competing water uses, the USFS response states "cumulative effects analysis has been expanded in chapter 4 of the FEIS to quantify the cumulative effects of competing water uses in the region and the ramifications of ongoing drought or climate change" The section in chapter 4 recognizes that temperatures continue to rise and that there is a general agreement that timing and intensity of precipitation events would change, however, the groundwater model scenarios used to predict water resources impacts in the future did not incorporate any changes over time for precipitation and recharge in transient simulations. The BLM reviewers believe this results in an under-representation of the extent and magnitude of drawdown induced by mine operation (recharge was increased during simulations for the subsidence zone), which is supported by the "Climate Change" scenario that was requested to be conducted by the Groundwater Modeling Workgroup. The "Climate Change" scenario run indicated that when reductions in recharge (which is common during drought) were simulated, there were higher rates of drawdown at wells and springs compared to the static recharge scenarios presented in the FEIS, particularly to the north and east of the model area. Examples include a nearly 150-foot increase in projected drawdown between the proposed action scenario and the climate change scenario at well HRES-06 near Top-of-the-World, and significant (greater than 10 feet) additional increases in drawdown at locations such as McGinnel Spring, Rock Horizontal Spring, Queen Creek 17.39, DHRES-16, Devils Canyon 6.1E, 6.6W, and 8.8C, and Mineral Creek 6.9. The examples given are in different areas within the model, and in a variety of lithologies. The BLM reviewers could not find any discussion of the "Climate Change Scenario" within the FEIS and believe the model run and the results from the model run should be discussed within the FEIS.

According to the Arizona State Climate Office, in May 2022 Arizona is in the 27th year of a long-term drought. Data shown on the website *azclimate.asu.edu/drought* shows drought has affected Arizona many times throughout recorded history. The BLM reviewers are concerned that the FEIS does not adequately account for permitting processes for water use, CAP water availability, partially planned developments, and decreased precipitation (and therefore changes in recharge). The Drought Contingency Plan is mentioned, but with a short comment that the drought contingency plan is ending in 2026 and therefore will not affect the project. The BLM reviewers believe the FEIS treats other water uses as "speculative", even though there is a high probability that some of these actions will either affect the amount of water available to RC, or the amount of water withdrawn by RC will affect other planned developments. There are many assumptions in the FEIS regarding availability of water to RC, but few assumptions on the availability of water due to an extended drought or other planned projects.

Impacts from climate change will have significant ramifications on hydrologic conditions in the project area during both mine operation and the extended recovery period. Increases in temperature leading to more ET losses to aquifer systems, a reduction in recharge-inducing snowfall, increase in the severity and occurrence interval of convective storm events, and basin-scale drought (reducing not only local water supplies but regional ones including where the Desert Wellfield is proposed), are all factors that influence the cumulative impact of the mining operation and tailings storage on the landscape. The BLM reviewers do not believe factors known to be associated with climate change, such as higher average temperatures, decreased precipitation, higher evapotranspiration, more frequent and potentially more

severe flooding, increase in forest fires due to dry vegetation, increased groundwater pumping due to the reduction of surface flows, and salinity, were thoroughly addressed within the FEIS.

Suggestions for Analysis of Alternatives

Tailings storage facilities continue in perpetuity after mine closure. The potential energy of upper drainage TSFs like Skunk Camp increases the likelihood of TSF failure and increases the potential spatial extent of impacts. Because of the episodic nature of stresses like earthquakes and stormwater events, the chance for catastrophic tailings storage failure during the life of the mine is low. However, for the communities and environment they depend on for resources like water, the chance for catastrophic failure and the associated impacts is an important consideration.

In August of 2020, in response to the increasing number of TSF failures around the world, the Global Industry Standard on Tailings Management was published with the goal "of zero harm to people and the environment with zero tolerance for human fatality. It requires Operators to take responsibility and prioritize the safety of tailings facilities, through all phases of a facility's lifecycle, including closure and post-closure. It also requires the disclosure of relevant information to support public accountability."

The BLM reviewers believe TSF breach analysis should be conducted for the preferred alternative following the guidelines and standards put forth by the Global Industry Standard on Tailings Management. Study results should be disclosed in the FEIS to inform alternative selection and support public accountability. This analysis is typically conducted by a qualified third party, and like other external studies, the findings should be summarized in the FEIS and should include maps for the extent of impacts and modeling outputs to inform the public. If practicable, breach analysis or some variance thereof for all alternatives should be included in the alternatives analysis to inform the decision-making process. Results from additional breach analysis will inform other permitting data needs and emergency planning and response.

With the potential for extreme stormwater events on the rise and flows that would be catastrophic to downstream resources if the proposed Skunk Camp impoundment failed, what would be the extent of the damage? Has this potential stress on the TSF been considered in the design and placement of materials? What would the extent of the damage be for all the alternatives (not just Skunk Camp)? The BLM reviewers recommend a detailed analysis of the potential extent and impacts associated with each of the alternative tailing facility locations if a catastrophic failure occurred due to the Global Industry Standard 10,000-year stormwater runoff event.

Owing to the changing standards for TSFs, it may be feasible to reopen alternatives that were originally dismissed from the analysis. An alternative that was discussed in Appendix F (Alternatives considered but dismissed from detailed analysis) was the potential to store tailings in existing open pits in the area. While many of them have legitimate rationale for dismissal, the prospect of splitting the PAG tailings into multiple sites such as Casa Grande, Copperstone, and Tohono Cyprus appears viable. It is unclear how much analysis went into the feasibility of a multi-site disposal plan, but it seems that this option should be given more than passing consideration and rise to the level of "detailed analysis" even if it were ultimately dismissed. Even if a combination of available sites still are not sufficient in storing the PAG tailings, the remainder could potentially be stored in a scaled-down version of one of the other

alternatives that was analyzed. The BLM reviewers believe this should be explored more as continued evaluation of the preferred alternative approach could potentially reveal an increasing number of concerns about its long-term reliability.

The Reviewers found no evidence within the FEIS or supporting materials that forest fires were considered in the analysis for the alternatives presented for the TSF. Due to the decades long drought Arizona is currently experiencing there is a greater chance for wildfires in the state, and the Skunk Camp location is adjacent to several mountain ranges. If a wildfire were to occur upgradient of the tailings pile, the lack of vegetation caused by the fire could have a profound effect on the local hydrology and the BLM reviewers believe this scenario needs to be addressed as an environmental impact, or as part of a climate change discussion.

It is possible the following information has been presented in other documents that were provided as reference, but the BLM reviewers believe the FEIS should state that contamination of the aquifer and rivers/streams is possible during stormwater events. Please indicate in the FEIS under what scenarios this will happen and identify the extent of contamination for each scenario. The BLM reviewers noted 10 comments expressing concern about the environmental impacts of the TSF and 40 comments about impacts to water quality. The BLM Reviewers believe there needs to be a more thorough discussion in the FEIS about this topic.

Water quality modeling results are based on the seepage collection efficiency for each alternative. However, there is little documentation on what the confidence levels are on seepage efficiency of theoretical tailings facilities. If the values presented are average or expected values, but may vary plus/minus 5% for example, how much variability does that introduce into the modeled water quality results? The reviewers believe this deserves further explanation.

Characterization of Preferred Alternative Skunk Camp TSF

BLM reviewers recognize that the alternatives presented in the FEIS are not fully developed and that the purpose of the alternatives analysis is to consider a reasonable range of alternatives that can accomplish the purpose and need of the proposed action. With that in mind the following comments are concerns about the preferred alternative. The layout and positioning of the facilities for the Skunk Camp TSF illustrated in Appendix F of the FEIS shows Pyrite Cell 1 is planned in the path of the two largest drainages entering the Skunk Camp TSF (Stone Cabin and Skunk Camp Wash). The USGS StreamStats calculated 500-year event for the Skunk Camp Wash entering the TSF is 4750 ft3/s (PII 2430 and PIu 9270 ft3/s) while the Stone Cabin Wash for the same recurrence interval is 3760 ft3/s (PII 1910 and PIu 7390 ft3/s) (StreamStats (usgs.gov) accessed on 05/03/2022).

The BLM reviewers suggest looking at alternate Pyrite Cell locations within the Skunk Camp TSF layout to potentially negate exposure of the highest concentration tailings to stormwater runoff greater than the 200-year event. Alternatively, please analyze the feasibility of permanently rerouting Stone Cabin and Skunk Camp Washes around the Skunk Camp TSF to the west. The USGS StreamStats calculated 500-year event for the Skunk Camp Wash at the downstream extent of the TSF is 13,100 ft3/s (PII 5900 and PIu 29,100 ft3/s) (StreamStats (usgs.gov) accessed on 05/03/2022). Diverting all the upstream inflow to the TSF from Skunk Camp and Stone Cabin Washes would reduce the 500-year flood event volume of

water coming into contact with tailings in the Skunk Camp TSF by more than 50%. This has the long-term benefit of rerouting potential peak flows around the tailings facility and potentially generating more robust excavated material for tailings impoundment structures. The new alignment appears to be a paleo alignment of those washes prior to the washes eroding through the bed rock.

Permanent diversion dams for the Stone Wash and Skunk Camp Washes potentially entering the TSF should be of significant size and construction to prevent the suggested 1,000-year stormwater event from gaining contact with the TSF. As mentioned above, the probability of a 1,000-year stormwater event occurring during mining operations is low, but viewed at a longer temporal scale, it is an important consideration.

The BLM reviewers believe a more thorough surface water hydrology characterization as it concerns to climate change needs to be completed for the Skunk Camp TSF. This location has the largest 100-year floodplain footprint when compared to other drainages in the area and BLM reviewers are concerned that more frequent and more severe flood events that could result from climate change have not been addressed. The more severe flood events could cause erosion and breach of the tailings pile, which would lead to contamination and impact the Gila River. This location is mostly surrounded by mountains, and with wildfires more likely due to a drier climate, the risk of flood flows caused by fires in the mountains is also a concern for the reviewers.

The BLM reviewers found no mention of a date for steady state in the Skunk Camp groundwater model, other than a statement that average values were used. Does that mean all historical water levels were averaged and that the data used was not representative of a single moment in time? There needs to be more of a discussion in the FEIS about the steady state heads used in the groundwater model.

The Reviewers found no mention within the Skunk Camp model of flood events being incorporated into the groundwater model. Were 100, 200, 500, etc. flood events factored into the projection runs? The groundwater model seemed to mainly be a tracer type study to show how far contaminants would travel if they got into the aquifer or streambed.

Impacts to Water Sources (springs, seeps, aquifer)

After significant study of the FEIS and supplemental studies the BLM reviewers believe the characterization of GDEs is inadequate. On the United States Department of Agriculture RC Project and Land Exchange Environmental Impact Statement web page under “Baseline Reports” there are inventories of springs, but only a few of those springs were included in the FEIS. The BLM reviewers did not see a discussion in the FEIS about why only a few of these GDEs were included within the study.

One of the questions sent to the USFS was a concern that there could be an impact to the subflow zone along the Salt River, due to pumping associated with the project. Since the project is nowhere near the Salt River, the BLM reviewers wonder if this comment is concerned about pumping near the Gila River. If that is the case, a cross-section showing the general geology from the East Valley wellfield to the Gila River could be used to show that pumping for this project can not impact the Gila River.

The BLM reviewers believe the FEIS does not provide enough information to satisfy the concern that the damage to the aquifer from future subsidence at Oak Flat will impact the water in Mineral Creek. If that

information is available within a supplemental source, a summary of the study should be provided in the FEIS.

In Comment Response WT19, which concerns mitigating lost flows to Queen Creek, the response states that through mitigation (measure FS-WR-04) lost flows would be replaced by direct input of water from existing wells. Since the loss of flows due to subsidence are a permanent feature of the post-mining landscape, are mitigation flows to Queen Creek planned to be permanent, or will this mitigation be like the mitigation planned for springs and GDEs, where after 10 years past active dewatering the mitigation could potentially cease. The BLM reviewers believe the response as written requires additional clarification to be adequate.

The area encompassed by the RC project, within any scenario, consists of lands managed by the USFS, State Land, and BLM, as well as interspersed private ownership. The BLM reviewers wondered if the dewatering of the shallow aquifer will forever prevent any future landowner or development from using the shallow Apache Leap tuff aquifer as a water source, which would force any development or landowner to either drill a more expensive well to a deeper water source, or force them to obtain water from another basin?

In the water budget information presented in Volume 4 Appendix H of the FEIS, there are three periods discussed which include construction, operation, and rampdown, but there is no indication that any water budget analysis was done for the period following year 45 (end of rampdown). Water budget values should be presented for out-years (perhaps 200 years to match the groundwater model) to compare the budget to pre-mining conditions.

The water balance information shown in Volume 4 Appendix H of the FEIS has exact numbers given to represent water use for each aspect of the project and is meant to convey water use between mine years 6-12, mine years 13-36, and mine years 37-46. The BLM reviewers wonder how such specific values can be calculated before the project has even begun. As part of any groundwater modeling process the initial step of creating a water budget always involves coming up with ranges based on available literature. The exact numbers presented in this report could likely change as mining progresses, and therefore should be represented as a range of values instead of exact values. The BLM reviewers would also like to see, built into the FEIS, mitigation efforts by RC if water use ends up higher than the new range of values.

The BLM reviewers believe the cumulative impact to groundwater users in the affected area are not well quantified, which should include costs to deepen or relocate wells and added costs to draw groundwater from deeper depths or treat for degraded quality prior to use. Effects more difficult to directly quantify are the long-term impacts related to loss of basin storage due to irreversible subsidence.

In Volume 2 of the FEIS on page 384 Figure 3.7.1-6 depicts “Apache Leap tuff aquifer water-level elevations and general flow directions”. The BLM reviewers think there should be a similar figure which shows the predicted water level once the upper and lower aquifers become connected through subsidence and new steady state conditions are created.

Mitigation (water)

The BLM reviewers did not find any references within the FEIS to monitoring data being added back into the mine groundwater model to determine if initial predictions were accurate or if more mitigation measures needed to be considered to get the results intended under the mitigation plan. The reviewers also wondered if the data obtained through the mitigation efforts were to be entered back into the model and the results showed mitigation efforts were not moving in the direction intended, what would RC do with the result to ensure mitigation efforts stay on track?

The BLM reviewers do not believe the FEIS does enough to acknowledge that although subsidence will be monitored, there is not much that can be done to mitigate once block caving has started. The BLM reviewers believe there needs to be a discussion within the FEIS about the limitations of mitigating the effects of subsidence and an acknowledgement that subsidence could occur in a way that has not been predicted by the modeling efforts.

According to the FEIS, the groundwater model was based on a 200-year timeframe and effects of the mining project could go on for much longer than 200 years. However, the monitoring plan (2020 Monitoring and Mitigation Plan for Groundwater Ecosystems and Water Wells by Montgomery and Associates) states monitoring will only be done for 10 years after dewatering has ceased. The BLM reviewers believe 10 years is not adequate, considering the effects will be felt for hundreds of years, and that the monitoring and mitigation action should be in place until the effects of mining on those sources have been mitigated from the effects of the mining project.

As stated in Volume 4 of the FEIS on page J-2, “The role of the Tonto National Forest under its primary authorities in the Organic Administration Act, Locatable Regulations (36 Code of Federal Regulations (CFR) 228 Subpart A), and Multiple-Use Mining Act is to ensure that mining activities minimize adverse environmental effects on National Forest System (NFS) surface resources.” The BLM reviewers want to know if the contents of this statement inhibit the agency’s ability to mitigate impacts to groundwater resources (the Apache Leap tuff aquifer) that provide water to surface resources, like springs fed by water from the Apache Leap tuff aquifer?

In Table 2 of the monitoring plan, the measurement type at the springs is listed as “visual estimate” of flow. The BLM reviewers believe "visual estimate” of flow is a qualitative, subjective, and un-repeatable approach that should not be used in the statistical analysis of discharge trends over time. If spring flow cannot be measured directly (volumetric, weir, etc.) it should not be recorded, and site photographs, vegetation monitoring, and water levels at the associated primary monitoring well (PMW) should be used instead.

Contingent monitoring wells (CMWs) are planned at some of the GDE sites, but the CMWs are only planned to be constructed and monitored once trigger levels are met at a nearby PMW. The BLM reviewers believe, when the compartmentalization by faults and the heterogeneity of the fractured Apache Leap tuff are taken into consideration, it seems plausible that impacts will be realized at some GDE sites without a nearby PMW having reached the threshold necessary to move forward with a site-specific CMW.

Installation of wells, or systems to harvest precipitation or surface water flows to mitigate for spring flow loss is a flawed approach which follows the ‘rob Peter to pay Paul’ logic (FEIS p.421) and would

more accurately be called 'passing the buck' or 'kicking the can' than 'mitigation'. The water captured by a well in the discharging aquifer system of the spring, or capturing rainfall or flow is simply taking water that would have provided another resource further downgradient. From a water budgeting perspective, the only true means of compensating for loss of spring flow is to make up for the loss of system water by augmenting with water from outside that system. Otherwise, it should be acknowledged that the mitigations as proposed have the potential for future negative impacts on other undetermined downgradient resources. The only in-basin alternative that would not impair the collective water resources of the area would be after subsidence connects the Apache Leap aquifer with the deeper aquifer; water could be collected via wells prior to being lost to the lower aquifer and redistributed back on the landscape.

The monitoring plan shows many springs having been historically impounded, diverted, or otherwise influenced. Restoration of these sites may offset the impacts of potential reductions in flow or add habitat to compensate for other areas that may experience significant reductions or total loss of discharge. The reviewers propose that a mitigation for springs and GDEs could be to remove the development structures which inhibit full ecological utilization of the groundwater discharge. However, this is the opposite of what is proposed in the plan, where impacts to flow would trigger more construction of spring boxes. If the springs in question are within a 10-foot drawdown area, only substantial site work could create a spring box that would continue to supply groundwater to the surface.

The potential for a 10-foot water level decline in a well could result in an inconvenience or could make a well non-viable for water production. By contrast, a 1-foot decline in the water table from an aquifer that supplies water to a spring could prevent discharge from occurring at the spring entirely. The BLM reviewers believe the threshold for potential effects to springs and GDEs should be more stringent (expanded area of impact) than the threshold used for wells.

A 10-foot contour line, as stated within the FEIS and provided literature, was the highest accuracy decided upon to represent the effects to the Apache Leap tuff aquifer due to mining activity, and nothing less than 10-feet of drawdown was presented. The 10-foot contour line represents the drawdown limit after 200 years, but it has been acknowledged that drawdown will still be occurring after 200 years. The BLM reviewers suggest a one-mile buffer be added around the modeled extent of mining impacts to the Apache Leap tuff aquifer, and that the wells, springs, and GDEs between the 10-foot contour and the 1-mile buffer be part of the monitoring and mitigation plan.

The BLM reviewers believe the monitoring plan should have control sites outside of the mine project area to study non-mine related impacts such as precipitation patterns, temperature, non-mine pumping, wildfire potential, etc. Control sites were mentioned as a potential in Level 2 trigger, but these control sites should be proactively implemented for data collection, rather than implemented as a reaction to decreasing flows or water levels. The use of control sites would also improve the confidence in the analysis results.

Measure PF-WR-03 is another 'potential future measure' that should become a required measure. The EIS states that quality impacts and water level declines are not anticipated due to operation of the Desert Wellfield, it should not be a voluntary potential future mitigation. If no effects are observed, there will be no action necessary, however, the BLM reviewers believe it should be a mandatory

mitigation if in fact negative impacts are observed. The uncertainty in occurrence should not preclude the requirement for action should it occur; as such, this should be a required measure.

Limitations of Modeling Effort

Skunk Camp Model

See earlier discussion of the Skunk Camp model in the "Suggestions for Analysis of Alternatives" section.

The Mine Model

The BLM reviewers do not believe the north, south, and east boundaries of the mine model extend far enough, and that the reasoning given (that only one of the sensitivity runs showed depletion at the boundaries of the model domain and therefore the boundaries are sufficient) is not an adequate justification as the impacts are based on extent of an arbitrarily selected impact threshold, and not the extent of potentially measurable impact.

Model boundaries should extend beyond areas that could potentially be impacted by the project, and since the project will impact the Apache Leap tuff aquifer, and has the potential to impact Mineral Creek, the BLM reviewers believe the FEIS did not adequately explain why Mineral Creek was chosen as a general head boundary (GHB) in the mine model, while a map of the Apache Leap tuff reviewed by the BLM reviewers shows the unit extending beyond Mineral Creek. There is also reference in the literature that states Mineral Creek is fed in places by the Apache Leap tuff aquifer, yet Mineral Creek was chosen as the boundary for the groundwater model.

The BLM reviewers noted that no pumping other than mine related pumping was added to the mine groundwater model, or at least we did not see any evidence that current stresses outside those caused by the RC mine were incorporated into the model. The BLM reviewers believe model boundaries far away from stresses to the aquifer cannot be accurately chosen unless all pumping within the Apache Leap tuff and deeper aquifer are included within the groundwater model.

Many WT comment responses provide the estimated water budget values for varying components of the mine operations, stating that while this is "complex", values are presented to the single acre-foot. By contrast, model estimates of mine impact are not presented past 10 feet of drawdown because of uncertainty. The BLM reviewers wondered if the values used to calculate the water budget (fracture flow drainage, ore moisture, tailings facility seepage control efficiency, etc.) are so well constrained that this level of precision is justified? A review of Appendix H (Mine water balance and use) does not indicate that the presented values are an average, median, or range of potential values, they are presented as one static value for each component of the overall balance.

Comment response WT36 the states "In the DEIS we compared the elevations of the subsidence crater and modeled elevations of groundwater during recovery and found that even after a period of 1,000 years they did not intersect." The BLM reviewers noted up to a 500 ft error in the water levels for the deeper aquifer in the hydrographs. Did the USFS choose water levels from hydrographs that had a lower error rate? Or did the USFS use water level elevations presented as part of the final scenario run? We are concerned that error prone water levels were used to make this assumption.

A secondary purpose of the mine model is to evaluate the effects of dewatering on the Apache Leap tuff aquifer. The BLM reviewers wondered if the collapse of Oak Flat causes the Apache Leap tuff aquifer to dewater, does the GHB used in the mine model at Mineral Creek permit the stream to dewater if the effects of the dewatering extend to Mineral Creek?

The BLM reviewers suggest a figure that shows the spatial distribution of error between measured and simulated water levels for the Apache Leap tuff aquifer and the deep aquifer are needed with any discussion of model related error in the FEIS. For example, The ADWR Salt River Valley 2009 model report has such a figure (https://new.azwater.gov/sites/default/files/SRV8306_Model_Report_1.pdf) which makes it easy to determine where the groundwater model was under and over simulating water levels in the chosen calibration run of the model.

The BLM reviewers looked at the hydrographs within the February 2019 RC Groundwater Flow Model Report in Appendix C and it appears that the Apache Leap tuff aquifer heads were simulated adequately, but that the deeper aquifer heads had errors up to several hundred feet. Is this an accurate interpretation of the hydrographs? If this is an accurate interpretation, does this error reflect the collapse of the mine over time? If that is the case, then the report needs further explanation so the reader can make the connection. If not, then there needs to be some explanation as to why the error is acceptable for the deep aquifer.

In Section 1.1 of the SWCA Environmental Consultants *Review of Numerical Groundwater Model Construction and Approach (Mining and Subsidence Area) Final* report, the modeling work group stated "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". The BLM reviewers wonder if this was ever completed. If as part of the groundwater model discussion the results are to be presented using a representative well, so that a real well owned by a private entity is not used in the analysis, the BLM reviewers understand that decision. But the USFS needs to also state how many wells are registered with ADWR that could potentially be impacted given the extent of impact shown in the groundwater model. Exact locations and registry numbers are not required.

On page 410 and 411 of the FEIS the comment about well impacts is misleading. The model presented impacts at a well that was created only to symbolize pumping in a specific area (Top of the World, Superior, Boyce Thompson Arboretum). But as stated in a comment submitted to the draft EIS, all wells produce differently based on varying hydraulic conductivity and depths. The BLM reviewers believe Table 3.7.1-4 is misleading because one well is used to represent Superior, Boyce Thompson Arboretum, and Top-of-the-World. If other wells in those areas have different hydraulic conductivities or are screened in slightly different locations, the drawdown in those wells could be different from the well chosen to represent the area. Table 3.7.1-4 at least needs a statement that these wells were chosen to represent each area and a similar analysis at other wells within the same generalized area could produce different results.

Previous reviewers point to lack of adequate scientific data within the groundwater model (Comment ID 30078-27,30075-26, 28449-62, 28449-155, BGC Engineering USA Inc, 2020) which made the model a generic representation of the system versus a complex representation of the system. When beginning a groundwater model of this scale, the best approach is to build a model based on a very generic system, get it calibrated, then add complexity as the model progresses. In response to the concerns expressed by past reviewers, a generalized USFS response was given that adding additional complexity could

produce more model uncertainty by requiring additional parameters to be estimated in the absence of value data (SWCA memo 2020). The BLM reviewers looked to ADWR's approach with the complex regional groundwater models that they have built. These models are used by countless entities in support of assured and adequate water supply designations in the State of Arizona. The ADWR models follow proven groundwater methodology, and they take time to calibrate and refine their modeling approach to incorporate more complex data. Examples of data that would improve the mine model are variations of recharge, variations to evapotranspiration rates, and stresses on the aquifer not limited to RC pumping.

Comprehensive reviews of the model had been conducted prior to the release of the FEIS in 2021 by various parties. The BLM reviewers evaluated the model report, and the description of predicted impacts, prior to evaluating past assessments of the model, as well as the Water Resources Workgroup responses and modifications based on these evaluations. Remarkably, many of the same concerns expressed in past assessments of the model were identified by the BLM reviewers, indicating the concerns had never been incorporated into the groundwater model by the time the FEIS was released. According to the October 2020 SWCA report *Evaluation and Response to Public Comments on Groundwater Modeling Analysis*, prepared for the USFS, the various reasons behind not addressing these concerns were listed under "General categories of comments received" which included four categories of comments and an accompanying table (Table 1). The "General categories of comments received" section, and the accompanying table, did not address that there were definite concerns with the mine model. The section only lists reasons why the legitimate concerns should not be addressed.

The FEIS states that the model was run to 1,000 years, as this was likely necessary to bring the model to a point when effects of mine dewatering were no longer expanding, and that water levels at the edges of mine influence begin to recover. Model scenarios indicate that impacts beyond 200 years are predicted in the areas of natural discharge in Queen Creek, Telegraph Canyon, and Arnett Creek, and in water supply wells in Superior and Top of the World for many hundreds of years up to roughly 900 years. (FEIS p.411). The BLM reviewers believe it should be recognized and highlighted within the FEIS that the information presented in the FEIS does not represent the bounds of predicted impacts, merely those which can be reasonably predicted at an arbitrarily determined time step. We also believe that analyzing only three predicted outcomes, no action (with continued dewatering), life of mine, and impacts at 200 years, is insufficient to address the true cumulative effects of the action.

As addressed in comment response WT16, long term trends shown by the groundwater model have been limited to 200 years. While this time period was agreed upon by the Groundwater Modeling Group, there appears to be no reasoning provided as to why it is anything other than an arbitrary value. The BLM reviewers wondered if there were indications that there is an inflection point in predictive capability at 200 years and beyond this point certainty drops off? Without explanations as to why this alternative was chosen, one could assume that a reason 200 years was chosen was because if the spatial extent of the model was beyond this time period (say 300 or 400 years) the groundwater model results would show that mining impacts extend a significant distance past the model boundary, which would warrant an expansion of the model domain and re-analysis. The comment on the use of the 200-year time period has been mentioned multiple times in past reviews, but the response from the USFS has simply been that 200 years was the agreed-on time frame. The use of drawdown at 200 years and 10 feet was not universally agreed upon by the internal Groundwater Modeling Workgroup.

Regarding the potential formation of a pit lake, comment response WT36 states that comments on water levels rebounding and forming a pit lake are inaccurate, because "changes wrought to the aquifer by the block caving fundamentally change the hydrologic and geologic framework of the system. A return to pre-mining conditions is not anticipated, and a return to pre-mining groundwater levels is not inevitable." Model results have been provided to 200 years and have been qualitatively described as continuing to expand for many hundreds of years, even more than 1,000 years, but there is little description or presentation of what will be the new groundwater condition in this area long into the future. This project is not one where after time, even a very long time, conditions return to an approximate pre-mining condition. The BLM reviewers believe a description of what the new system will look like and how it will behave is warranted. Uncertainty may be high in this assessment, but it should not be avoided.

The WSP (2018) block cave report states that once subsidence connects the Apache Leap aquifer with the lower system (mine year 16), the Apache Leap will be draining nearly 1,600 gallons per minute (gpm) out of the upper aquifer system into the lower workings. This rate will decrease over time, but at mine year 50 it will still be draining nearly 380 gpm (600 acre-feet per year) as the Apache Leap tuff continues to move towards a new equilibrium condition. While these flows will be removed from the lower aquifer via the mine drains during mine operation, once mining is completed these flows will continue to drain from the upper aquifer until another equilibrium condition is reached, either by filling the extent of the workings and subsidence area or draining the Apache Leap aquifer. This drainage likely accounts for the single largest output of groundwater from the Apache Leap aquifer, so what does this do to new equilibrium groundwater flow directions and gradients compared to the pre-mining condition? Will existing drain points for this aquifer ever recover to pre-mining conditions or will the generation of this new base level permanently alter this system, and what is the ultimate drain point for the lower aquifer?

Figure 2.1, Surface Geology Map, within the WSP February 2019 RC Groundwater Flow Model Report, shows the locations of cross-section A-A' and B-B' which are centered on the Oak Flat area of the project. The BLM reviewers noted that neither cross-section can be used to help orient readers as to why the north, south and east groundwater model boundaries were chosen. We would like to see either new cross-sections added to the FEIS, or modifications to these cross-sections, that would help explain to reviewers of the EIS as to why WSP chose those boundary locations for the groundwater model. The BLM reviewers also believe such cross-sections would help to explain the science between basins/sub-basins and surface water/groundwater flow.

The East Salt River Valley Project Model

The BLM reviewers did not see any reference within the FEIS or provided documents to indicate site geology was used to update the 2009 ADWR Salt River Valley groundwater model. A study was published in 2017 by the Arizona Geological Survey, with funding provided by RC, of the Superstition Vistas Planning Area, within the area shown in the FEIS and accompanying documents that would be used by RC for their East Salt River Valley pumping wells. The BLM reviewers did not read this report, but the publication stated, "Depth to bedrock, and saturated thickness, were significantly increased throughout SVPA, especially along bedrock piedmonts adjacent to the Superstition Mountains and Mineral Mountains." The increased depth to bedrock has not yet been included in a published ADWR

groundwater model of the East Salt River Valley, but the BLM reviewers believe this information should be reviewed and incorporated into the groundwater model that evaluates the pumping wells for the RC project.

The BLM reviewers want more of an explanation into how dry cells were modified within the East Salt River Valley Project Model when cells went dry. The literature stated cells that went dry were modified, but the BLM reviewers did not find anything cited within the literature to indicate what scientific data was used to give the cells a greater depth to bedrock.

The BLM reviewers found, related to the FEIS, that the pumping model within the East Salt River Valley states the groundwater model takes into consideration past stored water credits that RC has in the East Valley. Within a few years other entities that have stored water within the East Salt River Valley will also be removing their stored water credits. BLM reviewers would like to know if the pumping model factors in other entities removing stored credits.

The BLM reviewers noted the location of the modeled 25-foot drawdown contour but found no mention of other water users within that 25-foot drawdown zone. Are there current water users within that 25 ft drawdown zone, and are there any future projects already approved by ADWR within that area?

The BLM reviewers believe change maps should be included in the ESRV model report, in addition to the contour maps provided in the groundwater model report. For example, illustrating how much has depth to water changed between the no-action alternative and the other alternatives.