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THE IRREPARABLE ENVIRONMENTAL AND CULTURAL IMPACTS OF THE PROPOSED RESOLUTION COPPER MINING OPERATION

OVERSIGHT HEARING

BEFORE THE

SUBCOMMITTEE FOR INDIGENOUS PEOPLES OF THE UNITED STATES

OF THE

COMMITTEE ON NATURAL RESOURCES
U.S. HOUSE OF REPRESENTATIVES

ONE HUNDRED SIXTEENTH CONGRESS

SECOND SESSION

Thursday, March 12, 2020

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OVERSIGHT HEARING ON "THE IRREPARABLE ENVIRONMENTAL AND CULTURAL IMPACTS OF THE PROPOSED RESOLUTION COPPER MINING OPERATION"

Thursday, March 12, 2020
U.S. House of Representatives
Subcommittee for Indigenous Peoples of the United States
Committee on Natural Resources
Washington, DC

The Subcommittee met, pursuant to notice, at 9:01 a.m., in room 1324, Longworth House Office Building, Hon. Ruben Gallego [Chairman of the Subcommittee] presiding.

Present: Representatives Gallego, Soto, Haaland, García, and Grijalva.

Mr. GALLEGO. The Subcommittee for Indigenous Peoples of the United States will now come to order. The Subcommittee is meeting today to hear testimony on "The Irreparable Environmental and Cultural Impacts of the Proposed Resolution Copper Mining Operation." Under Committee Rule 4(f), any oral opening statements at hearings are limited to the Chair and the Ranking Minority Member. This will allow us to hear from our witnesses sooner and help Members to keep their schedules. Therefore, I ask unanimous consent to allow the Members' opening statements be made part of the hearing record if they are submitted to the Clerk by 5 p.m. today, or the close of the hearing, whichever comes first.

Hearing no objection, so ordered.

STATEMENT OF THE HON. RUBEN GALLEGO, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ARIZONA

Mr. GALLEGO. I want to thank all of our witnesses for being here today, especially considering the difficulties the Coronavirus outbreak has caused for all of us.

Today, we will examine the detrimental effects that the proposed mining operations will have on tribal historical, cultural, and sacred sites located in Southeastern Arizona.

A few weeks ago, we had a hearing on the destruction of sacred sites that is occurring during the construction of the border wall on the Southern border. Unfortunately, the destruction of those sacred sites is not a unique case.

We are here again today to discuss a disregard for the rights of Native Americans and the destruction of their sacred sites—this time for the construction of a new dangerous and destructive copper mine in the town of Superior, Arizona.

The language that enabled this mining operation has a history dating back to the 108th Congress in 2005. And tribal opposition has been there since the very beginning. That is because the land that this mine would destroy includes the Chí'Chil Bildagoteel

Historic District, known more broadly by its English translation, "Oak Flat".

Located in Tonto National Forest, the historic Oak Flat area is the sacred site to many tribal nations where they conduct religious and cultural ceremonies and gather traditional medicines and food. This land is sacred not only to the San Carlos Apache Tribe, which is represented here today, but to the Tonto Apache Tribe, the White Mountain Apache Tribe, the Yavapai-Apache Nation, the Yavapai-Prescott Indian Tribe, the Gila River Indian Community, the Salt River Pima-Maricopa Indian Community, the Hopi Tribe, and the Pueblo of Zuni.

This land's sacred status has been broadly recognized, including by the National Park Service, when it listed Oak Flat on the National Register of Historic Places in 2016. In fact, the area has been explicitly protected from mining interests since 1955, when President Dwight D. Eisenhower withdrew it from potential development.

In 2014, a rider in the National Defense Authorization Act authorized a land exchange giving Oak Flat to a multi-national mining conglomerate called Resolution Copper, which is owned by Rio Tinto and BHP. The language in the NDAA requires that the Forest Service produce an Environmental Impact Statement, or EIS, to evaluate the effects of the mining plan before the exchange occurred.

However, it also stipulated that the land is to be removed from the Forest Service's jurisdiction and placed into the hands of Resolution Copper within 60 days of the completion of the EIS, regardless of the findings. This is absurd and completely backwards. The NEPA process should have been followed before any land exchange was agreed to, not after.

Instead, today, we will be examining a draft EIS that, despite demonstrating some of the damage this mine will do to our environment and sacred lands, will not be able to stop this project from moving forward. The draft EIS describes Resolution Copper's plan to extract 1.4 million tons of copper ore from Oak Flat using a destructive mining technique known as "panel caving".

This technique will create a massive crater that will directly and permanently damage the Oat Flat area. The crater is projected to start to appear in Year 6 of active mining and will ultimately be between 800 and 1,100 feet deep and roughly 1.8 miles across. If you want to try to picture that, this mine will create a hole that is twice as deep as the Washington Monument is tall and that will stretch the distance between the U.S. Capitol and the Lincoln Memorial.

And in this crater of destruction will be the sacred site of the Apache people. In this crater will be the ancient Emery Oak Groves, which have been used by tribal members for millennia. In this crater will be the ancestral burial grounds of the Indigenous peoples of Southern Arizona. As there has never been a complete survey of the area, it is difficult to know exactly how many cultural resources may be destroyed or swallowed by this crater. But it is not hard to know the hurt and trauma this will inflict on the Native people who hold this place sacred. In addition to the

destruction of sacred sites, this mine will have impacts that would last for centuries.

Unchecked groundwater pumping would deplete the area of water resources, contributing to a water shortage crisis that Arizona is already grappling with and depleting sacred springs in that area. The operation will also produce 1.3 billion tons of toxic tailings, which will be pumped through pipelines to a yet-to-be-determined storage facility.

All in all, this mine is an environmental and human rights disaster in the making, and the land exchange should not be allowed to move forward.

Thank you again for being here and I look forward to hearing your testimony.

[The prepared statement of Mr. Gallego follows:]

PREPARED STATEMENT OF THE HON. RUBEN GALLEGO, CHAIR, SUBCOMMITTEE FOR INDIGENOUS PEOPLES OF THE UNITED STATES

I want to thank all our witnesses for being here today, especially considering the difficulties the coronavirus outbreak has caused for all of us.

Today, we will examine the detrimental effects that proposed mining operations will have on tribal historical cultural and sacred sites located in Southeastern Arizona.

A few weeks ago, we had a hearing on the destruction of sacred sites that is occurring during the construction of the border wall on the Southern border. Unfortunately, the destruction of those sacred sites is not a unique case.

We are here again today to discuss the disregard for the rights of Native Americans and the destruction of their sacred sites—this time for the construction of a new dangerous and destructive copper mine near the town of Superior, Arizona.

The legislative language that enabled this mining operation has a history dating back to the 108th Congress in 2005—and tribal opposition has been there since the very beginning. That's because the land this mine would destroy includes the Chi'chil Bildagoteel Historic District, known more broadly by its English translation, "Oak Flat."

Located in the Tonto National Forest, the historic Oak Flat area is a sacred site to many tribal nations where they conduct religious and cultural ceremonies and gather traditional medicines and food.

This land is sacred not only to the San Carlos Apache Tribe which is represented here today, but to the Tonto Apache Tribe, the White Mountain Apache Tribe, the Yavapai-Apache Nation, the Yavapai-Prescott Indian Tribe, the Gila River Indian Community, the Salt River Pima-Maricopa Indian Community, the Hopi Tribe, and the Pueblo of Zuni.

This land's sacred status has been broadly recognized, including by the National Park Service when it listed Oak Flat on the National Register of Historic Places in 2016.

In fact, the area had been explicitly protected from mining interests since 1955 when President Dwight D. Eisenhower withdrew it from potential development.

In 2014, a rider on the National Defense Authorization Act authorized a land exchange giving Oak Flat to a multi-national mining conglomerate called Resolution Copper, which is owned by Rio Tinto and BHP. The language in the NDAA required that the Forest Service produce an Environmental Impact Statement—or "EIS"—to evaluate the effects of the mining plan before the exchange occurred.

However, it also stipulated that the land is to be removed from the Forest Service's jurisdiction and placed into the hands of Resolution Copper within 60 days of the completion of the EIS, ***regardless of the findings***. This is absurd and completely backwards—the NEPA process should have been followed *before* any land exchange was agreed to, not after.

Instead, today, we will be examining a Draft EIS that—despite demonstrating some of the damage this mine will do to our environment and sacred land—will not be able to stop this project from moving forward. The Draft EIS describes Resolution Copper's plan to extract 1.4 billion tons of copper ore from Oak Flat using a destructive mining technique known as "panel caving."

This technique will create a massive crater that will directly and permanently damage the Oak Flat area. The crater is projected to start to appear in year 6 of

active mining and will ultimately be between 800 and 1,115 feet deep and roughly 1.8 miles across. Picture that. This mine will create a hole that is *twice as deep* as the Washington Monument is tall, that will stretch the distance between the U.S. Capitol and the Lincoln Memorial.

And in this crater of destruction will be the sacred site and of the Apache people. In this crater will be ancient Emory oak groves, which have been used by tribal members for millennia. In this crater will be ancestral burial grounds of the Indigenous Peoples of Southeastern Arizona. As there has never been a complete survey of the area, it is difficult to know exactly how many cultural resources may be destroyed or swallowed up by this crater.

But it is not hard to know the hurt and trauma this will inflict on the Native people who hold this place sacred. In addition to destruction of sacred sites, this mine will have environmental impacts that would last for centuries.

Unchecked groundwater pumping would deplete the area of water resources, contributing to a water shortage crisis that Arizona is already grappling with and depleting sacred springs in the area. The operation will also produce 1.37 billion tons of toxic tailings, which will be pumped through pipelines to a yet-to-be-determined storage facility.

All in all, this mine is an environmental and human rights disaster in the making, and the land exchange should not be allowed to move forward.

Thank you again for being here, and I look forward to hearing your testimony today.

Mr. GALLEGO. I would now like to recognize the Ranking Member for any opening remarks. Our Ranking Member has decided not to join us, so we will continue into witness testimonies.

I'd like to now transition to our first panel of witnesses. Under Committee Rules, oral statements are limited to 5 minutes, but you may submit a longer statement for the record if you choose. When you begin, the lights on the witness table will turn green. After 4 minutes, the yellow light will come on. Your time will have expired when the red light comes on, and I will ask you to please wrap up your statement. I will also allow the entire panel to testify before we question the witnesses.

The Chair now recognizes Ms. Naelyn Pike, a member of the San Carlos Apache Tribe and a youth organizer for Apache Stronghold.

STATEMENT OF NAELYN PIKE, YOUTH ORGANIZER, APACHE STRONGHOLD, SAN CARLOS, ARIZONA

Ms. PIKE. Thank you. My name is Naelyn Pike, and it is an honor today to testify before the Subcommittee on behalf of the Apache youth. Thank you, Chairman Gallego and Ranking Member Cook for convening this important hearing. I am a member of the San Carlos Apache Tribe and reside on the San Carlos Apache Reservation in rural Southeast Arizona. I am Chiricahua Apache, and my family has lived in what is now Southeastern Arizona since time immemorial.

The United States Calvary had forced my people from the land and onto the reservation in the late 1800s as prisoners of war. While we had to leave our sacred places at gunpoint, these areas still retain their spiritual, cultural, and historical connection to the Apache people. I am here today to advocate for my land, my religion, and my home on behalf of the next generation and the generations yet to come. This is Chí'Chil Bildagoteel, or Oak Flat.

At least eight Apache clans and two Western Apache bands have documented history in what is today known as Oak Flat and Apache Leap. Apache people are deeply connected to our traditions

and to the land that we have called home since first put here by Usen, the Creator. My people have lived, prayed, and died in Oak Flat and Tonto National Forest for centuries.

My great-grandmother lived along Oak Flat's ridge and the river which runs down from the north. Today, Apache people come to Oak Flat to participate in holy ground and sunrise dance ceremonies, to pray, to gather medicine and ceremonial items, and to seek and obtain personal peace and cleansing. I have been brought to Oak Flat my entire life. My family would come together for prayer, ceremony, to collect the acorns and berries, and to live free as Apache people once were.

I still feel that strong spiritual connection to Mother Earth, Nagosun, and to Usen at Oak Flat. It is who I am and where I am free to be Apache. It is not just the wind that hits my face or my feet hitting the ground, it is the spirits who are talking through the wind to show that they are here with us that resonates with us, and my feet waking up the earth, telling the spirits that we are still here, and we are still fighting, not ready to give up.

When I am at Oak Flat, I see what the Creator has blessed us here with and that Usen has touched this place. Oak Flat is one of the sacred areas where Apaches hold the coming-of-age ceremony for girls to make their entrance into womanhood. My sunrise dance ceremony was one of the most pivotal moments of my life and forever changed who I am and how I see this world. On the first day of my ceremony, I made the four Apache breads for the medicine man and my godparents. My godmother helped me dress into my traditional clothing and stayed with me for the entire ceremony.

During the ceremony, I had danced alongside my godmother, godfather, and partner by my side. I hit the ground hard with my cane to the drumbeat that woke the mountains, the spirits, and the Gaans, which are also known as angels, bringing them back to life. Without them, the Apache people cannot conduct our ceremonies.

I awoke the Gaans and danced beside them with tears running down my face. On the third day, my partner and I danced underneath the four sacred poles. This is when I became the white-painted woman. My godfather and the Gaans painted me with the Glesh. In our creation story, the white-painted woman came out of the earth covered with the white ash from the Earth's surface.

With my face completely covered, my godmother wiped my eyes with her handkerchief. Once my eyes were opened, I looked upon this world not just as a little girl, but now as an Apache woman. It is our religious right to be able to practice our ceremonies in our sacred places. If Resolution Copper proceeds with the mine at Oak Flat, it will become a giant crater. Without the land, who are we as Apache people? The land will subside and the earth will die. How will we be able to practice our ceremonies at Oak Flat when it is destroyed? How will we harvest the acorns planted by Usen when the trees are gone? How will we collect the sacred water from the springs when it is poisoned?

The Gaan will no longer live at Oak Flat, and the destruction will irreversibly destroy the sacred Chí'Chil Bildagoteel. The food and the medicine can never be replaced, nor can they ever be relocated. I am proud to be a member of the Apache Stronghold

and to be standing up and making my voice heard on behalf of the Apache and other Indigenous youth.

Today, young people are standing up to protect our religion and way of life that has been under attack for far too long. Through massacre, forced removal from the land, and mandatory boarding schools, the United States has tried to silence Native voices and suppress our culture. I am here today to say that the next generation will not be silenced. I will no longer be silenced.

In the DEIS, the Tonto National Forest discusses the Apache way of life in the past tense as if it is an ancient history. I hope Congress understands that the Apache way of life is not just history, but it is also present and future. Today, Congress has the opportunity to uphold the treaty and trust responsibility to the Native people and to tell a foreign mining company that our land is not for sale. My culture is not for sale. My religion is not for sale. My people and my future are not for sale. Congress has the opportunity to stand up for religious rights, for Indigenous culture, and for the environment in the face of certain massive destruction that will be forever. The time to act is now, not only for my generation but for the generations yet to come. Thank you.

[The prepared statement of Ms. Pike follows:]

PREPARED STATEMENT OF NAELYN PIKE, YOUTH ORGANIZER, APACHE STRONGHOLD

My name is Naelyn Pike, and it is an honor to testify today before the Subcommittee on behalf of Apache youth. I have traveled here to testify from the San Carlos Apache Reservation (Reservation) in rural Southeast Arizona. I am Chiricahua Apache, and my family has lived in what is now Southeastern Arizona since time immemorial. In the late 1800s, the United States forcibly removed my people from the land and drove the Apaches onto the Reservation, where they were made prisoners of war. While we were forced to leave our sacred places at gunpoint, these areas still retain their spiritual, cultural, and historical connection to Apache people.

At least eight Apache Clans and two Western Apache Bands have documented history in what is today known as Oak Flat and Apache Leap area. Our people lived, prayed, and died in the Oak Flat and Tonto National Forest area for centuries. Apache Leap was given its name after Apache Warriors leaped to their death rather than be killed by the United States Cavalry. These areas make us who we are today.

I am here today to advocate for my land, my culture, and my home, on behalf of the next generation and the generations that will come after me.

BACKGROUND

In 2014, Congress passed the 2015 National Defense Reauthorization Act (NDAA), which included Section 3003, the Southeast Arizona Land Exchange. The provision gave a 2,422-acre parcel of U.S. Forest Service land to Resolution Copper, a foreign-owned mining conglomerate, in exchange for privately owned land in Arizona that would be managed by the U.S. Forest Service and the Bureau of Land Management. The land Congress gave to Resolution Copper includes Chi'Chil *Bildagoteel* or Oak Flat.

Resolution Copper proposes to use block-cave mining to remove the ore body underneath the land. The project will destroy the area and leave a massive crater. Oak Flat will be destroyed. The natural springs and life-giving water will be forever contaminated and depleted, and massive infrastructure projects, including pipelines, will be built under Apache Leap. I cannot overstate how destructive this will be to our sacred land.

Native people have fought tirelessly since 2005 to try and stop the land exchange from becoming law. Despite the widespread tribal, environmental, and religious opposition, Congress included the land exchange in the massive, must-pass NDAA legislation in 2014. While the land exchange was signed into law, Apaches and our

allies have not stopped fighting to protect our land. The Save Oak Flat Act (H.R. 665 and S. 173) repeals Section 3003 and ensures that no destructive mining will take place on our sacred land.

SPIRITUAL CONNECTION

Chi'Chil Bildagoteel is my home, it is who I am, and it is where I am free to be Apache. Apache people are deeply connected to our traditions and to the land that we have called home since first put here by *Usen*, the Creator. Apache people come to Oak Flat to participate in Holy Ground and the Sunrise Dance ceremonies, to pray, to gather medicines and ceremonial items, and to seek and obtain peace and personal cleansing.

My great-grandmother and my ancestors lived along Oak flat's ridge and the river, which runs down from the north. They fought to keep Oak flat and Apache leap. This was home, the place where *Usen* put the *Gaan* to bring blessings to the people.

I still feel a strong spiritual connection to mother earth and *Usen* at Oak Flat. It is who I am and where I am free to be Apache. Oak Flat is where Apache's can practice our culture, to connect with our ancestors, and to live the spiritual connection to the land and Creator. It is not just the wind hitting my face or my feet hitting the ground, it is the spirits who are talking through the wind to show that they are here with us, and my feet waking up the earth, telling the spirits that we are still here, and we are still fighting, not ready to give up. When I am at Oak Flat, I see what the Creator has blessed us with and that *Usen* has touched this place. I feel it in my heart and understand why my great-grandmother and her people fought for Oak flat and Apache Leap. That is my holy place too. *Usen* has touched these sacred places, and I am here to hold that.

Through my entire existence, I was consistently brought back to Oak Flat. My family would come together for prayer and ceremony. When the red berries and the acorn were in season, I was taken to Oak Flat to gather our traditional foods. With the food we collected, we were able to feed our families. Through this practice, I was able to learn my role as an Apache girl and to live our culture. The acorn, berries, and medicinal plants can never be replaced. Nor can they ever be relocated to a different area. *Usen* has planted these plants and herbs there for a reason. To me, Oak Flat is home, and it will always be home.

SUNRISE CEREMONY

Oak Flat is one of the sacred areas where Apaches hold the coming of age Sunrise Ceremony for girls to mark their entrance into womanhood. The ceremony begins when a girl goes to the sacred land and builds a wikkiup, which becomes their new home for the journey ahead.

On the first day of my ceremony, I made the four Apache breads for the medicine man and my godparents. My godmother helped me dress in my traditional clothing and stayed with me throughout the ceremony. On the second day of the ceremony, I woke up when the sun started to rise. I danced and prayed with my godmother, godfather, and my partner by my side. I danced to the sun, the Creator. I hit the ground hard with my cane in time with the drumbeat to wake up the sacred mountain, the spirits, and the *Gaans*, also known as Angels, bringing them back to life. Without the power of the *Gaans*, the Apache people cannot conduct our ceremonies. I awoke the *Gaans* and danced beside them, tears streaming down my face. On the third day, my partner and I danced underneath the four sacred poles. This day is when I became the white-painted woman. My godfather and the *Gaans* painted me with the *Glesh*. In our creation story, the white-painted woman came out of the earth, covered with white ash from the earth's surface. Being painted with the *Glesh* represents the white-painted woman and her entrance into a new life. The paint molds and glues the prayers and blessings from the ceremony onto me. With my face completely covered, my godmother wiped my eyes with a handkerchief. Once my eyes opened, I looked upon the world not as a little girl, but as a changed woman. At the end of my dance, my family and friends congratulated me. We all cried because I was no longer a girl; I was now a woman. On the last day of my ceremony, my grandmother undressed me and took me to the stream so I could bathe. While she washed my hair, a small green hummingbird flew right in front of us and hovered about before it flew toward the sky. I knew this was a great blessing. I dressed in my everyday clothes, and we went back to the camp.

I had become a woman and followed in the footsteps of Apache girls that have come before me. My ceremony is just one part of an Apache way of life. It is our religious right to be able to practice these ceremonies in these sacred places. How

can we practice our ceremonies at Oak Flat when it is destroyed? How will the future Apache girls and boys know what it is to be Apache, to know our home when it is gone?

IMPACT ON YOUTH

I am proud to be a member of the Apache Stronghold and to be standing up and making my voice heard on behalf of Apache and other indigenous youth. Young people are standing up today to protect our culture and a way of life that has been under attack for too long. Through massacre, forced removal from the land, and sending children to far-off boarding schools, the United States has tried to stifle Native voices and suppress our culture. I am here today to say that the next generation will not be silenced. Native youth understand that it is now our responsibility to stand together proudly and ensure our culture is protected for our children and our children's children.

If Resolution Copper is able to develop the mine at Oak Flat my future children and grandchildren will never be able to see the beauty and feel the power of Chi'chil *Bildagoteel*. They will never be able to pick the acorn and berries to feed their families. They will never be able to use the medicinal herbs to heal naturally. They will never hear the echoes and see the silhouettes of the *Gaans* in the canyons. They will never be able to feel the connection of *Usen* the way I feel it today if Resolution Copper is allowed to destroy Oak Flat.

In the DEIS, Tonto National Forest discusses the Apache way of life in the past tense as if it is ancient history. I hope Congress understands that the Apache way of life is not just history, but the present and future. We are living and breathing. The culture and traditions are very much alive, and we pray every day that they will continue.

CONCLUSION

The DEIS makes it clear that the mining project proposed by Resolution Copper will destroy the Oak Flat area. The block cave mining technique will obliterate the nature of the land, its ecology, and its sacred powers forever.

Congress has an opportunity to pave a path between tribal nations and the Federal Government to build a better life for our people and to uphold its trust responsibility. This country was created for citizens to believe in the American Dream. As prisoners of the United States, indigenous people were left out of that dream. That dream continues to pass over indigenous people to this day. We are still fighting to practice our first amendment rights and our culture. The right to our religion is being stripped away through Section 3003. It is in Congress' power to make a difference. I urge the Committee and the Congress as a whole to stand up for Native youth, to stand up for our culture, and to do right by indigenous people.

Mr. GALLEGO. Thank you.

The Chair now recognizes the Hon. Wendsler Nosie, Sr., the former Chairman of the San Carlos Apache Tribe and the founder of Apache Stronghold.

STATEMENT OF THE HON. WENDSLER NOSIE, SR., FOUNDER, APACHE STRONGHOLD, SAN CARLOS, ARIZONA

Mr. NOSIE. Thank you. Thank you for the House Committee to have this hearing. And I want to let you know that, within my hand, I hold what we call Hoddentin, the yellow powder. I want to give thanks to the people across this country who are in prayer. I want to give thanks to all the men in this country who are sweating at this time. And I want to give thanks to the people that have congregated at Oak Flat since last night for prayer about what is occurring here. So, I want to thank the Creator for that and all the people in attendance and you all here.

I have come here for years and years and years saying the same thing, preaching the same words about the neglect of NEPA and how it has affected not only our people, our religion, but our

country and how it would set the example of devastation for the rest to follow. When it comes to corporations, we are talking about a religion. We are talking about angels, a saint. We are talking about a sunrise ceremony that is no different when we talk about Lady of Guadalupe, the Virgin Mary, similar to that—of how life was given at that point. Young men come into ceremonies, into young manhood. The oak trees will stand 800 years old at seeing life and still produce their first acorn to provide meals for the people.

Medicine plants that are there for the people—like what we are facing here today, what America doesn't know is that a lot of these companies come to Native Americans to find medicine, to find those things. Well, these places are being destroyed and these holy places.

The water, the giver of life, we are talking about water that is a part of the great ceremony that brings in the coming of the world. And, today, we know that we have to live with water. And that is going to be destroyed. And then the mountains. I wish some of these people would come with me and sit on the mountain tops and see how the wind comes from the south, from the west, and how these mountains move the wind to assure that certain places receive their abundance of water. Leaders don't seem to know that.

And that is why we sit here today, because it is affecting the world in a spiritual way—which brings us here, being that a moral injustice has been done on the religious side of this and that we are all a part of this now. My religion is your religion. Your children are my children. So, when it came down to the Tribe entering this argument, the tribal government relied on the United States with NEPA.

And if you look at the record, you see how many times they made an attempt to get an exemption from Congress and were denied. It wasn't until a late-night rider was slipped in for this, for us to sit here, for my granddaughter to sit here to speak and everyone to be in prayer today because of that, because of this NEPA law that could have provided all the information from the religious perspective and from the corporate perspective because those things are really essential.

We need to understand what brings us here. What brings us here in this argument is power and greed. And we say about the deception how things were created and how people are not told the truth. And in Arizona today and these public hearings, 98.9 percent of the people disagree. The reason why they disagree now and not then was because no plan of operation was given to anybody, just jobs and money, jobs and money, taxes.

So, people fell for that. But they didn't realize all the impact of devastation that it is going to bring, which you will hear on the next panel. But the important part is that there are places in America that you cannot destroy. Now, here, we are talking about a time of a people that had a way of life and that were put as prisoners of war. And now we are dealing with the after-effects that we were vacated out of these homelands that were our holy places.

What fears me the most is my grandkids, to bear their children—because as people in this country can go back to Europe and appreciate what's in the Bible about what's holy in these holy

places and visit Mount Sinai, which is no different from here. These places are holy, as equal, to those places because even at that time, Usen, who is known throughout the world by many names, but who is God, had blessed this place no different than any other place.

So, if we are going to call this place home, then we need to begin to treat these places like home. What's going to be destroyed is our people. And what our people before me have said was that the last battle of our existence would be our religion, that the religion will be taken from our people, and we must stand all together to assure that we do not destroy the precious gift that God placed on this world. So, again, I want to thank you for the opportunity for being here, and I look forward to any questions. Thank you.

[The prepared statement of Mr. Nosie, Sr., follows:]

PREPARED STATEMENT OF WENDSLER NOSIE, SR., FOUNDER, APACHE STRONGHOLD; AND FORMER CHAIRMAN OF THE SAN CARLOS APACHE TRIBE

Good afternoon, Chairman Gallego, Ranking Member Cook and distinguished members of the Subcommittee. It is an honor to have the opportunity to testify before you today on behalf of the Apache Stronghold and as a Member of the San Carlos Apache Tribe.

My name is Wendsler Nosie, Sr., and I am here today to speak about the irreversible destruction that the Resolution Copper Mine would have on the Oak Flat area—an area sacred to many tribes in the region including my own, the San Carlos Apache Tribe—and an area of natural beauty and wonder to the region in general. I am also proud to be sharing a panel with my granddaughter sitting next to me, Ms. Naelyn Pike. We have come a long way together through this struggle to protect our ancestral homelands, and I am thankful for her never-ending support and courage, especially during the most difficult times. Her powerful voice and determination to help protect the things we hold dear are a constant reminder that we must do so for future generations as Apache people.

For over a decade our Tribe fought to stop the Southeast Arizona Land Exchange ("Land Exchange"), a proposal to transfer approximately 2,422 acres of our ancestral homelands in the Tonto National Forest ("TNF") to foreign mining conglomerates, Rio Tinto and BHP Billiton, to dig a questionable and vast copper mine beneath lands we hold as sacred. Thanks to the vocal opposition of more than 300 Native Nations and tribal organizations the House of Representatives pulled the Land Exchange from floor consideration twice during the 113th Congress due to lack of support. Despite this nationwide opposition, the Land Exchange was buried on page 1,103 of a 1,700-page National Defense Authorization bill that was unveiled just minutes prior to midnight the evening before votes. This despicable action is the antithesis of democracy and has threatened to forever destroy our way of worship and life. If the Land Exchange is permitted to move forward through finalization of a flawed Draft Environmental Impact Statement ("DEIS") process, the mining corporation and TNF, both acknowledge that the mine will cause a vast subsidence in the earth, destroying our Sacred Oak Flat, our religion, and with it, our traditional way of life. The mine will also permanently damage the region's already severely depleted water supply and the wake of this destruction will cause a multi-billion dollar superfund site that will haunt generations yet to come. Meanwhile, the mercenaries and perpetrators of this irreversible damage, who have no direct or ancestral ties to the area, will simply up and leave after they have extracted the minerals of value they seek to profit from while leaving us to deal with their created catastrophe.

We said for years, Resolution Copper's mining operations will have devastating impacts on our history, our culture, our religious practices, and the natural resources and environment of this area, especially the region's water supply. For years, proponents of Resolution Copper ignored these harsh realities and insisted that the benefits of jobs, which were greatly exaggerated and fluctuated frequently, were worth the toll to the environment and life of the surrounding communities. Yet the DEIS confirmed in large part the permanent damage and losses we already knew would occur to the broader physical environment, and our places of religious worship and cultural reverence should the project be allowed to proceed. The Tribal Values and Concerns (DEIS, 3.14) section is incomplete and demonstrates a failure

of the U.S. Forest Service to conduct adequate consultation with affected tribes. The proposed mine would directly, adversely, and permanently affect numerous cultural artifacts, sacred seeps and springs, traditional ceremonial areas, resource gathering localities, burial locations, and other places of high spiritual value to tribal members. We find the lack of reference in the DEIS to the archeological and cultural records held by the San Carlos Apache Tribe and other Indigenous peoples with ties to the area is inadequate and incomplete.

The analysis of the Tribal Values and Concerns focuses the impacts of the proposed Land Exchange and Resolution Copper Mine on the past without recognizing the current presence of religious and cultural practices that have endured at Oak Flat for centuries. This erasure of Native Americans in contemporary terms perpetuates the genocidal history of America. What was once gunpowder and disease is now replaced with bureaucratic negligence and a mythologized past that treats we as Native people as something invisible or gone. We are not. We are still a vibrant and vital part of our Nation's fabric despite repeated attempts to relegate our cultures as artifacts in museums or blurbs in history books. However, the permanent damage that will be caused by the Resolution Copper Mine is something that will contribute to this genocidal narrative continuing now and well into the future. It is disappointing that the cumulative effects analyzed in the Oak Flat DEIS do not look at the present or future of impacted Native peoples.

Chi'Chil Bildagoteel (also known as Oak Flat) is a Holy and Sacred site for our Apache people and many other Native Americans. It is a place where we pray, collect water and medicinal plants for ceremonies, gather acorns and other foods, and honor those that are buried here. It is important to understand that we have never lost our relationship to *Chi'Chil Bildagoteel*. Despite the violent history of the U.S. Government's exile, forced march and imprisonment of Native people on reservations, and the efforts by the U.S. Government to discourage, impede, or fully disallow us from coming to this holy area, we have our own legacy of persistence and never letting go of this place. *Chi'Chil Bildagoteel's* religious value to our prayers, our ceremonies, and in our family histories cannot be overstated. Native religion was the first religion practiced in this area. And for over 5 years now, we have established an encampment to protect the Holy Ground at *Chi'Chil Bildagoteel* with its four crosses, which represent the entire surrounding Holy and Sacred area, including its water, animals, oak trees, and other plants central to our tribal identity. It is important to note that *Chi'Chil Bildagoteel* is listed on the National Park Service's National Register of Historical Places ("NRHP") as a Historic District and Traditional Cultural Property ("TCP"). Emory oak groves at Oak Flat used by tribal members for acorn collecting are among the many living resources that will be lost along with more than a dozen other traditional plant medicine and food sources. Other unspecified mineral and plant collecting locations and culturally important landscapes will also be affected. Development of the Resolution Copper Mine would directly and permanently damage *Chi'Chil Bildagoteel*, the designated TCP that is vital to us, which is why we strongly oppose this operation.

The impacts that will occur to Oak Flat will undeniably prohibit the Apache people from practicing our ceremonies at our Holy site. Construction of the mine would temporarily cut off access and once the mine has been completed, the ongoing safety concerns of subsidence will create a permanent barrier preventing Apache ceremonies from taking place. Our connections to the Oak Flat area are central to who we are as Apache people. Numerous people speak of buried family members. Most of them include childhood memories. Everyone speaks to the deep spiritual and religious connection that Apaches have to the land, water, plants and animals that would be permanently destroyed by this proposed action. The destruction to our lands and our sacred sites has occurred consistently over the past century in direct violation of treaty promises and the trust obligation owed to Indian tribes. Tribes ceded or had taken hundreds of millions of acres of our homelands to help build this Nation. In return, the United States incurred obligations to protect our lands from harm, and to respect our religion and way of life. Despite these obligations, the U.S. Government has consistently failed to uphold these promises or too often fails to act to protect our rights associated with such places like *Chi'Chil Bildagoteel*.

Please keep in mind that the Land Exchange was achieved through a backroom agreement, literally at midnight the evening before attaching it to the FY 15 National Defense bill. We would not be in this position today had the Land Exchange gone through regular order and been subject to meaningful debate.

In closing, we stand with the tribes, environmental protection groups, religious freedom advocates, congressional leaders, and many other allies in asking Congress to ensure that the Tonto National Forest does not to move forward with the flawed DEIS, which would transfer Federal land to private hands for foreign mining interests. We also encourage support of H.R. 665 and S. 173, the Save Oak Flat Act,

which would repeal Section 3003 from the 2015 National Defense Reauthorization Act and protect Oak Flat and areas in the Tonto National Forest from being irreversibly scarred and destroyed. Last, we are approaching a time in the calendar when many Christians are preparing for Easter celebrations. Families will gather at churches to celebrate their religious beliefs, give thanks, and pray for those in need. I want to remind you that when our families gather at Oak Flat to celebrate our religious beliefs, we are no different than our Christian brothers and sisters who will gather at their respective churches this coming Easter Sunday. The only difference is our permanent place of prayer and worship is under attack and could be destroyed if the DEIS is approved and the Land Exchange occurs. We ask you to carefully consider and keep this in mind as this process continues.

Mr. GALLEGO. Thank you, Mr. Nosie.

The Chair now recognizes Mr. Kevin Allis, the Chief Executive Officer for the National Congress of American Indians.

STATEMENT OF KEVIN ALLIS, CHIEF EXECUTIVE OFFICER, NATIONAL CONGRESS OF AMERICAN INDIANS, WASHINGTON, DC

Mr. ALLIS. Good morning, Mr. Chairman, Ranking Member Cook, and members of the Subcommittee. On behalf of the National Congress of American Indians, I would like to thank you for holding this very important oversight hearing. My name is Kevin Allis. I am an enrolled citizen in the Forest County Potawatomi Community in Wisconsin and current Chief Executive Officer of the National Congress of American Indians (NCAI).

Founded in 1944, NCAI is the oldest, largest, and most representative organization in the country serving the broad interests of tribal nations and communities. Core to NCAI's mission is its commitment to securing tribal traditional cultures—ways of life—for our descendants.

The United States has a legal and moral obligation to protect sacred sites and cultural resources. But despite this obligation, a late rider in the Fiscal Year 2015 National Defense Authorization Act authorized a land exchange that would transfer public land in the Oak Flat area of Tonto National Forest to Resolution Copper, which is a foreign subsidiary company privately owned by a couple of mining corporations.

Today, my testimony will address Congress' fiduciary obligation to protect tribal resources and emphasize tribal opposition to the transfer of the Oak Flat area.

Tribal nations have a unique legal and political relationship with the Federal Government. As defined in the U.S. Constitution, treaties, statutes, court decisions, and executive orders. Through its acquisition of tribal lands and resources, the United States formed a fiduciary relationship with tribal nations whereby it recognized a trust relationship to safeguard tribal rights, lands, and resources.

This responsibility includes the important protection of tribal historical and cultural resources as provided in numerous statutes, executive orders, and departmental policies. Congress, in the National Historic Preservation Act, stated that it is the policy of the Federal Government, in cooperation with other nations and in partnership with Indian tribes, to provide leadership in the preservation of prehistoric and historic resources of the United States.

As mentioned by the Chairman, since 1955, the Federal Government has restricted mining within Oak Flat. And in 2016, Oak Flat was placed on the National Register of Historic Places as a traditional cultural property, which is a designation under the National Historic Preservation Act that provides the site with a very heightened Federal protection. This designation didn't come overnight. It was the product of lengthy historical and archaeological analysis and demonstrates the Federal Government's recognition of this landscape's national, historical, and cultural significance.

The Federal Government must do whatever it needs to do to protect and preserve it. Transferring this land to Resolution Copper would set a dangerous precedent and contravene the very purpose of the National Historic Preservation Act, which establishes that certain historic properties are so significant to our national heritage that their preservation is in the public interest.

This proposed transfer will result in, as we heard, unparalleled destruction of the cultural and environmental resources of the Oak Flat area because the proposed mining activity involves drilling 7,000 feet below the surface of the earth, removing, as we heard, 1.4 billion tons of ore.

The removal of the ore will ultimately cause a subsidence that will be approximately 1.8 miles wide and up to a thousand feet deep. The figures are astounding, and these come directly from the draft Environmental Impact Statement which acknowledges the cultural resources within Oak Flat will be adversely affected by leaving Federal management, which will result in an unacceptable and a substantial threat to the perpetuation of cultural traditions of the Apache and Yavapai Tribes.

As a result of these threats to tribal sacred places, there is broad opposition across Indian Country to the land transfer, which will be unprecedented in its destruction of religious, cultural, archaeological, historical, and natural resources. In fact, NCAI's membership has recognized this and passed several resolutions through the past decades opposing desecration of sacred sites and specifically this land transfer—most recently during our annual convention in Albuquerque in October.

Accordingly, I call on Congress. The National Congress of American Indians calls on Congress. The Indian Country calls on Congress to uphold its trust responsibility to tribal nations by immediately repealing Section 3003 of the Fiscal Year 2015 NDAA to prevent this destruction of tribal sacred places and cultural resources.

In conclusion, I thank you for holding this hearing to address this extraordinary threat to tribal culture and historic resources posed by the transfer of the Oak Flat area, and I would be happy to answer any questions.

[The prepared statement of Mr. Allis follows:]

PREPARED STATEMENT OF KEVIN J. ALLIS, CHIEF EXECUTIVE OFFICER, NATIONAL CONGRESS OF AMERICAN INDIANS

On behalf of the National Congress of American Indians (NCAI), thank you for holding this hearing on "The Irreparable Environmental and Cultural Impacts of the Proposed Resolution Copper Mining Operation." My name is Kevin Allis, and I am a citizen of the Forest County Potawatomi Community and the Chief Executive Officer of the National Congress of American Indians (NCAI). I look forward to

working with members of this Subcommittee and other Members of Congress to address the grave impacts the proposed Resolution Copper mine will have on tribal sacred places and cultural resources.

Founded in 1944, NCAI is the oldest, largest, and most representative national organization serving the broad interests of tribal nations and communities. Tribal leaders created NCAI in response to termination and assimilation policies that threatened the existence of American Indian and Alaska Native tribal nations. Since then, NCAI has fought tirelessly to preserve the treaty and sovereign rights of tribal nations, advance the government-to-government relationship, and remove historic structural impediments to tribal self-determination. Core to NCAI's mission is a tireless commitment to securing tribal traditional cultures and ways of life for our descendants.

Federal, state, and private lands are carved from the ancestral territories of tribal nations. In spite of this significant land loss, tribal nations maintain deep and ongoing religious, social, and cultural connections to their sacred places within their ancestral territories. This is, in part, because tribal nations and their citizens are place-based peoples. Sacred and cultural landscapes are places for tribal nations and their citizens to pray, hold ceremonies, and gather traditional and medicinal plants. They also are places where tribal cultures, religions, and ways of life are preserved, protected, and passed on to the next generation through oral tradition and traditional acts of cultural and religious observance.

The U.S. government has a legal and moral obligation to provide tribal peoples access to these ancestral lands and to protect these traditional cultural territories in a manner that respects and preserves their tribal cultural, historical, spiritual and religious importance. Despite this obligation, Congress, in a late rider to the National Defense Authorization Act of 2015 (2015 NDAA), authorized a land exchange which transferred all right, title, and interest of the United States in approximately 2,242 acres of public lands in the Tonto National Forest to Resolution Copper, which is a subsidiary of private, foreign-owned mining corporations. The purpose of this transfer of land, within an area commonly known as Oak Flat, is to construct and operate a block-cave copper mine. Pursuant to Section 3003 of the 2015 NDAA, a review of cultural and archaeological resources impacted by the proposed mine is required and the land transfer will commence upon the completion of a final environmental impact statement.[1]

This testimony addresses Congress' fiduciary obligation to protect tribal resources; details the documented historical and cultural resources within the Oak Flat Area; and highlights Indian Country's united opposition to this land transfer, which will irrevocably destroy the resources within this sacred area.

CONGRESS HAS A TRUST RESPONSIBILITY TO PROTECT TRIBAL HISTORICAL AND CULTURAL RESOURCES

Tribal nations are members of the original family of American governments and have a unique legal and political relationship with the United States as defined by the U.S. Constitution, treaties, statutes, court decisions, and executive orders. Supreme Court case law has long recognized that tribal nations are distinct political entities that pre-date the existence of the United States and that have retained inherent sovereign authority over their lands and people since time immemorial. Through its acquisition of tribal lands and resources, the United States formed a fiduciary relationship with tribal nations whereby it has recognized a trust relationship to safeguard tribal rights, lands, and resources.[2] In fulfillment of this trust relationship, the United States "charged itself with moral obligations of the highest responsibility and trust" toward tribal nations.[3]

Congress has expressly recognized its fiduciary responsibilities as reflected by the fact that "[n]early every piece of modern legislation dealing with Indian tribes contains a statement reaffirming the trust relationship between tribes and the federal government."[4] An essential component of this fiduciary responsibility is the preservation of sacred places, objects, and cultural landscapes, as provided for in numerous statutes, executive orders, departmental policies, and inter-departmental memoranda.[5]

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[1] P.L. 113–291 § 30003.

[2] *See Johnson v. M'Intosh*, 21 U.S. 543 (1823); *Cherokee Nation v. Georgia*, 30 U.S. 1 (1831); and *Worcester v. Georgia*, 31 U.S. 515 (1832) (collectively called the "Marshall Trilogy").

[3] *Seminole Nation v. United States*, 316 U.S. 286, 296–97 (1942).

[4] Cohen's Handbook of Federal Indian Law § 5.04[3][a] (Nell Jessup Newton ed., 2012).

[5] *See e.g.*, National Historic Preservation Act, 16 U.S.C. 470 et seq.; Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001 et. seq.; Executive Order No. 13,007, "Indian Sacred Sites," (1996); Memorandum of Understanding Among: U.S. Department of Defense, U.S.

Congress, in the National Historic Preservation Act, specifically stated that it is the policy of the federal government, "in cooperation with other nations and in partnership with . . . Indian tribes . . . [to] provide leadership in the preservation of the prehistoric and historic resources of the United States."[6] Additionally, Executive Order 13007 directs that "in managing federal lands, each executive branch agency with statutory or administrative responsibility . . . shall, [to] the extent practicable . . . avoid adversely affecting the physical integrity of such sacred sites."[7] Lastly, the American Indian Religious Freedom Act states, "it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise . . . traditional religions . . . and the freedom to worship through ceremonials and traditional rites."[8]

The proposed land transfer of the Oak Flat Area in the Tonto National Forest to Resolution Copper contravenes the Federal trust responsibility and Congress' longstanding support for the protection and preservation of tribal environmental, historical, and cultural resources.

THE FEDERAL GOVERNMENT HAS RECOGNIZED THE HISTORICAL AND CULTURAL UNIQUENESS OF THE OAK FLAT AREA

In 1955, President Dwight D. Eisenhower recognized the importance of the Oak Flat Area when he signed Public Land Order 1229. This order withdrew the Oak Flat Picnic and Camp Ground from future mining activities. In 1971, the Nixon administration's Department of the Interior again acknowledged the importance of the area when it retained this mining ban.[9] Most recently, in 2016, the Oak Flat area was placed on the National Register of Historic Places (National Register) as a Traditional Cultural Property (TCP).

A TCP is a type of property that is eligible for inclusion on the National Register based on its associations with cultural practices, traditions, beliefs, lifeways, arts, crafts, or social institutions.[10] Properties may be nominated to the National Register by a State Historic Preservation Officer,[11] Tribal Historic Preservation Officer,[12] or Federal agencies.[13] Importantly, TCPs may also be identified as part of an agency's responsibilities to prepare a draft environmental impact statement,[14] determining categorical exclusions,[15] or preparing an environmental assessment[16] under the National Environmental Policy Act.

Once identified and determined to be eligible for listing on the National Register, a TCP is a "historic property" within the meaning of the NHPA.[17] As a National Register-eligible property, agencies carrying out undertakings that may affect the property are required to engage in what is commonly known as a Section 106 review.[18] As part of the Section 106 process, Federal agencies are required to consult with Tribal Historic Preservation Officers and American Indian and Alaska Native tribal nations.[19] Specifically, the Act requires the agency to consult with tribal nations that attach religious and cultural significance to historic properties that may be affected by an undertaking,[20] assess adverse effects,[21] and continue

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Department of the Interior, U.S. Department of Agriculture, Department of Energy, Advisory Council on Historic Preservation on Interagency Coordination and Collaboration for the Protection of Indian Sacred Sites.

[6] 16 U.S.C. § 470–1(2).

[7] Executive Order No. 13,007, "Indian Sacred Sites," (1996).

[8] 46 U.S.C. § 1996(1).

[9] Lydia Millet, "Selling off Apache Holy Land," https://www.nytimes.com/2015/05/29/opinion/selling-off-apache-holy-land.html (last visited, March 19, 2020).

[10] "National Register of Historic Places—Traditional Cultural Properties (TCPs): A Quick Guide for Preserving Native American Cultural Resources," U.S. Department of the Interior, National Park Service, American Indian Liaison Office." https://www.nps.gov/history/TRIBES/Documents/TCP.pdf (last visited, Mar. 10, 2020).

[11] 36 C.F.R. § 60.6.

[12] Id.

[13] 36 C.F.R. § 60.9.

[14] 40 C.F.R. § 1502.25.

[15] 36 C.F.R. § 800(b).

[16] 36 C.F.R. § 800.8(c).

[17] 36 C.F.R. § 800.16(l)(1) (Historic Properties are any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places).

[18] 36 C.F.R. § 800.1(a).

[19] 36 C.F.R. § 800.2(a)(4).

[20] 36 C.F.R. § 800.2(c)(2)(ii).

[21] 36 C.F.R. § 800.5.

tribal consultation to resolve any adverse effects.[22] If no resolution is reached, the Advisory Council on Historic Preservation provides comments to the head of the agency that must be taken into account as part of the final agency decision.[23]

The placement of the Oak Flat Area on the National Register is the product of lengthy historical and archaeological analysis. It demonstrates the Federal Government's explicit recognition of this landscape's national historical and cultural significance and its obligation to preserve it. The proposed land transfer to Resolution Copper of a National Register property would set a dangerous precedent and violate the very purpose of the NHPA, which establishes that certain historic properties are so significant to our national heritage that "the preservation of this irreplaceable heritage is in the public interest so that its vital legacy of cultural, educational, aesthetic, inspirational, economic, and energy benefits will be maintained and enriched for future generations of Americans."[24]

THERE IS BROAD INDIAN COUNTRY OPPOSITION TO THE DESTRUCTION OF THE OAK FLAT AREA

Despite a 65-year history of federal acknowledgement of the historical and cultural significance of the Oak Flat Area, Section 3003 of the 2015 NDAA provides that no later than 60 days following the publication of a Final Environmental Impact Statement, the Secretary of the United States Department of Agriculture must convey the Oak Flat Area to Resolution Copper.[25]

This transfer will result in an unparalleled destruction of the cultural and environmental resources of the Oak Flat Area. The project proposes to remove copper ore through a technique called block-cave mining. This is a type of mining that digs deep below the earth's surface to extract ore as the earth above collapses from the void created. If permitted, Resolution Copper would create one of the largest and deepest copper mines in the United States.[26] Resolution Copper proposes to extend mine workings approximately 7,000 feet below the surface of the earth[27] and remove approximately 1.4 billion *tons* of ore to produce 40 billion *pounds* of copper.[28] The result of removing ore from below ground would cause a subsidence of roughly 6,951 acres, or 11 square miles approximately 1.8 miles wide and 800–1,115 feet deep.[29]

In addition to the existing listing on the National Register, this area is home to many traditional cultural properties eligible for inclusion in the National Register that are culturally important to tribal nations in the area.[30] Regarding the effects of the proposed project on tribal cultural resources, the Draft Environmental Impact Statement states:

> All of these resources would be adversely affected by leaving Federal management. In particular, the loss of the ceremonial area and acorn-collecting area in Oak Flat would be a substantial threat to the perpetuation of cultural traditions of the Apache and Yavapai tribes, because healthy groves are few and access is usually restricted unless the grove is on Federal land.[31]

The environmental degradation and destruction of this life-sustaining landscape is unacceptable. Since 2001, NCAI has passed over 60 resolutions that speak to the broad concerns of tribal nations and their citizens regarding cultural and historic resources. Specifically, NCAI has passed several resolutions directly opposing the proposed land transfer in Section 3003 of the 2015 NDAA,[32] and recently passed

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[22] 36 C.F.R. § 800.6.
[23] 36 C.F.R. § 800.7.
[24] 16 U.S.C. § 470.
[25] P.L. 113–291 § 30003(c)(10).
[26] *See* Draft Environmental Impact Statement: Resolution Copper Project and Land Exchange, at p. 3.
[27] Id.
[28] Id. Executive Summary, at ES–3; *see also* Draft Environmental Impact Statement: Resolution Copper Project and Land Exchange, at p. 6.
[29] Id., at p. 26.
[30] *See* Draft Environmental Impact Statement: Resolution Copper Project and Land Exchange, at p. 628 ("Within the direct impacts analysis area, 721 archaeological sites have been recorded . . . Of the 721 sites, 523 are recommended or determined eligible for the NRHP [National Register of Historic Places] . . ..").
[31] *See* Draft Environmental Impact Statement: Resolution Copper Project and Land Exchange, at p. 665.
[32] NCAI Resolution #REN–13–019: "In opposition to the Conveyance of Federal Lands to Foreign Mining Interests with Sacred and Cultural Significance to Tribes, Including H.R. 687

Resolution #ABQ–19–062, titled "Support for the Protection of Oak Flat and Other Native American Sacred Spaces from Harm."

This resolution expresses NCAI's support for repeal of Section 3003 of the 2015 NDAA due to its circumvention of Federal laws that protect sacred places from destruction and harm. In addition to NCAI's national advocacy, there is broad opposition across Indian Country to the land transfer, which will be unprecedented in its destruction of religious, cultural, archeological, historical, and natural resources.

Indian Country has urged Congress to affirm its trust responsibility by repealing Section 3003 of the 2015 NDAA. Prior to the late addition of Section 3003 in the 2015 NDAA, Congress had consistently rejected legislation that would have transferred the Oak Flat Area for copper mining. Given the clear cultural and environmental destruction that this land transfer will cause, NCAI calls on Congress to fulfill its fiduciary duty and prevent Resolution Copper from acquiring the Oak Flat Area.

CONCLUSION

On behalf of NCAI, I again thank you for holding this oversight hearing to address the extraordinary threat to tribal cultural and historic resources posed by the transfer of the Oak Flat Area to Resolution Copper.

Mr. GALLEGO. Thank you, Mr. Allis.

I thank the first panel of witnesses for their testimonies, reminding the Members that Committee Rule 3(d) imposes a 5-minute limit on questions. The Chairman will now recognize Members for any questions they may wish to ask the witnesses. I will start by recognizing myself for 5 minutes.

Ms. Pike, thank you for being here. Your testimony states that Congress has the opportunity to uphold the Federal trust responsibility by protecting Oak Flat. Can you expand on why the Oak Flat Land Exchange is at odds with our trust responsibility to Native people, specifically the Apache?

Ms. PIKE. I think that Tonto National Forest's lack of trust responsibility was the lack of not consulting with the San Carlos Apache Tribe in regard to the land transfer. As you can already see with Oak Flat, Chí'Chil Bildagoteel, this is already a lack of responsibility of protecting our religion, protecting our natural resources, and protecting the San Carlos Apache Tribe and the future and welfare of who we are.

This consultation has never happened between the Tribe and Resolution Copper and Tonto National Forest. In the DEIS, the San Carlos Apache Tribe is only mentioned three times. That right there shows a lack of how important we are and not only looking at us as a present and future people but looking at us as a past history.

Mr. GALLEGO. Thank you, Ms. Pike.

Mr. Nosie, in your testimony, you describe the permanent damage that Resolution Copper's proposed mine would have on the Oak Flat area, which includes destruction of land, water, plants, and animals—all living things to which Apache people hold a deep spiritual and symbiotic connection with. Can you please tell us how future generations would be impacted if this sacred site were to be permanently destroyed.

Mr. NOSIE. The example I can give you is—what people practice with their Holy Bible. We talk about the sacred sites on the other

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and S. 339"; NCAI Resolution #MSP–15–001: "Support for Repeal of Section 3003 of the FY 15 National Defense Authorization Act, the Southeast Arizona Land Exchange."

side of the world where gifts were given. Well, it is identical here. There is no difference. If you have the sacred mountain collapsing, subsiding into just a big hole, then what does it do for the rest of our kids that are yet to be born? It takes away from the language, the ceremony, the religious ways that we see the way God had placed his hand on the world here. So, how do you describe, and how do you say that?

So, what we see is a forever desecration to never, ever return, and it will harm our children forever. And it will totally impact the surrounding area because not only Native people but people who have come to this holy place and have felt that itself. You can hear that from many non-Indians of America as well because when you know who God is, then you feel the presence of where it is at.

Mr. GALLEGO. Thank you, Mr. Nosie.

Mr. Allis, as you pointed out in your testimony, Oak Flat is listed on the National Register for Historic Properties. Can you elaborate on why the National Historic Preservation Act is so important to tribal nations?

Mr. ALLIS. Yes. Thank you, Chairman. Great question. It recognizes the importance of it protecting and preserving cultural heritage in tribal nations. Not only is it listed on the National Historic Preservation Act list, but it is a TCP. And what that means is that it is a very unique property. It is a unique location that recognizes the roots to a community's history. That is important for maintaining that community's history and their cultural and religious identity.

And it means it is alive. That the practices and beliefs that are attached to that location are still going on today. They are alive and well and why this really needs to be protected. These aren't things that once happened there, these are things that have happened there forever and continue to happen today and why that is really important to preserving this particular location.

Mr. GALLEGO. Considering that it is a TCP, traditional cultural property, and the Federal Government has specifically recognized it as such, isn't the obligation of the Federal Government, then, to protect it, in your opinion, or is there an obligation for them to do that?

Mr. ALLIS. Absolutely. In the trust and fiduciary responsibility that the United States has to Indian Country and protecting, as I mentioned in my testimony, lands, rights, cultures, and traditions, this is at the heart of that. And if we are not paying attention to this and if the United States isn't respecting this and recognizing the significance of what this Act would do and how it would harm and the precedents that it would set in how these sacred sites and how Indian Country looks at these, if we are not paying attention to that, that is significant long-term damage that cannot be repaired. As we heard in the testimony, once this has gone, it is gone. It is not coming back. These sites aren't movable or transferable. They are where they are for a reason.

Mr. GALLEGO. Thank you, Mr. Allis.

Now I yield to Representative Haaland.

Ms. HAALAND. Thank you, Chairman.

Mr. Allis, my first question is for you. Will you elaborate on your testimony that highlights the harmful precedent that this land

exchange will set for the National Historic Preservation Act and how the terms of this land transfer will impact future tribal nations?

Mr. ALLIS. What it does is, in the 11th hour, in the middle of the night, in a provision that is tucked into an NDAA bill, it contravenes the entire purpose that Congress built into the National Historic Preservation Act. It does an end-around, if you will. The responsibilities that Federal agencies have in interacting, engaging, and consulting with tribes on the importance of these sites and discuss ways to either avoid, mitigate, or completely move away from the action that is taken that could damage and impact the site.

So, like I mentioned previously with the Chairman's questions, if we are not completely following what was intended and mandated in the National Historic Preservation Act and allow it to be waived or removed through another legislative act, there is serious long-term damage to Indian Country.

Ms. HAALAND. Thank you, Mr. Allis.

My next question is for Mr. Nosie. In November, you informed the Forest Service that you are taking a religious position and assume residence at the Oak Flat Campground in the Tonto National Forest. Will you tell us why you chose to return to your ancestral homeland and why this is important to the San Carlos Apache Tribe and also the issue that you are fighting for today?

Mr. NOSIE. The reason—returning back to the Oak Flat was growing up and sitting on a reservation with my uncles and grandfather and them talking about the promises that the United States made with the Apache people and that one day we will be able to return back, and then telling our people that these places are held in trust and protection that once we become civilized, we will be able to come back to these places.

So, it came to a point where they were hurt. They were crying. There were men that were crying, no longer to be able to go back to what they knew. And I grew up in that era with my mother being a prisoner of war, being born on the reservation. So, growing up and becoming a tribal leader and knowing my responsibility as a tribal leader, that my responsibility is to protect the people and protect the environment and do the best for what could be good for all.

And I have that same trust responsibility with the United States, that these are leaders to oversee not just us but the people of the country. So, when all of this was happening and coming to the draft EIS to show the complete ignorance yet to leave us or put us only in three spots and not speak of anything, then I came here to the agency and delivered my letter that I am returning back to Oak Flat because of their negligence, that I am no longer going to wait for these promises to happen. I am no longer going to wait.

So, I returned back and set up residence and began to take care of the place the way it should be taken care of. And that is where we found many of the things missed in this study that they did and also the negligence on the Tonto National Forest because they are more in cooperation with Resolution Copper than with the Tribe. Now I am there to protect and witness what is occurring so that I can explain to the American people—if this goes through—what

is a death, what is a murder, because that is actually what is happening to this holy place.

Ms. HAALAND. Thank you very much.

And Ms. Pike, first of all, how long have you been advocating or how long have you been an activist on this issue?

Ms. PIKE. I feel like my entire life. As Indigenous people, our first breath is fighting.

Ms. HAALAND. Thank you. Ms. Pike, you speak to the importance of Apache culture and how it is an integral part of your identity. Can you talk about the challenges that you faced in your life as an Apache and how your cultural practices have helped you to overcome those?

Ms. PIKE. I think being here now is one of the challenges that we face as Apache people, as being Indigenous, facing the struggles of fighting for who we are, our language, our land, our resources, our future and, as a woman, having to fight to be able to bear a child and to try to teach that child, my future children, what it is to be Apache and who it is to be Indigenous, but to take them to a fence with a crater that is 2 miles wide. That is something that I am fighting. It is for our future.

And like my sunrise ceremony, for the boys to sing and do the sweat at Oak Flat and for me to be able to pick the acorns and the berries, that is what keeps us who we are. That is the thing, the spiritual connection to Nagosun, to our Mother Earth, to Usen, the Creator, to Chí'Chil Bildagoteel, and to all sacred sites as Indigenous people, it is what keeps us here today and now as being Apache and as being Indigenous.

Ms. HAALAND. Thank you.

Chairman, with your permission, if I could just have one more moment. First of all, I wanted to thank Reverend Barber for being here. You are always here to be a voice for under-represented people. And I personally appreciate your presence here in this hearing room right now so very much. Thank you for coming.

I also want to just mention that one of our colleagues, they sent a message saying that we should cancel this hearing because, essentially, the other side wasn't represented. But I just have to say that I am sorry I wasn't here when this bill was finagled into the NDAA. I am sorry that I didn't have a voice in Congress when it was important. And I have to say that when they do things like that, Native people, they are not heard either. That side is never heard.

So, I think that if your organization, Apache Stronghold, would have had a couple million dollars in the bank, you could have hired some lobbyists to come out here and lobby every single Congress Member to say, "Please don't vote for this. Please make sure that stays out of the NDAA because this will affect the future of our Tribe," that perhaps we wouldn't even be having this hearing right now.

I want to say that regardless of what happens, we all have an obligation to stand up for under-represented people and definitely for Native American sacred sites that are just bulldozed, blasted. I mean, it is happening across the country. I feel like this is a repeat of a hearing we had just a couple weeks ago when sacred sites were being destroyed.

So, I want to just mention that and know that I feel like Native folks and their sacred sites, they have waited long enough. And this hearing is proper today. Thank you for showing up, and thank you for coming all the way out here to defend your land and to talk about what is important to you because your voice has never been heard enough. Chairman, I yield.

Mr. GALLEGO. Thank you, Representative Haaland.

I now recognize Representative García from Illinois.

Mr. GARCÍA. Thank you, Mr. Chairman, and thanks to the witnesses who have come this morning to explain the significance of the legislation before us. I am both deeply saddened and angered at the same time that some of the members of this Subcommittee would not take the time to come and hear your story, to understand what is at stake and why this is so important for the San Carlos Tribe, for the Apache people, and for Native Americans. It is truly unfortunate and tragic that this is happening in the 21st century once again.

What are the lessons that we learn? What have we incorporated from our tragic history and the genocide that has been inflicted on the Native American community across our country? And as I ask that question, the answer seems to be pretty clear. We discard the significance of what land means to the original inhabitants of this country, of these lands. We discard whatsoever what faith means and spirituality and what sacredness is to these people. We hear a lot of talk about religious freedom and protecting the rights of people everywhere and their right to worship as they wish. And we cannot practice that in our own country, in our own nation. We cannot uphold that. It is truly shameful.

This is a total desecration of religious rights. This is an insult to what is truly sacred to people. Sacredness cannot just pertain to one faith, to one people, to one nationality, to one ethnic group. It has to be embraced and respected for all people. We are not doing that.

Finally, we seem to not understand what all of these things mean for culture. Culture is the ability to sustain life, to hand down to your children, to your grandchildren, to your great grandchildren. And we are desecrating all of that because we refuse to understand the essence of what it is to be a Native person, a Native human being.

I am the newest member of this Committee, and I am appalled that this is happening right before us and that we learned some of the history of how this legislation came to be in the first place. It was a parliamentary maneuver done in the dark, violating the process and the spirit of how we seek to pass legislation for all people, and to understand all of its consequences in this instance, we have shut our eyes. And darkness has produced an outcome that puts private enterprise, multi-national interest, over the interest of those who can call this country and these lands their lands. It is a shameful day.

I thank all of you for being here today. I thank the Chairman for holding this hearing. And I hope that as you continue in your fight for life, and your fight against oppression, and your fight against all of the mighty odds that you are facing, that all of us will come to learn something from it and that we will be inspired

to teach our children the right way and that the only way forward, if we are to survive as a Nation, as a society, and as a world, is to respect the rights of all people. Thank you for being here today.

Mr. GALLEGO. Thank you, Representative García. I now recognize Chairman Raúl Grijalva.

Mr. GRIJALVA. Thank you very much, Mr. Chairman, and thank you for the hearing. And thank you for not postponing this hearing. I think that it is very important. I think there is the historical footnote that Mr. Nosie and Ms. Pike know very, very well about, is that since 2005, 2006, efforts were made to try to create this land exchange to benefit Rio Tinto. It didn't happen. There was no support in the chambers and certainly in the House of Representatives at that time.

And then comes a must-pass bill, 2014, which was the legislation in which Section 303 was put in. It facilitated the largest change. And I was struck, Mr. Chairman, by the other side saying you should postpone this action because other voices have to be heard that are in support of responsible development there.

But I am glad you didn't because the voices, as Ms. Haaland said, of the tribal folks that are here today and other experts of the second panel and people from that community, it is important to hear those voices. They weren't heard in the middle of the night when it was stuck in that legislation. There was no transparency. There was no honesty. There was no process. It was just done in the behest of a major multi-national mining company. That is why it was done.

And I think by allowing and giving status and respect to the voices in opposition that we are doing ourselves a service and doing this issue a tremendous service as well. I want to ask you, Mr. Nosie, and I think it is a legitimate question to ask, I hope. We have some tribal folks in the region that are for the development of this mine. And they couldn't come here because of restrictions in terms of travel and the virus.

And your response to that? I feel you are for it. But there are some fundamental things that are going on in Indian Country that supersede a lot of things. The pipeline that occurred for the Sioux Nation, Chaco, and the protection of that area for the Pueblos, what is going on with pipelines across this country and through Indian Country—sacred sites being destroyed for the O'odham people as we speak—all those things are not protecting our trust responsibility as a Congress and our responsibility to tribes and, more importantly, it is weakening the sacred sites laws. It is weakening ceremonial, cultural resources.

And I think those areas, if anything else, need to be strengthened going forward. But I think the biggest scam was we are going to do the land trade. Then we are going to do some analysis. And regardless of what that analysis says, the land trade goes through anyway. So, there is no opportunity for the Tribe or anyone else to be able to effect the change. You have some tribal leaders in support of it. Your response to that, Mr. Nosie?

Mr. NOSIE. Very glad you asked that question because No. 1 is that I think that the government is familiar with it because it happens all over the place. For instance, the individual that was supposed to be here, the process in tribal government is you have

to have approval from your Tribal Council to speak. And you have to go through the process from your Chairman to the Council to come here to Washington and to speak on the position of the Tribe. But what has happened is that when Resolution Copper has come to Indian Country, they have come in with an abundance of money and have fit programs and opportunities that they are given thousands of dollars for education and their robotics.

And they are helping with churches and they are bringing all this money in, putting these leaders in a position, caught in the middle of, where did they go, what did they do. And then they are held accountable for Resolution Copper and also they are held accountable to make those decisions for the Indian people. And it puts them in a bad position. So, I always come back to the point that a lot of these areas are suppressed. And as long as they are suppressed, they could be used in that way.

So, Resolution Copper knows history. I mean, it is just like, for instance, when John McCain came to me—years back when I talked to him. What he said to me was, "Hey, look. You are on the reservation. Globe and Miami have been doing this to you"—another word—"been doing this to you. And all you have to do is develop on your reservation site and take their business because we are going to reroute the highway on that side."

So, again, if I was that kind of person of not holding morals, I would probably have jumped to what he was saying. But because the communities of Globe, Miami, and Superior were going to be affected, it was not right to hurt those people for somebody's benefit. But those are the maneuvers that happen on the reservation.

And it is really sad. But I am glad for the leaderships because there are some leaderships that come back and hold everybody together and say, "Wait a minute. You are given an oath of office." So, there they are reminded about the oath of office and what it entails. But when you look at how they have spread out into Arizona, this is why you don't have a lot of people here, is because they have already spread their money all out into the different tribes and different communities, because in the very beginning, when we asked the mayors and Council to show us the plan of operation, they never had it. They never had any of that stuff.

But we did know that they were being given a lot of promises. And a lot of those promises did not come to fruition because when John McCain gave the exemption, they didn't have to fulfill those obligations anymore. That is why today you have 98, 99 percent opposing this because none of those things filtered through except those that they bought off.

And it is sad to say not only in Indian Country but I think in every race it happens. But when they only point out San Carlos or the Indian people, they structure it in that argument for only us. It is just like Mr. Gosar. I met him—this girl was 9 years old when we met him in White Mountain—in that discussion with Gosar when he was running for District 1, we told him that this is what Ann Kirkpatrick did not do.

So, this is the argument. We want NEPA. On behalf of the San Carlos Apache Tribe and tribes, we want NEPA. So, he tells us, "Oh, I will not do what Ann Kirkpatrick has done. Your voice, the

Native American voice, will be on the table, will be there. I will stand for you and for your people. This isn't right."

And then what did he do to us the very next day when he got elected? It didn't happen. So, anyway, in closing, it happens. It happens out there and it is unfortunate. But I think you guys are familiar with that.

Mr. GRIJALVA. Thank you, sir.

Mr. GALLEGO. Thank you, Mr. Nosie.

I want to thank the first panel for answering our questions. The members of the Committee may have some additional questions or statements for the witnesses, and we will ask you to respond to these in writing.

I now invite Panel 2 to take their places at the witness table. As with the previous panel, oral statements are limited to 5 minutes, but your entire statement will be of the hearing record. When you begin, the lights on the witness table will turn green. After 4 minutes, a yellow light will come on. Your time will have expired when the red light comes on, and I will ask you to please wrap up your statement. I will also allow the entire panel to testify before we question the witnesses.

Representative García.

Mr. GARCÍA. Thank you, Mr. Chairman. Just as a point of privilege, I would like to again also welcome Reverend Barber. I really thank you for being here today. We appreciate all of the work that you do on behalf of poor people, on behalf of bringing our country together, your fight for religious freedom for all and, of course, your unquenching thirst for human rights for everyone on the planet and certainly in our country. It is great to have you here today. God bless you, sir. Thank you.

Mr. GALLEGO. Thank you, Representative García. Now I would like to introduce our distinguished guests. The Chair now recognizes Dr. Steven Emerman, an expert in hydrology and geophysics with 31 years of experience and the owner of Malach Consulting.

STATEMENT OF DR. STEVEN EMERMAN, OWNER, MALACH CONSULTING, SPANISH FORK, UTAH

Dr. EMERMAN. Thank you very much for the opportunity to testify. I am Dr. Steven Emerman. I was a professor of geology for over 30 years. I have studied and worked on issues related to groundwater and mining for over 40 years. I am not anti-mining by any stretch, but this is the worst mining project I have ever encountered.

I will talk about four things: (1) underestimation of water consumption; (2) underestimation of electricity consumption; (3) the extent of the crater, especially the potential impact on Apache Leap; and (4) catastrophic danger to communities downstream from the tailings dams.

My approach is based upon the precautionary principle which states that one should be ultra-conservative when faced with great danger and great uncertainty. Representative Gosar agreed with this principle in his recent press release by self-quarantining himself due to Coronavirus concerns. According to Rio Tinto, the foreign company that owns Resolution Copper, the mine will consume 15,700 acre-feet of water per year.

This number has never been justified. Based on copper mining industry standards, 50,000 acre-feet per year would be a better estimate. That is, every year, a column of water covering a football field and 10 miles high. This mine will consume an enormous amount of water simply to transport the tailings through a 25-mile pipeline to the toxic waste dump. Water that is consumed is never coming back.

In terms of electricity, the key unknown is the power required to pump out the large amount of nearly boiling geothermal water pouring into the mine and to refrigerate the mine. It will be 180 degrees in the mine. Humans cannot survive at that temperature. The mine could consume 22 percent of the peak power capacity of the Salt River Project which provides power to more than 2 million people. The peak power capacity is the blackout threshold.

According to the DEIS, the block-cave mining will create a crater with a maximum depth of 800 to 1,115 feet. Oak Flat will be destroyed and, according to Rio Tinto, the DEIS, the closest approach of the subsidence zone to Apache Leap will be 1,115 feet. However, just based upon the uncertainty in the crater depth, the probability that the subsidence zone will reach Apache Leap is 9 percent.

The probability is even greater because there are many questionable aspects of a subsidence modeling of the DEIS. The DEIS simply repeats the claims of Rio Tinto without justification. Tailings are the crushed rock particles that remain from the ore body after the copper has been removed. These tailings will be stored on the surface behind a dam that will be made from the tailings themselves. One of these tailings dams, the Brumadinho Dam, failed in Brazil last year. The flood of tailings traveled 75 miles per hour and killed 270 people. This Brumadinho Dam released 12.7 million cubic yards of tailings. By contrast, the tailings dam at the Resolution Copper Mine will store 1,315 million cubic yards, which is greater by a factor of over 100.

It is not a question of if this tailings dam will fail, but when. At the end of the project, Rio Tinto will walk away from this dam, and it will receive no further inspection or maintenance so that eventually it will fail. All the proposed sites for tailings dams, the DEIS, are upstream from and very close to communities.

The Silver King site is 2,500 feet above Superior. The dam at that site would be 1,040 feet high, the tallest tailings dam ever built by an extra 390 feet. The near west site is 19,000 feet above Queen Valley. The Peg Leg site is 10.3 miles above Florence, a town with over 26,000 people.

The Skunk Camp site is 17,000 feet above Dripping Springs. In the last year alone, three countries have restricted the distances between tailings dams and communities. Brazil has said the tailings dams cannot be built where there is a community within 10 kilometers downstream of the dam. That distance can be extended up to 25 kilometers depending upon population density. Ecuador has adopted the same regulations. China has said that tailings dams cannot be built within 1 kilometer of a community.

It should make you stop and think that we are seriously discussing a mining project in Arizona that would be illegal even in China. My recommendation is don't do it. Don't let this project go forward.

[The prepared statement of Dr. Emerman follows:]

PREPARED STATEMENT OF STEVEN H. EMERMAN, PH.D.[1]

CONCLUSIONS

1. Predicted water consumption of the Resolution Copper Mine is 50,000 acre-feet per year.
2. Although Rio Tinto has promised water consumption of only 15,700 acre-feet per year (about one-third of industry standards), they are using only conventional technologies for achieving water efficiency.
3. Export of water of tailings alone would result in a consumption of 25,600 acre-feet per year.
4. Under the best-case scenario, the completed underground mine will encounter geothermal water at a flow rate of 3,800 gpm.
5. Under the best-case scenario, the additional power requirements for mine dewatering and refrigeration will be 24 MW.
6. The worst-case scenario is difficult to estimate, but if more highly fractured rock is encountered during construction of the underground mine, the entry rate of geothermal water could easily be 100 times greater.
7. The predicted electricity consumption of the Resolution Copper Mine is 260 MW and 1,900 MW under the best-case and worst-case scenarios, which are 3 percent and 22 percent, respectively, of the peak power capacity of the Salt River Project.
8. The predictions of land subsidence due to block caving cannot be verified because Rio Tinto has provided neither the input data nor the details of the modeling.
9. The only exception to the lack of data is the map of geological faults, which is inconsistent with the satellite imagery that shows a pronounced lineament nearly parallel to and offset by 2,000 feet from the mapped West Boundary Fault. This lineament would most likely be the zone of structural weakness that would transmit deformation from the caved rock zone to the culturally sensitive escarpment of Apache Leap.
10. The subsidence monitoring program proposed by Rio Tinto explicitly assumes that subsidence will be slow, predictable and controlled, which is inconsistent with the past history of block caving and authoritative manuals on block caving.
11. No error bounds have been provided on the predictions of the lateral extent of the subsidence zone.
12. Based on the range in predictions of the maximum depth of the subsidence crater, the probability that the subsidence zone would reach Apache Leap can be estimated as 8.9 percent.
13. Using a statistical model based on previous tailings dam failures, the predicted runouts from failures of the five alternative tailings storage facilities would be in the range 200–370 miles.
14. Although the flow potential of filtered tailings is less than that of thickened tailings, even if the failures of the dam for the filtered tailings (Silver King site) caused only slumping of the tailings, they would travel at least 10,400 feet, and would impact the town of Superior (population 2,837) at a minimum distance of 2,500 feet.
15. The unincorporated area of Queen Valley (population 820) would be impacted by the failures of the Near West facilities (minimum distance 19,000 feet) or of the Silver King facility (minimum distance 8.2 miles). The town of Florence (population 26,074) would be impacted by the failures of the Peg Leg facility (minimum distance 10.3 miles), either of the Near West facilities (minimum distance 16.0 miles), or Silver King facility (minimum distance 20.5 miles). The unincorporated area of Dripping Springs (population 235)

[1] Dr. Emerman earned a B.S. in Mathematics from The Ohio State University, M.A. in Geophysics from Princeton University, and Ph.D. in Geophysics from Cornell University. He has 31 years of experience teaching hydrology and geophysics and has 66 peer-reviewed publications in these areas. He is the owner of Malach Consulting, which specializes in evaluating the environmental impacts of mining for mining companies, as well as governmental agencies and non-governmental organizations.

would be impacted by the failure of the Skunk Camp facility (minimum distance 17,000 feet).

16. Dripping Springs, Queen Valley and Superior are all well within the "self-rescue zone" (where no rescue from the outside is possible) in recent Brazilian legislation.
17. The proximity of the tailings dams to downstream communities would be illegal in Brazil, China and Ecuador.

ABSTRACT

Rio Tinto has predicted water consumption for the proposed Resolution Copper Mine, Arizona, as 15,700 acre-feet per year, although, based on the grade and production rate, water consumption of 50,000 acre-feet per year would be more typical. The proposed technologies would result in the export of cleaner tailings with 50 percent water, scavenger tailings with 35 percent water, and copper concentrates with 9 percent water, resulting in water consumption of 25,600 acre-feet of water per year by the tailings storage alone. Based on the depth, grade, and production rate, the projected electricity consumption would be 236 MW. However, the discovery of geothermal water while drilling the primary access shaft could result in additional electricity consumption of 24 MW solely for mine dewatering and refrigeration under the best-case scenario and 1,650 MW under the worst-case scenario, corresponding to total electricity consumption of 260 MW and 1,900 MW, or 3–22 percent of the peak power capacity of the Salt River Project. The DEIS has predicted that the maximum depth of the crater produced by block caving will be 1,115 feet, but that the subsidence zone will reach only 1,115 feet from the culturally sensitive escarpment of Apache Leap, without providing the input data, the details of the modeling, or the error bounds in the prediction of the subsidence zone. The only exception is a geological fault map, for which satellite imagery shows the West Boundary Fault, which connects the footprint of the ore body with Apache Leap, being mapped in the wrong location by 2,000 feet. Unanticipated subsidence occurs in 20 percent of block caving projects and the manual relied upon by Rio Tinto emphasizes the known risks of rapid subsidence. Based upon the uncertainty in the prediction of maximum crater depth, the probability that the subsidence zone will reach Apache Leap is 9 percent. Using a statistical model based on previous tailings dam failures, the runouts from the failures of the five alternative sites for the tailings storage facilities would be in the range 200–370 miles. The Silver King, Near West, Peg Leg and Skunk Camp sites would be 2,500 feet, 19,000 feet, 10.3 miles, and 17,000 feet upstream from Superior (population 2,837), Queen Valley (population 820), Florence (population 26,074) and Dripping Springs (population 235), respectively. The proximity of the alternative sites for the tailings dams to downstream communities would be illegal in Brazil, China and Ecuador.

INTRODUCTION

Rio Tinto has submitted a proposal to the U.S. Forest Service for an underground copper mine, called the Resolution Copper Mine, within a mix of Federal public land (Tonto National Forest), Arizona state trust land, and private land (see Fig. 1). The proposal includes an exchange of 5,344 acres of land privately held by Rio Tinto for 2,422 acres of the Tonto National Forest. The porphyry copper deposit occurs 5,000–7,000 feet beneath the surface and has an inferred resource of 1,790 million tons with a copper grade of 1.47 percent. The ore processing rate is predicted to be 120,000 metric tons per day with a maximum processing rate of 150,000 metric tons per day (Resolution Copper Mining, 2014a-c). According to Rio Tinto, the water consumption will be 15,700 acre-feet per year at full operation (Resolution Copper Mining, 2014a-c).

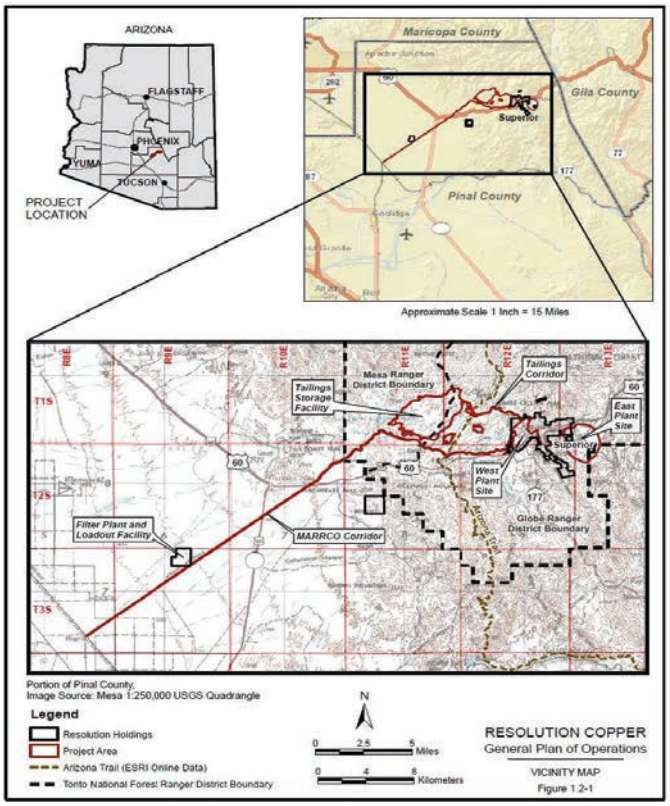

Figure 1. Rio Tinto has submitted a proposal for an underground copper mine, called the Resolution Copper Mine, within a mix of Federal public land (Tonto National Forest), Arizona state trust land, and private land, which would process 120,000 metric tons of ore per day with a maximum processing rate of 150,000 metric tons per day from an ore body that lies 5,000–7,000 feet below the surface. Figure from Resolution Copper Mining (2014b).

The Draft Environmental Impact Statement (DEIS) (USDA, 2019) estimates an electricity consumption of 250–280 MW. The estimate includes 6.45 MW and 6 MW for mine dewatering and refrigeration, respectively, but without further explanation, and without explicitly taking into account the discovery of geothermal water in December 2012. During the drilling of the 6,943-foot-deep, 28-foot-diameter No. 10 shaft, geothermal water at a temperature of 170°F began entering the shaft at a rate of 460 gpm (E&MJ, 2014). According to Tom Goodell, general manager—shaft development for Resolution Copper, "Productivity flattened out at 6,500 feet . . . The consultants told us that we would have little or no water below 4,000 feet . . . They kind of missed that call. We hit it all in one spot and it was quite dramatic" (E&MJ, 2014). The Arizona Daily Star confirmed, "Shaft-sinking equipment had reached a depth of about 6,500 feet when water from an underground aquifer began rushing in. The miners were prepared to handle 80 gallons per minute, which is what core samples from 30 feet away predicted" (Bregel, 2016). Later reports indicated that the entry rate of geothermal water into the No. 10 shaft had increased by over a factor of three to 1,400 gpm and that the temperature of the geothermal water was 180°F (Bregel, 2016; Phillips, 2016).

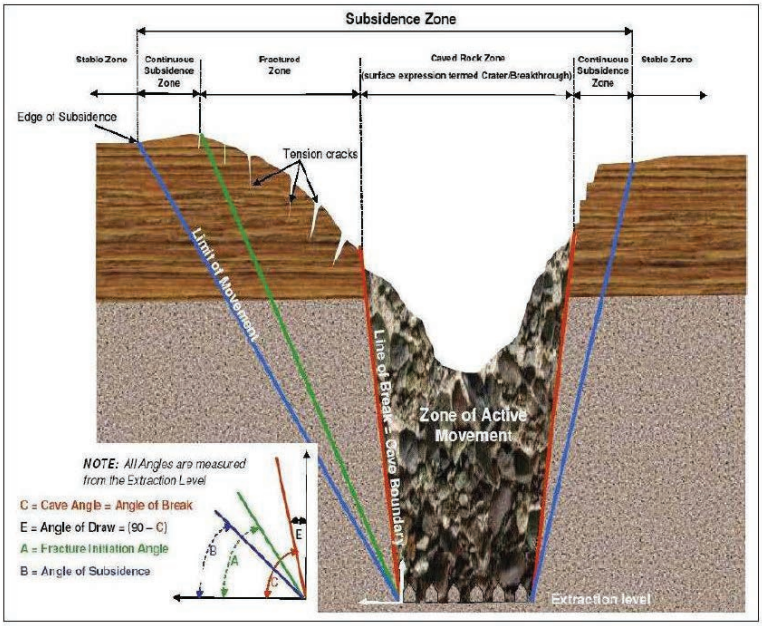

Figure 2. The subsidence zone can be divided into the caved rock zone, the fractured zone and the continuous subsidence zone. The caved rock zone is the zone of greatest vertical displacement and consists of fragmented rocks of all sizes. The fractured zone is the zone where visible deformation can be seen on the surface, including cracks and slumps. In the continuous subsidence zone, deformation can be detected only by high-resolution monitoring equipment. The region outside of the subsidence zone is called the stable zone. Figure from Resolution Copper Mining (2014c).

Mining would be carried out using block caving, a type of underground mining that involves controlled cave-ins of overlying rock, and which includes land subsidence as a typical consequence (see Fig. 2). Subsidence modeling was based upon surface mapping, core samples, and high-resolution photography from the No. 10 Shaft. Data from the drill core samples included rock strength testing, as well as observations regarding major structures, total core recovery, artificial breaks, rock quality designation, solid core recovery, solid length, minor defects, cemented joints, and open joints. According to the DEIS (USDA, 2019), the maximum land subsidence in the center of the crater would be 1,115 feet, and the closest approach of the subsidence zone to the culturally sensitive escarpment of Apache Leap would also be 1,115 feet (see Fig. 3). The mining proposal also describes an extensive program of subsidence monitoring before, during and after the life of the mining project (Resolution Copper Mining, 2014a-c).

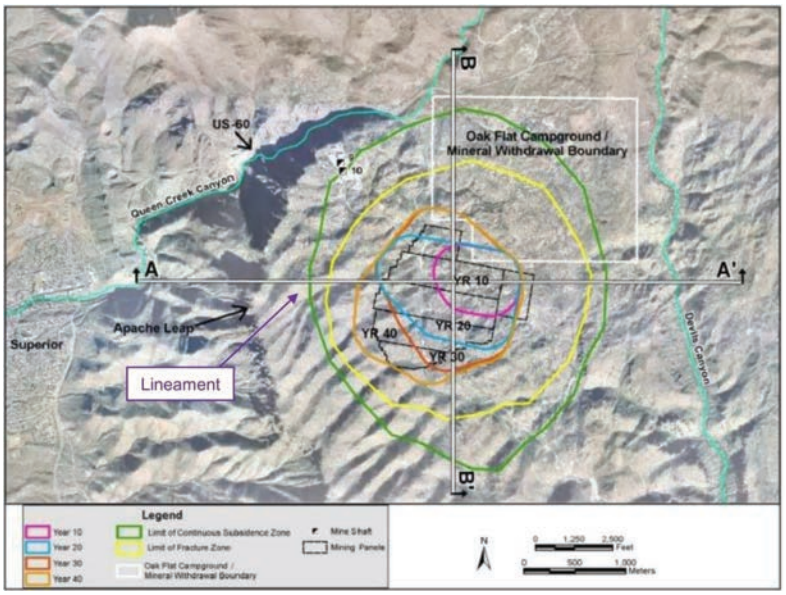

Figure 3. According to the DEIS (USDA, 2019), the culturally sensitive escarpment of Apache Leap will be 1,115 feet outside of the subsidence zone even after 40 years of block cave mining. The contours marked by years indicate the limits of the caved rock zone (see Fig. 2) after 10, 20, 30 and 40 years of mining. The lineament shown in Fig. 6 can be seen to intersect the caved rock zone in the above figure. Figure modified from Resolution Copper Mining (2014a).

The DEIS presents five alternative plans for the tailings storage facilities for the proposed mine (USDA, 2019). By DEIS conventions, Alternative #1 is the "no-action" alternative. Alternative #2, the preferred alternative that was presented in the General Plan of Operations (GPO) (Resolution Copper Mining, 2014a-c), involves storing tailings thickened into a slurry (65 percent solids for scavenger tailings, 50 percent solids for cleaner tailings) at the Near West site behind a 520-foot-high tailings dam (see Fig. 4). Alternatives #2 and #3 are nearly spatially coincident at the Near West site (see Fig. 4). Alternative #3 involves slightly thicker scavenger tailings (70 percent solids) and a slightly lower dam (510 feet). Alternative #4 would involve the storage of filtered tailings (86–89 percent solids) at the Silver King site to a height of 1,040 feet (see Fig. 4, Table 1). The dam for the Silver King site would be a "structural zone" of tailings built around the perimeter (SWCA Environmental Consultants, 2018) and would be the tallest tailings dam ever constructed. (The current tallest tailings dam in the world is the 650-foot-high Quillayes Dam at the Los Pelambres Mine in Chile (Campaña et al., 2015)). Alternative #5 involves the storage of thickened tailings (60 percent solids for scavenger tailings, 50 percent solids for cleaner tailings) behind a 310-foot-high tailings dam at the Peg Leg site (see Fig. 4, Table 1). The final Alternative #6, which is the preferred alternative in the DEIS, involves the storage of similarly thickened tailings (60 percent solids for scavenger tailings, 50 percent solids for cleaner tailings) behind a 490-foot-high tailings dam at the Skunk Camp site (see Fig. 4, Table 1). The total volumes of stored tailings have been predicted as 1,315.45 million cubic yards for the sites storing thickened tailings and 1,188.98 million cubic yards for the site storing filtered tailings (see Table 1; USDA, 2019).

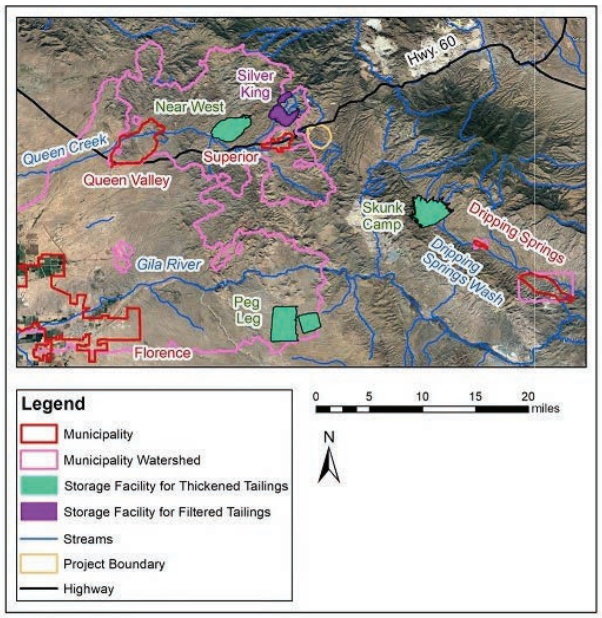

Figure 4. Out of the five alternatives for the tailings storage facilities for the proposed Resolution Copper Mine, four would store thickened tailings, while one would store filtered tailings. Two alternatives at the Near West site are nearly spatially coincident, with the alternative with thickest tailings being slightly larger. Failure of the Silver King facility would impact the town of Superior (population 2,837). The unincorporated area of Queen Valley (population 820) would be impacted by the failures of the Silver King or either of the Near West facilities. The town of Florence (population 26,074) would be impacted by the failures of the Peg Leg, Silver King, or either of the Near West facilities. The unincorporated area of Dripping Springs (population 235) would be impacted by the failure of the Skunk Camp facility. Background combines Google Earth imagery from December 6, 2014, January 13, 2018, and April 6, 2018.

According to the DEIS (USDA, 2019), the design earthquake for the tailings dams would be the Maximum Credible Earthquake (MCE), which is defined as "the largest earthquake magnitude that could occur along a recognized fault or within a particular seismotectonic province or source area under the current tectonic framework" (FEMA, 2005). However, the DEIS also states without justification, "Analysis indicates Maximum Credible Earthquake is equivalent to 10,000-year return period [annual exceedance probability of 0.01%]." On the contrary, in the context of discussing criteria for determining the MCE at a particular location, FEMA (2005) states, "For high-hazard potential dams, movement of faults within the range of 35,000 to 100,000 years BP is considered recent enough to warrant an 'active' or 'capable' classification." In other words, the MCE can be as rare as a 100,000-year earthquake, with a corresponding annual exceedance probability of 0.001 percent. In addition, nothing in the DEIS explains how the tailings dams will be built so that they will withstand the 10,000-year earthquake. For example, there is no seismic stability analysis of any of the proposed designs anywhere in the DEIS.

Table 1. Predicted Runout following Tailings Dam Failure

Alternative	Name	Tailings Type	Impounded Volume[1] (million yd^3)	Dam Height[2] (ft)	Spill Volume[3] (million yd^3)	Runout[3] (mi)
2	Near West	Thickened	1315.45	520	309.1	266.7
3	Near West	Thickened	1315.45	510	309.1	263.9
4	Silver King	Filtered	1188.98	1040	280.8	370.3
5	Peg Leg	Thickened	1315.45	310	309.1	201.2
6	Skunk Camp	Thickened	1315.45	490	309.1	258.2

[1]Impounded volumes from USDA (2019).
[2]Dam heights from SWCA Environmental Consultants (2018).
[3]Spill volume and runout calculated from statistical model in Larrauri and Lall (2018).

QUESTIONS THAT MUST BE ANSWERED ABOUT THE MINE

This testimony addresses the following pressing questions for the public:

1. What is the projected water consumption of the mine?
2. What is the projected electricity consumption of the mine?
3. Did the prediction of subsidence use correct input data, does the mining project have an adequate subsidence monitoring program, and is there a sufficiently low probability that the subsidence will impact Apache Leap?
4. What would be the consequence of failure of the tailings dams and is there an adequate distance between each of the proposed tailings dams and the downstream communities?

This testimony is a summary of four detailed reports (Emerman, 2018, 2019a-c) that are available on the website of the Arizona Mining Reform Coalition. Those reports were based upon the GPO (Resolution Copper Mining, 2014a-c) and have been updated in this summary to include changes in the DEIS (USDA, 2019).

METHODOLOGY

The expected flow rate of geothermal water into the completed underground mine was calculated by combining the Thiem Equation with the radius of the completed mine (1,400 feet). The Hazen-Williams Equation was used to calculate the power required to dewater the mine. The best-case scenario (minimum electricity consumption for dewatering and refrigeration) was based upon the following assumptions:

1. The flow of geothermal water into the No. 10 shaft has achieved a steady-state.
2. The aquifer has uniform transmissivity (product of aquifer thickness and hydraulic conductivity).
3. The recharge rate of the aquifer does not exceed 0.1 inches per year.
4. All mine dewatering can be carried out through a single vertical pipe.
5. The mine can be refrigerated with maximum theoretical efficiency.

The projected electricity and water consumption were addressed based on a literature review that considered the particular aspects of the Resolution Copper Mine (such as the depth and grade). Land subsidence was addressed using Google Earth images and *A Practical Manual on Block Caving* (Laubscher, 2000). The runout following tailings dam failure was calculated using a statistical model based on the history of tailings dam failures (Larrauri and Lall, 2018). The impact of the tailings flow on the local population was then addressed by determining whether the watersheds of local population centers intersected the footprint of the proposed tailings storage facilities within a distance that was at least as great as the predicted runout. The local population centers include the incorporated towns of Superior (population 2,837) and Florence (population 26,074), and the unincorporated census-designated places of Queen Valley (population 820) and Dripping Springs (population 235) (see Fig. 4).

RESULTS AND DISCUSSION

Water Consumption

Northey et al. (2013) emphasized the large variation in water consumption among copper mines worldwide and gave 74 m^3/t Cu as a global average, corresponding to an estimate for the Resolution Copper Mine of 48,000 acre-feet of water per year. The advantage of restricting the dataset to Arizona is that it takes into account the high evaporation rates that might not be present at copper mines in the rest of the world. Using the data in Singh (2010) from seven Arizona copper mines resulted in an average water consumption of 28.3 gallons per pound of copper, corresponding to 154,000 acre-feet per year for the Resolution Copper Mine. According to the EIS, the projected water consumptions by the Safford mine (which began full production in 2008) and the Rosemont mine (which has not opened) are 7.5 and 7.4 gallons per pound of copper, corresponding to water consumption rates for the Resolution Copper Mine of 41,000 and 40,000 acre-feet of water per year, respectively. Taking into account the fact that the water consumption rates for the newer mines are only projections and not actual measurements, the best prediction for water consumption by the Resolution Copper Mine is 50,000 acre-feet per year, which is also quite close to the global average (Northey et al., 2013).

The only explanation from Rio Tinto for the above discrepancy with their prediction of water consumption of 15,700 acre-feet per year has been their promise that, "Maximizing water reuse is critical to the Resolution Project from a physical resource and cost perspective. Reuse and reclaim water supplies will be used for mine operations to the greatest extent possible, including water from mine dewatering, tailings dewatering, seepage collection, overflow water from the copper/molybdenum thickeners and tailings thickeners, and concentrate filtrate" (Resolution Copper Mining, 2014a). In opposition to the above quote, the GPO (Resolution Copper Mining, 2014a-c) describes only the most conventional technologies for water efficiency. The only areas for which specific water losses have been calculated are the water entrained with the copper concentrate (9 percent water), which is shipped off-site for further refining, and the water entrained with the cleaner tailings (35 percent water) and the scavenger tailings (50 percent water), which are exported to the tailings storage facility. Based upon the above values, the water exported to the tailings storage facility would be 25,600 acre-feet per year, which is already 10,100 acre-feet per year greater than the water consumption of 15,700 acre-feet per year that was predicted by Rio Tinto (Resolution Copper Mining, 2014a).

Electricity Consumption

The most reliable estimate for electricity consumption by copper mining is probably that of Koppelaar and Koppelaar (2016), who used the most recent and complete dataset, and who explicitly took depth and grade into account. Combining the depth, grade and ore production rate of the Resolution Copper Mine with Eq. (3) from Koppelaar and Koppelaar (2016) yields 236 MW. The additional electricity consumption required to dewater and refrigerate the mine due to the entry of geothermal water should be added to the above estimate, since the need to remove and mitigate the impact of geothermal water would not normally be a factor in the power requirements of a typical copper mine. Of the five assumptions that led to the best-case estimate for electricity consumption by dewatering and refrigeration, the violation of the second assumption (uniform aquifer transmissivity) would have the greatest consequences. Aquifer thickness can vary somewhat, but hydraulic conductivities of fractured crystalline rock can vary by four orders of magnitude (Charbeneau, 2000). The real worst-case scenario is that, as the underground mine expands, it encounters increasingly fractured rock. If hydraulic conductivity increases by two orders of magnitude, then the entry rate for geothermal water could increase from the 3,800 gpm that would occur from expanding the mine with uniform hydraulic conductivity up to 380,000 gpm. Assuming pipes with zero head loss would result in a power requirement under the "minimum" worst-case scenario of 1,650 MW (500 MW for dewatering and 1,150 MW for refrigeration). Therefore, the appropriate best estimates for the electricity consumption of the Resolution Copper Mine under the best-case (minimum input of geothermal water) and worst-case (maximum input of geothermal water) should be 260 MW and 1,900 MW, respectively.

The predictions of electricity consumption for the Resolution Copper Mine can now be compared with the available sources of electricity. For Fiscal Year 2018, the Salt River Project (2019) reported peak power of 7,610 MW and peak power capacity of 8,801 MW. The above predictions of electricity consumption correspond to 3 percent and 22 percent of the peak power capacity of the Salt River Project under the best-

case and worst-case scenarios, respectively. The predicted electricity consumption for the Resolution Copper Mine would be equivalent to the electricity consumed by 219,000 and 1.6 million U.S. households under the best-case and worst-case scenarios, respectively (EIA, 2019). There is certainly no mention on the website of the Salt River Project or anywhere else for plans to increase power capacity to accommodate the Resolution Copper Mine.

Subsidence Predictions

The actual data that were used in the subsidence modeling are not presented in any documents that have been provided by Rio Tinto. On that basis, there is no way for anyone not affiliated with Rio Tinto to repeat the subsidence modeling or to carry out his or her own subsidence modeling. Even the description of the data is inadequate for assessing the validity of the subsidence modeling. The most important information that is missing are the numbers of drill cores and the depths of the drill cores. The only exception to the lack of input data is the map of the geological faults that were used in the subsidence modeling (see Fig. 5). The primary control on the ability of block caving to transmit deformation to Apache Leap should be any faults that connect Apache Leap to the surface footprint of the block caving area, so that the most important fault is the West Boundary Fault (compare Figs. 3 and 5).

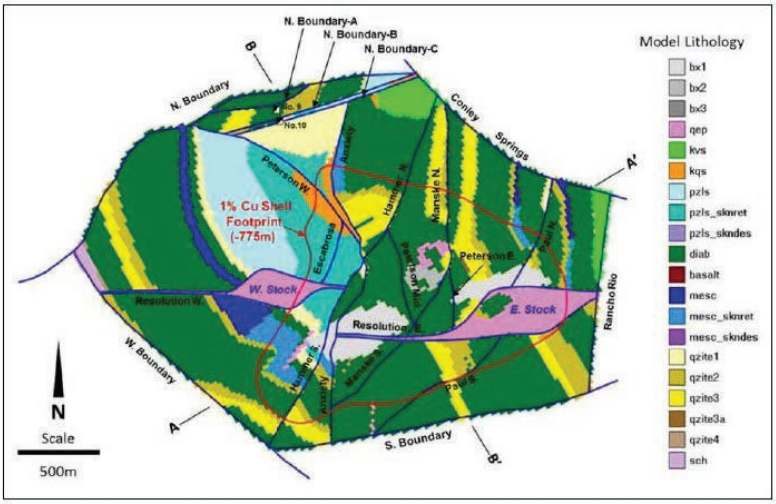

Figure 5. The most important structural controls on land subsidence caused by block caving are the locations and physical properties of geological faults. The above map shows the mapped faults that were used in the modeling (see Fig. 3). For predicting the impact of block caving on Apache Leap, the mapping of the West Boundary Fault is the most important since it connects the mining area with Apache Leap (see Fig. 3). Figure from Resolution Copper Mining (2014c).

The superposition of the West Boundary Fault (as mapped in Fig. 5) onto a Google Earth image shows a pronounced lineament that is subparallel to the West Boundary Fault and offset from the fault by about 2,000 feet (see Fig. 6). The nearly parallel orientations of the West Boundary Fault and the lineament are certainly suggestive that the West Boundary Fault has been incorrectly mapped, and there is no other mapped fault that could correspond to the lineament (see Figs. 5–6). Unlike the mapped West Boundary Fault, the lineament intersects the caved rock zone (see Fig. 3), so that there is potential for deformation to be transmitted from the caved rock zone to Apache Leap. On this basis, there could have been an underestimation of the extent of the subsidence zone.

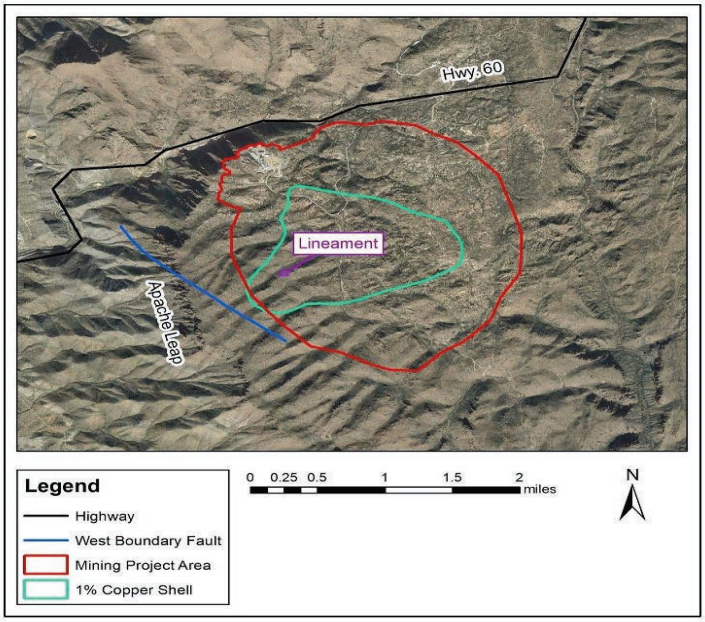

Figure 6. The West Boundary Fault (Fig. 5) is subparallel to and offset by 2,000 feet from a pronounced lineament that is visible from satellite imagery. The lineament does not correspond to any other mapped fault that was used in subsidence modeling (Fig. 5), which suggests that not all geological faults have been correctly mapped. The faults and other zones of weakness that connect Apache Leap with the mining area are the most important in predicting the impact of subsidence caused by block caving on Apache Leap. Google Earth imagery is from Dec. 6, 2014.

With regard to the subsidence monitoring program, the primary issue is not Rio Tinto's ability to document subsidence, but their ability to take appropriate action in response to unanticipated subsidence. A comprehensive database of subsidence caused by block caving reported that unanticipated subsidence has occurred in 20 percent of block caving projects with most of the anomalies being related to geological faults (Tetra Tech, Inc. and R Squared, Inc., 2006; Woo et al., 2013). The connection between observation and action is based on the explicit assumption that "Subsidence is a slow and gradual process that is predicted, closely monitored, and controlled" (Resolution Copper Mining, 2014a) and that "Subsidence is a rather slow and continuous process, and as such there would be time to apply an adaptive monitoring plan if required" (Resolution Copper Mining, 2014c).

By contrast, Laubscher (2000), the only reference on block caving that is cited in the GPO (Resolution Copper Mining, 2014c), repeatedly draws attention to the dangers of both rapid subsidence and rockbursts. Some examples of the discussion of rapid subsidence are "Lateral extension or subsidence caving as it was previously described, occurs when adjacent mining has removed the lateral restraint on the block being caved. This can result in rapid propagation of the cave with limited bulking . . . There can be a rapid propagation of the cave with massive wedge failures if a well developed relaxation zone has formed ahead of the cave front" (Laubscher, 2000). Some examples of discussion of the related problem of rockbursts are "The potential effects of a block cave on installations located in the peripheries of the block include . . . shear displacements on faults and shear zones. These could produce rockbursts . . . Cave mining of deep, hard rock orebodies, involving removal of large volumes of rock, will inevitably lead to the generation of mining-induced seismicity, which may lead to rockbursts . . . The location of the source of the seismicity and the location of the rockburst damage may or may not be coincident. In the larger magnitude events, the separation of the two locations may be hundreds of meters . . . Rockbursts have become a major problem on block caving

mines in competent rock, where the regional principal stress is >35 MPa" (Laubscher, 2000).

The predictions of the limits of the caved rock, fractured and continuous subsidence zones contain no uncertainties or error bounds of any kind (see Figs. 2–3). Presumably, all predictions are simply the best estimates and not the worst-case scenarios. The only exception to the lack of error bounds in subsidence predictions are the predicted maximum depth of the crater above the ore body. According to the DEIS (USDA, 2019), the maximum depth is projected to range between 800 and 1,115 feet in depth. The above range of depths could be re-expressed as a predicted depth of 957.5 ± 157.5 feet. If the uncertainty (157.5 feet) is assumed to be the standard deviation, then the coefficient of variation (ratio of standard deviation to mean) of the predicted maximum depth is 16.4 percent. In the absence of other information, the same coefficient of variation could be assumed to apply to other aspects of the subsidence predictions.

Based on the uncertainty in the maximum crater depth, the uncertainty in the prediction of the approach of the subsidence zone to Apache Leap can also be assessed. Based on Fig. 3, the predicted distance from the center of the ore body to the outer limit of the subsidence zone in the direction of Apache Leap is 5,035 feet. Assuming a coefficient of variation of 16.4 percent, the standard deviation of that prediction is 828 feet. Since the closest approach of the subsidence zone to Apache Leap is 1,115 feet (USDA, 2019), the distance between the eastern edge of Apache Leap and the center of the ore body is 6,150 feet. Then assuming that the population of predictions of the distance of the outer edge of the subsidence zone from the center of the ore body follows a normal distribution with mean equal to 5,035 feet and standard deviation equal to 828 feet, the probability that the outer limit of the subsidence zone will extend onto Apache Leap or beyond is 8.9 percent.

Consequences of Tailings Dam Failure

Predicted runouts due to failure of the tailings dams at each of the five alternative tailings storage facilities range from 201 miles (Peg Leg site) to 370 miles (Silver King site; see Table 1). Although the predicted runouts may seem surprisingly large, it should be noted that, compared to past tailings dam failures, the impounded volumes and dam heights are "off the charts." For the Resolution Copper Mine, the impounded volumes are either 1,315.45 million cubic yards for thickened tailings or 1,188.98 million cubic yards for filtered tailings (USDA, 2019; see Table 1). By contrast, the largest volume of impounded tailings at any tailings dam that has failed thus far was 97 million cubic yards at the Mount Polley Mine in British Columbia that failed in 2014 (Larrauri and Lall, 2018). Moreover, the tallest tailings dam that has failed thus far was the 295-foot-high Fundão Dam at the Samarco Mine in Brazil that failed in 2015 (Larrauri and Lall, 2018), which was not as tall as any of the proposed tailings dams for the Resolution Copper Mine (see Table 1). Predicted spill volumes, which depend only upon the impounded volume are either 309.1 million cubic yards for thickened tailings or 280.8 million cubic yards for filtered tailings (see Table 1). Again, by contrast, the largest tailings spill that has occurred thus far was 42 million cubic yards from the failure of the Fundão Dam (Larrauri and Lall, 2018). The important point is that tailings dam failures could have very wide-ranging impacts, extending over hundreds of miles, and that the local population centers (see Fig. 4) are simply the "front line" of affected populations. It could be argued that the statistical model based upon past tailings dams failures does not apply to the Silver King site, which will store filtered tailings. However, even in the best-case scenario, a failure of the tailings dam at the Silver King site would result in the slump of the filtered tailings that would extend for a distance of roughly 10 times the dam height or 10,400 feet (Klohn Crippen Berger, 2017).

All of the local population centers include at least one proposed tailings dam in its watershed, so that the failure of each of the five alternatives has the potential to result in the loss of human life. It has already been shown that the predicted runouts are so large that the ability of a tailings spill to reach the above-mentioned local population centers is not a factor. The watershed of Superior includes the Silver King site at a minimum distance of 2,500 feet (see Fig. 4). Even a slump of filtered tailings with no added water would nearly cover the entire town of Superior. The unincorporated area of Queen Valley would be impacted by the failures of either of the Near West facilities (minimum distance 19,000 feet) or of the Silver King facility (minimum distance 8.2 miles; see Fig. 4). The town of Florence would be impacted by the failures of the Peg Leg facility (minimum distance 10.3 miles), either of the Near West facilities (minimum distance 16.0 miles), or the Silver King facility (minimum distance 20.5 miles; see Fig. 2). Based on the Digital Elevation Models (DEMs), the watershed of Dripping Springs does not include the Skunk Camp facil-

ity. However, Dripping Springs sits on the bank of Dripping Springs Wash, which would be quite likely to overflow following a tailings spill from the Skunk Camp site, a minimum distance of 17,000 feet from Dripping Springs (see Fig. 4). Following the failure of the tailings dam at the Córrego do Feijão Mine in Brazil on January 25, 2019, which resulted in 308 people missing or confirmed dead, the new Brazilian mining regulations and legislation introduced the concept of "*zonas de autossalvamento,*" which are literally the "self-rescue zones" or the zones in which each person must rescue himself or herself because no rescue from the outside will be possible (Agência Nacional de Mineração [National Mining Agency], 2019; Assembleia Legislativa de Minas Gerais [Legislative Assembly of Minas Gerais], 2019). This "self-rescue zone" has been defined as either 10 kilometers (6.2 miles) along the course of the valley or the portion of the valley that can be reached by the tailings flow within 30 minutes, whichever is greater (Assembleia Legislativa de Minas Gerais, 2019). That distance can be extended to 25 kilometers (15.5 miles) depending upon the population density and the natural and cultural heritage. In the Brazilian state of Minas Gerais, it is currently illegal to construct a tailings dam where there is a population residing in the "self-rescue zone" (Assembleia Legislativa de Minas Gerais, 2019). It should be noted that the town of Superior and the unincorporated areas of Dripping Springs and Queen Valley are all well within this "self-rescue zone." Ecuador (Valencia, 2019) has followed suit in adopting the same regulations. China has also considered the proximity of tailings dams to populated areas and has prohibited the construction of tailings dams within 1 kilometer (3,281 feet) upstream of residential neighborhoods, industrial facilities, or markets (Zhang and Daly, 2019). Although of course, the U.S. Forest Service would not be bound by any legislation passed in Brazil, China or Ecuador, the proposal for a mining project in Arizona that would be illegal in a developing country should be a cause for pause and reflection.

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Mr. GALLEGO. Thank you for your testimony.

The Chair now recognizes Dr. James Wells, a registered geologist with nearly 30 years of experience and the Chief Operating Officer for L. Everett & Associates.

STATEMENT OF DR. JAMES WELLS, CHIEF OPERATING OFFICER, L. EVERETT & ASSOCIATES, SANTA BARBARA, CALIFORNIA

Dr. WELLS. Good morning, and thank you for inviting me to testify today. My name is Jim Wells. I have a Ph.D. in geology, and I have been a practicing environmental hydrogeologist for nearly 30 years. For the last 7 years, I have advised the San Carlos Apache Tribe on environmental and water resource matters. At the invitation of the U.S. Forest Service, I served on the Groundwater Working Group which advised Tonto National Forest on its preparation of the draft EIS.

The working group consisted of Forest Service and Resolution Copper personnel as well as professionals from U.S. EPA and Arizona state agencies. The scale of this project is hard to fathom. As shown on this slide, Resolution's own assessment acknowledges that groundwater will be depleted over an area covering about 300 square miles. It is not clear how long it will take for these aquifers to recover after the mine closes. It is not in the DEIS, but Resolution once estimated that it would probably take about a thousand years.

Another very long-term impact relates to drying of springs and creeks from the permanent alteration of aquifers due to the subsidence crater. The DEIS acknowledges that many springs, most of which are identified as sacred, would be impacted by dewatering.

The Forest Service looked 200 years into the future for spring impacts even though, because of the scale of this project, they knew these impacts will not have reached their peak in some areas. The Forest Service discounted and did not disclose the worst impacts that are predicted to occur decades and even centuries later.

Resolution says it will use about 775,000 acre-feet of water over the life of the mine, of which 70 percent will be pumped from a network of new extraction wells in the East Salt River Valley. That is 15 miles west of the mine site. This is equivalent to 250 billion gallons of water. That is enough water to supply a city of 140,000 people. This is a vast new water demand for an area of the Southwest that is already experiencing water shortages.

The draft EIS acknowledges that this amount of water "could be greater than the estimated amount of physically available groundwater," which is a pretty profound admission for an EIS. Every colored dot on this slide is a municipal well, so you can see there are already a lot of straws drawing water out of this basin. Phoenix, Scottsdale, Tempe, Mesa, Gilbert, Chandler, Apache

Junction, and Superior—they all rely on water from the very same groundwater basin. And study after study from the Arizona Department of Water Resources and others tell us that there is simply not enough water to go around.

Resolution chose to employ block-cave mining, thus ensuring creation of a 1.8 mile-wide subsidence crater, because that is the cheapest way to mine this deep ore body. A consequence of this mining method is that reclamation and restoration is simply not possible. These are forever impacts.

The subsidence crater may or may not extend into the Apache Leap Special Management Area. At minimum, we do know it will creep up the eastern slope of Apache Leap and profoundly degrade the quality of this theoretically protected place. In 75 years, if we could all stand together on the crest of Apache Leap instead of the world-class view across Oak Flat, we would see a massive pit of collapsed rock just a couple hundred meters away devoid of life and gradually filling with toxic mine water.

As the Chairman mentioned in his opening remarks, imagine standing on the stairs of the U.S. Capitol and, as shown on this slide, seeing nothing but a thousand-foot-deep rocky pit swallowing not only the Smithsonian museums and the Washington Monument but extending all the way to the Lincoln Memorial. I am pretty sure if there was a lot of copper under the Mall, we wouldn't be considering building a mine there.

In summary, this project has profound environmental impacts, many of which cannot be mitigated. And the draft EIS does not inform the public on the full scope of these problems. Thank you.

[The prepared statement of Dr. Wells follows:]

PREPARED STATEMENT OF JAMES WELLS, PHD, ENVIRONMENTAL GEOLOGIST, L. EVERETT & ASSOCIATES, ENVIRONMENTAL CONSULTANTS

I would like to thank Chairman Grijalva, Chairman Gallego, and members of the House Subcommittee for Indigenous Peoples of the United States for inviting me to testify at this hearing about the proposed Resolution Copper Mine. I am a Registered Geologist and I have been a practicing environmental geologist for nearly 30 years. My Bachelor's Degree is from Dartmouth College and my Masters' and PhD degrees are from the University of Washington in Seattle, all in Geological Sciences. For the last 7 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.

At the invitation of the U.S. Forest Service, I served on the Groundwater Modeling Workgroup which advised Tonto National Forest on its preparation of the Draft Environmental Impact Statement (EIS), 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. EPA, U.S. Geological Survey, Arizona Game and Fish, and Arizona Department of Environmental Quality. Also, at the invitation of Tonto National Forest, I am currently a member of the Resolution Copper Mine Water Resources Working Group which is advising 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 on the Draft EIS during the public comment period, approximately 20 percent of the substantive comments related to water resources or water quality, demonstrating the public's deep concern about this issue.

The Draft EIS prepared by Tonto National Forest identifies a number of profound environmental impacts from this project that cannot be mitigated. The scale of this project is hard to fathom and unfortunately the Forest Service fell short of its obligation under CEQA rules to take a hard look and ensure scientific integrity in its evaluation of these environmental impacts.

INADEQUATE EVALUATION OF CUMULATIVE IMPACTS ON WATER RESOURCES IN A REGION ALREADY EXPERIENCING SHORTAGES

Once mining commences, the formation of a subsidence crater becomes inevitable and unstoppable. Even Resolution Copper cannot stop this process once it has begun. Further, once the 1.8-mile wide subsidence crater forms, the Apache Leap Tuff Aquifer will be altered forever, irreversibly and permanently altering the region's water resources. This is the very definition of an irreparable harm. As stated in the Draft EIS, "The deep groundwater system is being and would continue to be actively dewatered, and once block-caving begins the Apache Leap Tuff would begin to dewater as well." [1]

The Draft EIS analysis of past, present and reasonably foreseeable future regional water impacts is inadequate, even though the Forest Service acknowledges that "groundwater demand is substantial and growing" and "total demand on the groundwater resources in the East Salt River Valley is substantial and could be greater than the estimated amount of physically available groundwater" (DEIS, p. 342). The DEIS does not take a realistic look at the consequences of Resolution's plan to pump 550,000 acre-feet of water (as cited in DEIS Table 2.2-1) from the aquifer in the East Salt River Valley.

There is disagreement about the accuracy of Resolution's water use predictions, but even if we take Resolution at its word, it will use about 775,000 acre-feet of water over the life of the mine, of which 70 percent will be pumped from a large network of new extraction wells in the East Salt River Valley. 775,000 acre-feet equals 250 billion gallons of water. The mine will consume enough water to supply a city of 140,000 people every year for 50 years. This is a vast new water demand for an area of the Southwest that is already experiencing water shortages.

The East Salt River Valley is part of the Phoenix Active Management Area. There are already lots of straws drawing water out of this basin. Phoenix, Scottsdale, Tempe, Mesa, Gilbert, Chandler, Apache Junction and other towns rely on groundwater from the very same basin that Resolution will be pumping from. In its latest study, the Arizona Department of Water Resources predicted demand to exceed supply into the foreseeable future for this basin and also predicted irreversible loss of aquifer capacity due to overpumping.[2] In an October 2019 study of the adjacent Pinal Active Management Area, Arizona DWR finds a future unmet demand of 8.1 million acre-feet.[3] There is simply not enough water to go around. By green-lighting this mine, we are embarking on an uncontrolled experiment on social priorities pitting Arizona's agricultural, municipal and tribal interests against those of a multinational mining company and the mining company is winning.

Tens of thousands of people in Pinal County rely on groundwater for their water supply and already, private wells are drying up.[4] As shown on Figure 1, the Forest Service's own research shows that Arizona has experienced moisture deficits even when averaged over the last 100 years.

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[1] Draft EIS, pp. 296–299.

[2] Arizona Department of Water Resources, 2010, Modeling Report #22, A Salt River Valley Groundwater Flow Model Application. 100-Year Predictive Scenarios Used for the Determination of Physical Availability in the Phoenix Active Management Area.

[3] Arizona Department of Water Resources, 2019 Pinal Model and 100-Year Assured Water Supply Projection Technical Memorandum.

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

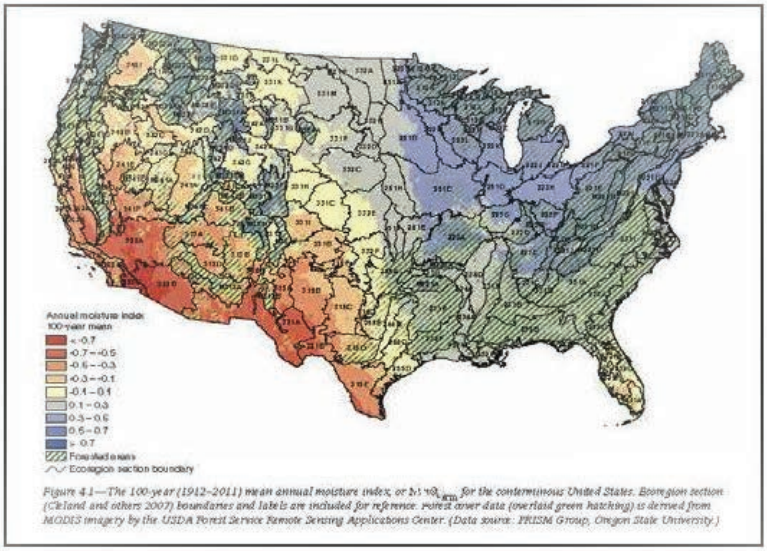

Figure 1. *USDA 100-year moisture index, showing much of Arizona has a moisture deficit, even when averaged over 100 years. Source, USDA, 2012, Forest Health Monitoring: National Status, Trends and Analysis.*

Colorado and other parts of the desert Southwest remain in an almost perpetual drought. Figure 2 is the Interagency Drought Monitor map showing long-term and short-term drought conditions in and around the project area and across much of the Colorado River Basin. A 2017 Report to Congress noted that the Colorado River (source of critical water supplies to Arizona via the Central Arizona Project or "CAP") has experienced lower-than-normal flows for the past 16 years, with some of the lowest annual flows in 900 years. The Report to Congress also noted that recent studies on the effects of climate change suggest that "a transition to a more arid average climate in the American West" may be under way. Likely consequences of climate change include higher temperatures in the West, higher evapotranspiration, reduced precipitation, and decreased spring runoff.[5]

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

CUMULATIVE IMPACTS

Resolution Copper Mine will obviously require a vast amount of water in a region of the country that is already experiencing water shortages. Arizona water law grants exceptional leeway to mines, which are essentially unregulated water users. As such, Resolution Copper may be entitled to develop a virtually unlimited number of wells and pump an unlimited amount of water from the East Salt River Valley. The Forest Service seems to have (incorrectly) concluded that because of this water right, it is relieved of considering impacts that would arise from the exercising of this right. This approach is not sufficient under NEPA and does not satisfy the requirement under NEPA to take a "hard look" at environmental impacts.

[5] Congressional Research Office, November 9, 2017, Drought in the United States: Causes and Current Understanding, pp. 14–15.

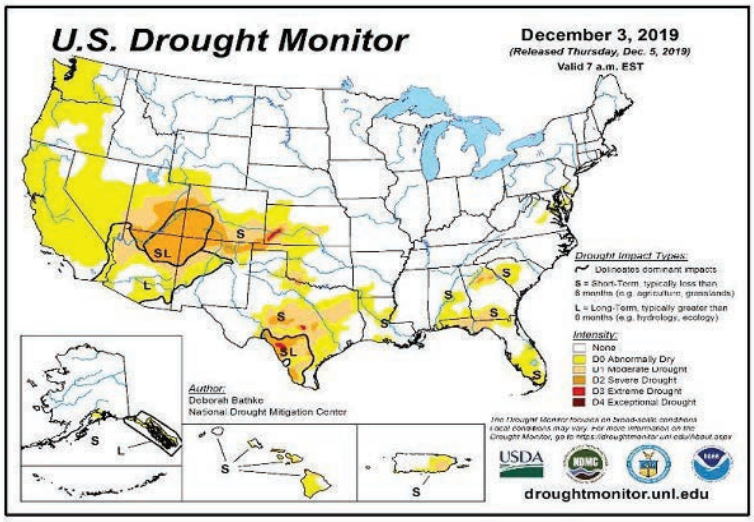

Figure 2. *U.S. Drought Monitor Map, accessed on 12/6/2019.*

Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions."[6] One of the greatest contributions the Forest Service *could have made* to this process—but did not—would have been to conduct a thorough analysis on cumulative impacts of Resolution's plan to pump 180 billion gallons of water from the aquifer in the East Salt River Valley.

INADEQUACY AND UNRELIABILITY OF GROUNDWATER MODELS

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

> "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."[7]

The Forest Service subsequently "determined that results could be reasonably assessed up to 200 years into the future."[8] This is a problem because some hydrogeological impacts not only persist, but actually get worse in time frames far beyond 200 years.

The groundwater model was actually run for 1,000 years into the future (DEIS, p. 296) although only the first 200 years are reported quantitatively in the DEIS. This long-term analysis documented that in some areas around the mine, groundwater levels will continue to decline for many hundreds of years, thus potential impacts to Groundwater-Dependent Ecosystems (GDEs) will only increase beyond the 200-year cut-off for analysis. For example, the 1,000-year hydrograph produced by Resolution's modeling consultant for Hidden Spring predicts a continuing decline in groundwater levels for almost 800 years.[9] That impacts continue (and worsen) over such vast time frames is a testament to how large and disruptive this project truly is and how environmental impacts from this project should be measured on a geologic time scale. By limiting the period of analysis, the Forest Service discounted (and did not disclose) the worst impacts that are predicted to occur decades and even centuries later.

[6] 40 CFR § 1508.7.
[7] Draft EIS, p. 300, emphasis added.
[8] Draft EIS, p. 300.
[9] Groundwater Working Group Meeting Notes, Meeting #8 held on May 15, 2018.

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

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

The hydrogeology of the project area is extremely complex, with multiple aquifers, multiple faults and variable rock types. When combined with a proposed project of such immense scale, it is a significant challenge to conduct a groundwater impact analysis and the Forest Service has not met this challenge. Starting at least as early as 2016, Resolution's consultants assured the Forest Service scientists and others that the West Boundary Fault, Concentrator Fault and other faults would limit the western aerial extent of groundwater drawdown (under Superior and farther west) from mine dewatering at Shafts 9 and 10. Resolution's own computer model later contradicted this conclusion, instead showing nearly 10 feet of drawdown as far west as the Boyce Thompson Arboretum (see Figure 3 showing substantial drawdown beyond the boundary faults surrounding the mine site). In addition, Resolution's hydrogeological studies failed to predict the inflow of 600 gallons per minute of hydrothermal groundwater (170° F) that was encountered when sinking Shaft 10.

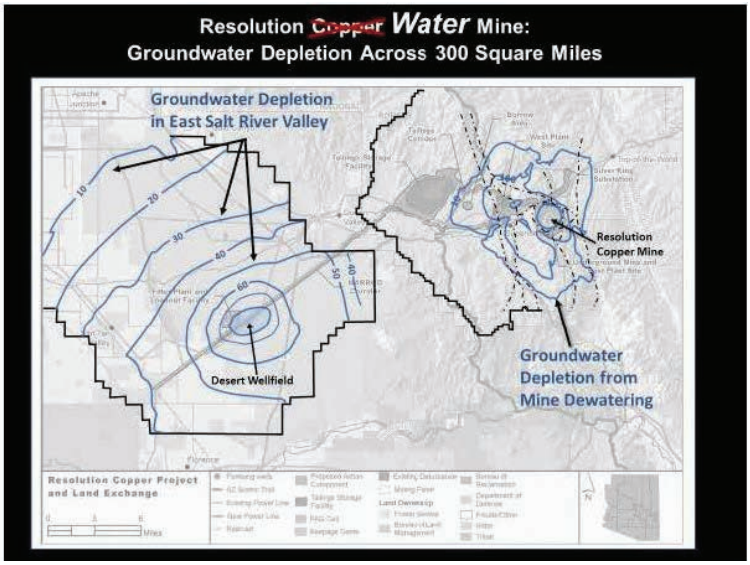

Figure 3. *Map showing predicted groundwater drawdown from mine dewatering and from the Desert Wellfield. Sources: Base Map: DEIS, Figure ES-2; Desert Wellfield drawdown contours redrawn from DEIS, Figure 3.7.1-2 (Desert Wellfield modeling analysis area and maximum modeled pumping impacts); Mine model contours redrawn from WSP, October 31, 2018, Memo: Resolution Copper Groundwater Flow Model—Predictive Results, Figure 5 (Regional Groundwater Model Predicted Drawdown-Proposed Action Post Closure (Year 200); Faults are redrawn from WSP, February 2019, Resolution Copper Groundwater Flow Report, Figure 2.1 (Regional Geology Map).*

Resolution's own assessment acknowledges that groundwater will be depleted by at least 10 feet (and in some places, more than 1,000 feet) over an area covering about 300 square miles. As shown on this map, this is a consequence of dewatering at the mine site as well as massive amounts of pumping that will occur in the East Salt River Valley, about 15 miles west of the mine. No one knows how long it will

take for the aquifers to recover after the mine closes, but Resolution once estimated that it would take about 1,000 years.

INADEQUATE ANALYSIS OF IMPACTS ON GROUNDWATER-DEPENDENT ECOSYSTEMS

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

> "Groundwater shall be managed for the long-term protection and enhancement of the Forest's streams, springs and seeps, and associated riparian and aquatic ecosystems. Development and use of groundwater for consumptive purposes shall be permitted only if it can be demonstrated that such proposals will adequately protect Forest resources." [10]

One of the most important expectations of the groundwater modeling effort was to assist the Forest Service in evaluating future impacts to springs and perennial streams that support groundwater-dependent ecosystems (GDEs).[11] The computer model used to evaluate this issue does not quantitatively simulate groundwater-surface water interactions: "Changes in stream flow cannot be evaluated based on the groundwater model." [12] Instead, it was decided that a finding of hydrogeological "impact" would only be identified if the model predicted at least a 10-foot drop in the groundwater elevation in the immediate vicinity of a GDE. As stated in the Draft EIS,

> ". . . 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." [13]

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

> "The Groundwater Modeling Workgroup recognized that while the model may not be reliable for results less than 10 feet in magnitude, changes in aquifer water level much less than 10 feet still could have meaningful effects on GDEs, even leading to complete drying." [14]

However, due to the limitation of the model, in places where the model predicts drawdown greater than zero but less than 10 feet, the Forest Service assumed (without proof) that there are no impacts: "to properly reflect the level of uncertainty inherent in the modeling effort, results less than 10 feet should not be disclosed or relied upon" (Draft EIS, p. 301). The Forest Service did not scientifically conclude that 10 feet or more of groundwater drawdown is needed to cause an impact on GDEs, this was just an arbitrary number based on limitations of the method of analysis, not some scientific principle.

In conclusion, the Forest Service chose a methodology that is incapable of thoroughly analyzing impacts of mine dewatering and the collapse crater on GDEs. In this instance, the Forest Service is not meeting its obligation under 40 CFR § 1502.24, because it is relying on a scientific method (groundwater modeling) that is not capable of predicting significant hydrogeological impacts for this complex project.

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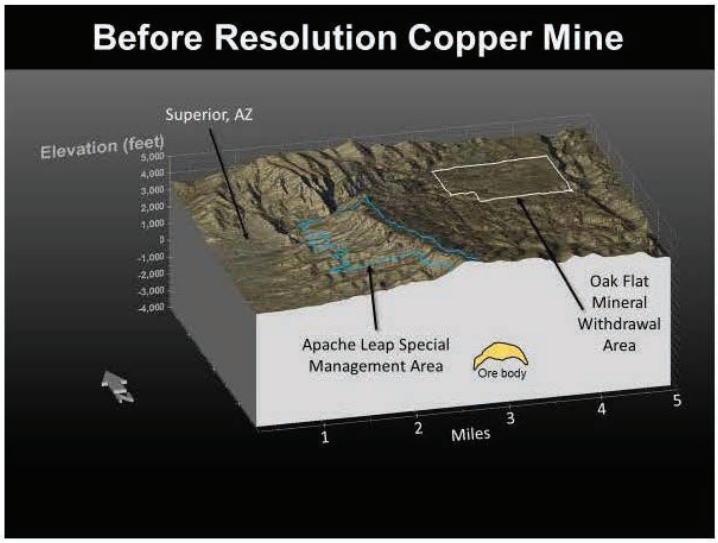
[10] Martin and Loomis, Keeping Our Streams Flowing: Tonto National Forest Groundwater Policy, in: Furniss, Clifton and Ronnenberg, eds., 2007, Advancing the Fundamental Sciences: Proceedings of the Forest Service National Earth Science Conference, October 2004, PNW-GTR-689, USDA, Forest Service, Northwest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

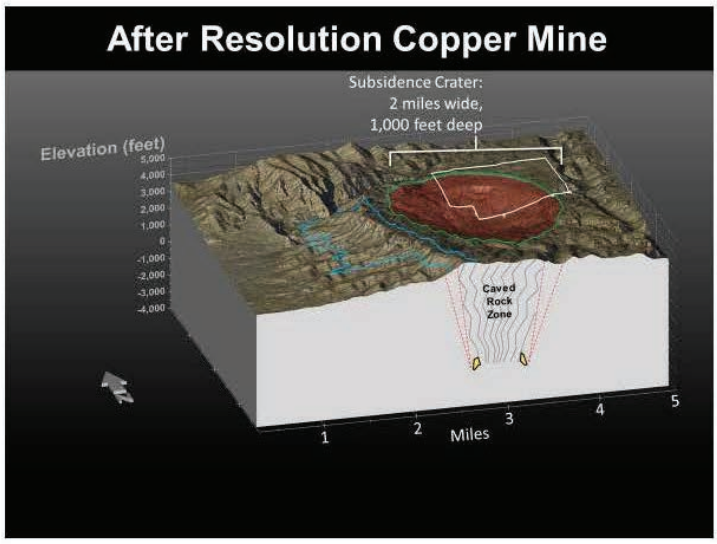
[11] BGC Environmental, November 2018, Review of Numerical Groundwater Model Construction and Approach, Section 1.1, "Issues to be Addressed by the Groundwater Model".

[12] BGC Environmental, November 2018, Review of Numerical Groundwater Model Construction and Approach, Section 4.9.2.

[13] Draft EIS, p. 301.

[14] Draft EIS, p. 301.





INADEQUATE CONSIDERATION OF ALTERNATIVES TO BLOCK CAVE MINING AS A WAY TO AVOID PERMANENT WATER RESOURCE IMPACTS

Once the 1.8-mile-wide subsidence crater forms, the Apache Leap Tuff Aquifer will be altered forever. As stated in the Draft EIS, "The deep groundwater system is being and would continue to be actively dewatered, and once block-caving begins the Apache Leap Tuff would begin to dewater as well."[15] The Apache Leap Tuff Aquifer is a critical source of water for springs and creeks, many of them sacred. This permanent impact would not occur if alternative underground mining methods were employed, but the Forest Service did not conduct an adequate analysis of alter-

[15] Draft EIS pp. 296–299.

native mining methods (as discussed elsewhere in these comments) largely because the Forest Service accepted Resolution's assertion that any method other than block cave mining would be too expensive. The Draft EIS disclosed a number of profound impacts due to the collapse crater that cannot be mitigated, including to water resources. By failing to conduct an acceptable and competent evaluation of project alternatives that could avoid the impacts caused by the collapse zone, the Forest Service is allowing one factor (cost of mining: i.e., Resolution's profitability) to outweigh all environmental and social factors combined.

MITIGATION OF IMPACTS TO GROUNDWATER DEPENDENT ECOSYSTEMS

The Draft EIS concludes that the Resolution Copper Mine project will or is likely to deplete water supplies and harm or destroy the streams, springs, seeps and other water features in Oak Flat, Ga'an Canyon (Devil's Canyon), Mineral Creek and Queen Creek: "Between 14 and 16 GDEs, mostly sacred springs, would be anticipated to be impacted by dewatering. Although mitigation would replace water, impacts would remain to the natural setting of these places."[16] The proposed mitigation for GDEs is inadequate. Mitigation plans are outlined in an April 2019 report.[17] This report calls for replacing water flows in springs and creeks by pumping water from nearby wells (i.e., tapping groundwater from deeper in the aquifer), storing water in tanks and piping the water to the creek or stream or by constructing various water-collecting devices such as so-called "guzzlers," surface water capture systems or even trucking water in from alternative sources. Replacing a natural system with a manufactured facsimile of the system is not the intention of mitigation under NEPA. Just as it would not be permissible to replace the real Half Dome with a very large photograph of Half Dome, it is not permissible to replace lost GDEs with artful but artificial copies of natural systems. It was not the intention of NEPA to replace nature with Disney-like imitations of nature.

The monitoring plan for GDEs is also inadequate because its discussion of triggers (i.e., occurrences or observations that would trigger mitigation activities) is vague and incomplete. The Montgomery Report[18] reveals that Resolution has built in (and the Forest Service has bought into) any number of ways to avoid actually implementing mitigation measures for GDEs. In particular, the Plan explains that Resolution will somehow differentiate the impacts from its dewatering from other variables such as "changes in weather and/or climate, impacts to the regional and/or local groundwater system from other human causes, landscape changes such as landslides and fires, natural succession of the GDE into a new presentation such as an increase in phreatophytic plants coincident with a reduction in spring flow rates, or other reasons not included in this document." Other than noting that Resolution will employ "multiple lines of evidence" there is no quantitative or qualitative discussion of how Resolution will accomplish this difficult task. Considering that all of the GDEs covered by the monitoring plan have already been identified as likely to be severely impacted by mine dewatering, this is a problematic situation and is inadequate under NEPA.

Appendix J of the Draft EIS specifies that the monitoring and mitigation plan is not intended to address water sources associated with perched shallow groundwater in alluvium or fractures. Including shallow fracture flow in this statement incorrectly excludes important and probably inevitable impacts directly related to mining. Fracture flow[19] is likely the dominant groundwater flow mechanism in the Apache Leap Tuff and this groundwater unit is the source of water discharges that support riparian zones in Ga'an Canyon (Devil's Canyon), Mineral Creek and possibly Queen Creek. The groundwater system in the Apache Leap Tuff will be profoundly and irrevocably altered by the formation of the collapse crater. The Draft EIS is incorrect in excluding shallow fracture flow from monitoring and mitigation requirements.

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[16] Draft EIS p. 123.

[17] Montgomery & Associates, 2019, "Monitoring and Mitigation Plan for Groundwater Dependent Ecosystems and Water Wells."

[18] Montgomery & Associates, 2019, "Monitoring and Mitigation Plan for Groundwater Dependent Ecosystems and Water Wells."

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

WATER QUALITY IMPACTS—ACID ROCK DRAINAGE

As noted in the Draft EIS, "The deposit is associated with hydrothermal alteration and includes a strong pyrite "halo" in the upper areas of the deposit, containing up to 14 percent pyrite. This mineralization has ramifications for water quality, as sulfide-bearing minerals such as pyrite have the potential to interact with oxygen and cause water quality problems (acid rock drainage)".[20] Much of the mineralized halo (i.e., rocks with abundant sulfide minerals but a lower grade of copper) will not be mined out, rather it will become a permanent part of the collapse zone.

The Draft EIS makes the unsupported assumption that the mineralized, fractured rock in the collapse zone will not be in contact with oxygen, thus will not form acid rock drainage. This is a highly optimistic conclusion that defies common sense. As the collapse zone forms, the rock will become fractured (thus increasing its hydraulic conductivity many orders of magnitude) and largely dewatered. For the purposes of groundwater modeling, Resolution assumes that the hydraulic conductivity[21] of rock in the cave zone will increase by as much as a factor of a million: "Maximum hydraulic conductivity values were altered by a multiplier of 1E+6 or to a hydraulic conductivity of 100 ft/day, whichever occurs first . . . The maximum hydraulic conductivity value of 100 ft/day was selected because it is much higher than the natural, un-altered bedrock, but higher values caused the model to become unstable."[22] This statement highlights another deficiency of the groundwater model: hydraulic conductivity of rock in the collapse zone was arbitrarily limited to 100 ft/day because the model would crash if higher (i.e., more realistic) values were used.

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

WATER QUALITY IMPACTS—TAILINGS FACILITY

The scale of this project is hard to grasp, but the volume of tailings produced by Resolution Copper would fill the Rose Bowl to its brim, not once but nearly 1,800 times. This vast volume of waste material will permanently disturb 16,000 acres of land of which nearly 8,000 acres is Arizona State Land. The principal accomplishment of the Draft EIS seems to be to propose a new location for the mine's 1.37 billion tons of tailings, but the Draft EIS is inadequate in its assessment of impacts at this new location to surface water and groundwater quality due to seepage from the preferred tailings storage facility. Water quality impacts from the tailings is one of the most profound and concerning environmental issues for a mine of this size, yet there is virtually no defensible scientific analysis of this issue in the Draft EIS. Indeed, except for the Near West site, there is no true, data-supported, site-specific analysis of potential impacts to surface water and groundwater quality at any of the alternative tailings sites.

IMPACTS TO APACHE LEAP SPECIAL MANAGEMENT AREA

Resolution chose to employ block cave mining (thus ensuring creation of a 1.8-mile wide subsidence crater) because that's the cheapest way to mine this deep ore body. A consequence of this mining method is that reclamation or restoration is simply impossible: maybe a sturdy fence and maybe some "no trespassing" signs.

There is a high degree of uncertainty in Resolution's subsidence predictions but we've been assured that the subsidence crater will not extend into the Apache Leap Special Management Area. True or not, we do know it will creep up the eastern slope of Apache Leap and profoundly degrade the quality of this theoretically protected place. In 75 years, if we could stand together on the crest of Apache Leap, instead of the world-class view across Oak Flat, we would see a massive pit of collapsed rock, just a couple hundred meters away, devoid of life & gradually filling with toxic mine water. Imagine standing on the stairs of the U.S. Capitol and seeing nothing but a 1,000-foot deep rocky pit, starting at the Capitol reflecting pool, swallowing not only the Smithsonian Museums and the Washington Monument, but

[20] Draft EIS p. 140.

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

[22] WSP, February 2019, Resolution Copper Groundwater Flow Report, pp. 37–38.

extending all the way to the Lincoln Memorial. That's how immense this subsidence crater will be.

CONCLUSIONS

This mining project has long-term consequences to the groundwater resources in Arizona as a whole and the Phoenix Active Management Area, in particular: in some cases, permanent consequences. Once mining commences, the formation of a subsidence crater becomes inevitable and unstoppable. The Draft EIS acknowledges that total demand for water in the East Salt River Valley is growing and could be greater than the available supply.[23] And yet, the Draft EIS does not take a realistic look at the consequences of Resolution's plan to pump 180 billion gallons of groundwater from the Desert Wellfield: a network of new extraction wells proposed for the East Salt River Valley.

Considering the effects of ongoing drought conditions and likely reductions in deliveries of Colorado River water to Arizona via the CAP, it is nearly certain that the new demand from Resolution's pumping of groundwater from the East Salt River Valley will lead to water shortages among the many users of this groundwater basin. Even more certain is the irreversibility of Resolution Copper's impacts to the Apache Leap Tuff Aquifer which will be altered forever: permanently altering the region's water resources and threatening permanent and unmitigable impacts to local streams and springs, many of which are sacred to Arizona Tribes.

Mr. GALLEGO. The Chair now recognizes Mr. Roy Chavez, the former mayor of the town of Superior and the Chair of the Concerned Citizens and Retired Miners Coalition.

STATEMENT OF ROY CHAVEZ, CHAIR, CONCERNED CITIZENS AND RETIRED MINERS COALITION, SUPERIOR, ARIZONA

Mr. CHAVEZ. Thank you very much. Excuse me, I need my glasses now. I have been on this for so long, my eyes aren't good anymore. Good morning. My name is Roy Chavez, and it is an honor to testify on this important issue today. I am Chair of the

[23] Draft EIS, p. 342.

Concerned Citizens and Retired Miners Coalition, a non-profit grassroots volunteer group of citizens whose members include local residents, former miners, and friends of the town of Superior.

The coalition is not opposed to mining. In fact, we strongly support responsible mining practices in and around our community. I am a lifelong third-generation resident of Superior. I am an ASU graduate, and I have served the community of Superior in various capacities as a council member, as mayor, and as town manager. I have also been a small business owner for the past 30 years, and I have worked for several different mining companies, including Hecla Mining, Kennecott Copper, Magma Copper, and BHP.

I have experience in open-pit mining, smelting, underground mining, construction, development, and production. I will be speaking today specifically on the proposed Resolution Copper mining project in Superior. The Superior Arizona Magma Copper Mine operated from the early 1900s until their first closure in 1982. Approximately 1,400 employees were laid off after the mine closed then.

When the mine reopened in 1989, it employed less than 400 people, almost a two-thirds reduction in the labor force. Technological changes, including the use of underground loaders, meant that less manpower was needed to achieve the same results. The mine ultimately shuttered again in 1996.

After the first mine closure, Superior's population, business revenues, and general operating procedures were greatly diminished. The boom-and-bust cycle of mining had left the town in an unstable financial position. And we were left to pick up the pieces. During the mid-1980s, Superior decided to diversify the economy away from mining and looked to tourism, senior living, and outdoor recreation to better enhance the area and provide a sustainable source of revenue for the future.

To achieve this diversification, Superior had to consolidate community service, cut taxes, and undergo a wholesale of modernization to clean up the town and better promote the community. As mayor, I was first approached by Rio Tinto in 1998 about reopening the mine. They referenced a new operation using a block caving mining method and discussed the acquisition of over 3,500 acres of public lands managed by the U.S. Forest Service above Apache Leap and Oak Flat. Initially, I was encouraged by the prospect of the mine reopening and what it could mean to the many folks who had lost their jobs after Magma closed.

However, recognizing the technology that was in place in the late 1990s and the overall workforce diminishment, I was very skeptical about the jobs that would actually materialize in this new mine. Resolution was proposing block-cave mining where historically a cut-and-fill method had been used in the region. In a block-cave mine, ore is extracted from underneath. Eventually the earth above the mining operation subsides, leaving a massive crater and forever destroying the surface.

Block-cave mining is a technologically dependent operation requiring far fewer laborers than traditional cut-and-fill mining. The technology advances in today's mining industry, combined with the block-cave method, means only a bare minimum of jobs will be created. It would be no surprise if many of the technical jobs that are

available will be held by highly trained individuals sitting at a computer in another state or even another country controlling our robotic workforce remotely.

In order to remove the ore body from block caving, Resolution plans to install 70 miles of underground track. The ore is transported to the surface where it is processed to a concentrate. The concentrate can be smelted and sold at that point. The foreign mining conglomerate of Rio Tinto is majority owner of Resolution Copper, a limited liability company. As Chinalco, owned by the government of China, is the largest shareholder of Rio Tinto, current mining plans call for transporting the ore to China for final processing and sale.

Giving away American natural resources to a foreign conglomerate so it can monetize our resources to enrich shareholders while creating few jobs in an environmental disaster is fleecing the American people. Ladies and gentlemen, Superior and the surrounding communities have worked hard to build a strong and sustainable future for our residents.

Resolution Copper's mine is a bad deal for local residents, a bad deal for the environment, and a bad deal for the American taxpayer. Here, if Congress doesn't act, then the government of China wins and the Arizonans and other Americans lose. I urge Congress to put America first and repeal this special-interest land legislation. Thank you.

[The prepared statement of Mr. Chavez follows:]

PREPARED STATEMENT OF ROY CHAVEZ, CHAIR, CONCERNED CITIZENS AND RETIRED MINERS COALITION, SUPERIOR, ARIZONA

CONCERNING

THE IRREPARABLE ENVIRONMENTAL AND CULTURAL IMPACTS OF THE PROPOSED RESOLUTION COPPER MINING OPERATIONS

The Concerned Citizens and Retired Miners Coalition is a non-profit, grass roots, volunteer group of citizens whose members include local residents, former miners and friends of the Town of Superior. The Coalition is not opposed to mining, in fact, we strongly support responsible mining practices in and around our community of Superior, Arizona.

On behalf of the Concerned Citizens and Retired Miners Coalition, I appreciate the opportunity to express our views about the irreparable environmental and cultural impacts of the proposed Resolution Copper mining operation.

SUMMARY

Oak Flat and Devil's Canyon is recognized as one of the most unique, scenic, popular and unspoiled areas in the state of Arizona. It is easily accessible to millions of visitors from the Phoenix and Tucson metropolitan areas within a short drive. However, it's cultural, ecological and recreational aspects are being jeopardized by a proposed underground mine that is certain to fail. The Tonto National Forest is pushing through the environmental review of this project—feeling mandated to do so by Section 3003 of the 2015 NDAA—and has written an incomplete Draft Environmental Impact Statement (DEIS) based upon an incomplete mining plan of operation provided by Resolution Copper Mining. We believe that Congress should stop the project until Resolution Copper Mining provides ALL of the missing information regarding their plan of operation so that the Forest Service can provide a comprehensive Environmental Impact Statement (EIS) that addresses the long-term consequences/impacts to the environment and community. We also believe that Congress must overturn the Oak Flat land exchange because it is in the public interest to keep Oak Flat in the public domain.

ECONOMIC DEVELOPMENT/JOBS

From a local perspective, this project began 20 years ago with a projected outcome of a new mining operation sustaining a much-needed economic base in Superior and the surrounding region. Throughout all these years, many different messages and information have been proposed by Resolution Copper Mining to local, county and state officials regarding their mining plan of operation. Taken for face value, these now appear to be "pie in the sky" as far as economic development and a sustainable revenue base. Though many local people initially supported the project, two decades later, many more people are questioning the validity of this project and what it will really bring—loss of public lands, jeopardizing our water quantity and quality, toxic waste, air pollution with no "real" jobs.

We don't believe that the proposed block-cave method of mining will create as many jobs as projected. It is general knowledge that the cut and fill method creates far more jobs; and as shown at the peak of production in the 60s and 70s at the Magma Mine, there were 1,400 employees as compared to 400 during the reopening in the 80s and 90s.

Additionally, the process of mining in the 21st century is very technologically advanced and requires specialized training. Resolution Copper Mining has not indicated that they will hire untrained, local labor. In fact, today's activity on the project reflects an influx of mining technicians from outside the community. We routinely see vehicles with license plates from Utah, Colorado and Mexico. We are seeing more and more articles regarding the development of robotic work for future mining activities. These robotic systems are being tested today in South American and Australian mining operations. It would be no surprise if many of the technical jobs that are available will be held by highly trained individuals sitting at a computer in another state—or even another county—controlling our robotic workforce remotely.

Thanks to autonomous robotics technology, even as mining production has increased, mining employment has decreased. Mining reform would create clean-up jobs, funded by a reclamation fee and royalties that cannot be outsourced. Montana's experience with mining reclamation suggests that a dollar spent on mining clean-up creates more jobs than a dollar spent on new mining.

As referenced in Bloomberg Financial, July 14, 2019, Rio Tinto, Resolution Copper Mining's parent company, is actually considering advancing the priority of a remote Western-Australia copper ore body discovery where Rio now has as many as "190 staff, about 12 drilling rigs and is constructing a gravel airstrip" above the Resolution Project in Superior, Arizona.

Recent information from The ACCESS Fund (outdoor recreation and monitoring agency) and reports from the Arizona Mining Association also indicates that in Arizona's current economy, outdoor recreation (fishing, camping, hiking, boating, rock climbing, birding, and other forms of eco-tourism) provides over $12 billion annually in state revenue while all mining in the state provides approximately $5 million. Recreation and tourism also generate many more jobs than mining. Referencing this mine project, would we not be killing the "goose that lays the golden egg"?

But, mining without reform destroys the land and pollutes the water upon which recreation and tourism jobs rely.

OAK FLAT

Oak Flat is sacred to Indigenous people, including the Apache, and is on the National Register of Historic Places (NRHP) as a traditional cultural property. It is a world-class recreational area, attracting climbers from all over the world, not to mention a place of biological diversity. Several endangered species will be harmed by the mine, including the Arizona hedgehog cactus, yellow-billed cuckoo and narrow-headed garter snake.

The Oak Flat Campground was recognized by the Eisenhower administration as an important recreational resource in 1955 under Public Land Order 1229, as amended, and 760 acres of Oak Flat were specifically placed off limits to future mining activity. The Campground has tens of thousands of visitors each year who enjoy the peace and beauty of this world-class natural resource and bring needed tourist dollars into the surrounding areas of Superior and Globe. Gaan (known as Devil's) Canyon and the waters of Queen Creek border the Oak Flat area. These important surface waters represent two of the crown jewels of Arizona's state trust lands, with some of the finest remaining riparian habitat in the state.

The Land Exchange Law is the first United States law that gives a Native American scared site on public land to foreign mining companies. It benefits only

two large foreign mining companies at the expense of religious freedoms, Arizona's clean water, the environment, recreation and economy.

In support of the Resolution Project, the National Mining Association/Department of Interior are currently trying to change the National Historic Preservation Act beyond congressional authority because they opposed the listing of Oak Flat on the National Registry of Historic Places and now want to make certain that tribes and historic preservation officers no longer have a say on historic properties on Federal lands.

"Forgiveness before permission" appears to be the train of thought for this Project and many others. This is basically giving away American taxpayer public resources to a foreign-owned operative for free, which in essence is fleecing all U.S. citizens.

WATER

No one would deny that the state of Arizona is currently facing a water dilemma (drought). For the past 20 years, southwest regional water runoff has diminished dramatically. No area of the state of Arizona is exempt from this fact. The Resolution Project has proposed several different figures for its water use. These numbers have fluctuated from as much as 60,000 acre-feet annually to as little as 18,000 acre-feet. Regardless of the amount, there is no guarantee that this resource will be available—especially into the future—when continued drought is projected. Communities within the mining region and all people throughout the central corridor of Arizona are truly concerned about how much water will be consumed and destroyed by this mining Project. Let us not forget that mining is one of the most water-intensive industries on Earth.

Superior and Oak Flat are in the Maricopa County Active Management Area, so whatever water is used for mining will affect the East Valley in addition to the local community. An in-depth analysis regarding the impact of any potential mine of this magnitude at Oak Flat to the water balance of the entire region should be conducted before this Project is even considered by Congress.

Queen Creek directly feeds into the main water supply for the Town of Superior (approximately 2,000 acre-feet annually). Block cave mining extracts large masses of underground, stable earth which causes an uncontrolled shift of the water course and alters that water course to pull away from Queen Creek, depleting and disrupting the natural flow.

Serious consideration should be given to the following:

- How much water will the mine project actually use
- How will water pollution from the mining activities be prevented
- Why is the current Administration trying to fast-track the mine at Oak Flat without an adequate environmental review
- Why was the NEPA process conducted only **after** the Oak Flat exchange bill
- Why, if Resolution Copper has stated that the mine would meet 25% of the U.S. demand for copper, is the processed material all going to China
- Why are certain elected officials so adamant in their support for this un-American Project

CONCLUSION

Given the above and all other information regarding the negativity of the proposed Resolution Copper mine and the long list of unanswered questions, we urge the U.S. Congress to overturn the Oak Flat land exchange referenced in Section 3003 in the 2015 NDAA and require the U.S. Forest Service to write a new Environmental Impact Statement **only after all** information is provided regarding the Resolution Copper Project.

Thank you for your time and consideration.

Mr. GALLEGO. Thank you very much, Mr. Chavez.

I thank all the witnesses for their testimony, reminding Members that Committee Rule 3(d) imposes a 5-minute limit on questions. The Chairman will now recognize Members for any questions they may wish to ask the witnesses. I will start by recognizing myself for 5 minutes.

Dr. Wells, as you know, the Southeastern Arizona Land Exchange requires an environmental review of the mining project to be conducted. However, the legislation also mandates for the land exchange to occur regardless of the findings of the review. It is crazy. Can you explain how this reality has affected the Environmental Impact Statement drafting process for this project?

Dr. WELLS. Yes, I can try to explain that. This is not a normal EIS process as it was envisioned under NEPA. Under NEPA, projects are meant to be given a hard look. The projects and the environmental impacts from those projects are required to be given a hard look in a scientifically defensible way.

I have worked with the Forest Service on the water resources part of their draft EIS. And I believe there is almost a sense of fatalism as a result of this streamlined process that is just going through the motions to validate a foregone conclusion. I think that also could explain why the Forest Service didn't always take a critical look at information provided to them by Resolution that ended up, in many cases, in the draft EIS just sort of verbatim out of Resolution reports.

Mr. GALLEGO. Thank you. In your testimony, you also mention specifically that the DEIS fails to fully analyze the fact that Resolution Copper has planned to pump 250 billion gallons of water for its proposed mines. Can you explain what these missing cumulative effects could be?

Dr. WELLS. Sure, yes. I am happy to do that. I think that is a really important question. In my view, one of the most valuable contributions the Forest Service could have made in the draft EIS or in the NEPA process would have been to take a clear and thorough look at cumulative impacts.

Speakers in the first panel spoke movingly about their understanding that the world and life is interconnected. And I think, in many ways, we, in the world of modern science, aren't very good at incorporating that knowledge.

One way that it can be incorporated, maybe imperfectly, is this whole concept of cumulative impact analysis under the NEPA process. Let's take water resources. We know that Resolution Copper, if this project goes through, is going to use up a whole lot of water. What about a situation in the future which is increasingly likely that there will be a drought emergency in the Colorado River basin? Arizona depends a lot on water from the Colorado River, as do many other states, supplied through the CAP or the Central Arizona Project. Once a drought emergency is signified, which could happen any time now, those supplies drop off, and we know exactly by how much. It is all written down in the compact, but there is no analysis in the draft EIS of what we are going to do in a situation in a couple years when there are these vast new demands for water in Arizona but even less water.

Mr. GALLEGO. Thank you, Doctor.

And last, Mr. Chavez, the DEIS statement states that the panel-caving method was selected for Resolution Copper's mining proposal and that other mining methods were considered but not analyzed in detail. Appendix F states that other methods were dismissed because of risk associated with surface disturbance and "higher operation costs." As a former miner, could you please give

us your views on the decision to approve panel caving without analyzing other methods in full detail?

Mr. CHAVEZ. Yes. The block-cave method historically, it appeared, was never used. We were under a process called cut and fill. And as an example of that, quickly, we would mine out this particular structure here, this office, this building, the hearing committee building, and we would process the material. We would recover all the commodity metal, copper, gold, silver, and molybdenum. That would take about 10 percent of this room. The remaining 90 percent would be the toxic mine waste that is being discussed at this point, making up the tailings.

In cut-and-fill operations, though, it is cutting and filling. We would take approximately 80 percent of that waste material, mix it with concrete, and pipe it back underground and reintroduce it into the vacant ore body area and filling this core. Once that would happen, we could mine the panel here, the panel there, the one above, the one below. You follow? It is like creating a box, a solid box.

Cut and fill is labor-intense. And when Rio Tinto mentions block-cave mining, that is what they are doing worldwide for the most part. And your No. 1 cost is labor in their opinion. And they want to cut back on labor. In the block-cave method, the extraction process is very high. They would not take this building or office here. They take this entire building structure, the whole block, two blocks, three blocks. And they would void it. They would pull it out from below, transport it out, do the same thing in processing, recover the commodity money metals, and then create the waste product and place it on the surface. One thing that is not really being mentioned is that the land exchange is one issue where they want to make it appear that the United States is recovering something for this. We are getting something for the land exchange, but the appraised value of the ore body has not even been discussed, nor have the potential 12 square miles that will be utilized on public Forest Service land to dump the waste forever. We are not getting a penny. Just wanted to share the two differences.

Mr. GALLEGO. I appreciate it. Thank you, Mr. Chavez.

I now recognize Representative Haaland.

Ms. HAALAND. Thank you, Chairman.

My first question is for Mr. Chavez, Mr. Mayor. As the former mayor of the town of Superior and a lifelong resident, do you feel that the DEIS adequately informs the local public about these risks that you have been talking about associated with this project?

Mr. CHAVEZ. No. We have to remember now in the industry what they are using worldwide is a social license to operate. And within those boundaries, the Resolution Mine has created a community working group which I happen to be a member of for 4 years now. Reluctantly, I am the only member on that 30-member group that is in opposition to this project and I have been from the very beginning.

The representatives on that group are members of organizations and agencies that have received some type of funding from the Resolution Mine for their organizations and their functions. But the work group spins this information that is now in the study, which was provided for scrutiny, a period of 90 days, several

thousand pages. So, this process has been going on for over two decades, and yet here, just like today, for them trying to cancel this or postpone it, now, when the cards aren't on the table for them, they certainly turn on us and want a review. So, I would share with you that not many people have looked at that study in an appropriate manner. And I think the longer this goes on, the more and more people locally, regionally, are asking the question, "What's going on, what is this about?"

Ms. HAALAND. Thank you. Do you believe that the Forest Service seems to be expediting a flawed and limited environmental review and, if so, why? And I don't have a whole lot of time so if you——

Mr. CHAVEZ. Thank you. They were given their marching orders as defined in the special-interest legislation. They formulated the support of an analysis of this project. And, again, they are going to blame 1872, the U.S. Mining Law.

Ms. HAALAND. Can you speak to the local opposition to Resolution Copper's mining operation?

Mr. CHAVEZ. I think by every day that goes by, as we said years ago, the longer this takes, the truth will come out. And they are believing now, or they are understanding now, that the jobs and the impact is either going to be destructive or very minimal in regards to the economy of the community.

Ms. HAALAND. Well, thank you for standing for the truth.

Dr. Emerman, thank you for your testimony. I appreciate that. Have you reviewed Tonto National Forest's Draft Environmental Impact Statement for the Resolution Copper Mine which was issued last August?

Dr. EMERMAN. Yes. First, I read the general plan of operations very, very carefully, word for word, and did the same thing with the DEIS.

Ms. HAALAND. So, you have reviewed the 1,300-page document in its entirety?

Dr. EMERMAN. Very carefully, yes.

Ms. HAALAND. Your resume indicates that you hold a Ph.D. and a Master's in Geophysics from Cornell and Princeton University, respectively, and that you majored in mathematics at Ohio State University. Based upon your extensive background and your individual review of the EIS, would you consider it to be complete and thorough?

Dr. EMERMAN. Well, the simple answer is no. What we expect from a DEIS is it should be very thorough, consider a wide range of environmental impacts, and justify its reasoning. And it should be independent. Much of the DEIS simply repeats information provided by Rio Tinto, especially the assumptions from Rio Tinto, without investigation. There are many countries in which there is no technical capacity at the governmental level. And the EIS or its equivalent is simply written by the mining company. We have a different set of laws in America.

Ms. HAALAND. Right.

Dr. EMERMAN. This DEIS is not what I expect to see in America.

Ms. HAALAND. Thank you. I still have another question. Do you believe the citizens of Superior, Arizona and other nearby communities like Pinal County should be concerned about water scarcity if the Resolution Copper Mine moves forward? And should other

people across the state be concerned about the availability of water resources should this project go through?

Dr. EMERMAN. Yes. Rio Tinto has said they will consume 15,700 acre-feet of water per year. That has never been justified. There is no water budget for that. That is simply a promise. If we would go by worldwide global mining industry standards, it should be three times that. If we go by what is typical in Arizona, it should be 10 times that. That is simply due to the high evaporation rate in Arizona.

Even the Rosemont Mine, of course, hasn't opened. Based on that prediction, this Resolution Copper Mine would use 40,000 acre-feet of water per year. So, actually, everything Dr. Wells was talking about in terms of groundwater impacts, I would say multiply that by three. So, yes, who is giving up water to provide the water for this project? Thank you.

Ms. HAALAND. Thank you, and thank you all so much for your expert testimony. It seems to me that if you take 100 percent of something and you only get 10 percent out of it and the other 90 percent is waste, it doesn't seem like it is worth it but thank you, Chairman. I yield.

Mr. GALLEGO. Thank you, Representative Haaland.

I now recognize Representative García.

Mr. GARCÍA. Thank you, Chairman, and thank you to the three witnesses of this panel.

Dr. Wells, in terms of the unprecedented amount of water and to have a tailpipe this far and this close to the community, is this a first, to your knowledge, in American mining with these proportions and these practices being implemented?

Dr. WELLS. Absolutely in terms of the scale of this project. The scale of this project is so immense and unprecedented any one of these methods that we are talking about has been applied in one place or another but not in a place that is so environmentally sensitive and not such a vast scale. In some ways, one of the things that Dr. Emerman and I are talking about is uncertainty.

In science, we always try to disclose how much uncertainty there is in our calculations. And because of the scale of this project, the DEIS does not disclose how much guesswork there is on how bad these impacts might be, whether it be the stability of the tailings dump or whether it be on the impacts to sacred springs and streams or whether it be on the impacts to neighbors' water supplies.

Mr. GARCÍA. And what will happen to the dam infrastructure that will go unmaintained, as I think you alluded to?

Dr. WELLS. These things are forever things. The mine will come and go, geologically speaking, pretty quickly, only in 50 years. The tailings pile will be there forever. So, once Resolution packs up and goes on to the next place, eventually the tailings dam will be unmaintained. And I think, again, I am a broken record when talking about uncertainty of these scientific predictions. We can't say when that tailings dam would fail, but we do know that someday it will.

Mr. GARCÍA. And, Mr. Chavez, what does the U.S. Government get out of a project like this, to your knowledge?

Mr. CHAVEZ. The primary factor under the mining strength and lobby in Arizona throughout the Southwest is jobs, Representative. And those jobs are the priority, I believe, that I have seen politically. This giveaway, though, is—if today's market of the industry is, by no means, in my opinion, and many, many other people in the industry, and previously in the industry is not going to provide these jobs that have been projected.

We have heard from 300 jobs to now 6,000 jobs. Some of the jobs are including people that are locally employed in the school district, people at restaurants. But the reality is that it is jobs. And the fact is that those jobs are diminishing. One other thing to remind you is that, in Arizona right now, our neighbors down the road in Ray and Hayden are in a strike right now. The labor group is in a strike. And that is going to continue for some time. They are trying to break the union. And that answers something to jobs, I mean, really legitimately are these companies really there to support the working force?

Mr. GARCÍA. So, am I to infer from that, that there is a great cost here to the communities, to the environment, and that whatever is here, it is shortsighted?

Mr. CHAVEZ. I would definitely agree. If you listened to my oral testimony, I mentioned that we were trying to diversify because we couldn't do anything with the mine out. So, we had to change things, and I had to shift gears. And part of that was looking at our environment, our ecosystem, and trying to promote it in that sense. So, there is diversification that needs to be implemented here.

Mr. GARCÍA. And just to close, all of this is happening because of a midnight rider that is giving our public lands, the sacred lands of tribes, to a corporation. I yield back, Mr. Chairman.

Mr. GALLEGO. I now recognize Chairman Grijalva.

Mr. GRIJALVA. Thank you, Mr. Chairman.

Dr. Wells, Arizona was part of other states that the Colorado River sustains that did the contingency plan.

Dr. WELLS. Right.

Mr. GRIJALVA. And within 7 years or so, Arizona, like the other states, are going to have to have some permanence to water usage, conservation, etc., because the point that you made about that finite resource being finite, this drain from this irresponsible mine in terms of the water resources and putting this mine at the top of the list in terms of access to future water usage, your comment on that?

Dr. WELLS. Well, I mentioned in my testimony that this is the amount of water that would be required by a city of 140,000 people. So, if you and I were developers and we went to Arizona and put forth a proposal to build a new city with 140,000 people, the rules that are in place right now for managing groundwater resources would slam that down in no time. The priorities that mining operations have under Arizona water law do exactly that. They really do raise these kind of projects to the top of the list.

And the fact of the matter is that I think it wasn't widely appreciated by folks in Arizona that this mine was going to be drawing so much water not really from the mine site, although they are drawing a lot of water from the mine site, but from down in the

valley which is part of the Phoenix Active Management Area. This is a part of Arizona that is already running out of water.

Mr. GRIJALVA. Yes, and if I may also, Dr. Emerman or Dr. Wells, whichever, the issue of waste that what the taxpayer gets is that they get to keep the waste for the mine in perpetuity. The consequences of that, short-term, you talked about. We don't know when, but it will become a problem. And that is going to be a cost because the liability will never be with the mining company. They will have a sweetheart deal. They will get out. They have one now.

So, it is almost urgent for resource issues to prevent this mine from going forward. No. 1, water availability and usage overall in the state is critical. And No. 2, the 1872 Mining Law goes against any rational scientific way to look at—if there are going to be options, let's have options.

The lack of full payment and recovery by the taxpayers in terms of any royalties down the line—so this is why it is so important what the San Carlos Tribe is doing and what the Stronghold is doing. They are raising a very important issue, a legal obligation and responsibility that this Congress has in terms of the trust responsibility to Native Nations and to Indigenous people in this country. And the fact that we are not upholding that, and that for a foreign company we have bent the rules, changed the criteria and, basically, jeopardized economic development, water usage, and communities nearby in order to sustain collateral damage, which happens to be the Tribe, primarily, in order for this mine to prosper. I think that that goes to the heart of this hearing, that this has been a disjointed, ugly process to get this permit and to do the land exchange. I think we have an obligation to look at every avenue available to us as a Congress to begin to reverse this.

And if we are going to do a study, let's do a real study. Let's put science first. And as Mr. Nosie said, let's look at something that is real science that is transparent, objective, peer-reviewed, and not beholden to the company in terms of having to respond to what their priorities are. I yield back, Mr. Chairman.

Mr. GALLEGO. Thank you, Chairman.

I would like to thank our witnesses for their insightful testimony and the Members for their questions. As I stated before, the members of the Committee may have some additional questions for witnesses and will ask you to respond to these in writing. Under Committee Rule 3(o), members of the Committee must submit witness questions within 3 business days following the hearing. The hearing record will be open for 10 days for these responses. If there is no further business, without objection, the Committee stands adjourned.

Normally we would actually stand up and go and shake your hands and thank you for being here, but I think under the circumstances, I hope you will understand that I do appreciate you being here. I do appreciate our first panel of witnesses for being really so instructive and showing your heart and bringing this closer to our heart. I thank you again, and please have safe travels back. Adjourned.

[Whereupon, at 10:33 a.m., the Subcommittee was adjourned.]

[ADDITIONAL MATERIALS SUBMITTED FOR THE RECORD]

Statement for the Record

INTER TRIBAL ASSOCIATION OF ARIZONA

The Inter Tribal Association of Arizona, Inc., is a non-profit inter tribal consortium of 21 federally recognized Indian tribes, nations, and communities.[1] ITAA's Member Tribes have worked together since 1952 to provide a united voice for Tribal governments located in the State of Arizona on matters of common interest and concern. The representatives of ITAA are the highest elected Tribal officials from each Tribe, including chairpersons, presidents, and governors.

On behalf of our Member Tribes, ITAA appreciates the opportunity to submit this testimony that summarizes some of ITAA's primary concerns about the irreparable religious, cultural, and environmental consequences of the proposed Resolution Copper Mine (RCM). For the convenience of the Subcommittee, ITAA has attached to this testimony our November 7, 2019, written comments to the Resolution Copper Project Land Exchange Draft Environmental Impact Statement (DEIS) submitted to the Tonto National Forest pursuant to 26 C.F.R. § 218.8.[2] These comments provide a detailed discussion of some of the rampant failures in the DEIS and ITAA's concerns related to potential development of the RCM project.

The RCM Will Destroy Historic and Cultural Resources and Violate Religious Freedoms Protected Under the U.S. Constitution and Applicable Laws

If developed, the RCM will result in the destruction of Chí'chil Bildagoteel (Oak Flat) Historic District, a traditional cultural property (TCP) listed on the National Register of Historic Places under the National Historic Preservation Act (NHPA). Indeed, as part of this mine, Resolution Copper is seeking to blast and remove 1.4 billion tons of rock from beneath the Oak Flat area. For years, Resolution Copper has denied that this mine activity would create a significant subsidence crater on the land surface. The DEIS (available at https://www.resolutionmineeis.us/documents/draft-eis) now acknowledges what opponents of the RCM project have long warned—that the project will leave a subsidence crater of approximately 1.8 miles in diameter (2.5 square miles) and over 1,000 feet deep which will wipe Oak Flat out of existence, permanently destroying this environmentally precious and culturally significant place. The DEIS notes that there are also 721 archaeological sites that will be directly impacted by the RCM project.[3] Of these, 523 are recommended or determined to be eligible for the National Register of Historic Places under the NHPA.[4] These figures are likely higher, since at the time the DEIS was published, the cultural resource survey of the tailings location was not completed and was actually still underway. Other harmful impacts to cultural resources and the environment are anticipated from the construction of the massive amount of additional infrastructure that must be developed to support the RCM, including pipelines, access roads, and new and expanded power lines and transmission corridors. Tonto National Forest admits at Section 1.7.4 of the DEIS that the RCM:

> "would profoundly and permanently alter the National Register of Historic Places (NRHP)—listed Chí'chil Bildagoteel (Oak Flat) Historic District Traditional Cultural Property (TCP) through anticipated large-scale geological subsidence . . . development of the proposed tailings storage facility at any of the four proposed or alternative locations would permanently bury or otherwise destroy many prehistoric and historic cultural artifacts, potentially including human burials."

The transfer of the approximate 2,400 acres of historic and culturally significant lands (currently Tonto National Forest) to foreign mining interests, BHP Billiton,

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[1] ITAA's Member Tribes are the Ak-Chin Indian Community, Cocopah Indian Tribe, Colorado River Indian Tribes, Fort McDowell Yavapai Nation, Fort Mojave Indian Tribe, Gila River Indian Community, Havasupai Tribe, Hopi Tribe, Hualapai Tribe, Kaibab-Paiute Tribe, Pascua Yaqui Tribe, Pueblo of Zuni, Quechan Tribe, Salt River Pima-Maricopa Indian Community, San Carlos Apache Tribe, San Juan Southern Paiute Tribe, Tohono O'odham Nation, Tonto Apache Tribe, White Mountain Apache Tribe, Yavapai-Apache Nation, and the Yavapai Prescott Indian Tribe.

[2] Because of the lengthy nature of the attachments to the ITAA comments to the DEIS, we have not re-attached these documents to this testimony, although a complete set of comments can be obtained from Maria Dadgar, Executive Director of ITAA at (602) 258-4822.

[3] DEIS, pp. 627–628.

[4] DEIS, pp. 628–629.

Ltd. and Rio Tinto, and the corresponding development of the unprecedented and grossly destructive RCM project, will, among other things, violate the religious freedoms of those tribal members of our Member Tribes who gather specifically at Oak Flat to pray and perform important religious ceremonies and to collect important medicinal plants and water sources that are imbued with the healing power of this place, just as their ancestors have done for countless generations. Member Tribes, including the San Carlos Apache Tribe, also have tribal members who gather traditional foods, like Emory Oak acorns, at Oak Flat, which are an important part of the Western Apache traditional diet.

In the words of President Trump, "[e]ach of us has the right to follow the dictates of our conscience and the demands of our religious conviction."[5] In support of this sentiment, on May 4, 2017, President Trump signed the Presidential Executive Order No. 13798—Promoting Free Speech and Religious Liberty. Section 1 states that "[i]t shall be the policy of the executive branch to vigorously enforce Federal law's robust protections for religious freedom," and that "[f]ederal law protects the freedom of Americans and their organizations to exercise religion and participate fully in civic life without undue interference by the Federal Government." These federal protections include the American Indian Religious Freedom Act, 42 U.S.C. 1996, and the Religious Freedom Restoration Act, 42 U.S.C. 2000bb–2000bb-4.

At a time when religious freedoms are purported to be highly valued and carefully guarded from government infringement, the passage of the Southeast Arizona Land Exchange and Conservation Act and the destructive mining activity that it purports to authorize will cause the total and permanent destruction of Oak Flat and, with it, the religious freedoms of those tribal members whose religious practices are directly tied to this sacred place. This pointedly contradicts the values of religious liberty espoused by this administration and the protections provided by the First Amendment to the United States Constitution, among other things.

Given the Forest Service's acknowledgement in the DEIS of the sweeping impact of the mine project on historic resources, it is disturbing that the descriptions and analyses of the historic properties, the assessments of eligibility and effect, and the measures to resolve adverse effects contained in the DEIS are generally incomplete and fail to enable meaningful or sufficient tribal and stakeholder involvement in the Section 106 process prescribed by the National Historic Preservation Act. Further, the Programmatic Agreement (PA) developed by the Tonto National Forest should have provided both project and context specific information and protocols to assist public and other consulting parties in advising and assisting TNF in meeting its historic property identification, evaluation, and effect assessment, avoidance, and reduction mandates. However, the Programmatic Agreement—to this day—has yet to be completed and executed, even though it was relied on exclusively by the agencies to satisfy their tribal consultation obligations pursuant to Section 106 of the NHPA throughout the DEIS. Even the Arizona's State Historic Preservation Officer and the Advisory Council on Historic Preservation have expressed serious concern with the PA.

Because the Southeast Arizona Land Exchange and Conservation Act mandates that the land exchange occur once the final EIS is published, **participating ITAA Member Tribes have effectively been forced to choose between participating in the PA Agreement, which necessitates being involved in a project that is directly harmful to them, and not participating and having no voice in how the process proceeds**. This point was clearly articulated in the preamble of the latest draft of the PA (released in November 2019), which states, "it has been made clear to the Forest Service that no Tribe supports the desecration/destruction of ancestral places where ancestors have lived, as these are considered alive and sacred," and that, "Tribal members have communicated that participation in the design of this destructive activity has caused considerable emotional stress and brings direct harm to the traditional way of life to Tribes; however, it is still deemed necessary to ensure ancestral homes and ancestors receive the most thoughtful and respectful treatment possible." Even so, the PA still falls egregiously short of meeting the tribal consultation requirements it is purported to satisfy.

The Tonto National Forest Has Failed to Address the Case of *Center for Biological Diversity, et al. v. United States Fish and Wildlife Service, et al.*

Much has changed since the Mining Law of 1872 was originally passed, as demonstrated by the recent District Court's decision on the Rosemont Mine Record of Decision. *See Center for Biological Diversity, et al. v. United States Fish and Wildlife*

[5] *See* Remarks by President Trump in Meeting with Survivors of Religious Persecution (July 17, 2019).

Service, et al., 409 F. Supp. 3d 738 (D.Ariz. 2019). In that case, although Rosemont Copper had unpatented mining claims in the area of the National Forest where it intended to dump 1.9 billion tons of waste, the Forest Service accepted, without question, that those unpatented mining claims were valid, despite, as the District Court later concluded, there "must be a valuable mineral deposit underlying the claim," in order to have a valid unpatented mining claim. *Id*. at 8. As a result, the District Court concluded this assumption was "a crucial error" that tainted the Forest Service's evaluation of the Rosemont Mine from the start." *Id.*

This very same issue was similarly raised by EPA Region 9 in its comments submitted on RCM DEIS. There, the EPA recommended that TNF include "discussion of the status of the proponent's mineral claims, impacts to other unpatented claims, and how this may affect the USFS's and BLM's discretion in decision-making for this project," in light of the July 2019 court decision on the Rosemont Mine Record of Decision in *Center for Biological Diversity, et al. v. United States Fish and Wildlife Service, et al*. The status of Resolution Copper's mineral claims must be validated pursuant to the Mining Law and not assumed by Tonto National Forest as they do in the DEIS. This is required under controlling law and it cannot be skipped over as Resolution Copper would like.

The RCM Project Will Consume at Least 750,000 Acre-Feet of Water According to Resolution Copper's Own Estimates

There are numerous water sources in the Oak Flat region, including Queen Creek and Ga'an Canyon (Devil's Canyon), as well as countless springs and seeps that support the health and vitality of the Oak Flat environment. Resolution Copper has submitted an application for a permit pursuant to § 404 of the Clean Water Act to discharge fill materials into approximately 124 acres waters. *See* United States. Pub. Notice/Application No.: SPL–2016–00547–MWL (Resolution Copper Mine Tailings Storage Facility). According to the application, "the development of the [Tailing Storage Facility] and its appurtenant infrastructure would result in the permanent loss of the potential waters of the U.S. within the footprints of these mine elements." (p. 1). This will occur through the transport and storage of approximately 1.37 billion tons of toxic mine tailings.

These Clean Water Act 404 eligible water sources, along with numerous other riparian areas, springs, and seeps will be dewatered or destroyed by the RCM project. Yet these same water sources support a rich variety of animal species that have been documented at Oak Flat, including Sonoran ocelot (an engaged species), as well as black bear, mountain lion, bobcat, coatimundi, javelina, ring-tailed cat, all four native Arizona species of skunk, and many other animals. Oak Flat is also an important area for both resident and migrating bird species, including Bald and Golden Eagles (that have religious and cultural importance to ITAA Member Tribes) and at least four bird species that have been placed on the National Audubon Society's watch list. The RCM project will destroy these important riparian areas and, in turn, destroy this important habitat forever. We should not allow this.

ITAA is also concerned for the long-term future water supply of the region and the state as a whole if the RCM is constructed. As Arizona confronts new challenges associated with its long-term water supply, **the RCM project will consume vast quantities of water—at least 750,000 acre-feet during the life of the mine, according to Resolution Copper's own estimates[6]—which is easily enough water to serve 1 million households in the City of Phoenix for 3 years**. The DEIS acknowledges only a fraction of this amount. Close scrutiny of RCM's General Plan of Operations and documents filed by Resolution Copper with ADWR, show that, even from Resolution Copper's own estimates, there will be massive unmet water consumption needs for the RCM project.[7] It should also be noted that industry standards and averages for copper mines indicate that the water demand number provided in Resolution Copper's own materials is grossly underestimated. In fact, **is about one-third** of what is commonly needed for mines of this scope, indicating that Resolution Copper's own estimates of its water demand are significantly understated.

Mine dewatering and groundwater pumping associated with the RCM project will result in a disproportionate impact to regional water supplies, including in nearby Pinal County, where some residential wells are already beginning to go dry at certain depths due to sustained drought and existing pumping demands.[8] Much of this

[6] *See* Resolution Copper Mining General Plan of Operations, Volume 2, Figures 3.6-1a, 3.6-1b, 3.6-1c (May 9, 2016).

[7] Resolution Copper Mining Application for Non-Indian Agricultural (NIA) Water Reallocation, submitted to the Arizona Department of Water Resources (June 14, 2013).

[8] *See* ABC15 News, *Private Wells Running Dry in Pinal County* (Oct. 24, 2019).

water is projected to come from Pinal County, including from the Desert Wellfield, which, according to Resolution Copper's General Plan of Operations, will include approximately 30 high capacity groundwater wells, that will pump at a rate of at least 400 gallons per minute. However, ADWR has already determined there is a **shortfall of 8.1 million-acre feet** in the Pinal Active Management Area for meeting projected demands over the next 100 years[9]—and this is without considering groundwater depletions needed for the RCM.

Indeed, the DEIS (p. ES-24) states that pumping from Resolution Copper's Desert Wellfield to be located in the East Salt River Valley MARRCO corridor "would incrementally contribute to the lowering of groundwater levels and cumulatively reduce overall groundwater availability in the area" but the DEIS contains no meaningful analysis of impacts or plans for mitigation relative to regional water supplies that are already limited by growth and pumping. In fact, the DEIS (p. 342) sets up and immediately dismisses Tonto National Forest's obligation to consider the cumulative impacts from mine pumping on these water sources, quickly concluding that "the total demand on the groundwater resources in the East Salt River valley is substantial and could be greater than the estimated amount of physically available groundwater," but that "it is not possible to quantify the cumulative water use in the area" due to "uncertainties."

At the end of the day, the Tonto National Forest has simply given no consideration to the steep costs to residential and agricultural well owners in this region if they are forced to deepen their wells to access water due to mine pumping. And there is no mitigation of any kind planned on this topic in the DEIS.

The Mine will also consume extensive water supplies delivered from the Colorado River through the Central Arizona Project (CAP) system, even though these supplies are facing an impending shortage due to overallocation, prolonged drought, and climate change.[10] The situation on the Colorado River has become so dire that in 2019 Congress passed legislation approving the Colorado River Drought Contingency Plan with the assistance of several Arizona tribes, which was jointly submitted to Congress by the seven Upper and Lower Basin states of the Colorado River, including Arizona.[11] Yet, the RCM project relies heavily on the use of Colorado River supplies, even though future supplies of Non-Indian Agricultural (NIA) priority water are highly uncertain.[12]

If CAP supplies cannot be secured by Resolution Copper, the project will rely on the development of **numerous additional groundwater wells** that can be drilled in Pinal County and throughout the region with mineral extraction permits issued by ADWR, exacerbating the mine's threat to existing residential and agricultural wells and the regional groundwater supply that is needed to support future municipal growth and agricultural production. Again, Tonto National Forest has failed to consider these impacts or possible mitigation scenarios in the DEIS or otherwise.

While Resolution Copper makes much of the fact that they have stored CAP and other water sources, accumulating legal "storage credits" under Arizona law, ostensibly to support the RCM project, this is "not required under Arizona water law" and is merely a "voluntary measure." (DEIS p. 341). There is no guarantee that Resolution Copper will use this water to offset their regional pumping demands for the RCM. Either way, because Resolution Copper has stored water in multiple storage facilities located in various different sub-basins throughout the state, many of which are nowhere near the Desert Wellfield, the drawdown and associated impacts to local well owners and future water supplies stemming from Desert Wellfield pumping (or future wells developed under mineral extraction permits issued by ADWR), will not be fully mitigated by long term storage credits that have been stored by Resolution Copper, many miles away.

Contamination and Pollution

The Resolution Copper Mine General Plan of Operations reveals numerous risks of spills, leaks, migration of contaminated groundwater, acid mine drainage, dam failures, pipeline and slurry failures, regional haze, harmful airborne particulates, a toxic pit lake in the subsidence crater, and impacts to air quality from the mine

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[9] *See* Arizona Department of Water Resources News Release, *ADWR Posts Pinal Model Run Information* (November 7, 2019)

[10] *See* Congressional Research Service Report No. R45546, *Management of the Colorado River: Water Allocations, Drought, and the Federal Role* (Nov. 25, 2019). *See also*, Bureau of Reclamation *Colorado River Basin Water Supply and Demand Study* (Dec. 2012).

[11] Colorado River Drought Contingency Plan Authorization Act of 2019 (P.L. 116–14).

[12] Resolution Copper Mining Application for Non-Indian Agricultural (NIA) Water Reallocation, submitted to the Arizona Department of Water Resources (June 14, 2013).

project. Many of these risks and effects will continue (potentially forever) after production ends and the mine closes.

Acid mine drainage at the tailings storage site is one of the most significant and problematic impacts of this type of mining operation. Over time, exposure of tailings materials to oxygen (oxidation) is expected to generate acid and increase levels of pollutants to water resources, perhaps for thousands of years. Considering the RCM will deposit at least 1.5 billion tons of tailings in Dripping Springs Wash, approximately 13 miles from the Gila River, this is extremely concerning. Additionally, since the water analysis for this region in the DEIS only analyzed one sample of groundwater and one sample of surface water (DEIS, p. 367, 369) any conclusions made by Tonto National Forest on the long-term effects of the RCM on regional water quality are unhelpful and likely invalid.

Construction, emissions, mining operations, and other activities will increase dust and particulates, airborne chemicals, and mobile emissions in the region and could compromise air quality standards. Mines are known to create problems with blowing dust due to miles of dirt roads and exposed and denuded surfaces, such as tailings piles. These effects are likely to continue for a long time, long after operations cease, impacting air quality across the Tonto National Forest and the region including the towns of Superior, Queen Valley, and San Tan Valley. This mine will also produce a great deal of light and noise pollution, with significant impacts to ecosystems and wildlife, impacting the health of the natural world and impacting the vitality of the Oak Flat TCP, among other problems.

ITAA Continues to Oppose the Resolution Copper Mine and a Congressional Transfer of Public Lands to Benefit Private Mining Interests

For all of the above stated reasons and for those detailed in ITAA's comments to the DEIS (attached), ITAA's has steadfastly opposed the RCM project as well as the various versions of the Southeast Arizona Land Exchange and Conservation Act legislation since at least 2009.[13] Over the years, ITAA and a significant number of ITAA Member Tribes have repeatedly passed formal resolutions, written letters, and testified before Congress opposing the land exchange and the proposed RCM. In fact, as recently as August 23, 2019, the Member Tribes of ITAA adopted Resolution 0419, Support for Repeal of Section 3003 of the FY 2015 National Defense Authorization Act, the Southeast Arizona Land Exchange (attached). The Land Exchange has also been opposed by many hundreds of tribal nations, Native organizations, and others across the United States, including as recently October 20, 2019, when the National Congress of American Indians (NCAI) passed Resolution #ABQ–19–062, titled "Support for the Protection of Oak Flat and Other Native American Sacred Spaces from Harm" (attached).

However, in December 2014, after almost a decade of various versions of the unpopular bill dying in both houses of Congress under both Republican and Democratic administrations, the bill was added as an unrelated amendment to the 2015 National Defense Authorization Act, a must-pass piece of funding legislation, bypassing the proper legislative channels and forcing the bill into law.

As noted above, in August 2019, the Tonto National Forest published the DEIS on the proposed Resolution Copper mine. The comment period ended in November 2019, despite the requests of ITAA and other concerned parties that the deadline be extended due to the complex nature of the project and its potential far ranging and adverse consequences.

The Tonto National Forest is now estimating that the final EIS (FEIS) could be published by the end of this year (winter of 2020). And, under the land exchange legislation, **Oak Flat will be transferred from Tonto National Forest into the private hands of Resolution Copper no later than 60 days after the FEIS is published**. This outcome is not acceptable to ITAA, and it should not be acceptable to Congress.

The United States has a treaty and trust responsibility to our Member Tribes to preserve the religious freedom of tribal practitioners who rely on the continued existence of Chi'chil Bildagoteel/Oak Flat as a critical part of their religious beliefs. The United States should protect tribal cultural resources located on federal lands from being transferred to private interests to facilitate their destruction, solely for the commercial interests of these foreign mining giants. ITAA respectfully urges Congress to use its authority to block the transfer of the public lands known as "Chi'chil Bildagoteel" to Resolution Copper and to pass the Save Oak Flat Act. Any-

[13] ITAA is the public advocacy arm of the Inter Tribal Council of Arizona, Inc. (ITCA).

thing less leaves this Congress with the shared responsibility for the destruction of this special environmental, religious, and cultural treasure.

Thank you for providing an opportunity on the part of the Inter Tribal Association of Arizona and our 21 Member Tribes to submit this testimony.

ATTACHMENTS

INTER TRIBAL ASSOCIATION OF ARIZONA
PHOENIX, ARIZONA

November 7, 2019

Neil Bosworth, TNF Supervisor
Tonto National Forest
2324 East McDowell Road
Phoenix, Arizona 85006

Re: ***Comments of the Inter Tribal Association of Arizona, Inc. on the Resolution Copper Project Land Exchange Draft Environmental Impact Statement (DEIS)***

Dear Supervisor Bosworth:

On behalf of the Inter Tribal Association of Arizona, Inc. (ITAA), a non-profit inter Tribal consortium of 21 Member Tribes in Arizona, please accept this letter and all of its attachments on the enclosed thumb drive per 26 C.F.R. § 218.8 (all of which are expressly incorporated by reference as if set forth in full).[1] The letter and its attachments comprise ITAA's formal written comments on the proposed Resolution Copper Mine Project/Land Exchange and DRAFT Environmental Impact Statement (DEIS).[2]

As discussed in greater detail below, these comments focus on numerous material failings in the DEIS, including but not limited to the water and cultural resource aspects of this project. The issues raised in ITAA's comments are based on previously submitted, timely and specific comments raised during the scoping period. Where we have deviated from our prior scoping comments, this is due to a need to address the wide range of new information that has been included in the record since the close of the scoping period.

Overall, ITAA was disappointed with the lack of completeness and overall quality of the DEIS. Indeed, the DEIS is at the level of material deficiency that we believe the Forest Service should indeed go back to the drawing board and start over at the beginning to craft an EIS that fully complies with the National Environmental Policy Act (NEPA), the National Historic Preservation Act (NHPA), and myriad of other controlling Federal laws and regulations.

In an effort to limit redundancy among commenting parties, pursuant to Section 36 C.FR. § 218.8, ITAA hereby expressly adopts and incorporates as if stated in full the attached DEIS comments filed this same day by the Arizona Mining Reform Coalition (AZMRC) which address the many other failings of the DEIS, such as air quality, biological resources, climate change, socioeconomics, and recreation, among other things.

I. INTRODUCTION

The Member Tribes of the ITAA have worked together since 1952 to provide a united voice for Tribal governments located in the State of Arizona. The representa-

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[1] ITAA is including the attachments electronically on the enclosed thumb drive, as opposed to uploading these comments at the online portal (www.ResolutionMineEIS.us/Comment), because the portal does not allow documents to be uploaded in excess of 20MB. In order to comply with 36 C.F.R. 218.8(b), it is ITAA's understanding that we are required to include all of the documents ITAA is relying upon with our objections. Because of the massive size of the proposed project, the complexities of the DEIS, and the extensive nature of ITAA's original scoping comments, these documents well exceed 20 MB in size, necessitating their inclusion by electronic means on the enclosed thumb drive. As discussed in greater detail below, given the scope of the project and DEIS, providing a portal that limits the ability of commentators to fully comment due to the size of documents that can be uploaded fails to comply with basic tenets of due process, the public participation and other fundamental requirements of NEPA.

[2] The comments provided here are intended to address certain overarching concerns of the ITAA Member Tribes relative the DEIS. These comments are not intended to speak on behalf of any one Member Tribe or to address those particularized concerns that any one of our Member Tribes may have on this topic.

tives of ITAA are the highest elected Tribal officials from each Tribe, including chairpersons, presidents, and governors.

The ITAA and its parallel organization, the Inter Tribal Council of Arizona, Inc. (ITCA), have taken a position in opposition to Resolution Copper's mine proposal and the various versions of the Southeast Arizona Land Exchange and Conservation Act legislation since at least 2009. The potential acquisition by Resolution Copper Mine (RCM) of approximately 2,400 acres of public land near Superior, Arizona commonly known as "Oak Flat" for the development of a large scale and highly destructive copper mine is an ongoing matter of serious concern to many of our Member Tribes, since Oak Flat is a culturally and historically significant place to certain Western Apache, including members of the San Carlos Apache Tribe, as well as members of the Yavapai and other Tribal cultures in the region. Over the years, ITAA and a significant number of ITAA Member Tribes have repeatedly passed formal resolutions, written letters, and testified before Congress opposing the land exchange and the proposed mine.

The Land Exchange has also been opposed by many hundreds of tribal nations, Native organizations, and others across the United States, including as recently as last month, when the National Congress of American Indians (NCAI) passed Resolution #ABQ–19–062 on October 20, 2019 titled "Support for the Protection of Oak Flat and Other Native American Sacred Spaces from Harm" (attached).

II. THE NEPA PROCESS WAS MODIFIED BY § 3003 OF P.L. 113–291.

Unlike a normal NEPA evaluation of a mining General Plan of Operations (GPO), the Tonto National Forest (TNF) is also subject here to § 3003 the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015 (P.L. 113–291) ("NDAA") in which Congress authorized and directed the Secretary of Agriculture to transfer the 2,422 acres of Forest Service land at Oak Flat for the benefit of Resolution Copper in exchange for 5,344 acres of private lands on eight parcels scattered throughout Arizona. The unusual conditions imposed by Congress for the land exchange must be calculated in the DEIS process and thus, these conditions are discussed briefly below.

USDA NEPA regulations, 7 CFR Part 3407, provide for an objection period upon publication of a Final Environmental Impact Statement (FEIS) and Record of Decision (ROD). However, § 3003(c)(10) of P.L. 113–291 diverts from the typical process, stating that "No later than 60 days after the date of publication of the final environmental impact statement, the Secretary shall convey all right, title, and interest of the United States in and to the Federal land to Resolution Copper." The "Dear Reader" letter dated August 1, 2019 posted on the TNF website and enclosed with the DEIS states that although the ROD will be subject to an administrative review/objection process, "[t]he Land Exchange will be fully executed no later than 60 days after the release of the Final EIS" which is anticipated in summer 2020. Since the language permits that full execution of the Land Exchange may occur immediately upon release of the Final EIS (FEIS) (absent a court ordered injunction), Congress appears to have limited the normal objection process required by NEPA by providing for the exchange and thereby imposing irreparable harm occasioned by the transfer of this sacred site to private hands for mining purposes before the normal time frame and public process is completed under NEPA and before full remedies for any violation of NEPA can be pursued.

In another deviation from the norm, Section 3003(c)(3) provides for additional consultation requirements with Indian tribes which supplement (not supplant) the existing consultation requirements under NEPA, NHPA, and other applicable law:

(3) CONSULTATION WITH INDIAN TRIBES.—

(A) IN GENERAL.—The Secretary shall engage in government-to-government consultation with affected Indian tribes concerning issues of concern to the affected Indian tribes related to the land exchange.

(B) IMPLEMENTATION.—Following the consultations under paragraph (A), the Secretary shall consult with Resolution Copper and seek to find mutually acceptable measures to—

(i) address the concerns of the affected Indian tribes; and

(ii) minimize the adverse effects on the affected Indian tribes resulting from mining and related activities on the Federal land conveyed to Resolution Copper under this section.

Whether or not the TNF has fully complied with this specific and supplemental consultation requirement is not discussed in the DEIS and there is no evidence that TNF has met this statutory requirement. To the extent that the draft Programmatic Agreement is intended to address the obligations under § 3003(c)(3), ITAA does not

concur that consultation obligations have been met, nor are the attempts to minimize adverse effects "mutually acceptable" as required by law. Many other aspects of TNF's inadequacy of consultation are discussed further in these comments, below.

Interestingly, § 3003(c)(9)(B) of P.L. 113–291 also diverges sharply from the normal NEPA process by requiring that the Secretary "shall prepare a single environmental impact statement" under NEPA which "shall be used as the basis for all decisions under Federal law related to the proposed mine and the Resolution mine plan of operations and any related major Federal actions . . ." ITAA has repeatedly asked the TNF to explain how this unusual provision will be implemented as part of the NEPA process in this case. We have yet to receive an answer. Nevertheless, it is ITAA's conclusion that any ambiguities or uncertainties about how this NEPA process will be conducted should be resolved in favor of meeting all NEPA obligations in full, as required by law.[3]

Furthermore, because under the Act there is only a single NEPA document that can be used for the entire project—meaning that the Act does not allow any other meaningful opportunity for additional stakeholder comment prior to execution of the land exchange or conduct of mining activities—the Forest Service's obligations (and those of the Army Corps of Engineers) to prepare a complete NEPA document in the instant DEIS are significantly higher than under a normal NEPA process (where, for example stakeholder comments on the EIS and ROD may be considered, and supplemental NEPA documents could be prepared to correct shortcomings).

Accordingly, in this instance, it is crucial that all components of the General Plan of Operations and its related processes, and all scientific and other studies, must be completed and included in the current DEIS and not punted until a later point in time. Therefore, suggestions by the TNF that new components or considerations related to the mine can await the preparation of final EIS and ROD or future special use permit process (as has been alluded to in many instances in the DEIS) are improper and unlawful.

The specific Congressional mandate at § 3003(c)(9)(B) that "the Secretary shall prepare a single environmental impact statement under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.)" applies to three different categories of federal actions. FIRST, Congress has stated that the single EIS "shall be used as the basis for all decisions under Federal law related to the proposed mine." SECOND, that the single EIS "shall be used as the basis for [...] the Resolution mine plan of operations." And THIRD, that this very same single EIS "shall be used as the basis for [. . .] 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)(B).

In this regard, Congress has specifically designated each of the three above described categories of federal actions as connected actions under NEPA. Connected actions are "closely related and therefore should be discussed in the same impact statement. Actions are connected if they: (i) automatically trigger other actions which may require environmental impact statements. (ii) Cannot or will not process unless other actions are taken previously or simultaneously. (iii) Are interdependent parts of a larger action and depend on the larger action for justification." 40 C.F.R. Part 1508.25.

Accordingly, Section 3003(c)(9)(B) does not permit, as the TNF suggests, the exemption of any connected action from the current EIS process. Power line construction and related substations and transmission facilities are but one example of the type of federal actions that, at the very minimum, must be considered in the current EIS under both the THIRD category of § 3003(c)(9)(B) (as a major federal action) and under the FIRST category of § 3003(c)(9)(B) (as a decision subject to Federal law) and as a connected action under NEPA. In addition to power infrastructure, examples of other connected actions under NEPA and § 3003 of the NDAA which are "required for the mine to be operational" and should not be simply "done later" as TNF and the Army Crops suggest, include, but are not limited to, § 401 Permit and § 404 Permit under the Federal Clean Water Act; any permitting decisions under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA), Section 7 consultation required under the Endangered Species Act, necessary Air Quality Control Permits and other requirements under the Federal Clean Air Act, Safe Drinking Water Act compliance, including any

[3] Throughout these Comments, all references to NEPA or to violations of NEPA intrinsically include but are not limited to: Section 102 of the National Environmental Policy Act of 1969, 42 U.S.C. § 4321 et seq., and accompanying implementing agency regulations; 40 C.F.R. Parts 1500–1518 (CEQ Implementing Regulations); 36 C.F.R. Part 220 (USFS Implementing Regulations); and 32 C.F.R. Part 651 (Army Corps Implementing Regulations).

needed APP permitting, management of hazardous waste and other waste. TNF's failure to abide by these requirements violates NEPA and the NDAA.

In addition to these failures, the TNF is reminded that project segmentation is a violation of NEPA. Separation of analysis and staged approval processes for matters such as the construction of new or upgraded power transmission lines and substations outside of the scope of NEPA fails to consider the cumulative effects of those actions in light of the other mining and related actions currently under TNF consideration in the DEIS—a stark violation of NEPA. *See, e.g., Thomas v. Peterson*, 753 F.2d 754 (1985); *see also Wetlands Action Network v. U.S. Army Corps of Eng'rs*, 222 F.3d 1105, 1118 (2000). The Council on Environmental Quality's regulations implementing NEPA require that an agency consider "connected actions" and "cumulative actions" within a single EIS. 40 C.F.R. § 1508.25. The terms "connected action" and "cumulative action" do not even appear anywhere in the DEIS.

Overall, the lack of detail, vague assertions, lack of scientific accuracy and substantiation in the DEIS indicate that this DEIS has not only failed to comply with NEPA and applicable laws, it has also failed to comply with the requirements of the NDAA itself. The only conclusion that can reasonably be drawn from TNF's decision to release such a grossly deficient DEIS is that TNF was subject to substantial political pressure to complete this process sooner than expected. This does not justify, however, the lack of compliance with NEPA, the NDAA, and other applicable laws and policies. In light of the above, the scope of this DEIS is neither appropriate nor complete.[4]

III. RENEWED REQUEST FOR EXTENSION OF COMMENT PERIOD

A. INSUFFICIENT PUBLIC PARTICIPATION AND NOTICE

On August 15, 2019, ITAA submitted a request asking that the DEIS comment period be extended to 180 days, and requesting that additional public meetings be held in the Phoenix and Tucson metro areas. A copy of that request is attached here.

Reasons for this request included, in part, woefully inadequate public notification about the DEIS release, comment period initiation, and scheduled public meetings. Pursuant to USFS Regulations, public notices "must clearly describe the action subject to notice and the nature and scope of the decisions to be made; identify the responsible official; describe when, where, and how the responsible official will provide opportunities for the public to participate in the planning process; and explain how to obtain additional information." 36 C.F.R. § 219.16. USFS regulations also require that, "[t]he responsible official shall engage the public—including Tribes and Alaska Native Corporations, other Federal agencies, State and local governments, individuals, and public and private organizations or entities—early and throughout the planning process as required by this part, using collaborative processes where feasible and appropriate," and that "[t]he responsible official shall provide opportunities to the public for participating in the assessment process; developing a plan proposal, including the monitoring program; commenting on the proposal and the disclosure of its environmental impacts in accompanying National Environmental Policy Act (NEPA) documents; and reviewing the results of monitoring information." 36 C.F.R. § 219.4.

On August 9, 2019, the EPA listed the DEIS in the Federal Register as part of its weekly EIS receipt list only—this notice contained less than 20 total words and provided no information about the project, public meetings, or even where the public could go to access a copy of the DEIS itself. Even individuals who had registered for Forest Service or USDA notices in the Federal Register would not have received any notification about the release of this long awaited DEIS. The Forest Service itself has still failed to publish anything in the Federal Register about the DEIS release on this major project—contrary to years of prior practice.[5] When asked, Tonto National Forest asserted[6] that the practice of USFS publishing any 'Notices of Availability of Draft Environmental Impact Statements' in the Federal Register

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[4] Despite this specific question being raised during the scoping comment period, no answer has ever been received regarding whether State agencies also intend to rely on this EIS for their studies, assessments, reviews, and otherwise on this project.

[5] *See generally*, listing of Notices of Availability of Draft Environmental Impact Statements published by the U.S. Forest Service in the Federal Register, https://www.federalregister.gov/documents/search?conditions%5Bagencies%5D%5B%5D=forest-service&conditions%5Bterm%5D=%22notice+of+availability%22+%3C%3C+%22draft+environmental+impact+statement%22&order=newest.

[6] *Via* email sent from Mary Rasmussen at TNF to Susan Montgomery, counsel for ITAA, sent on September 13, 2019 at 2:15:33 PM MST.

had ended in 2017—yet a quick search of the Federal Register.gov website shows that at least six have been published by the USFS since that time.

ITAA's member tribes did not begin receiving mailed postcards from TNF regarding this comment period until almost two weeks after the start of the comment period—after almost 15 percent of the comment period had already elapsed. Additionally, public notice pursuant the "Resolution Copper Project and Land Exchange" email listserv was not delivered until August 13—three days after the comment period began and less than 30 days before the first public hearing was scheduled to be held.

Meanwhile, on September 9, 2019, the Army Corps of Engineers released a Public Notice to collect public comments on Resolution Copper Mine's application for a dredge-and-fill 404 permit. The deadline for that comment period was also scheduled for November 7, 2019, further stretching ITAA's existing resources and those of other interested stakeholders for preparing and submitting comments on this project. Making matters worse, from ITAA's review of the matter, it appears that no notice was ever received by any of ITAA's Member Tribes from the Army Corps of Engineers regarding the initiation of their 404 comment period itself.[7] To date, it appears that no Dear Tribal Leader letters were received by any of ITAA's Member Tribes from the Army Corps, and when asked about the plans for tribal consultation on this comment period at the Tonto National Forest's public meeting in Superior on September 10th, project officials indicated that the Corps had no plan in place for initiating tribal consultation. Also, despite having previously registered to receive public notifications via email from the Army Corps of Engineers, no email notice was ever received from the Army Corps of Engineers regarding initiation of this comment period. For these reasons, the comment period for the CWA 404 permit and the DEIS itself should be extended for at least an additional 90 days.

B. UNLAWFUL RESTRICTIONS ON PUBLIC PARTICIPATION

In addition to these inadequate deliveries of public notice, the restrictions placed on the submission options for public comments raises serious concerns about the adequacy of public participation under this process and of potential violations of procedural due process. USFS regulations at 36 C.F.R. § 219.4 state:

> When developing opportunities for public participation, the responsible official shall take into account the discrete and diverse roles, jurisdictions, responsibilities, and skills of interested and affected parties; **the accessibility of the process**, opportunities, and information; and the cost, time, and available staffing. The responsible official should be proactive and use contemporary tools, such as the Internet, to engage the public, and should share information in an open way with interested parties. (emphasis added).

Here, the requirements set for in 36 C.F.R. § 218.8(b) for filing prohibits the incorporation of documents by reference, "except for the following list of items[8] that may be referenced by including date, page, and section of the cited document, along with a description of its content and applicability to the objection. **All other documents must be included with the objection**." (emphasis added). This requirement, when combined with the arbitrarily small file size (20 MB) accepted by the online portal provided to upload and submit comments, effectively bars the electronic submission of comments due to the extensive nature of all documents that must be included and, consequently large file sizes that exceed 20 MB. Because electronic submission is the most convenient submission method, these requirements make the public participation process less accessible, which violates USFS's regulations at 36 C.F.R. § 219.4.

Additionally, these submission requirements have the greatest impact on less technically sophisticated public participants who may be unaware that their comments may not be considered due to failure to comply with technical USFS regulations.[9] These participants will often fall into the categories that the USFS regula-

[7] *See* the following section IV(B) for additional discussion of the Army Corps' tribal consultation and public notice failures.

[8] This list consists of (1) All or any part of a Federal law or regulation; (2) Forest Service directives and land management plans; (3) Documents referenced by the Forest Service in the proposed project EA or EIS that is subject to objection, and (4) Comments previously provided to the Forest Service by the objector during public involvement opportunities for the proposed project where written comments were requested by the responsible official. 36 C.F.R. § 218.8(b).

[9] During the scoping period in 2016, an email address was provided for submitting comments. However, an email address is not provided for commenting on the DEIS, further restricting the

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tions specifically direct the agency to engage, such as "[y]outh, low-income, and minority populations," and "private landowners whose lands are in, adjacent to, or otherwise affected by, or whose actions may impact, future management actions in the plan area." 36 C.F.R. § 219.4(a)(1). In light of these serious deficiencies in the public participation process, the DEIS comment period should be extended to 180 days, the restrictions on comment submission corrected, and additional public meetings should be held in the Phoenix and Tucson metro areas. Anything less violates NEPA.

IV. THE U.S. ARMY CORPS OF ENGINEERS MUST DENY RESOLUTION COPPER'S APPLICATION FOR A 404 PERMIT.

Section 404 of the Clean Water Act regulates the discharge of dredged or fill materials into navigable waters. 33 U.S.C. § 1344. Resolution Copper submitted an application for a permit pursuant to § 404 of the Clean Water Act to discharge fill materials into approximately 124 acres of ephemeral waters of the United States. Pub. Notice/Application No.: SPL–2016–00547–MWL (Resolution Copper Mine Tailings Storage Facility). According to the application, "the development of the TSF and its appurtenant infrastructure would result in the permanent loss of the potential waters of the U.S. within the footprints of these mine elements." (p. 1). This will occur through the transport and storage of approximately 1.37 billion tons of toxic mine tailings. *Practicability Analysis in Support of Clean Water Act 404(B)(1) Alternatives Analysis* at 3. Resolution Copper's 404 permit application falls significantly short of the required conditions for permit approval, for the following reasons.[10]

A. RESOLUTION COPPER HAS NOT OBTAINED A § 401 CERTIFICATION.

As a precondition to issuance of a § 404 permit, an applicant must provide the Army Corps with a § 401 certification. 33 U.S.C. § 1341(a) states, "[a]ny applicant for a Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters, shall provide the licensing or permitting agency a certification from the State in which the discharge originates or will originate . . ." *Id*. This certification, made by the state in which the discharge originates, declares that the discharge will comply with applicable provisions of the CWA, including state water quality standards. This certification is also required pursuant to the Army Corps' Guidelines at 40 C.F.R. § 230.10(b)(1).

In the "Mitigation and Monitoring Required by Other Regulatory and Permitting Agencies," section of the DEIS, Resolution Copper states that is has not yet obtained a Clean Water Act Section 401 Certification: "Some of the other permits, licenses, and authorizations that would be required for the mine to be operational (and may include additional mitigations in addition to those noted here) include . . . Clean Water Act Section 401 Certification." (DEIS at J-24). Therefore, as a matter of law, the Army Corps must deny Resolution Copper's application for a § 404 permit.

On March 16, 2016, Resolution Copper submitted "Resolution Copper Mining, LLC Baseline Hydrologic and Geotechnical Data Gathering Activities on Tonto National Forest—Application for Certification under the Clean Water Action Section 401." Per Page 1 of the Application Supplement (materials received from ADEQ via public records request), this application is only for data gathering activities at potential tailings storage site "north and west of the town of Superior in Pinal County," describing the rejected Alternative 2 tailings site only. Furthermore, via email sent from ADEQ on May 9, 2016: "On April 25, 2016 Resolution Copper withdrew their application for the CWA 401 certification therefore ADEQ will not be issuing a certification on this project." To the best of our knowledge, this application has never been resubmitted, and no other CWA 401 application has been submitted by Resolution Copper to date.

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available methods for public participation, contrary to the requirements contemplated at 36 C.F.R. § 219.4. TNF's decision to refuse to provide an email address for comments eliminates the opportunity to comment *via* one of the most commonly available communication methods in the contemporary era. Moreover, we are concerned that individuals who previously commented using the then existing USFS email address may find out too late that this option is no longer available or they may submit comments to this email address and, absent a bounce-back, may never know that their comments were not received by TNF, further violating 36 C.F.R. § 219.4.

[10] This section will also serve as the ITAA's official Comments to the Department of the Army regarding Pub. Notice/Application No.: SPL–2016–00547–MWL. ITAA's Comments on the DEIS are incorporated by reference.

B. THE CORPS HAS FAILED TO MEET ITS CONSULTATION OBLIGATIONS.

In addition to the Comments here, *see also* Section VII(D) of these Comments, which is fully incorporated by reference.

1. Government-to-Government Consultation

Government-to-government consultation by the U.S. Army Corps is required by, among other things, the six USACE Tribal Policy Principles, (dated February 18, 1998), as affirmed by the Memorandum for Commanders, Directors, and Chiefs of Separate Offices, HQ USACE (dated May 10, 2010), and as affirmed by the current U.S. Army Corps Tribal Consultation Policy (dated November 1, 2012). This consultation responsibility is also affirmed by Executive Order No. 13175 (*Consultation and Coordination with Indian Tribal Governments* dated November 6, 2000, which requires all agencies, bureaus, and offices within the Federal Government to establish regular and meaningful consultation and collaboration with tribal officials in the development of Federal policies that have tribal implications), and Presidential Memorandum for the Heads of Executive Departments and Agencies on Tribal Consultation dated November 5, 2009 (74 Fed. Reg. 57881), which supplements Executive Order No. 13175.

The permit application states that, "[t]he Corps will act as a cooperating agency to this government-to-government consultation being led by the USFS." However, consultation must be specific to the § 404 permit. Additionally, for the reasons discussed in Section VII(D) of these Comments, the Tribal consultation conducted by the USFS was also inadequate.

2. NHPA § 106 Consultation

In addition, federal agencies are required to consult with tribes when considering the effects of undertakings on historic properties with tribal religious and cultural significance per the requirements of the National Historic Preservation Act (NHPA) Section 106 (36 CFR 800), National Park Service Bulletin No. 38 titled *Guidelines for Evaluating and Documenting Traditional Cultural Properties* dated 1990 (as revised), and Executive Order 13007 dated May 24, 1996 (requiring agencies to adopt procedures to "facilitate consultation with appropriate Indian tribes" related to agency actions on Federal lands which may adversely affect sacred sites). The Army Corps Regulatory Program's procedures for implementing Section 106 of the NHPA consist of a regulation finalized in 1990, 33 CFR Part 325 (Appendix C), guidance issued in 2005,[11] and a memorandum issued in 2007.[12]

The NHPA expressly authorizes the Advisory Council on Historic Preservation (ACHP) to issue regulations implementing section 106 "in its entirety." 54 U.S.C. § 304108(a). In addition, the NHPA requires agency procedures for compliance with section 106 to be consistent with the ACHP regulations. 54 U.S.C. § 306102(b)(5)(A). Despite this, the Corps is currently implementing procedures through Appendix C of its regulations that have not been approved by the ACHP and may not be consistent with regulations developed by the ACHP for implementing section 106 of the NHPA.[13] *See Comm. to Save Cleveland's Huletts v. United States Army Corps of Eng'rs*, 163 F. Supp. 2d 776, 792 (N.D. Ohio 2001) (noting that "[a]ll parties agree that there is no record of the ACHP ever approving or concurring in the Corps' regulations"). Notably, the Army Corps Regulations at Appendix C and associated Guidance allow for the delegation of Section 6 consultation to third parties; however, this is inconsistent with the implementing regulations of the ACHP. The Army Corps cannot meet its consultation obligation pursuant to § 106 while these unlawful inconsistencies are being implemented.

Further, the permit application recognizes that, "the Project will adversely impact cultural resources that are eligible for listing on the National Register of Historic Places," and asserts that "Consultation between USFS, Native American Tribes, and the State Historic Preservation officer is currently occurring with respect to cultural resources impacts associated with this project." It also states that, "Native American

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[11] Army Corps of Engineers Directorate of Civil Works/Regulatory, Revised Interim Guidance for Implementing Appendix C of 33 CFR Part 325 with the Revised Advisory Council on Historic Preservation Regulations at 36 CFR Part 800 (Apr. 25, 2005).

[12] Army Corps of Engineers CECW-CO, Clarification of Revised Interim Guidance for Implementing Appendix C of 33 CFR Part 325 with the Revised Advisory Council on Historic Preservation (ACHP) Regulations at 36 CFR Part 800 dated 25 April 2005 (Jan. 31, 2007).

[13] 36 C.F.R. §§ 800.3–800.13 (ACHP Implementing Regulations); *see also* U.S. Government Accountability Office, Report to Congressional Requesters: Tribal Consultation, Additional Federal Actions Needed for Infrastructure Projects (Mar. 2019), https://www.gao.gov/assets/700/697694.pdf.

Tribes have also been consulted regarding the presence of any traditional cultural properties that could potentially be affected by this project." This is the only information that Resolution Copper's permit application provides regarding consultation, and it does not even reference the NHPA. For a full discussion of the significant shortcomings of the tribal consultation process, see Section VII(D) of these Comments. The Programmatic Agreement, which Resolution Copper is solely relying on to fulfill its consultation obligations, has yet to be finalized.

C. THE APPLICATION FAILS TO COMPLY WITH THE 404(B)(1) GUIDELINES.

The Clean Water Act and the implementing section 404(b)(1) Guidelines dictate the circumstances under which the Corps may permit discharges of dredged or fill material into wetlands or other waters. *See* 40 C.F.R. § 230. The Corps' own regulations recognize that the Corps must deny a Section 404 permit if the discharge for which a permit is sought would violate the Guidelines. 33 C.F.R. § 320.4(a)(1). Resolution Copper's proposed permit violates the 404(b)(1) Guidelines for the following reasons.

1. The Corps has Failed to Show the Proposed Project is the Least Environmentally Damaging Practicable Alternative (40 C.F.R. § 230.10(a)).

Under the Guidelines, the Corps must deny a Section 404 permit "if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences." 40 C.F.R. § 230.10(a). An alternative is practicable "if it is available and capable of being done after taking into consideration cost, existing technology, and logistics in light of overall project purpose." 40 C.F.R. § 230.10(a)(2). Practicable alternatives include activities and discharges which do not involve discharge of dredged/fill material into waters of the U.S. 40 C.F.R. § 230.10(a)(1).

The *Practicability Analysis in Support of Clean Water Act 404(B)(1) Alternatives Analysis* is included as Appendix C of the DEIS. However, the analysis included is only a draft, and has not yet been finalized. It states, "[o]nce finalized, the Corps will use this practicability analysis to complete its 404(b)(1) alternatives analysis, which will be used in the Corps permitting decision-making process." (p. 2). A full analysis should have been completed for inclusion in the DEIS for public comment, especially given the mandate (discussed in detail above) that this DEIS serves as the sole basis for all decisions under Federal law. The analysis of alternatives in Appendix C and in other sections of the DEIS is inadequate. *See* Section VI(C) of these Comments, which is fully incorporated here by reference, for a full discussion of the alternatives. Notably, there was inadequate consideration of the No Action Alternative.

2. Resolution Copper has failed to engage in Section 7 Consultation pursuant to the Endangered Species Act (40 C.F.R. § 230.10(b)(3)).

The Army Corp's 404(b)(1) Guidelines prohibit the discharge of dredged or fill material if the discharge, "[j]eopardizes the continued existence of species listed as endangered or threatened under the Endangered Species Act of 1973, as amended," or "results in likelihood of the destruction or adverse modification of a habitat which is determined by the Secretary of Interior or Commerce, as appropriate, to be a critical habitat under the Endangered Species Act of 1973, as amended." 40 C.F.R. § 230.10(b)(3). Pursuant to this section of the Guidelines, the permit application Public Notice states that consultation under Section 7 of the Endangered Species Act is required "at this time." Pub. Notice/Application No.: SPL–2016–00547–MWL at 4. It is clear that Section 7 consultation is required as a pre-condition to issuance of a § 404 permit.

Despite this clear requirement, Resolution Copper proceeded with submitting a § 404 permit application before it even initiated Section 7 consultation. The DEIS states that, "[t]he Tonto National Forest will begin consultation with the [Fish and Wildlife Service] regarding species protected under Section 7 of the ESA once a preferred alternative is identified." (Section 3.17.2.38 DEIS). Thus, it appears that Section 7 consultation has not yet occurred, and therefore the Army Corps must deny the § 404 permit application at this time.

3. The Resolution Copper Mine Project will Cause or Contribute to Significant Degradation (40 C.F.R. § 230.10(c)).

The 404(b)(1) Guidelines prohibit the Army Corps from issuing permits that will "cause or contribute to significant degradation of the waters of the United States." 404. C.F.R. § 230.10(c). This may include:

(1) Significantly adverse effects of the discharge of pollutants on human health or welfare, including but not limited to effects on municipal water supplies, plankton, fish, shellfish, wildlife, and special aquatic sites.

(2) Significantly adverse effects of the discharge of pollutants on life stages of aquatic life and other wildlife dependent on aquatic ecosystems, including the transfer, concentration, and spread of pollutants or their byproducts outside of the disposal site through biological, physical, and chemical processes;

(3) Significantly adverse effects of the discharge of pollutants on aquatic ecosystem diversity, productivity, and stability. Such effects may include, but are not limited to, loss of fish and wildlife habitat or loss of the capacity of a wetland to assimilate nutrients, purify water, or reduce wave energy; or

(4) Significantly adverse effects of discharge of pollutants on recreational, aesthetic, and economic values. *Id.*

Moreover, the Corps is required to analyze secondary effects, defined by the Guidelines as "effects on the aquatic ecosystem that are associated with the discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material." 40 C.F.R. § 230.11(h). The consideration of secondary effects is necessary for the Guidelines analysis.

Cumulative Effects Could Result in Significant Degradation of Waters of the US

To issue a 404 permit, the Corps must "collect information and solicit information from other sources about the cumulative impacts on the aquatic ecosystem" and consider this information "during the decision-making process concerning the evaluation of individual permit applications." 40 C.F.R. § 230.11(g)(2). Here, although "the development of the TSF and its appurtenant infrastructure would result in the **permanent loss** of the potential waters of the U.S. within the footprints of these mine elements," Pub. Notice/Application No.: SPL–2016–00547–MWL at 1 (emphasis added), the Corps has failed to assess the cumulative effects of the Resolution Copper Mine. Cumulative effects include, but are not limited to impacts to eagles, eagle habitat, and other migratory birds, impacts to historic properties and TCP's, availability of water resources in a time of increasing water scarcity, and impacts to groundwater resources. A full discussion of these issues and why the DEIS fails to consider cumulative impacts associated with them can be found in the Effects Analysis section of these Comments at VII(E), which are fully incorporated here by reference.

Secondary Effects Have Not Been Adequately Assessed

The permit application also states that "[i]ndirect impacts from the dewatering of down-gradient drainages may result in the form of changes to aquatic functions and values for the affected drainages but the magnitude of these impacts have not yet been estimated." Pub. Notice/Application No.: SPL–2016–00547–MWL at 1. Secondary effects such as these, including "the loss of the structure and aquatic function of . . . ephemeral drainages," (Practicability Analysis p. 35) must be fully considered before a permit can be issued. Other potential secondary effects must be identified and fully analyzed by the Army Corps before a permit may be issued. These failures violate the law.

4. The Proposed Project Fails to Take Appropriate and Practicable Steps to Avoid, Minimize, and Compensate Potential Adverse Effects (40 C.F.R. § 230.10(d)).

Pursuant to the 404(b)(1) Guidelines, "the district engineer may determine that a permit cannot be issued because of the lack of appropriate and practicable compensatory mitigation options." 33 C.F.R. § 332.1(c)(3). The 1990 Memorandum of Agreement (MOA) between EPA and the Corps[14] established a three-part process,

[14] Memorandum of Agreement Between the EPA and Dep't of the Army Concerning the Determination of Mitigation Under the Clean Water Act Section 404(B)(1) Guidelines (Feb. 6,

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known as the mitigation sequence, to help guide mitigation decisions and determine the type and level of mitigation required under Clean Water Act Section 404 regulations:

- Step 1. **Avoid**—Adverse impacts to aquatic resources are to be avoided and no discharge shall be permitted if there is a practicable alternative with less adverse impact.
- Step 2. **Minimize**—If impacts cannot be avoided, appropriate and practicable steps to minimize adverse impacts must be taken.
- Step 3. **Compensate**—Appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts which remain. The amount and quality of compensatory mitigation may not substitute for avoiding and minimizing impacts. *Id*.

With regard to Step 3, the Army Corps published the *Final 2015 Regional Compensatory Mitigation and Monitoring Guidelines* to standardize mitigation requirements. These Guidelines require the Corps to use a watershed plan or watershed approach to develop compensatory mitigation:

> The ultimate goal of the watershed approach is to maintain and improve the quality and quantity of aquatic resources within watersheds through strategic selection of compensatory mitigation sites. It is expected that the use of a watershed approach will result in ecologically successful compensatory mitigation that more effectively offsets losses of aquatic resource functions and services. In undertaking the watershed approach, the Corps will consider watershed needs and how the location of compensatory mitigation sites would address those needs. The type of aquatic resource proposed for compensatory mitigation should be ecologically suitable to the location and complement the diversity (including spatial distribution) of aquatic resources in a project watershed (or alternatively: ecoregion, physiographic province, or other geographic area of interest). These considerations will include evaluation of the appropriate size watershed (e.g. Hydrologic Unit Code (HUC) 8 versus HUC 10 or 12 subdivisions, or the use of topographic watersheds) depending on the project size, type, and level of project impacts. (p. 11–12).

Further, the Army Corps is required to adhere to the following preference hierarchy for compensatory mitigation: (1) mitigation banks, (2) in-lieu fee programs, and (3) permittee-responsible mitigation in consideration of a watershed approach. (p. 11).

The proposed mitigation and description of the steps required by the above regulations is woefully inadequate. For the "Avoidance/Minimization" step, only a few paragraphs of information are provided between the permit application and a short section in the Conceptual Compensatory Mitigation Plan, included as Appendix D to the DEIS. In order for this aspect of the analysis required pursuant to 33 C.F.R. § 332.1(c)(3) to be sufficient, significantly more information about the project is required. As part of its review of the permit application, the Corps should fully describe all the construction and design best management practices for all of the project's components and how these practices and designs minimize impacts. Although the Compensatory Mitigation Plan states that "an exhaustive evaluation of TSF alternatives was completed by the USFS and cooperating agencies, including the Corps," this evaluation should be done specifically for the project components implicated by the § 404 permit application. See Section VII(C) of these Comments for a full discussion of why the DEIS evaluation of alternatives is inadequate.

In addition, the Conceptual Compensatory Mitigation Plan is deficient for the following reasons:

- On page 5, the Plan begins laying out the ten steps of the Mitigation Ratio-Setting Checklist (MRSC). However, it only lays out two steps. Full analysis of all ten steps is required pursuant to the South Pacific Division's Standard Operating Procedure for the Determination of Mitigation Ratios.[15]
- For the analysis of Step 2 on page 5, the full evaluation of the 11 functions identified in Table 1 should be published and available for public comment

1990), https://www.epa.gov/sites/production/files/2019-05/documents/1990_army-epa_mitigation_moa.pdf.

[15] *See* U.S. Army Corps of Eng'rs, Regulatory Program Standard Operating Procedure for Determination of Mitigation Ratios (Jan. 11, 2017), https://www.spd.usace.army.mil/Portals/13/docs/regulatory/qmsref/ratio/12501-SPD.pdf.

with the DEIS. This section of the analysis is thus incomplete. Further, factors from the list of assessed functions such as "Presence of Fish Habitat and Structure" should not be removed unless a full analysis is provided to demonstrate that there is no fish habitat at a particular ephemeral aquatic riparian habitat.

- The Plan does not discuss whether the Army Corps utilized a watershed plan or watershed approach, one of which is required.
- The plan does not include any analysis discussing how the five Mitigation Opportunities were selected, or an analysis of how the required preference hierarchy was adhered to. This analysis must be included in the permit application in order to assess the effectiveness of the proposed mitigation.
- The Plan states that the "details of the site-protection instruments to be recorded at these mitigation sites have not been finalized at this time." (p. 20–21). The long-term site protection instruments must be finalized as part of the permit application.

Further, the Conceptual Compensatory Mitigation Plan emphasizes that "[t]he aquatic resources at all of the TSF alternatives carried forward for evaluation in the DEIS and the practicability analysis are comprised almost entirely of ephemeral washes." Conceptual Compensatory Mitigation Plan at 4. However, ephemeral aquatic resources are crucial to the ecological health of arid environments and require analysis and protection that is as stringent as that provided for perennial waters.[16]

D. THE 404 PERMIT WOULD BE CONTRARY TO THE PUBLIC INTEREST.

The Public Interest Review is crucial to examining the cumulative impacts of a proposed permit. 33 C.F.R. § 320.4(a)(1). The public interest review is based on a range of factors, calling for the weighing of proposed impacts against the potential benefits of the proposed activity. The Corps issues a permit only if it concludes that the project is in the public interest. *Id*.

The public interest review is a balancing test of factors that impact the cumulative effects, which may include "conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion, recreation, water supply and conservation, water quality, energy needs, safety, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people." *Id*. § (a)(1). Under 33 C.F.R. § 320.4(a)(2), the Corps must include the following factors in its public interest analysis:

(i) The relative extent of the public and private need for the proposed structure or work;

(ii) Where there are unresolved conflicts as to resource use, the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work; and

(iii) The extent and permanence of the beneficial and/or detrimental effects which the proposed structure or work is likely to have on the public and private uses to which the area is suited.

Here, the Army Corps states in Resolution Copper's Permit Application Public Notice that it has not yet conducted a public interest review, but rather, is currently "soliciting comments from the public; Federal, state, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity." Pub. Notice/Application No.: SPL–2016–00547–MWL at 3. These comments will then be used to assess the public interest factors above. Because the Army Corps has not yet initiated the public interest review as required by 33 C.F.R. § 320.4(a)(1), it may not issue a § 404 permit. The ITAA officially requests an opportunity to review the Army Corps draft Public Interest Determination once it is complete, before a final permit determination is made. Again, § 3003(c)(9)(B) of P.L. 113–291 requires, in part, that the single EIS "shall be used as the basis for all decisions under Federal law related to the proposed mine." The decision by the Corp to punt this matter until a future date is not permitted by the NDAA or NEPA, among other authorities.

The Corps regulations direct that "full consideration and appropriate weight will be given to all comments, including those of federal, state, and local agencies, and

[16] *See* EPA, The Ecological and Hydrological Significance of Ephemeral and Intermittent Streams in the Arid and Semi-Arid American Southwest at 88 (Nov. 2008), https://www.epa.gov/sites/production/files/2015-03/documents/ephemeral_streams_report_final_508-kepner.pdf.

other experts on matters within their expertise." 33 C.F.R. § 320.4(a)(3). Thus, upon consideration of the public interest factors as described below, based on the ITAA's experience based on more than a decade of being engaged in the public debate over the proposed Resolution Copper Mine Project and its expertise advocating for Tribal governments in the state of Arizona, it is ITAA's opinion that the proposed Resolution Copper Mine Project is contrary to the public interest and should not be permitted.

The project would result in massive, irreversible, and negative impacts on the environment, surrounding community, religious, cultural, traditional and spiritual practices of the affected member of the San Carlos Apache Tribe and other ITAA Member Tribes. The basis of this project is the privatization of federal public land in order to make a profit for an international corporation at the expense of the health and welfare of the local environment and communities and the religious freedoms of Native American Tribes. No mitigation measures or permit conditions can be sufficiently implemented to lessen the negative impacts of the proposed Resolution Copper Mine in order to warrant a finding that the project would be in the public interest. Therefore, Resolution Copper's permit application must be denied. For additional discussion of factors considered in the public interest review, *see* the Effects Analysis section of these Comments at VII(E), which are fully incorporated here by reference.

E. THE 404 PERMIT MUST BE DENIED FOR LACK OF SUFFICIENT INFORMATION AND PUBLIC NOTICE.

One of the fundamental congressional goals and policy in enacting the CWA is to ensure full public participation in Corps and EPA permitting decisions: "Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program . . . shall be provided for, encouraged, and assisted by the Administrator and the States." 33 U.S.C. § 1251(e). In line with Congress' goals and policy, the Corps' regulations require that all proposed discharges be subject to "public review and comment." 33 C.F.R. §§ 325.2(a) & (d); 33 C.F.R. § 325.3; 33 C.F.R. § 332.4(b) (public review and comment on compensatory mitigation plans). "Public notice is the primary method of advising interested parties of the proposed activity for which a permit is sought, and of soliciting comments and information necessary to evaluate the probable impact on the public interest. The notice must, therefore, include sufficient information to give a **clear understanding of the nature and magnitude of the activity to generate meaningful comment**." 33 C.F.R. § 325.3(a) (emphasis added).

Consistent with this Congressional intent, the 404(b)(1) Guidelines prohibit issuance of a permit where "[t]here does not exist sufficient information to make a reasonable judgment as to whether the proposed discharge will comply with these Guidelines." 40 C.F.R. § 230.12(a)(3)(iv). In addition, under the Corps regulations, when a project is so speculative that alternatives and avoidance and minimization cannot be meaningfully addressed, the application may be considered incomplete. 33 C.F.R. § 325.3(a). Here, Resolution Copper's permit application is missing so many key elements needed for review, the public has been effectively denied their lawful opportunity to fully consider and comment on it. Further, because the Army Corps is relying on the DEIS to satisfy its NEPA obligations and information about 404 permitting is included throughout the DEIS, the public is also being denied the opportunity to comment on a complete DEIS.

Resolution Copper's permit application is missing the following crucial requirements:

- Section 7 ESA Consultation pursuant to 40 C.F.R. § 230.10(b)(3);
- Section 401 Certification pursuant to 33 U.S.C. § 1341(a);
- Public Interest Review pursuant to 33 C.F.R. § 320.4(a)(1);
- A Complete Practicability Analysis pursuant to 40 C.F.R. § 230.10(a);
- A Complete Compensatory Mitigation Plan pursuant to 40 C.F.R. § 230.10(d), allowing for public comment pursuant to 33 C.F.R. § 332.4(b);
- A Complete Programmatic Agreement for purposes of fulfilling federal Tribal consultation requirements; and
- A jurisdictional determination (See Practicability Analysis, DEIS Appendix C, p. 27–28 28).

Additionally, the Army Corps should have conducted a full analysis of the potential impacts of Arizona's proposed assumption of the CWA 404 Permit Program[17]

[17] *See* ADEQ, *Clean Water Act § 404 Assumption* (Oct. 23, 2019), https://azdeq.gov/cwa-404.

and potential changes to the WOTUS Rule. The Practicability Analysis in Appendix C of the DEIS recognizes that the definition of WOTUS is uncertain. However, instead of fully assessing the impacts of these ongoing regulatory changes, the analysis instead "focuses more broadly," (p. 28) without any detailed analysis. Without a full assessment of these regulatory uncertainties and a final jurisdictional determination, a 404 permit may not be issued.

V. THE TONTO NATIONAL FOREST MUST PLACE THE DEIS PROCESS ON HOLD AND REVISIT ITS WORK ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT.

ITAA acknowledges the fact that the TNF has expended significant effort to produce this DEIS. However, for reasons discussed throughout these comments, as well as reasons raised by other commenters on this project, the DEIS is inadequate, incomplete, and fails to comply with the requirements of NEPA. Although it is a large and multi-year product, a closer look at the DEIS reveals that it is quite flimsy overall, with glaring omissions and failures throughout. This does not meet the key standards of NEPA (*see, e.g.*, 40 C.F.R. § 1502.14). Indeed, these failures become evident before the reader even progresses past the Executive Summary.

A. THE DEIS FAILS TO MEET THE REQUIREMENTS OF 40 C.F.R. § 1502.14.

40 C.F.R. § 1502.14 *Alternatives including the proposed actions* sets forth the "heart" of the EIS. "Based on the information and analysis presented in the sections on the Affected Environment (§ 1502.15) and the Environmental Consequences (§ 1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public." § 1502.14. For reasons described herein, the DEIS in this case fails to meet nearly every single one of these criteria:

> "(a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." This has not been done. *See* Section VII below.
>
> "(b) Devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits." This has not been done. *See* Section VII below.
>
> "(c) Include reasonable alternatives not within the jurisdiction of the lead agency." This has not been done. *See* Section VII below.
>
> "(d) Include the alternative of no action." Analysis of the no action alternative is dismissed nearly outright in the DEIS. *See* Section VII below.
>
> "(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference." This basic requirement, at least, appears to have been met.
>
> "(f) Include appropriate mitigation measures not already included in the proposed action or alternatives." Discussion of mitigation measures is substantially inadequate. *See* Section VII(E)(8) below.

B. THE DEIS FAILS TO MEET THE REQUIREMENTS OF 40 C.F.R. § 1502.15.

40 C.F.R. § 1502.15 *Affected environment* requires:

> The environmental impact statement shall succinctly describe the environment of the area(s) to be affected or created by the alternatives under consideration. The descriptions shall be no longer than is necessary to understand the effects of the alternatives. Data and analyses in a statement shall be commensurate with the importance of the impact, with less important material summarized, consolidated, or simply referenced. Agencies shall avoid useless bulk in statements and shall concentrate effort and attention on important issues. Verbose descriptions of the affected environment are themselves no measure of the adequacy of an environmental impact statement.

The DEIS fails to meet this requirement, and a review of its contents fails to "succinctly describe" the environment to be affected or created by the alternatives. Matters raised in scoping are unaddressed, data and analysis is nowhere near the

level required for this massive and unprecedent project, issues are not given full or even adequate consideration as part of baseline analysis, which separately and collectively fails to provide a complete picture of the affected environment.

For example, many material issues raised during the scoping period (which had NOT been dismissed from consideration per Table G-1 of the Final Summary of Issues Identified Through Scoping Process published November 2017) are still missing from the DEIS. For example, critical information requested by SWCA in their preparation of this DEIS (such as details on the Drought Contingency Plan as a reasonably foreseeable action and necessary for analyzing water withdrawal impacts in Pinal County) has still been omitted from the document.[18] The impacts from water use are still not meaningfully analyzed, despite having been raised during scoping. Impacts from the power infrastructure requirements are not analyzed in this DEIS, despite also having been raised during scoping and being required for consideration as a connected action under NEPA and under the unique terms of the NDAA.

Attempts to research and understand the sources of the statements and conclusions in the DEIS by review of the cited supporting documentation (when a citation is given at all) are met with severe disappointment and frustration. As discussed herein, certain heavily relied-upon sources do not appear to even be included in the list of documentation on the project website (for example, the DEIS relies heavily on *Newell & Garrett 2018d* throughout the Water Resources chapter, but no such document with this citation appears to be posted on the project website). Careful review of sources cited in support of a statement in the DEIS too often reveal that those sources did not support or even mention the specific matter in that statement. In addition, attempts to navigate to and review specific points of interest within the document could not be accomplished due to the incomplete nature of the document. Conclusions on major issues of concern such as water modeling are actually incomplete (p. 363 DEIS), maps show only portions of analysis areas such as on the Desert Wellfield water model (p. 298 DEIS), key figures such as ones showing groundwater systems contain no scale depth or distance (p. 305 DEIS), along with other inexcusable failures in the document in violation of standards for the preparation of a DEIS under NEPA.

Other problems with the grossly incomplete nature of the DEIS, include the fact that the Table of Contents appearing first at Volume I (p. i-xiv), then at Volume II (p. i-xv) contain different listed contents. This creates confusion in navigating through the document and indicates that the document, in its un-finalized and inadequate form (in addition to being materially inadequate for the many reasons discussed herein) was not fully and properly edited or reviewed prior to completion. This conclusion is further supported by the appearance of unfinished editing comments throughout the DEIS such as "We are doing it. LOL." (p. 310), as well as the existence of a completely unfinished section (DEIS p. 363) where conclusions as to the reasonableness of water models is left off mid-sentence. These things are more than just a failure to proofread the final DEIS, they reflect the gross lack of care and consideration on the part of the TNF that is normally required by NEPA and other federal laws for such an important and consequential project.

C. THE DEIS FAILS TO MEET THE REQUIREMENTS OF 40 C.F.R. § 1502.16.

40 C.F.R. § 1502.16 *Environmental Consequences* sets forth a list of required discussions that are intended to form the "scientific and analytic basis for comparisons." In many instances throughout this DEIS, as discussed herein, these required discussions are incorrect, inadequate, or missing.

As discussed throughout this comment letter, TNF failed to consider "direct effects" and "indirect effects" and their significance in the DEIS, including with regard to a whole host of major issues such as the direct effect of the various project components on raptors, eagles and other species, the direct environmental effects of dewatering on local water availability, potential ground subsidence, Tribal cultural resources and Tribal religious and traditional practices, and on surrounding economics of the regions, including landowners and their wells, in addition to long-term environmental effects. *See* Section VII(E) below.

The DEIS failed to consider possible conflicts between the project and Federal, regional, State, and local land use plans, policies, and controls as required by 40 C.F.R. § 1502.16, as evidenced in part by the failure to consider conflicts between project water usage and local, statewide, and regional drought planning measures.

[18] Information provided via email from attorney J.Tomkus to C.Coyle of SWCA on April 2, 2019.

As discussed further herein, the DEIS has failed in its requirement to analyze environmental effects of alternatives as required by 40 C.F.R. § 1502.16. For reasons described at Section VII(E)(7) and throughout these comments, the analysis of the environmental impacts in this DEIS is extremely inadequate, and the DEIS fails to meet the § 1502.16 criteria outlined above. This DEIS contains no meaningful discussion or detail on the cumulative effects of the various aspects of this proposed project. Furthermore, the DEIS contains considerable quantification of benefits but no quantification of adverse effects. This unbalanced commentary is not helpful to the public in trying to provide useful public comment, nor is it helpful to TNF in trying to make a credible analysis of this project and its alternatives as required by NEPA.

As discussed herein and at Section VII(E)(6), meaningful consideration of energy requirements and conservation potential of various alternatives and mitigation measures required by 40 C.F.R. § 1502.16(e) have not been done. "Natural or depletable resource requirements and conservation potential of various alternatives and mitigation measures" required by 40 C.F.R. § 1502.16(f) are also not done.

> (g) Urban quality, historic and cultural resources, and the design of the built environment, including the reuse and conservation potential of various alternatives and mitigation measures.
>
> (h) Means to mitigate adverse environmental impacts (if not fully covered under § 1502.14(f)).
>
> The DEIS fails to meet these requirements of 40 C.F.R. § 1502.16.

The current, USFS-preferred Alternative 6 tailings site at Skunk Camp was has never been the subject of public scoping. The 120-day scoping period for this project, which ended on July 18, 2016, did not include the Skunk Camp tailings location. This alternative was not introduced to the public until August 2018, after the scoping period had ended and after the Scoping Report was published. The Skunk Camp tailings site is also notably absent from the 2017 Alternatives Evaluation Report. Alternative workshops and presentations through 2017 stated affirmatively that "[t]ailings disposal is proposed to take place approximately 5 miles northwest of Superior".[19] This means that public comment on this alternative (including any parties which may be impacted) was neither solicited nor received by the TNF. This violates public participation and other requirements of NEPA.

In addition to outright missing information, poor/missing/inadequate citations, and lack of discussion of cumulative effects, there is also a significant amount of inaccurate and/or incomplete information throughout this DEIS. In many places, critical information, explanations, methodologies, and analysis are simply not provided. In addition, the DEIS is self-contradictory in several places. These omissions result in a DEIS which does not meet the requirements of NEPA as it fails to include full and transparent disclosure of issues so that the public can credibly comment on the proposal. Taken together, these issues cumulatively reflect a DEIS that is severely deficient and lacking in the necessary rigor and objectivity required by NEPA. The only legal recourse is for TNF to return to the drawing board and correct and complete the DEIS in conformance with law.

VI. THE PROJECT VIOLATES THE AMERICAN INDIAN RELIGIOUS FREEDOM ACT (AIRFA) AND THE RELIGIOUS FREEDOM RESTORATION ACT (RFRA).

The American Indian Religious Freedom Restoration Act (AIRFA) states, "it shall be the policy of the United States to protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religions of the American Indian, Eskimo, Aleut, and Native Hawaiians . . . ." 42 U.S.C. § 1996. These protections extend to the ability to access sacred sites, the use and possession of sacred objects, and the freedom to worship through traditional ceremonies or rites. *Id*. In addition to AIRFA, Executive Order 13007 of 1996 seeks to further protect and preserve Indian religious practices. It directs agencies to "(1) accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and (2) avoid adversely affecting the physical integrity of such sacred sites. Where appropriate, agencies shall maintain the confidentiality of sacred sites." *Id*.

The Religious Freedom Restoration Act (RFRA) recognizes that even "laws neutral toward religion may burden religious exercise as surely as laws intended to interfere

[19] U.S. Dep't of Agriculture, USFS, TNF, *Notice of Public Workshop on Resolution Copper Project and Land Exchange EIS* (last visited Nov. 4, 2019), https://www.resolutionmineeis.us/sites/default/files/project-files/usfs-tonto-legal-notice-alternative-workshop-201703.pdf.

with religious exercise," and that "governments should not substantially burden religious exercise without compelling justification." 42 U.S.C. § 2000bb(a) (internal quotations omitted). There are two required elements to establish a claim under RFRA: (1) the actions alleged to be burdened by the government must be an "exercise of religion," and, (2) the government must "substantially burden" the plaintiff's exercise of religion. 42 U.S.C. § 2000bb-1(a). If the plaintiff successfully establishes that the government action placed a substantial burden on their exercise of religion, the burden shifts to the government to show that the burden was in the furtherance of a compelling interest and is being implemented by "the least restrictive means." *Id*. at § 2000bb-1(b).

In considering whether a compelling state interest justifies the substantial burden of religious exercise, the Supreme Court held "[i]t is basic that no showing merely of a rational relationship to some colorable state interest would suffice" *Sherbert v. Verner*, 374 U.S. 398, 406. Government interests such as the extraction of mineral resources, job creation, and economic growth are not compelling enough to justify the total and permanent destruction of Oak Flat, and with it, the religious freedoms of those tribal members whose religious practices are directly tied to this sacred place. Thus, the land exchange and the mining activities to be conducted at this place are unlawful. The current NEPA process cannot move forward until these impacts are fully assessed and avoided.

The passage of the Southeast Arizona Land Exchange and Conservation Act (National Defense Authorization Act § 3003, P.L. 113–291) places a permanent, irreparable, and substantial burden on the exercise of the sincerely held religious beliefs of the tribal members for the San Carlos Apache Tribe—one of the ITAA's Member Tribes—who are tied to the Oak Flat area. The government cannot meet the compelling interest test and has not implemented the Act through the least restrictive means. Thus, the land exchange and mining activities authorized in the NDAA and pursuant to this NEPA process are unlawful.

The Arizona tribes, including Apache and Yavapai, have lived in and used this area since time immemorial as an integral part of certain tribal religious ceremonies and actions and to gather culturally significant plants and related materials. Much of this is well documented by Arizona's Member Tribes through their statements about this project, and in the various cultural resource surveys, ethnographic work and other documentation prepared or gathered by the TNF over the years. In short, the tribes' religious, historical, and cultural connection to the entire Oak Flat area, including its water features, plants and animals, and other physical landmarks is indisputable.

Transferring the Oak Flat area into the private ownership for mining and eventual destruction creates pressures on tribes to alter the foundation of their religious practices by ceasing access to the Oak Flat area. Without access to the land, many important religious materials only found or grown in the Oak Flat area will be erased from the religion. Once transferred, the land would become private property. Tribal members attempting to access this private property to conduct religious activities may risk criminal trespass charges. A second more severe threat would be the risks to life, health and physical safety that would come from trying to access land that that is subject to significant subsidence once the current form of mining activity (vs. other alternative mining techniques not considered in the DEIS) begins. Indeed, Resolution Copper may not be able to control or predict areas of subsidence with much accuracy. Even accessing supposed "safe" areas may still be unsafe. The DEIS fails to analyze any of these aspects of the land exchange, the proposed mine, or those potentially less destructive mining technics, relative to AIRFA and RFRA, in violation of law.

VII. DISCUSSION OF ADDITIONAL ISSUES AND FAILURES UNDER NEPA

A. INADEQUATE STATEMENT OF PURPOSE AND NEED

The purpose and need statement contained in the DEIS is far too narrow to suffice as an adequate purpose and need statement for the public's review and comment. The statement that TNF is required to "respond to parties who submit proposed plans to conduct mining operations on or otherwise use NFS lands in conjunction with mining for part or all of their planned actions" (DEIS p.ES-5) reduces the purpose and need to a description of the administrative responsibilities of that agency. Essentially, it says that the TNF is required to respond to their "inbox." This falls far short of what is required by NEPA.

The "purpose and need" section asserts a "twofold" purpose and need of the mine and the land exchange, without providing detail as to why the two connected actions are separated (DEIS p. ES-5). It is also unclear what is meant to be included or

excluded by "reasonably incident" as used in the statement of "reasonably incident to extraction, transportation, and processing of copper and molybdenum."

This statement fails to describe the purpose and need of the actual proposed project in this region of Arizona. First, the DEIS needs to be redone for reasons described herein. If and when that threshold determination is made, a new purpose and need discussion should include an analysis of how the development of these mineral deposits contribute to a need for copper in the United States, particularly in light of publicly available information stating that a significant percentage of the copper concentrates will be transported out of the United States. In light of that fact, the DEIS should also discuss whether development of these copper deposits actually support "domestic mining, minerals, and metal and mineral reclamation industries" or whether they are best left in reserve for domestic use—or—whether mining is incompatible with the current existing uses of the area.

B. THE DEIS IS BASED ON INCORRECT AND UNSUPPORTABLE ASSUMPTIONS AND POSITIONS REGARDING RESOLUTION COPPER'S ALLEGED ENTITLEMENT TO HAVE THIS PROJECT APPROVED UNDER THE MINING LAW.

Improper Interpretation of the "No Action Alternative"

The DEIS (p. ES-10) states that while the no action alternative is required by regulation, "this alternative cannot be selected by the Forest Service." The DEIS (p. ES-10) further cites the Notice of Intent published March 2016: "The EIS will analyze the no action alternative, which would neither approve the proposed GPO nor complete the land exchange. However, the responsible official—the Forest Supervisor, Tonto National Forest—does not have the discretion to select the no action alternative." The DEIS (p. 67) also states that "the Forest Service is unable to refuse approval of the GPO within their regulations and guidance." Thus, the DEIS is based on the misguided belief that, since the company has filed mining claims, Resolution Copper has some inalienable right to conduct all of its mine activities.

This belief is inherently inaccurate, as controlling caselaw has well-established that TNF has the authority and responsibility to regulate the use of Forest Service lands and where mining activities disturb these lands, the Forest Service may regulate the mining activities and activities incidental to mining to, among other things, prohibit unreasonable destruction of surface features and resources, including by limiting the permissible methods of mining in order to reduce environmental damage, even if this will result in increased operating costs for the mine. *See Clouser v. Espy*, 42 F.3d 1522, 1528–29 (9th Cir. 1994) ("there can be no doubt that the Department of Agriculture possesses statutory authority to regulate activities related to mining—even in non-wilderness areas—in order to preserve the national forests."); *see also Public Lands for the People, Inc. v. US. Dep't of Agriculture*, 697 F.3d 1192, 1197–98 (2013 (9th Cir. 2012) ("The 1872 Mining Law does not strip the U.S. Forest Service of its authority to limit methods of mining or activities incidental to mining. Forest Service may prohibit the use of motor vehicles to access mining claims due to impacts on quiet recreation opportunities, wildlife, water quality, air quality and other Forest Service resources"); *see also Kuruk Tribe of Cal. v US. Forest Service*, 681 F.3d 1006, 1023 (9th Cir. 2012) (observing that while the 1872 Mining Law gives miners a statutory right to mine on Forest Service lands, the federal government "retains substantial regulatory power" over these mining activities).

The DEIS Fails to Assess the Validity of Resolution Copper's Mining Claims

Additionally, despite being an express requirement (see 30 U.S.C. § 22 which states that only "valuable mineral deposits" are covered by the Mining Law; *see also* 30 U.S.C. § 611 which states that "common varieties" of minerals are not locatable under the Mining Law), there is no evidence in the record that any analysis has been done on whether any of Resolution Copper's mining claims, including unpatented mining claims, are valid. *See Center for Biological Diversity*, 162 IBLA 268 (2004). "[T]he location of a mining claim does not render a claim preemptively valid and the Department may require a claimant to provide evidence of validity before approving an MPO or allowing other surface disturbance in connection with the claim." Even further, project lands contain many mining claims not belonging to Resolution Copper and the DEIS (*see, e.g.*, p. ES-22, p. 134, p. 157) notes that under Resolution Copper's mine plans, access to those other claims "may be inhibited." Yet no analysis appears anywhere in the DEIS discussing these other claims or reconciling issues with inhibiting access to those claims.

Under the Mining Law, in order to be valid, mining claims must contain the "discovery of a valuable mineral deposit." 30 U.S.C. § 22. The U.S. Supreme Court

has endorsed at least two tests for determining whether a claim qualifies as a "valuable mineral deposit." The "marketability test" outlined in *United States v. Coleman*, 390 U.S. 599, 600 (1968) requires a showing that the mineral "can be extracted, removed, and marketed at a profit." The "prudent person test" requires a showing that the discovered deposits "must be of such a character that a person of ordinary prudence would be justified in the further expenditure of his labors and means, with a reasonable prospect of success, in developing a valuable mine." *Id.* at 602. The Court has held that profitability is "an important consideration in applying the prudent-man test and the marketability test" and noted that ". . . the prudent-man test and the marketability test are not distinct standards, but are complementary in that the latter is a refinement of the former." *Id.* at 602–603. Further, the USFS Minerals Manual states that "[a] claim unsupported by a discovery of a valuable mineral deposit is invalid from the time of location, and the only rights the claimant has are those belonging to anyone to enter and prospect on National Forest lands." Forest Service Manual (FSM) § 2811.5.

The term "valid claim" is often used loosely and incorrectly to indicate only that the boxes have been checked, including posting of notice, monumentation, discovery work, recording, annual assessment work, payment of taxes, and so forth, have been met. This overlooks the basic requirement that the claimant must discover a valuable mineral deposit. Generally, a valid claim is a claim that may be patented. FSM § 2811.5.

No information has been made public to date on the appraisal process required by § 3003 of P.L. 113–291, despite the statement that the project apparently hinges on this very appraisal, since Resolution Copper allegedly "may or may not choose to undertake the exchange after receipt of the appraised value." (DEIS p. 66). Information regarding this process should have been included in the DEIS.

Additionally, the DEIS (p. 66) says that "It is possible that mining under the proposed action or action alternatives could also take place without the land exchange occurring." This is a major statement and would radically change the characteristics of the entire project and would, at the very least, require the Forest Service to go back to the drawing board on all aspects of the mine and the DEIS. This would also potentially violate the Federal Land Policy and Management Act (FLPMA) and the 1872 Mining Law (as amended) by not requiring Resolution Copper to pay Fair Market Value (FMV) for the use of public lands not covered by valid mining claims. 43 U.S.C. § 1701(a)(9) requires that "the United States [must] receive fair market value for the use of the public lands and their resources unless otherwise provided for by statute."

No Consideration is Given to Other, Non-Mining Land Uses

Similarly, the USFS position also violates provisions of FLPMA and the Multiple Use Sustained Yield Act, National Forest Management Act, 1897 Organic Act, and other laws mandating that agencies manage (or at least consider managing) these lands for non-mineral uses. The USFS has refused to even consider exercising its multiple-use authority, an arbitrary and capricious decision under the Administrative Procedure Act (APA).

The USFS cannot simply assume that the lands to potentially be used for tailings or other mine infrastructure are covered by valid mining claims. The U.S. Supreme Court in *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 43 (1983) states that an agency rule "would be arbitrary and capricious if the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise."

The DEIS's review and the agencies' proposed approval of this project are based on the overriding assumption that Resolution Copper has statutory rights to use all of the lands associated with this project (including both lands which would be acquired under the exchange legislation, and lands which would remain in the public domain), under the 1872 Mining Law. However, where project lands have not been verified to contain, or do not contain such rights, the USFS' more discretionary multiple-use authorities apply. *See Mineral Policy Ctr. v. Norton*, 292 F.Supp.2d 30 (D.D.C. 2003). The USFS' multiple-use, public interest, and sustained yield mandates should have been applied to the areas of this project not covered by valid mining claims. Such analysis should have been done in this DEIS.

USFS should have inquired in this DEIS as to what portions of its lands which would be used for the project (including and particularly those which would remain under federal jurisdiction after the land exchange is executed) contain "common varieties" or "valuable mineral deposits." The USFS' assumption of rights or entitle-

ment by Resolution Copper should be investigated and supported by detailed factual evidence in a new DEIS.

C. THE DEIS FAILS TO ADEQUATELY IDENTIFY AND ANALYZE ALTERNATIVES.

1. Missing Analysis of Action Alternatives

The DEIS completely fails to adequately discuss potential alternative mining techniques which would not result in the permanent destruction of the land surface and which would have substantially less impact on the human environment as a whole and potentially, on the religious freedoms of affected tribal members. The DEIS merely states in conclusory fashion with no discussion or elaboration: "The Forest Service assessed alternative mining techniques in an effort to prevent subsidence, but alternative methods were considered unreasonable." (p. ES-3). The DEIS further admits that alternative mining techniques were not even considered in detail and were "dismissed from detailed analysis" (DEIS p. 29). This is not sufficient under NEPA to support the dismissal of credible alternative mining technics that have been presented to the TNF.

The DEIS notes that the "cutoff grade" by which the mine can be profitably operated informs the decision on alternative mining techniques. Table F-2 (DEIS, Appendix F, p. F-3) reveals that the sole source of data for these cutoff grade calculations is "Resolution Copper." The TNF is wrongfully dismissing its duty to analyze alternatives based solely upon unverified data provided by Resolution Copper. It is evident that that the finding of alternative methods as "unreasonable" was not made by TNF in the first place, but rather, was made by Resolution Copper and adopted whole cloth by TNF without analysis or question. This is unacceptable. A more complete and verified explanation of the rationale for the rejection of other alternatives (not just using conclusions provided by the company) should be included in a new DEIS. Anything short of this violates NEPA.

2. Inadequate Baseline Analysis Under the "No Action" Alternative

Analysis of the mandatory "no action" alternative in the DEIS is totally inadequate. Section 2.2.3 of the DEIS states that under the "no action" alternative, the GPO would not be approved, and none of the activities in the GPO would be implemented including no mining. At the minimum, the "no action" alternative is intended to serve "as a point of comparison for the proposed action and action alternatives" (DEIS p. 66, emphasis added).

However, the DEIS lists several major ongoing actions of Resolution Copper which TNF has, essentially, baked into their environmental baseline analysis, which results in these impacts not being analyzed at any point in the current DEIS process or during the TNF's prior consideration under NEPA of the pre-feasibility activities at Oak Flat. This includes, but is not limited to, the ongoing and "continued dewatering" of the mine shafts, including shafts No. 9 and No. 10, among other shafts and tunnels. (DEIS p. 300). Other actions and impacts that have been ignored by the TNF in the DEIS 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." (DEIS pp. 65–66). Regarding this last point, the DEIS unfairly considers Resolution Copper's water recharge efforts which include delivery of dewatered water to New Magma Irrigation and Drainage District as "an applicant-committed environmental protection measure" (p. 341) while failing to analyze the actual environmental impacts of that same dewatering which will occur at the mine and throughout the well corridor (p. 300). As discussed further below, this is the very definition of greenwashing, and a failure under NEPA to properly analyze environmental impacts.

In addition, grazing activity at Oak Flat by Integrity Land & Cattle Company (a subsidiary company owned by Resolution Copper) has been ongoing for many years. As the TNF is well aware, cattle grazing can have significant impacts on environmental sustainability, causing erosion, loss of plant variability, downcutting, and loss of habitat, among other adverse impacts. The DEIS failed entirely to analyze how ongoing grazing activities (particularly by Resolution Copper subsidiary company Integrity Land & Cattle) have contributed to a degraded environmental baseline at Oak Flat.

Because the "no action" alternative includes (and does not analyze) a huge slate of ongoing actions by Resolution Copper related to Oak Flat, including those discussed above and dewatering and other underground activities, TNF is not able to credibly conclude (as it does without support) that the project will have "no impacts

from subsidence, induced seismicity, increased potential for landslides or rockfall, impacts on caves, karst, or paleontological resources, or impacts on mining claims" (DEIS p. 148); "impacts on soils, vegetation communities, special status plant species, and noxious weeds would not occur" (DEIS p. 183); "there would be no impacts on air quality from proposed mining and associated activities" (DEIS p. 282); "no perennial streams are anticipated to be impacted" (DEIS p. 317); many shallow domestic and stock water supply wells in the area are "unlikely to be impacted" (DEIS p. 325).

These conclusions are also undermined by the DEIS itself, which states that since 2009, groundwater levels in the deep groundwater system within the Resolution Graben below Oak Flat have declined "more than 2,000 feet," by "about 400 feet" outside the graben, and by "up to 50 feet" near Superior (DEIS p. 306). First, this data is partially provided by Resolution Copper and may be an underestimation—even at these levels, it is spectacularly difficult to imagine how such water level declines could not impact any of the listed resources described in the DEIS at pp.65–66. And yet, these impacts are not adequately addressed or considered in the DEIS, particularly where TNF has allowed gradual, but significant, adverse impacts to the environment to take place as the result of, *inter alia*, Resolution Copper's pre-feasibility activities at Oak Flat and related actions which have now been included in the environmental baseline in the current DEIS. These actions, which violate NEPA, essentially assure that the full scope of impacts on the human environment in relation to this project will never be meaningfully analyzed. In the absence of full analysis of ongoing actions, such impacts can't be known and these claims in the DEIS are meaningless. This violates NEPA, among other laws and requirements.

The DEIS states that "[b]etween 14 and 16 GDEs, mostly sacred springs, would be anticipated to be impacted by dewatering" (DEIS p. ES-27). However, as noted above, TNF has done nothing to date to analyze or disclose the impacts of prior pre-feasibility pumping and other activities on the numerous springs that have been impacted by Resolution Copper's pre-feasibility activities at the site that date back at least a decade. As a result, the number of springs that have been dewatered over this period of time are NOT being considered as part of the TNF's analysis of direct, indirect, and cumulative impacts because these impacts have been, essentially, baked into the new environmental baseline through the "no action" alternative. This problem extends to the associated direct, indirect, and cumulative impacts on cultural and historic resources, religious practices, as well as the monitoring or mitigation requirements for GDEs, among other matters. 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. These goals have not been met.

The DEIS also fails to recognize the substantial changes in the region that will occur in the near term, including ecological changes, substantial population growth and population distribution in Maricopa and Pinal Counties, a worsening drought and associated measures being taken both by the State of Arizona and the larger southwestern region on water management, changes in land use and resource use patterns. To realistically project conditions in the affected area without the proposed mine requires TNF to evaluate the aggregate of local government plans, policies, population projections, capital improvement plans and similar documents, as well as the plans for other relevant Federal, State, and local agencies. These, and all baseline conditions, should have been considered in the DEIS.

D. TRIBAL CONSULTATION HAS BEEN INADEQUATE.

The specific legal responsibility of the U.S. Forest Service to engage in government-to-government consultation with Indian Tribes is codified in the Federal regulations. Specifically, 36 C.F.R. § 219.4(a)(2) states:

> (2) Consultation with federally recognized Indian Tribes and Alaska Native Corporations. The Department recognizes the Federal Government has certain trust responsibilities and a unique legal relationship with federally recognized Indian Tribes. The responsible official shall honor the government-to-government relationship between federally recognized Indian Tribes and the Federal Government. The responsible official shall provide to federally recognized Indian Tribes and Alaska Native Corporations the opportunity to undertake consultation consistent with Executive Order 13175 of November 6, 2000, and 25 U.S.C. 450 note.

The TNF, U.S. Army Corps, and other agencies appear to be relying nearly exclusively on a still-not-yet-executed Programmatic Agreement (PA) for their tribal consultation responsibilities developed under Section 106 of the NHPA. This was

confirmed by U.S. Army Corps representatives in attendance at the September 10, 2019 public meeting in Superior, Arizona who simply referenced the PA when asked if the Corps had any plans to engage in tribal consultation on the 404 permit. New drafts of the PA are still being written even to date, and yet when asked by Tribal Leaders on October 28, 2019 to extend the comment due date to allow for additional time to review and comment upon the current draft, the TNF refused.

This PA process improperly separates tribal consultation into a separate closed box, outside of the comment process and outside of analysis from the DEIS, which is improper. Analysis of project impacts and effects, plans for monitoring and mitigation to cultural resources must be considered in the DEIS as a critical component of the NEPA process (this can certainly be accomplished without disclosure of any protected sensitive information)—and yet, the TNF has made it clear that it has bifurcated this responsibility.

36 C.F.R. § 800.8(a)(3) *Inclusion of historic preservation issues* requires agency officials to ensure that preparation of an "EIS and record of decision (ROD) includes appropriate scoping, identification of historic properties, assessment of effects upon them, and consultation leading to resolution of any adverse effects." These requirements have not been met in the current DEIS. The draft Programmatic Agreement provided in the DEIS states: "Identification of cultural resources has yet to be completed for the Skunk Camp Tailings location (Alternative 6), pipeline routes for Alternatives 5 and 6, main 230-kilovolt power lines for the GPO and power line routes for Alternative 6 and any remaining areas not covered by earlier surveys due to project adjustments, and is scheduled to be completed in the summer of 2019." (DEIS Appendix O, p. 10). And yet—TNF confirmed, at its public meetings on September 10, 2019 in Superior and September 12, 2019 in San Tan Valley, that these cultural resources surveys had still not yet been completed—long after the DEIS had been published for public comment. Thus, none of the findings of those surveys could have been considered in the DEIS. If only partial survey findings were considered in the DEIS, then the DEIS is incomplete. The DEIS should not have been rushed out the door without this critical information—which was not unavailable but was being prepared and was forthcoming. NEPA procedures used by agencies "must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken." 40 C.F.R. § 1500.1(b).

In fact, the Arizona State Historic Preservation Office (SHPO) has documented serious concerns regarding the tribal consultation process. Following a meeting on August 29, 2019 (after the comment period on this DEIS had begun), the State Historic Preservation Officer Kathryn Leonard wrote a letter to TNF Supervisor Neil Bosworth reiterating SHPO's ongoing concerns with the PA process. The full text of that letter is reproduced below and it is expressly incorporated here by ITAA:

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SHPO–2005–2464 (150287)

September 19, 2019

Neil Bosworth, Superintendent
Tonto National Forest Supervisor's Office
2324 E. McDowell Road
Phoenix, AZ 85006

RE: Tonto National Forest (TNF) and State Historic Preservation Office (SHPO) meeting 8/29/19 regarding the Resolution Copper Mine Programmatic Agreement

Dear Mr. Bosworth:

This letter is a follow up to and memorialization of the August 29, 2019 meeting between TNF and SHPO staff regarding the Resolution Copper Mine Programmatic Agreement (PA) and ongoing Section 106 Consultation. At our meeting, SHPO reiterated our continuing concerns with the tribal consultation process, which has not been accomplished in concert with the process laid out in 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (NHPA.)

As you are aware, at our meeting on July 13, 2017 SHPO expressed concerns that, in absence of an executed PA, the plan for government to government consultation with tribes for Section 106 compliance was unclear. At that time, our office requested that TNF develop a plan for tribal consultation that would articulate the

manner by which individual tribes would be engaged during phased historic property identification and evaluation, assessment of effects, and resolution of adverse effects. We discussed how, in absence of an executed PA, a formal plan for tribal consultation would not only assist in directing TNF compliance with the government to government consultation requirements of Section 106, but also provide the basis for creating a record of such consultation on this high profile and potentially controversial project. We understand that such a plan was not developed. As a result, it appears that government to government consultation efforts for this project have become bifurcated, and we are concerned that tribal consultation under Section 106 and the provisions outlined in 36 CFR Part 800, the regulations implementing Section 106 of the NHPA, has not proceeded apace of other federal authorities guiding consultation with Native American tribes.

SHPO has received copies of correspondence from the San Carlos Apache Nation and the Pascua Yaqui Tribe expressing concern regarding the manner by which Section 106 consultation has occurred for the Resolution Copper project. The Zuni Tribe has also contacted our office expressing similar concerns, which in particular involve the distribution of a PA in early draft format with a 10-day comment period before final execution. We understand from our discussion with your team on August 29th, that the transmission of this draft PA occurred in error as the result of internal communication issues. At this time, we are requesting TNF to provide us with a formal plan for tribal consultation under Section 106, including articulation of who the TNF point of contact will be for Section 106 compliance, as well as a plan for tribal consultation for phased identification and evaluation of historic properties (including traditional cultural properties,) assessment of effects, and the resolution of adverse effects. We are particularly concerned that sites of Traditional Ecological Knowledge (TEK) identified through the tribal monitoring program are not being integrated into the phased identification and National Register of Historic Places evaluation process as prescribed by Section 106 and would like to understand the agency's plan for how this data will be employed for Traditional Cultural Property (TCP) identification through tribal consultation.

We wish to reiterate to the TNF that information collected by tribal monitors needs to be formally integrated into historic property identification efforts, and the TNF needs to determine whether any of these TEK sites (many of which are also archaeological sites) are Register-eligible TCPs. This information (in redacted form) needs to be conveyed to our office for concurrence and also needs to be shared with consulting parties. We are happy to work with the TNF to articulate this protocol in the draft PA, as well as proposed resolution of adverse effects to register-eligible TCPs.

We appreciate your cooperation in complying with historic preservation requirements for federal undertakings. Please do not hesitate to contact me by telephone at 602.542.4009 or by email at KLeonard@azstateparks.gov, if you have any questions.

Sincerely,

Kathryn Leonard,
State Historic Preservation Officer.

c. Chris Daniels, ACHP
Terry Rambler, San Carlos Apache Tribe
Vernelda Grant, San Carlos Apache Tribe
Robert Valencia, Pascua Yaqui Tribe
Karl Hoerig, Pascua Yaqui Tribe
Val Pantea, Pueblo of Zuni
Kurt Dongoske, Pueblo of Zuni

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Additionally, the draft PA as attached to the DEIS is also incomplete as it does not contain any of its appendices (listed at Appendix O, p. 24): A. Area of Potential Effects; B. Maps; C. Definitions; D. NAGPRA Plan; E. Key Staff Contact Information; or F. Programmatic Agreement Process. Meaningful comments cannot possibly be solicited on partially provided materials. This violates NEPA.

E. EFFECTS ANALYSIS

1. The DEIS fails to Analyze and Mitigate Direct, Indirect, and Cumulative Impacts to Religious, Cultural, Traditional, Archaeological & Historic Resources.

As discussed in the RFRA section, *supra*., Chi'chil Bildagoteel (Oak Flat), as well as Apache Leap and Gaan (Devil's) Canyon, are sacred and holy places. As testified to by Wendsler Nosie, former chairman of the San Carlos Apache Tribe before the U.S. House Natural Resources Committee, Subcommittee on National Parks, Forests and Public Lands on November 1, 2007:

> In our native language Oak Flat is called Chich'il Bildagoteel, and it lies in the heart of T'is Tseban country. The Oak Flat area is bounded in the east by Gan Bikoh or Crown Dancers Canyon, and in the north by Gan Diszin or Crowndancer Standing. These canyons are called "Devil's Canyon" and "Queen Creek Canyon" by non-Indians.
>
> For as long as may be recalled, our People have come together here. We gather the acorns and plants that these lands provide, which we use for ceremonies, medicinal purposes, and for other cultural reasons. We have lived throughout these lands, and the Apache People still come together at Oak Flats and Apache Leap to conduct religious ceremonies and to pray or take rest under the shade of the ancient oak trees that grow in the area. The importance of these lands has not changed. These are holy, sacred, and consecrated lands which remain central to our identity as Apache People.[20]

As stated verbatim in our project scoping comments submitted to the Tonto National Forest on July 18, 2016 (which are attached in full and incorporated herein): "Oak Flat is a place of religious, cultural, traditional, archaeological and historic importance to certain of ITAA's Member Tribes. It is listed on the National Register of Historic Places as a Traditional Cultural Property under Section 106 of the NHPA and it qualifies as an "Indian sacred site" under E.O. 13007."

The fundamental importance of Oak Flat stems, in part, from its continued existence as a natural place within the natural world. Oak Flat has, for countless generations, played a crucial role in the exercise of certain Apache and Yavapai religious, traditional, and cultural practices, and these practices continue to this day. The water sources at Oak Flat, including its springs, seeps and surface water are fundamental to the integrity of Oak Flat. The oak groves at Oak Flat have always provided an abundant source of acorns that serve as an important food source. There are also hundreds of traditional plants and other living things in the Oak Flat area that are crucial to certain Tribal practices and life ways. Some of these plants are common and some are medicines known to and harvested only by qualified Tribal practitioners. While some of these plants can be gathered in other areas, only the plants within the Oak Flat area are imbued with the unique power of this sacred area.

For certain Western Apache, including certain members of the San Carlos Apache Tribe, Oak Flat is also the home of important Gaan (or holy spirits) that are directly associated with this place. Furthermore, Oak Flat sits in the context of the surrounding Tonto National Forest, which also contains features and sites important to a number of Tribes. Archaeological resources have been found throughout the area, while certain seeps and springs located within the footprint of one of the Alternative tailings sites have been identified to TNF as significant to Tribes.

The Oak Flat area is also important habit for Bald and Golden Eagles. While the DEIS entirely failed to conduct meaningful analysis of the project impacts on Bald and Golden eagles (or with regard to mitigation as a result of such impacts) with respect to their legal obligations under BGEPA, it also wholly failed to examine the direct, indirect, and cumulative impact of the project on the cultural, religious, and traditional importance of Eagles to Tribes. Bald and Golden Eagles play a deeply rooted role in Tribal religion, traditions and culture, and indeed, in the very identity and health of Tribal people. For purposes of clarification, while ITAA Member Tribes may refer to both Bald and Golden Eagles collectively as "Eagles" or "the Eagle" in general conversation, the Tribes distinguish between the two for more specific conversation, ecological reference, and ceremonial practice. Indeed, the Tribes recognize the characteristics, qualities, ecological function, place and power specific to each Eagle.

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[20] Southeast Ariz. Land Exchange and Conservation Act of 2007: Hearing on H.R. 3301 Before the Subcomm. on Nat'l Parks, Forests, and Pub. Lands, 110th Cong. (Nov. 1, 2007), https://www.govinfo.gov/content/pkg/CHRG-110hhrg38773/pdf/CHRG-110hhrg38773.pdf.

To further illustrate the importance of Eagles, certain populations of Eagles remain under the watch and protection of ITAA Member Tribes due to the location of Eagle nests and wintering and foraging habitat on the Member Tribes' reservations. Certain of ITAA's Member Tribes are also expressly charged under their Tribal Constitutions with the responsibility and authority to manage and regulate the wildlife and habitat found within their Reservations, including Eagle habitat. While each of ITAA's Member Tribes may perceive Eagles quite differently or rely on the Bald and Golden Eagle for different aspects of their religious, traditional or cultural practices, Eagles in general are and remain important beings, whose lives are inextricably intertwined with the continued existence of all human beings on this Earth. For many of ITAA's Member Tribes, the Eagle figures prominently in their oldest creation songs and stories, and in almost all of the ancient prayer song cycles. Indeed, many of these songs can be regularly heard today during the Tribal ceremonies that are conducted throughout the year, sung word-for-word the way they have been sung for generations.

In fact, the U.S. Fish and Wildlife Service has also recognized the importance of Eagles to the religious, traditional and cultural practices of Tribes, stating in 2009:

> Some Tribes and tribal members may consider eagle nests sacred sites provided for in the American Indian Religious Freedom Act (42 U.S.C. § 1996) (some are frequently referred to as Traditional Cultural Properties (TCPs), and as potential historic properties of religious and cultural importance under the NHPA. [...] In addition, some tribes may consider all eagles and eagle nests as TCPs or sacred sites, and potential historic properties of religious and cultural significance which must be considered under Section 106 of the NHPA.[21]

The DEIS (Table 3.8.4-2, pp. 466–468) notes that hundreds of thousands of acres of Eagle habitat "potentially would be impacted under each action alternative" (referencing only the tailings alternative sites and not the mine site) but no analysis appears anywhere on how the project activities—including but not limited to dewatering and water use and transmission lines—will directly, indirectly, and cumulatively impact Eagles and Eagle habitat or the traditional, cultural or religious practices of the Tribes. This is a violation of NEPA. *See* 36 C.F.R. § 220.4(f).

Inadequate Analysis of Impacts

While the DEIS says that the Resolution Copper mine project, including already-ongoing activities like dewatering, will or is likely to deplete water supplies and harm or destroy the streams, springs, seeps and other water features that are needed to preserve Oak Flat and support its animals and plants, discussion and analysis of the impacts of specific direct, indirect and cumulative and impacts is woefully inadequate and mitigation plans are left undefined. The DEIS (p. ES-27) states: "Between 14 and 16 GDEs [groundwater-dependent ecosystems], mostly sacred springs, would be anticipated to be impacted by dewatering. Although mitigation would replace water, impacts would remain to the natural setting of these places." The DEIS contains no meaningful or detailed description as to these impacts, including on species such as Eagle.

For over ten (10) years, the ITAA and its Member Tribes have expressed specific, detailed concerns about the various likely and inevitable impacts of the proposed Resolution Copper Mine to the Forest Service on these specific religious, cultural, traditional, archaeological, and historical values. This has been well-documented through extensive communications and actions taken regarding this project, including Congressional testimony submitted by tribal leaders including former San Carlos Apache Tribal Chairman Wendsler Nosie and current Chairman Terry Rambler, among other tribal leaders. In addition, extensive background on the specific religious, cultural, traditional, and religious importance of the Oak Flat area was discussed in the ITAA scoping comments submitted on July 18, 2016 (attached). There have also been ethnographic studies performed for this area by TNF[22] and Oak Flat is listed as a Traditional Cultural Property under the NHPA (Chi'chil Bildagoteel Historic District, listed on April 3, 2016, NPS#16000002).

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[21] *See* U.S. Fish & Wildlife Serv., Div, of Migratory Bird Mgmt., Final Environmental Assessment: Proposal to Permit Take as Provided Under the Bald and Golden Eagle Protection Act (Apr. 2009).

[22] *See* Maren P. Hopkins, Chip Colwell, T.J. Ferguson, & Saul L. Hedquist, Ethnographic and Ethnohistoric Study of the Superior Area, Arizona (Sept. 14, 2015) (Redacted) (prepared by Anthropological Research, LLC for the Tonto National Forest and Resolution Copper Mining) (attached).

The DEIS (p. 678) acknowledges that "Loss of the culturally important area of Oak Flat would be a substantial threat to the perpetuation of cultural traditions of the Apache and Yavapai tribes" and that "Native American communities would be disproportionately affected by the land exchange." Still, the DEIS (p. 6) states that the Forest Service is **still** working "to better understand the historical, cultural, and religious importance of the [project] area." First, this section does not contemplate any other "area" other than the land surface overlying the copper deposit although many other lands have the potential to be impacted by the project. Second, the draft Programmatic Agreement attached to the DEIS (p. 4) indicates that cultural resource surveys of the tailings alternatives are still ongoing, and that no cultural resource surveys have been done on the pipeline alignments.

Third, TNF has violated NEPA by releasing the DEIS without all of this work having been done already. Federal regulations (*see* 36 C.F.R. § 800.8(a)(3) and § 800.8(c)) require that identification of historic properties, assessment of impacts, and resolution of adverse effects through avoidance, minimization, or mitigation be completed prior to—in order to be included in—the NEPA documents. Because this work is apparently still ongoing, a full analysis of direct, indirect and cumulative impacts is missing from the DEIS (a failure which violates NEPA, among other federal laws and requirements). In the absence of this analysis, a reasoned decision cannot be made. Alternatively, if this work has already been done but has not been included or considered in this DEIS—this is also a glaring failure that violates, *inter alia*, NEPA.

The DEIS (p. 686, *et seq*). concludes that tribes with cultural, social, or religious ties to the project area "will be affected permanently from direct, permanent impacts on these sites and values" and that these impacts "cannot be avoided or fully mitigated," but also states that "at this time, no mitigation measures have been identified what would be solely pertinent to environmental justice."[23] Pursuant to Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," and accompanying Guidelines,[24] federal agencies are required to consider environmental justice in their analysis under NEPA. According to the EPA, environmental justice (EJ) is defined as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies," where fair treatment "means that means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies."[25] Mitigation measures with regard to EJ and the other specific topics discussed above, which are required by law to be included in the DEIS and subject to public comment, are absent from this DEIS.

Finally, the TNF should have considered the United Nations Declaration on the Rights of Indigenous Peoples (Declaration) in the NEPA process. In its Final Summary of Issues Identified Through Scoping Process published November 2017, the TNF wrongfully dismissed this issue, stating that since the United States "was not a signatory" to the Declaration, then it "must therefore be considered beyond the scope of the Forest Service decision." In fact, on December 16, 2010, President Obama announced that the United States was reversing its negative vote on the Declaration and it now supports the Declaration in full.[26] As such, the United States, while not a "signatory", fully supports the purposes of the Declaration and has for nearly a decade. Consideration of the Declaration was dismissed on incorrect grounds and should have been considered by TNF in preparing this DEIS. Additionally, the ACHP adopted a plan in 2013 to support the Declaration and encourages

[23] At 3.17.2.34, the DEIS states: "Environmental Justice There would be irretrievable socioeconomic impacts under all action alternatives because existing land uses, including recreation opportunities, would be precluded within the project area during the life of the project. All action alternatives would potentially cause irreversible impacts on the affected area with regard to changes in the local landscape, infrastructure and tax base funding, community values, and quality of life for residents of the town of Superior." This is the only analysis regarding environmental justice that is provided by the DEIS. This is inadequate.

[24] *See* CEQ, Environmental Justice: Guidance Under the National Environmental Policy Act (Dec. 10, 1997), https://ceq.doe.gov/docs/ceq-regulations-and-guidance/regs/ej/justice.pdf.

[25] EPA, *Learn About Environmental Justice* (last visited Nov. 6, 2019), https://www.epa.gov/environmentaljustice/learn-about-environmental-justice.

[26] Native American Rights Fund, *United Nations and Indigenous Peoples* (last visited Nov. 4, 2019), https://www.narf.org/cases/declaration-indigenous-rights-un/.

Federal agencies to utilize its contents "specifically in carrying out their Section 106 responsibilities."[27]

Article 11 of the Declaration makes clear that ". . . Indigenous peoples have the right to practice and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies . . ." Similarly, Article 12(2) calls for the United States to ". . . seek to enable the access and/or repatriation of ceremonial objects and human remains in their possession through fair, transparent and effective mechanisms developed in conjunction with indigenous peoples concerned . . .", while Article 25 emphasizes the right of indigenous peoples to "maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources . . ." TNF wrongfully dismissed consideration of the Declaration from scoping, and should have considered and applied the Declaration in preparation of this DEIS.

2. The DEIS is Radically Insufficient with Respect to Water.

In ITAA's scoping comments submitted July 18, 2016 (attached), the contents of the General Plan of Operations (GPO) (also referred to in these comments as the "Mining Plan of Operation" or "MPO") were very carefully analyzed with regard to water. There is only a single place in the GPO, where Resolution Copper provides a number for its total water needs for the life of the mine. Specifically, Resolution Copper states, "[a] current estimate of the total quantity of water needed for the life of the mine is 500,000 ac-ft." GPO, Volume 1, Sec. 3.6.1, Water Balance, Sources, and Management at 174. Yet, as ITAA specifically demonstrated in its scoping comments, close analysis of the Tables and Figures contained in the GPO—figures that were prepared by Resolution Copper—shows that Resolution Copper actually believes its total water usage over the life of the mine will be closer to **786,626 AF**. This is more than enough water to serve over 1 million households in Phoenix for at least 3 years. A summary of these figures taken directly from the GPO is reproduced below. This figure is far more than the water usage numbers that are contained anywhere in the DEIS.

ATTACHMENT A

Resolution Copper Mine Estimated Water Usage

Based on RCM's GPO Figures*

*GPO,V-2, Figure 3.6-1a, Years 1-7	Acre-Feet Per Year	Number of Years	Total Acre-Feet
CAP and Well Raw Water Supply	6,309	7	44,163
Groundwater	1,839	7	12,873
Treated Effluent	35	7	245
Inflow Precipitation and Runoff (to Seepage Ponds)	150	7	950
Inflow Precipitation and Runoff (to Tailings Storage Facility (TSF))	925	7	6,475
Total Estimated Inflow/Groundwater Usage Years 1-7	9,258	7	64,686
Estimated Filter Return (water saved, and reused from filter plant)	321	7	2,246
Total Estimated Water Needed Years 1-7	**9,580**	**7**	**67,060**

*GPO, V-2, Figure 3.6-1b, Years 8-36	Acre-Feet Per Year	Number of Years	Total Acre-Feet
CAP and Well Raw Water Supply	16,038	29	465,102
Groundwater	2,580	29	74,820
Treated Effluent	35	29	1,015
Inflow Precipitation and Runoff (to Seepage Ponds)	272	29	7,888
Inflow Precipitation and Runoff (to Tailings Storage Facility (TSF))	1,972	29	57,188
Total Estimated Inflow/Groundwater Usage Years 8-36	20,897	29	606,013
Estimated Filter Return (water saved, and reused from filter plant) Years 8-36	774	29	22,446
Total Estimated Water Needed Years 8-36	**21,671**	**29**	**628,458**

*GPO, V-2, Figure 3.6-1c, Years 37-45	Acre-Feet Per Year	Number of Years	Total Acre-Feet
CAP and Well Raw Water Supply	6,066	9	54,594
Groundwater	1,654	9	14,886
Treated Effluent	35	9	315
Inflow Precipitation and Runoff (to Seepage Ponds)	396	9	3,564
Inflow Precipitation and Runoff (to Tailings Storage Facility (TSF))	1,743	9	15,687
Total Estimated Inflow/Groundwater Usage Years 37-45	9,924	9	89,316
Estimated Filter Return (water saved, and reused from filter plant)	199	9	1,791
Total Estimated Water Needed Years 37-45	**10,123**	**9**	**91,107**

TOTAL WATER USAGE OVER 45 YEARS (LIFE OF MINE)	Acre-Feet Per Year	Number of Years	Total Acre-Feet
CAP and Well Raw Water Supply			566,129
Groundwater			102,579
Treated Effluent			1,575
Inflow Precipitation and Runoff (to Seepage Ponds)			12,362
Inflow Precipitation and Runoff (to Tailings Storage Facility (TSF))			79,350
Total Estimated Inflow/Groundwater Usage over 45 Years (Life of Mine)			759,985
Estimated Filter Return (water saved, and reused from filter plant) over 45 Years (Life of Mine)			26,031
TOTAL ESTIMATED WATER NEEDED OVER 45 YEARS (LIFE OF MINE)			**786,626 ACRE-FEET**

Total Acre-Feet of Lost Water (Evaporation/Other Losses) over 45 Years (GPO, V-2, FIGURES 3.6-1a, 3.6-1b and 3.6-1c)	733,304
Total Acre-Feet of Reclaimed Water over 45 Years (GPO, V-2, FIGURES 3.6-1a, 3.6-1b and 3.6-1c)	15,014

[27] AHCP, *Section 106 and the U.N. Declaration on the Rights of Indigenous Peoples: General Information and Guidance* (last visited Nov. 6, 2019), https://www.achp.gov/indian-tribes-and-native-hawaiians/united-nations-declaration-rights-indigenous-peoples.

Nevertheless, it appears that the TNF has failed to consider these comments as part of the DEIS process. Certainly, they have not in any way disputed the larger number of 786,626 that was arrived at by using Resolution Copper's own tables and figures from the GPO. Instead, much like elsewhere in the DEIS, TNF appears to have generally adopted the assertions of Resolution Copper about their water usage, with little to no scrutiny or analysis. This violates among other things the "hard look" requirements of NEPA. Additionally, the TNF has done nothing in the DEIS to address the clear disconnect between Resolution Copper's own water usage figures. In fact, the DEIS (p. ES-24) simply concludes with no analysis or support that for the life of the mine, "87,000 acre-feet of water would be pumped from the mine, and between 180,000 and 590,000 acre-feet of makeup water would be pumped from the Desert Wellfield in the East Salt River Valley."

Additionally, as noted in ITAA's scoping comments, ITAA considers the figures from Resolution Copper's materials to be an overly conservative estimate of the amount of water actually needed for the mine. This is demonstrated by the analysis of Dr. Steven Emerman (report attached here), who reported that water estimates for this mine are "about one-third of industry standards." However, Industry standards are never addressed in the DEIS.

These failures do not meet multiple requirements under NEPA and show that the Forest Service has no intention of taking a hard look into the direct, indirect, and cumulative impacts to Arizona's water supplies from this project. Given the critical importance of water to a wide-ranging number of local, regional, and state interests, these failings plainly demonstrate that the TNF needs to go back to the drawing board on all water and water-related issues. Anything short of this violates NEPA.

40 C.F.R. § 1502.24 requires agencies to "insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." *See also* Forest Service Handbook 1909.15, Chapter 20, § 23.33. For a multitude of reasons including as discussed in this section, the DEIS is radically insufficient with regard to water including groundwater, surface water, water quality, all of the water models, direct, indirect and cumulative impacts of water usage, mitigation, and analysis of ongoing dewatering.

a. The DEIS Fails to Analyze and Mitigate the Direct, Indirect, and Cumulative Impacts of Water Usage.

As noted above, ITAA's July 18, 2016 scoping comments included several concerns and questions regarding the substantial water demands and use of water sources for the Resolution Copper mine project. Most if not all of those have not been included in this DEIS and are still unanswered. It is clear that TNF has done little to nothing in the DEIS to meaningfully consider Resolution Copper's ability to develop a virtually unlimited number of wells for its project under Arizona's groundwater laws to support the water consumption and dewatering needs of the proposed Resolution Copper mine. Unlike other users of groundwater in Arizona (*i.e.* industrial, agricultural, and residential) mines are essentially unregulated water users. Groundwater extraction permits for mines are "must issue." As a result, mining companies often face little to no legal restrictions or limits on the amount of water they can pump from the aquifer. See, e.g., A.R.S. § 45–514. While it is not the obligation of the TNF to assert a view one way or another on the suitability of Arizona law in this regard, it is TNF's obligation in the DEIS to consider potential direct, indirect and cumulative impacts of the project that would arise from the use of mineral extraction permits and other authorizations under state law that permit the mine to deplete (virtually unregulated) Arizona's existing water supplies. The net effect is that, notwithstanding the representations made today, Resolution Copper can pump as much water as they want at any point in the future and as such, the DEIS must consider this in its evaluation of impacts.

Although the Arizona Department of Water Resources (ADWR) has been a cooperating agency in the NEPA process, the DEIS fails entirely to contemplate the actual availability of water resources—or the direct, indirect, and cumulative impacts from withdrawing such large volumes of water from the various undetermined sources (groundwater, surface water, banked water, etc.). In fact, the DEIS (p. 18 and elsewhere) states that the water sources "would be" (have not yet been) determined by ADWR. This determination should have been made and included in the DEIS for full analysis of its direct, indirect, and cumulative impacts, as well as mitigation. The failure of the TNF to do this violates NEPA.

The DEIS (p. 59) further states that "[r]egardless of the authority for obtaining the water, the water is pumped from the same wells." Given this assertion, a full analysis should also have been done in this DEIS to consider impacts of the mine's proposed water usage on Arizona's water supplies at the local, regional, and state level, regardless of what "paper" source are legally ascribed for that water. This

points were made in some detail in the ITAA scoping comments, but they are disregarded in the DEIS. Furthermore, given ADWR's status as a cooperating agency, the DEIS should have (but completely failed to) analyze the water management actions by that agency and how those may affect and be affected by this project, including the Management Plans required under the 1980 Groundwater Code which was enacted to "aggressively manage the state's finite groundwater resources."[28]

Under the Groundwater Code, areas of the state with "heavy reliance on mined groundwater" were designated as Active Management Areas (AMAs), and for many AMAs including the Phoenix AMA, the primary management goal is to achieve safe-yield by the year 2025. The current mine infrastructure "lies almost entirely within the Phoenix AMA" (DEIS p. 312), and the Desert Wellfield is located within "the East Salt River valley subbasin of the Phoenix AMA" (DEIS p. 18). Incredibly, no discussion or analysis is included anywhere in the DEIS on the relationship between the large amount of water proposed to be used by this project and the Phoenix AMA safe-yield goals. This is inconsistent with NEPA, which requires, at a base, a "reasonably thorough discussion of the significant aspects of probable environmental consequences." *Oregon Natural Resources Council v. Lowe*, 109 F.3d 521, 526 (9th Cir. 1997).

The DEIS (p. 335) states that "the amount of groundwater in storage in the East Salt River valley subbasin (above a depth of 1,000 feet) is estimated to be about 8.1 million acre-feet." The amount of water in storage (meaning in water storage facilities) is NOT the same thing as the amount of water which actually exists in the subbasin. These well document aspects of Arizona Water Law have been discussed by ADWR in the past and these are documented quite clearly in the ITAA scoping comments. Yet without analysis, the DEIS adopts and presents this 8.1 million acre-foot figure as the amount of water "estimated to be physically available in the aquifer." (DEIS p. 342). The DEIS never confirms where this estimate of how much water is physically available in the aquifer actually comes from, whether it has been independently verified, what the range of uncertainty is, or any of the discussions which would otherwise accompany verifications being done as a proper part of NEPA analysis. This is a major point of concern which falls far short of the basic requirement for a "hard look" under NEPA.

The DEIS further spends astonishingly little time analyzing the cumulative impacts of the Resolution Copper Mine water usage on regional water supplies—regional water supplies that are already limited by growth and pumping. In fact, the DEIS (p. 342) sets up and immediately dismisses its obligation to consider cumulative impacts, stating that although "groundwater demand is substantial and growing," and that "the total demand on the groundwater resources in the East Salt River valley is substantial and could be greater than the estimated amount of physically available groundwater," "it is not possible to quantify the cumulative water use in the area" due to "uncertainties." Despite documented instances of residential wells in Pinal County already beginning to dry up at certain depths,[29] no consideration is given to the steep costs to residential well owners in this region when they are forced to deepen their wells to access water in lower depths, an impact which Resolution Copper water use would contribute to potentially directly but also indirectly and cumulatively. This impact should have been considered but was absent from this DEIS.

The DEIS is fundamentally flawed without these important discussions, since all of the proposed mine's activities, in one way or another, involve water.

b. Impacts of activities in the desert wellfield (MARRCO corridor) including water pumping have not been fully considered under NEPA.

The DEIS (p. 19) states that the water pipeline corridor to the New Magma Irrigation and Drainage District (NMIDD) irrigation canal is authorized under an existing Special Use Permit, but the next sentence also states: "Future activity within the MARRCO corridor potentially could be covered under the final mining plan of operations, rather than a special use permit." Future activity in the MARRCO corridor includes at least the drilling of several dozen wells, construction of major power line infrastructure, new pump stations, grading and sloping, access roads, and an additional 50-foot easement (DEIS, Appendix G, p. G-10), all of which are major connected actions as defined in 40 C.F.R. § 1508.25, and which should have been fully analyzed in this DEIS. This is also required by the single environmental impact statement requirement of the NDAA as discussed at the beginning of this comment letter.

[28] ADEQ, Active Management Areas (last visited Nov. 4, 2019), https://new.azwater.gov/ama.

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

In short, the DEIS fails to provide a full and fair discussion of the direct, indirect, or cumulative impacts of groundwater pumping in the MARRCO Corridor desert wellfield. There are many different problems that stem from this inadequate approach under NEPA. For example, it is well-documented that excessive, long-term extraction of groundwater can cause subsidence and fissures in the earth. These occurrences have been particularly concentrated in the East Salt River Valley subbasin, where **over 500,000 AF of water would be pumped under the preferred Alternative 6**. Regarding the East Salt River Valley subbasin, ADWR's Water Planning Atlas states: "Earth fissuring and subsidence have occurred in the ESRV 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)."[30] The University of Arizona's Water Resources Research Center states: "Within the Salt River Valley are various locations where subsidence is occurring."[31]

The DEIS (p. 334) contains no meaningful analysis of the potential subsidence from its large water uses, saying only that while groundwater pumping has already caused land subsidence in the wellfield area, a detailed analysis of land subsidence caused by withdrawals from this project is "not feasible" and that the impacts from one pumping source "cannot be predicted or quantified." This is not a full nor a fair discussion of the potential environmental impacts caused by the large volume of proposed pumping in this area as required by 40 C.F.R. § 1502.1. Nor does any part of this discussion cite to supporting evidence, as required by 40 C.F.R. § 1502.1 (requiring that statements "shall be supported by evidence that the agency has made the necessary environmental analyses."). Since subsidence due to water use is not analyzed in this DEIS, the direct, indirect, and cumulative impacts from that subsidence (such as the impacts of subsidence on the U.S. 60, S.R.79, and other nearby roadways, ground instability, impacts to wildlife, impacts to existing and planned infrastructure, etc.) are all absent from the DEIS. Drawdown contours are shown in Figure 3.7.1-2 (DEIS p. 298) which overlay nearby roadways and developed areas, but the impacts of these drawdowns on those features are never analyzed in the DEIS.

The DEIS (p. ES-24) states that desert wellfield pumping in the East Salt River Valley MARRCO corridor "would incrementally contribute to the lowering of groundwater levels and cumulatively reduce overall groundwater availability in the area" but the DEIS contains no meaningful analysis of impacts or plans for mitigation. As discussed further in these comments, Resolution Copper's water recharge and storage credits, which are "not required under Arizona water law" and a "voluntary measure" (DEIS p. 341) are non-binding by definition. They can be freely sold or exchanged at any time and thus, TNF cannot rely on the potential use of these credits for mitigation. Nevertheless, this is exactly what TNF does. *See* DEIS p. 333, stating "[t]he applicant-committed environmental protection measures include remedying any impacts on water supply wells caused by drawdown from the project.").

c. The groundwater model for the MARRCO wellfield is deficient.

Although Resolution Copper purportedly intends to pump 540,000 acre-feet of water from groundwater resources (under the preferred Alternative 6, DEIS p. 99), the DEIS makes no attempt whatsoever to model or estimate groundwater resources and thus, makes no attempt to study the direct, indirect or cumulative impacts to these resources. This is a glaring deficiency in the DEIS and a plain violation of NEPA.

The DEIS (p. 303) states that the groundwater flow model to predict pumping impacts from the MARRCO corridor desert wellfield was built by Resolution Copper "from an existing, calibrated, regulatory model prepared by ADWR" and, since the original model had been used for planning purposes since the 1990s, the modified model "did not require as extensive a review as the models prepared specifically for the mine." This is wrong. TNF is required to review and fully understand models used in its DEIS, including any modifications to the existing model that has not been meaningfully described. Whether or not the original model is reliable or sufficient for current conditions is a question that TNF must independently verify. Further, to the extent this model has in some way been modified by Resolution

[30] *See* ADWR Water Atlas, Active Management Area Hydrology—Groundwater Overview and Phoenix AMA (last visited Nov. 4, 2019), http://www.azwater.gov/AzDWR/statewidePlanning/WaterAtlas/ActiveManagementAreas/PlanningAreaOverview/Hydrology.htm#eastsalt.

[31] Joe Gelt, *Land Subsidence, Earth Fissures Change Arizona's Landscape*, 6 ARROYO 2, Water Resources Research Center (Summer 1992), https://wrrc.arizona.edu/publications/arroyo-newsletter/land-subsidence-earth-fissures-change-arizonas-landscape.

Copper, these changes also must be subjected to the same thorough review in the DEIS.

Overall, insufficient data is provided regarding the groundwater flow model on the MARRCO wellfield. The DEIS (p. 303) under the section titled "Model Used for Mine Water Supply Pumping Effects" indicates that Resolution Copper built a model from an existing ADWR model for this area. The DEIS states that a less extensive review was given to this model, yet TNF does not give an explanation why, or what this lower-level review supposedly entailed. As discussed above, it appears that Resolution Copper has taken an ADWR model and modified it or updated it in some way and no discussion appears anywhere in the DEIS about how this model was changed. This violates myriad requirements of NEPA.

It is also noteworthy that ADWR has recently finalized a new groundwater model for this area, correcting errors and shortcomings in the older model. The model reflects a "major update" performed by ADWR in 2014—"structural modifications" made in order to "address differences found between the simulated thickness of the aquifer materials and the thickness described in numerous well drillers' logs."[32] According to the 2019 Pinal Model Technical Memorandum, "[c]hanges were also made in the East Salt River Valley (SRV) portion of the SRV model" based on significant structural modifications.[33] Given the shortcoming in the modeling performed or used under this DEIS, TNF should perform a complete analysis of the direct, indirect, and cumulative impacts of pumping using this new and updated model. If it requires modifications or recalibration for this purpose, this should be justified and disclosed for public review and scrutiny.

The DEIS (p. 300) says that groundwater model results "could be reasonably assessed up to 200 years" but this statement is couched in multiple qualifiers with no explanation given for why only 200 years is the threshold. Additionally, although it is common scientific practice to do so, no range of uncertainty (such as ± 10–15 years, for example) accompanies this figure. This figure is relied upon as the basis for all quantitative results in the DEIS, but it is not a reliable figure. Furthermore, the vague expression of the estimated point of maximum groundwater drawdown or impact as "decades or even centuries" is a huge unusable range, and completely unreliable.

A map (or discussion) of the groundwater model area boundaries for the East Salt River Valley analysis area are never provided. The DEIS (p. 298) claims that figure 3.7.1-2 shows the groundwater model boundaries/analysis area of the East Salt River valley model. However, figure 3.7.1-2 (p. 298), below, shows only a zoomed-in, limited portion of this groundwater model area—making it impossible to know what the analysis area does or does not include.

[32] The Pinal Model was finalized in October 2019. *See* http://infoshare.azwater.gov/docushare/dsweb/View/Collection-19686.

[33] ADWR, 2019 Pinal Model and 100-Year Assured Water Supply Projection Technical Memorandum (Oct. 11, 2019), http://infoshare.azwater.gov/docushare/dsweb/Get/Document-11793/2019_Pinal_Model_and_100-Year_AWS_Projection-Technical_Memorandum.pdf.

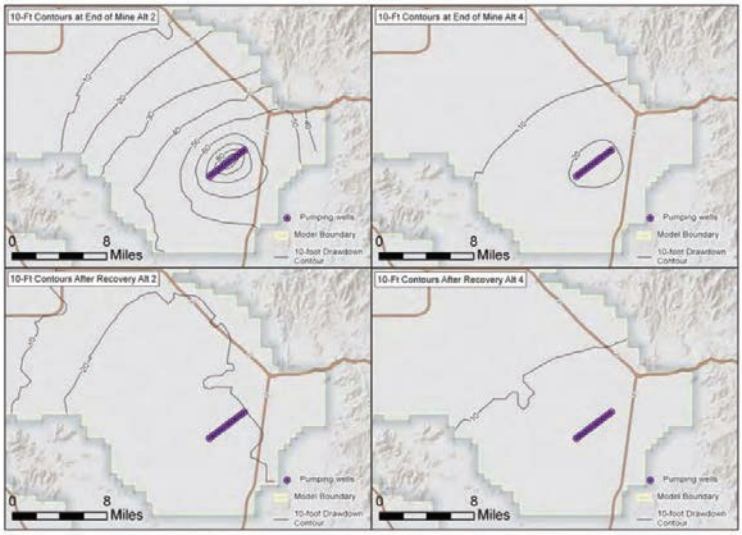

Figure 3.7.1-2. Desert Wellfield modeling analysis area and maximum (Alternative 2, left) and minimum (Alternative 4, right) modeled pumping impacts

The DEIS also contains no meaningful discussion whatsoever about the accuracy of the groundwater model. The DEIS contains multiple assurances that the groundwater model is precise since it produces results with "many decimal points" (p. 301). The DEIS states that the Groundwater Modeling Workgroup only assessed the groundwater model results for precision. This is not a scientifically sufficient way to evaluate results—both accuracy and precision are required which are totally independent concepts and not to be used interchangeably (as is done in BGC Engineering USA Inc. 2018d). "Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." 40 C.F.R. § 1500.1. This DEIS fails to meet this requirement in violation of NEPA.

As shown below, the analysis area of the water quality model omits critical segments of Queen Creek. Figure 3.7.2-1 shows what is included in the water model analysis area studied under this section (supposedly encompassing where groundwater or surface water quality changes could potentially occur under the project). The area studied is extremely insufficient for many reasons, including that only about half of the length of Queen Creek between the block-cave zone and Whitlow Dam is included in the analysis area, despite Resolution Copper having an AZPDES permit No. AZ0020389 that allows them to dewater Shafts 9 and 10 and to discharge mine wastewater into the unstudied portion of Queen Creek. An excerpted copy of Figure 3.7.2-1 (DEIS p.347) is inserted below with an arrow showing the approximate location of discharge under AZ0020389. The DEIS does not address why this study failed to include such a large portion of Queen Creek, but this is another glaring omission that is contrary to science and which fails to comply with the requirements of 40 C.F.R. § 1502.16 and the very first requirement on the list of requirements for an EIS at Section 102(2)(C) of NEPA (P.L. 91–190).

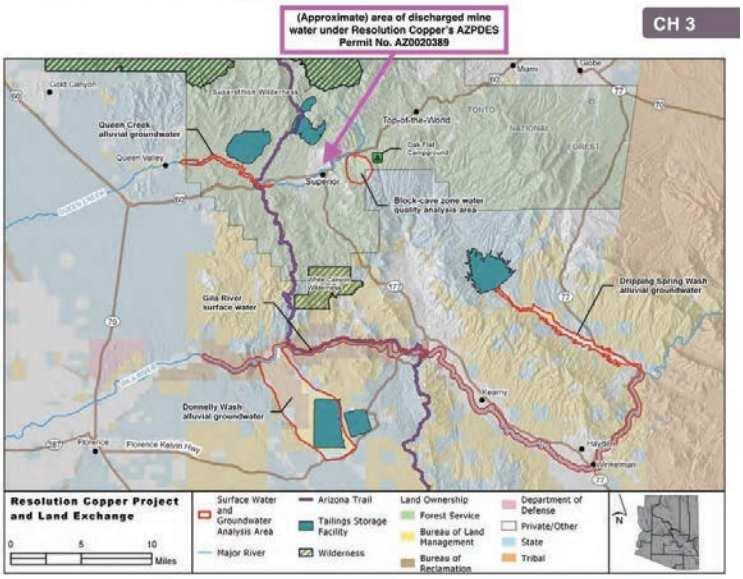

Figure 3.7.2-1. Analysis area for groundwater and surface water quality

Also, as noted briefly above, Resolution Copper's water recharge and storage credits, which are "not required under Arizona water law" and a "voluntary measure" (DEIS p. 341) are not a requirement by definition and should not be relied upon by the TNF in any part of the DEIS. Therefore, it is improper for the recovery of these credits to be considered in any part of this water model. Yet the ADWR/Desert Wellfield Modeling Meeting minutes (cited as Garrett 2018a) contain the following statement: "Estimate that 10–30 feet of drawdown in the regional aquifer at Desert Wellfield has been avoided because of the long-term storage credits enabled by Resolution." This estimate is inaccurate. Resolution Copper has stored water in multiple storage facilities located in various different sub-basins, many of which are nowhere near the Desert Wellfield.[34] The DEIS lists the various storage facilities in vastly different locations in which Resolution Copper has banked, recharged or acquired credits but still concludes that "this offsets" its pumping (p.342). It does not. The drawdown will be the drawdown in this area, regardless of water credits voluntarily stored many miles away.

Incorporation of any voluntarily acquired recharge and storage credits (which are not mandatory and can be resold at any time) into any water model for this project is an improper consideration under NEPA. This failure permeates much of the TNF's water modeling and its analysis of the direct, indirect and cumulative impacts of the pumping on local wells and regional water supplies. This violates NEPA.

d. The DEIS fails to mention or consider the increased water pumping facilitated by the Drought Contingency Plan in the East Salt River valley as a reasonably foreseeable future action and as part of a cumulative effects analysis.

Under the Drought Contingency Plan (DCP), there is a widely known major federal action being implemented in Arizona via specific DCP approval legislation involving the same area where Resolution Copper's new well fields will be located. That is, under the impending Tier 2 shortage, farmers in East Salt River Valley aquifer will develop new pumping infrastructure that will facilitate the new extraction of up to 70,000 AF of groundwater from the region—the very same region where Resolution Copper intends to develop its recovery well fields and potentially,

[34] This issue was raised during scoping. *See* the Inter Tribal Association of Arizona's Scoping Comments on the Resolution Copper Project Land Exchange Environmental Impact Statement (Jul. 18, 2016).

significant mineral extraction wells under Arizona law. These reasonably foreseeable activities are in no way speculative. The DEIS fails to consider or even mention this.

Significantly, the DEIS also does not state anywhere exactly how much water is already being pumped from groundwater resources in Pinal County, or how much more groundwater resources will be used over the next several years from this already-strained area under the actions facilitated under the DCP.

Despite the prevalent nature of the State's DCP actions in the media, the existence of federal legislation associated with DCP, and the subject specifically being raised in scoping by ITAA[35] and subsequent information provided to SWCA representative Charles Coyle on April 2, 2019, the DEIS does not meaningfully address the direct, indirect, and cumulative impacts to Arizona's water supplies and to Arizona's water users stemming from Resolution Copper's water pumping in the context of the past, present and reasonably foreseeable actions required for a cumulative impacts analysis. The contents of the April 2, 2019 email to SWCA are cited here below. Linked materials are incorporated into these comments.

> As part of the implementation of the Lower Basin Drought Contingency Plan in Arizona, water stakeholders, including the State of Arizona, the Central Arizona Project (CAP) cities and Tribes in the state, agreed to fund the development of groundwater infrastructure in Pinal County to supplant the loss of Colorado River water under DCP and during shortage on the Colorado River. The stakeholders agreed to help fund rehabilitation of existing wells and construction of new wells sufficient to provide 16,500 Acre-Feet of water in 2022 and 70,000 Acre-Feet of water in 2023 and thereafter. (See slide 10 of this presentation for a useful chart).
>
> In January, the Arizona legislature approved, and the Governor signed, a $9 Million appropriation from the state specifically for rehabilitation of existing wells and construction of new wells as part of the DCP approval legislation. In addition, CAP authorized the use of $5 Million of its revenues to be used for groundwater infrastructure. CAP also justified their appropriation as an investment in stored CAP water currently in Pinal County, with the expectation that the water will be called upon during shortage. This recovery of stored water should also be considered a Reasonably Foreseeable Activity.
>
> The Pinal County farmers currently expect to raise $25 Million, including the appropriations from the state and CAP, with the goal of seeking federal funding for an additional $25 Million through NRCS, USDA and possibly Reclamation. In the meantime, their supporters in the legislature continue to seek additional state funds to be used if the federal funding does not materialize (see video of the hearing, here).

Analysis of reasonably foreseeable actions and reasonably foreseeable future actions (RFFAs) with potential to impact East Salt River Valley water supplies is virtually nonexistent from the cumulative impacts analysis in this DEIS. In addition to having been previously provided to TNF and SWCA, this information (which is also widely and publicly available) should have been considered in this DEIS.

Regarding impacts to East Salt River Valley water supplies, the DEIS (p. 340–341) devotes one paltry paragraph to setting up a handful of vague actions and dismissing them all from consideration, stating that:

> Several reasonably foreseeable future actions were identified during the NEPA process but were determined too speculative to analyze for cumulative effects without detailed plans. These include potential housing developments in the town of Florence, and the ASLD's planned Superstition Vistas development area. A number of approved, assured water supplies were also identified in the East Salt River valley, and these describe future use of water in enough detail to be considered for cumulative effects. All of these potential future actions have the potential to be cumulative in combination with the impacts from the Desert Wellfield, resulting in greater drawdown than projected from the Resolution Copper Project.

Analysis of "Affected Environment" with regard to groundwater quantity in the East Salt River valley is a superficial three-paragraph overview which does not meaningfully discuss past and present actions in the region. The brief content does

[35] *See* the Inter Tribal Association of Arizona's Scoping Comments on the Resolution Copper Project Land Exchange Environmental Impact Statement (Jul. 18, 2016).

not meaningfully describe or the affected environment at all. Considering the enormous quantity of project water, which is planned to be extracted from this region, the DEIS must be corrected to properly analyze existing environmental characteristics as well all past, present and future reasonably foreseeable actions. The failure to do so violates NEPA.

e. Analysis of water quality in the DEIS is inadequate.

Additionally, evidence to date raises significant question whether the Resolution Copper Mine will be issued a Clean Water Act 404 permit by the Army Corps due to threats to the quality of surface and groundwaters, lack of consultation pursuant to Section 7 of the Endangered Species Act, and insufficient Tribal consultation, among other concerns (*see* full discussion of § 404 certification at section IV above). The Army Corps is separately evaluating Resolution Copper's application. Furthermore, an essential part of the 404 permit process is Clean Water Act Section 401 certification by the Arizona Department of Environmental Quality that the activities authorized by the 404 permit will not violate state water quality standards. Since Resolution Copper has yet to obtain either permit, the DEIS is inadequate because it fails to consider these issues, including the foreseeable possibility that the Corps will deny a 404 permit or will condition it significantly on altered operations of the mine. The DEIS must be revised, or a supplemental DEIS must be prepared, for public comment to consider the impacts of the 404 permit and the 401 state certification, both of which may be denied.

As discussed by hydrologist Bob Prucha in his expert report (attached in full here), analysis of groundwater in the DEIS is insufficient for many reasons, including but not limited to the following findings:

1. The formation of a pit lake wasn't evaluated and is a major oversight of the DEIS (see Section 2.7.7).
2. Identification of impacted Groundwater-Dependent Ecosystems (GDEs) is lacking (see Section 2.1).
3. Groundwater model development and calibration are flawed and predicted impacts to GDEs are unreliable and highly uncertain (see Sections 2.5, 2.6 and 2.7).
4. Groundwater and Surface Water models were created in virtual isolation from each other, despite clear evidence that the two are coupled in key GDE locations. Evaluation of impacts to stream-aquifer flows was not assessed, partly because hydrologic modeling software selected doesn't have the capability of simulating this critical dynamic flow process. Inappropriate codes were used to assess impacts (see Section 2.4).

Additionally, the DEIS (pp. 368–369) wrongfully attempts to draw meaningful conclusions about surface water quality characteristics for two sampling locations for which only one surface water sample has been collected (the Gila River below Donnelly Wash, and the Gila River below Dripping Spring Wash). Additionally, the DEIS notes that an undisclosed number of monitoring wells have been constructed in the Near West area in 2016 and 2017, but that "[g]roundwater quality results from these wells have not yet been submitted" (p. 367). Furthermore, the DEIS contains no information at all about what levels of contaminants from mine discharges, runoffs, seepage, or otherwise may be, or how and where these may impact surface waters and to what levels (DEIS pp. 369–370). Finally, the DEIS fails to independently study or even closely evaluate Resolution's surface water sampling—rather, it accepts its conclusions about surface water chemistry without question which is entirely contrary to the foundational purpose of NEPA. All of this is inadequate, unscientific, and indicates a major failure to collect necessary data to conduct a reliable NEPA analysis. The DEIS should be redone to correct these failings.

f. Assessment of water quality degradation in the DEIS is inadequate.

The DEIS (p. 364) wrongly says that "Resolution Copper is not proposing any direct discharges to surface waters." A similar incorrect characterization can be found at p. 370. This is simply not correct. Resolution Copper has applied for and holds Arizona Pollutant Discharge Elimination System (AZPDES) Permit No. AZ0020389 issued by the Arizona Department of Environmental Quality (ADEQ). Resolution Copper has applied for this permit to discharge up to 3.6 MGD of water into Queen Creek, an impaired water body which is listed on the CWA 303(d) Impaired Waters List as required by the EPA. Per the ADEQ Public Notice circulated on June 8, 2016:

> Resolution Copper Mining, LLC applied for a renewal AZPDES permit for discharge of mine site stormwater from Outfall 001 and treated mine drainage water from Outfall 002 from the Resolution Copper Mining, LLC-Superior mine. The discharge for both Outfall 001 and 002 is to an unnamed wash, tributary to Queen Creek.

As ADEQ is the very first listed cooperating agency included in the DEIS (p. 6), information is readily available from ADEQ showing that RCM intends to and has sought a permit for directly discharging to surface waters. The DEIS (p. 364) incorrectly states that "assimilative capacity is the ability for a perennial water to receive additional pollutants without being degraded." This is not correct. Per the Arizona Administrative Code Section R18–11–107.01(A), Tier 1 antidegradation criteria applies to: "a. A surface water listed on the 303(d) list for the pollutant that resulted in the listing, b. An effluent dependent water, c. An ephemeral water, d. An intermittent water, and e. A canal listed in Appendix B." Regarding Tier 1 antidegradation protections, R–18–11–107 states: "The level of water quality necessary to support an existing use shall be maintained and protected. No degradation of existing water quality is permitted in a surface water where the existing water quality does not meet the applicable water quality standards." As an impaired water body on the 303(d) Impaired Waters List, Queen Creek is subject to the heightened Tier 1 antidegradation criteria but this analysis is absent from the DEIS. Meaningful, full, and fair discussion should have been included in the DEIS on the potential for this project to degrade water quality.

g. The DEIS fails to analyze the impacts of the project on impaired waters.

Queen Creek Reach No. 15050100–014A, (headwaters to the Superior Wastewater Treatment Plant discharge), has been listed on Arizona's 303(d) list as impaired for dissolved copper since 2002. Reach No. 15050100–014B, (Superior Wastewater Treatment Plant discharge to Potts Canyon) has been listed as impaired for dissolved copper since 2004. Reach No. 15050100–014C (Potts Canyon confluence to the Whitlow Dam) has been listed as impaired for dissolved copper since 2010. As a condition of these listings, ADEQ is required to prepare a TMDL analysis for Queen Creek to identify the amount of pollutants the water body can receive and still meet water quality standards. On October 4, 2017, a draft TMDL analysis was released for public comment and comments were collected. This TMDL is still not complete.

The DEIS (p. 370) claims that "only two reaches with the potential to receive additional pollutants caused by the Resolution Copper Project are Queen Creek below the Superior Wastewater Treatment Plant, due to runoff or seepage from Alternatives 2, 3, and 4, and the Gila River from the San Pedro River to Mineral Creek, due to runoff or seepage from Alternative 6." This is incorrect. Resolution Copper holds AZPDES permit No. AZ0020389 to discharge dewatered mine project water into Queen Creek, and has held this permit since 2010. Although the DEIS (p. 365) acknowledges that TNF is required to identify which waters have been determined to be impaired, identify specifically where contaminants from the project could enter those waters and further pollute waters, and estimate the loading from that impairment, this analysis was not done as required by law.

Additionally, no discussion at all is provided in the DEIS about the exact location(s) where contaminants could enter those waters as seepage or runoff from these tailings alternatives, nor is there any discussion of attempts to avoid or mitigate such runoff or seepage, impacts, or the potential levels of loading into each water body resulting from each of those discharges. Instead, after simply stating that runoff "could be captured by the subsidence crater" (p. 370), discussion in the DEIS on impacts to impaired waters concludes and is never meaningfully revisited. This is entirely unacceptable and fails to comply with the requirements of NEPA at 40 C.F.R. § 1502.14 to "rigorously explore and objectively evaluate" all reasonable alternatives.

h. No analysis was done regarding ongoing dewatering.

In 1998, the Magma Mine was abandoned as a business decision.[36] Ongoing dewatering in the existing shafts ceased and the shafts filled with water. Dewatering began again in 2009. As discussed earlier in these comments, the Oak Flat area groundwater model "no action" does not truly reflect baseline environmental conditions since it includes these ongoing dewatering activities. This is not

[36] David F. Briggs, Superior, Arizona: An Old Mining Camp With Many Lives, Ariz. Geological Survey (Dec. 2015), http://repository.azgs.az.gov/sites/default/files/dlio/files/nid1661/cr-15-d_v1.pdf.

a true representation of the groundwater features of the region. Additionally, impacts from these ongoing dewatering are never analyzed in the DEIS, since they are incorrectly assumed to be part of the "no action" alternative and their impacts are subsumed or baked into the environmental baseline. The decision to bake the impacts of dewatering into the environmental "no action" baseline and not analyze the impacts of dewatering is improper and violates NEPA.

When an agency is evaluating reasonably foreseeable significant adverse effects and there is incomplete or unavailable information, the Council on Environmental Quality's NEPA regulations at 40 C.F.R. § 1502.22 requires that "the agency shall always make clear that such information is lacking." § 1502.22(a) states: "If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement." Pursuant to § 1502.22(b), if that information cannot be obtained because, "the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement," the following:

(1) A statement that such information is incomplete or unavailable;

(2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;

(3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and

(4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.

Regarding the decision to include continued dewatering as part of the no action alternative and supposedly disclosing effects of past dewatering, the DEIS (p. 300) cites Garrett 2018c, which states that conditions prior to the re-initiation of dewatering in 2009 is "historic" and that "stakeholders did not provide specific suggestions for how to obtain this historic information." No discussion as required under 40 C.F.R. § 1502.22 appears anywhere in the DEIS about any attempt to obtain this information. It appears that no discussion was ever even held with ADWR or ADEQ regarding the possibility of obtaining this information.

The CEQ NEPA regulations at 40 C.F.R. § 1508.7 require an assessment of impacts. Despite the fact that dewatering is likely to cease at a point after mining operations, both of the DEIS groundwater modeling scenarios included ongoing dewatering in their baseline conditions (pp. 299–300) thus producing misleading modeling results. Furthermore, the DEIS refused to look at baseline groundwater conditions as they existed prior to Resolution Copper's dewatering activities related to this project. This "moves the goalposts" (so to speak) in a very misleading manner as it does not present an accurate snapshot of true baseline groundwater conditions. This improperly places the impacts of dewatering outside the scope of NEPA review, which is unlawful. The USFS incorrectly attempts to rationalize this by claiming that even if the mine is not built, Resolution Copper would keep dewatering indefinitely "to preserve its infrastructure investment" (DEIS p. 300). This statement is factually unsupported for several reasons, only one of which is that dewatering ceased previously for business reasons in 1998 and nothing prevents Resolution Copper or its parent companies from unilaterally deciding again to cease dewatering operations for business or any other reason. This does not excuse the requirement to analyze all environmental impacts. Impacts from dewatering should have been fully analyzed in the DEIS.

i. The groundwater model for the Oak Flat parcel area "mine site" is deficient.

Chapter 3.7 on Water Resources is full of assurances about the water model but fails to meaningfully address or remedy any of its weaknesses or failures. This is incredibly problematic, since the same model failed to predict the existence of 500–

1000 GPM of 170-degree water encountered while drilling the #10 mine shaft in 2014.[37]

The groundwater model limitations were not meaningfully analyzed. The DEIS contains no discussion at all about the limitations of the chosen groundwater model. Assessments of the groundwater model selected for this project and its underlying assumptions are reportedly contained in the report cited as BGC Engineering USA Inc. 2018a (p. 296)—yet—this cited report is not about water at all—it is about geological data and subsidence and contains no discussions whatsoever about hydrology or groundwater modeling. A review of the other cited BGC Engineering studies (in an attempt to "guess" what the DEIS intended to cite) shows that while one report was published on the groundwater model, it addressed only the mine subsidence area and did not address the MARRCO wellfield, any of the tailings alternatives, or any other project areas at all. Review of this study is disappointingly inadequate, as several of the meaningful conclusions and concerns in this study are disregarded and not adopted in the DEIS. This violates requirements under NEPA for the preparation of EIS documents and it fails to provide the public with sufficient information to meaningfully comment on the proposal. This also indicates, once again, the rushed nature of the DEIS and the failure of the TNF to take the requisite "hard look" under NEPA.

In addition to the foregoing, no meaningful analysis has been done regarding potential groundwater drawdowns. The DEIS (p. 334) asserts the following: "[P]redicted groundwater level trends indicate that the maximum drawdown would not occur [...] for roughly 500 to 900 years" and cites a document referred to as Morey 2018c in support of these figures. If Morey 2018c is reviewed in an attempt to understand why this such large, rough range is given for a very important issue like groundwater drawdown, the reviewer finds that no meaningful, reliable scientific support exists for this figure. Morey 2018c consists of rough, unedited "meeting minutes" with incomplete phrases and sentences in which no particular speaker is even listed for points raised. Assertions in the DEIS about groundwater drawdown cite this document, but a review of its contents indicate that it does not lend scientific support to this statement. Again, "[a]ccurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." 40 C.F.R. § 1500.1. This has not been done in this case.

Nearly all of the background environmental groundwater descriptions for the East Plant Site (pp. 304–306) are copied from Resolution Copper's GPO with no additional citations or discussions about the veracity of the data in the GPO. In comparing this section of the DEIS to the same section in the GPO, it is evident that the DEIS copied and pasted this section from the GPO. No independent verification or study to corroborate the information is cited anywhere in this section. This is contrary to the purpose of NEPA, which in part, requires the TNF to independently evaluate the environmental impacts of a proposed action. It is disturbing that the TNF would forego its clear obligations under NEPA and simply adopt Resolution Copper's text on the nature of groundwater features in the project area without conducting any independent verification, particularly since (as previously discussed), RCM's water model failed to predict 600 GPM, 170 degree hot water when sinking shaft #10.

[37] *Feature: Sinking America's deepest shaft*, E&MJ (Engineering and Mining Journal) (Apr. 2014), https://www.e-mj.com/features/sinking-america-s-deepest-shaft/.

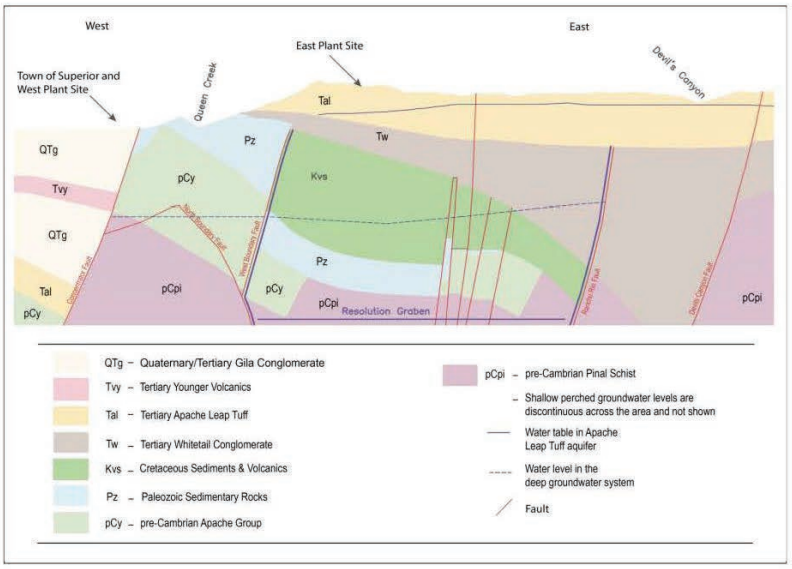

Figure 3.7.1-4. Conceptual cross section of the groundwater systems

The Conceptual Cross Section of the Groundwater Systems (*see* figure 3.7.1-4, DEIS p. 305, reproduced above) shows no scale on either the X or Y axes. There is no way at all of knowing what depths or distances across, the data is meaningless without any of this. Despite a title referring to "Groundwater Systems," the figure shows primarily geological features and only a thin floating line segments (with no axes to indicate location) to show water table locations. This image was taken from the General Plan of Operations and used here in the DEIS without any of these shortcomings being addressed.

j. Assessment of water quality on Alternative 6 (Skunk Camp) is severely deficient.

Water quality data for Alternative 6 (Skunk Camp) tailings site is both incomplete and severely inadequate. Regarding Skunk Camp tailings site, the DEIS (p. 358) reveals the following: "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."

"Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." 40 C.F.R. § 1500.1. Agencies are "under an affirmative mandate to 'insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements[,] identify any methodologies used and . . . make explicit reference by footnote to the scientific and other sources relied upon for conclusions[.]' 40 C.F.R. § 1502.24." *Environmental Defense Fund v. U.S. Army Corps of Engineers*, 515 F. Supp. 2d 69 (D.C. Dist. Ct. 2007). As such, no meaningful analysis can be done or conclusions drawn based upon a single sample. No explanation was given as to why only single samples were collected. This is extremely deficient and fails on its face to meet any level of integrity or scientific reasonability, let alone proper analysis under NEPA.

The DEIS (p. 363) states: "Alternatives 5 and 6 not only meet water quality objectives as modeled but have substantial additional capacity to do so, and flexibility." This section on "Conclusion as to reasonableness of models," a critical section, is unfinished in the DEIS and ends with this truncated sentence. Both the failure to even complete this section in the DEIS and the incomplete water quality data for Alternative 6 precludes any meaningful analysis or opportunity for comment on an obviously incomplete section, in violation of NEPA.

k. The DEIS does not outline any monitoring or mitigation plans for water resources.

It is well settled under NEPA that a mere perfunctory description of mitigating measures is inconsistent with the "hard look" TNF is required to take under NEPA. Rather, "[m]itigation must 'be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated.'" *City of Carmel-By-the-Sea v. U.S. Dep't of Transp., 123 F.3d 1142, 1154 (9th Cir. 1997)* (quoting *Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353, 104 L. Ed. 2d 351, 109 S. Ct. 1835 (1989))*. "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." *Northwest Indian Cemetery Protective Ass'n. v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986), rev'd on other grounds, 485 U.S. 439, 99 L. Ed. 2d 534, 108 S. Ct. 1319 (1988)*. Indeed, the Supreme Court has emphasized the importance of the mitigation requirement: "Omission of a reasonably complete discussion of possible mitigation measures would undermine the 'action forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects." *Methow Valley Citizens Council*, 490 U.S. at 352.

Regarding limitations of the mine site groundwater model, the DEIS (pp. 295–296) says that "regardless of what the model might predict, a monitoring plan would be implemented to ensure that actual real-world impacts are fully observed and understood." First, "would be implemented" is not as affirmative as stating that it "would" or "shall" be, which is a matter of concern. Further, no timeline is given at all here for what the monitoring plan is, who would oversee it and for how long, or even when it would be implemented (1 year? 10? 100?). Additionally, no explanation is given about what is meant by "real-world impacts." Finally, what steps would be taken if an impact occurs which is not predicted by the model? None of these points are addressed. This is insufficient under NEPA.

The monitoring plan, if indeed one even exists at all, has not been provided as part of this DEIS for public comment. The groundwater models in this project, for reasons including as discussed herein, are flawed and based upon problematic assumptions which raise concerns about the reliability of their predictions. Monitoring and mitigation plans should have been meaningfully discussed, analyzed, and included in the DEIS in full for public review and comment. Anything short of this violates NEPA.

Regarding limitations of the East Salt River Valley groundwater model, the DEIS (p. 303) says again that "if monitoring identifies real-world impacts that were not predicted by the modeling, mitigation would be implemented." Since mitigation plans have not yet been written, the DEIS failed to outline any mitigation details or analyze their sufficiency. Again, it is still unclear what is meant by "real-world impacts." Additionally, the groundwater models in this project, for reasons including as discussed herein, are flawed and based upon problematic assumptions which raise serious concerns about the reliability of their predictions. This is insufficient pursuant to notice and comment requirements under NEPA. Monitoring and mitigation plans should have been included in the DEIS for public comment. Appendix D of the DEIS, the Draft Conceptual Compensatory Mitigation Plan, should have analyzed these concerns pursuant to Army Corps 404 permitting.

3. Biological Resources

a. The DEIS fails to analyze specific project impacts on Bald and Golden Eagles or other raptors, discuss mitigation, or the potential necessity of a take permit under BGEPA, MBTA, or other applicable law.

The Bald and Golden Eagle Protection Act ("BGEPA"), 16 U.S.C. § 668–668d, protects eagles by prohibiting unauthorized take (which includes to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb) of eagles, unless allowed by a permit. The Migratory Bird Treaty Act ("MBTA"), 16 U.S.C. §§ 703–712, similarly protects certain migratory birds by prohibiting unauthorized take, possession, import, export, transport, sale, purchase, barter, or offer for sale any migratory birds or bird parts, nests, or eggs except under the terms of a permit. As discussed above, Eagles also play a significant role in the religious, cultural, and traditional practices of many Tribes and are TCPs.

Table 3.8.4-2 of the DEIS (p. 466) notes that modeled habitat acreage for the Golden eagle (*Aquila chrysaetos*) appears in all alternatives. The word "Yes" is marked next to BGEPA, yet the remainder of the DEIS does not contain any information about whether a take permit for RCM has been discussed, applied for, evaluated, or otherwise by any of the involved parties in this project. Failure to apply for and obtain a take permit violates BGEPA. Additionally, as discussed above,

eagles are considered traditional cultural properties (TCP) subject to NRHP § 106 and impacts to those TCPs must be considered as part of the NEPA process. This has not been done in the DEIS.

While the Resolution Copper mine is likely to impact eagles, raptors, and avian species, specific analysis of these impacts (including avoidance, mitigation, or otherwise) is largely missing from the DEIS. The DEIS (p. 460) states vaguely that concentrations of certain constituents in tailings seepage ponds above chronic and some acute exposure limits may "lead to short- and long-term impacts on some avian species" and cites a document titled *Screening of Geochemistry Predictions for Effects on Wildlife Process Memorandum* by Newell 2018k. However, this citation poses several concerns, namely:

- There is no study with that title posted on the project webpage under the Documents Cited page.
- There is no specific reference in this section to what types of avian species would be affected, what levels of mortality are anticipated, and if any threatened/endangered/protected species may be impacted.
- Additionally, there is no reference at all to any take permits, or any mitigation of the impacts to avian species from the constituent levels in these tailings seepage ponds.
- Finally, there is no data on how much higher constituent concentrations are expected to be above these chronic and acute exposure levels.
- A different document titled *Wildlife Resource Analysis: Assumptions, Methodology Used, Relevant Regulations, Laws, and Guidance, and Key Documents* by Newell 2018i notes that "Bald and golden eagle habitat occurs within the Resolution Copper Project analysis area for wildlife" but no actual analysis on this is done either in this document or the DEIS. Additionally, the "analysis area" does not cover the entire project area and notably excludes power line corridors and rights-of-way.

The DEIS (p. 461) notes that project operations and maintenance may result in "electrocution of birds and from striking electrical distribution lines," but asserts vaguely and without support that impacts will supposedly be minor, and not significant.

- Table 3.8.4-2 (p. 466) does not contain any information whatsoever about species occurring in the main project area (East Plant Site or West Plant Site), the MARRCO well recovery field, the filter plant and loadout facility, any pipelines and transmission lines, etc., only for the **tailings** alternatives.

The DEIS (p. 458) adopts RCM's promise verbatim that electric power transmission and distribution line towers will be designed and constructed "to avoid raptor electrocutions" and cites the GPO and Appendix X, *Wildlife Management Plan*, Resolution Copper 2016c.

- First, the word "raptor" does not appear anywhere in the document cited as Resolution Copper (2016c). Section 3.1.1 of Resolution Copper (2016c) on Avian Species does not name any specific avian species.
- The DEIS makes no effort to define what species of raptors would be impacted or avoided.
- The DEIS improperly excluded power line analysis from the NEPA review process, as discussed further herein. Review of these construction designs should have been done as part of this DEIS and failure to include this is contrary to NEPA. No information is provided here about which types of raptors, how RCM plans to design its facilities to avoid electrocutions while still complying with other design requirements.

Finally, although many project activities have the potential or likelihood to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb, the DEIS fails to analyze any other direct, indirect, or cumulative project impacts on Bald and Golden eagles, protected migratory birds or other avian/raptor species from project activities such as project light and noise, vibration, air quality issues, water quality issues, construction, subsidence, dewatering and water withdrawal, and otherwise.

b. Sonoran Desert Tortoise & Gila Monster

The DEIS (p. 458) indicates only that pre-construction surveys for Sonoran desert tortoise and Gila monster will be conducted "before surface ground-disturbing activities start," which means that they have not been done. This is improper under

NEPA since these surveys should have been done during the NEPA process and subject to public comment. A vague promise to conduct important surveys after-the-fact on lands which, in part, will likely have already been transferred out of state and federal jurisdiction and into private ownership of Resolution Copper is grossly inadequate for the purposes of NEPA review. Regarding mitigation and avoidance, the DEIS (p. 458) merely states that project crews will be "instructed" to look below construction equipment for these species and to move them out of harm's way if observed. This insufficient for the purposes of mitigation under NEPA.

c. "Habitat Blocks" are used to discuss wildlife, this term is undefined.

The DEIS (p. 454, 459, and Table 3.8.4-1 at pp. 464–465) refers to something called a "habitat block," citing Perkl 2013 as a supporting document for more information about this term. However, the Perkl 2013 document does not contain the phrase "habitat block" anywhere. Table 3.8.4-1 references "Habitat Block 1" and "Habitat Block 2" and cites Morey 2018a, but these terms are not defined anywhere in the DEIS, nor does it appear anywhere in the cited document (Morey 2018a). Table 3.8.4-1 is useless for purposes of NEPA without any supporting information about the meaning and scope of its contents. The inaccurate and incomplete citation work in this DEIS makes it impossible to meaningfully research and comment on matters in the document such as this. This sort of failure under NEPA permeates the entire DEIS.

40 C.F.R. § 1502.24 requires agencies to "insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements. They shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement. An agency may place discussion of methodology in an appendix." *See also* Forest Service Handbook 1909.15, Chapter 20, § 23.33.

The DEIS (p. 481) also states that thousands of acres of "various habitat" would be forever impacted, "may never return to pre-mining conditions" and irreversibly reduce habitat quality. TNF claims to know the specific habitat acreage of all individual species for all of the tailings alternatives (Table 3.8.4-2), yet does not make any attempt to list any of the species whose habitat would be forever diminished or how these impacts would be mitigated. Again, this is insufficient under NEPA.

4. The USFS jurisdiction is mischaracterized.

The DEIS inaccurately states that the Forest Service will no longer have jurisdiction over forest lands impacted by the land exchange (p. 14). This is inaccurate. The land exchange will impact a significant area of Forest Service lands remaining under Forest Service jurisdiction, including but not limited to pipeline rights of way, roads, power line corridors, and areas which will experience water and air impacts. The TNF cannot legally cede this jurisdiction or avoid consideration of direct, indirect, and cumulative actions associated with the project on these lands under existing laws and NEPA. Any attempt to do so is inconsistent with Federal law.

5. Long-Term Effects and Reasonably Foreseeable Actions

It is established that "an agency cannot defer analyzing the reasonably foreseeable environmental impacts of an activity past the point when that activity can be precluded." *WildEarth Guardians v. Zinke*, 368 F.Supp. 3d 41 at 65 (D.C. Dist. Ct. 2019). Analysis of reasonably foreseeable future actions or RFFAS (defined as "[t]hose Federal or Non-Federal activities not yet undertaken, for which there are existing decisions, funding, or identified proposals" at 36 C.F.R. § 220.3) is a mandatory component of the cumulative impact analysis required as part of NEPA. 40 C.F.R § 1508.7 further specifies that this is required "regardless of what agency (Federal or non-Federal) or person undertakes such other actions." Therefore, an incomplete analysis of RFFAs indicates that the legally required cumulative impacts analysis is also incomplete.

The DEIS (pp. 476–477) lists only a handful of reasonably foreseeable future actions as likely to occur in conjunction with the mine project, and omits major actions which the TNF was or should have been aware of at the time this DEIS was released. For instance, as discussed earlier in this comment document, the Arizona Lower Basin Drought Contingency Plan with extensive media coverage and political discussions leading up to the signing of approval legislation in January 2019. Among many other provisions, approximately $14 million was appropriated by the State of Arizona and Central Arizona Project for rehabilitation of existing wells and construction of new wells, particularly by agricultural users in Pinal County who will begin pumping using groundwater resources. An additional $25 million in federal funding for these purposes is being pursued, for the purpose of recovering

stored groundwater in Pinal County. As has been widely, extensively, and publicly discussed, inevitable shortages on the Colorado River in the coming years will result in cuts to CAP allocations. For Pinal County agricultural water users, this loss of CAP water will be replaced by pumped groundwater from the East Salt River valley.

Both existing decisions and funding exist on this plan (requirements under 36 C.F.R. § 220.3) and yet it was improperly omitted from analysis in the DEIS. The DEIS (p. 479) states that other projects "not yet planned" are expected to occur in this portion of Arizona, but fails to list what those projects are, or acknowledge whether any decisions have been made or funding appropriated for those projects. If so, then those projects have been improperly omitted from the DEIS as potential RFFAs.

6. Proper analysis has not been done on the power infrastructure, rights-of-way, and associated transmission infrastructure required for this project.

The DEIS specifies that two new 230kV transmission line corridors will be required for the Resolution mine project. One will run from the Silver King substation to the Oak Flat substation and the other will run from the RCM West Plant site to the Oak Flat substation. The DEIS lists activities which would be included in mine operations and says (p. 9) that "the Forest Service can approve SRP's construction and operation of new power lines on NFS lands by either a special use permit or as part of the GPO." The document continues on to say that the line rights-of-way are analyzed in the DEIS. This is untrue. No discussion appears anywhere in the DEIS looking at impacts of these new and expanded rights-of-way on things such as wildlife and vegetation, visual impacts, cultural resource, air quality or other resources found within these rights-of-way.

More power infrastructure than just rights-of-way will be constructed. The DEIS (p. 42) states that auxiliary facilities would be constructed to support underground mine workings, including "electrical substations, along with transmission and distribution systems, to provide power to the underground facilities and equipment." The DEIS (p. 56) states: "[s]ubstations also would need to be upgraded and/or new 230-kV substations would need to be constructed." First, upgrading the existing 115kV transmission lines is impossible since those existing lines must remain in place, and so new rights-of-way will need to be constructed. Second, even if the existing 115kV transmission lines were to be replaced with 230kV transmission lines (which they are not), the total footprint for 230kV lines is much larger than 115kV lines and thus, new analysis would be required in either case.

An entirely new transmission line would be required for Alternative 6 (Skunk Camp) tailings location, if chosen. As the DEIS (pp. 97–98) states: "A new power line would be constructed from the existing Silver King substation north of U.S. 60 and Oak Flat that would follow a southeast alignment for 11.7 miles to the Skunk Camp location. Preliminary assessment of line voltage options show that either a 69-kV or 115-kV voltage level would be adequate to supply power to Skunk Camp. Further assessment by the electrical utility operating Silver King substation would be needed to determine the adequate voltage and construction engineering, including access roads to service Skunk Camp." The DEIS fails **entirely** to analyze this obvious requirement that a new substation would also be required at this site to convert the high-voltage power being transmitted through the transmission lines into distribution voltages for use.

As discussed earlier, since only a single EIS is being done for all components of this project, details regarding this new transmission line including "construction engineering" should have been fully analyzed in this DEIS and subject to public review and comment, including by those who may be affected by it.

In a similar way, the new 69kV transmission line along the MARRCO corridor and the new 69kV substation near the loadout facility also requires (and currently lacks any) thorough NEPA analysis for possible impacts to wildlife, air, water, cultural and historic resources, and other possible impacts. The DEIS vaguely mentions these requirements, but fails completely to consider their impacts or any other required treatment under NEPA. Section § 3003(c)(9)(B) specifically referenced power infrastructure as a component of the single EIS, stating that the granting of any "permits, rights-of-way, or approvals for the construction of associated power" shall be based on this single EIS. As noted in some detail at the outset of these comments, all of this must be included in the current EIS under the NDAA and as a connected action. The failure violates existing law and NEPA.

7. Cumulative Effects Analysis is Insufficient.

There is also an inadequate scope of inquiry and analysis into the cumulative effects. As discussed throughout ITAA's comments, in many sections of the DEIS,

some listing of actions is provided for the purpose of a cumulative effects analysis but there is a failure to provide the actual analysis. Mere identification of other actions affecting the resources which would be affected by the proposed action (as is done in many places in this DEIS) is only the first step toward an actual analysis. However, there is scant substantive and meaningful analysis in the text of this DEIS, and in many places, analysis is missing entirely.

"NEPA's implementing regulations require an agency to evaluate 'cumulative impacts' along with the direct and indirect impacts of a proposed action." *Taxpayers of Mich. Against Casinos v. Norton*, 433 F.3d 852 at 864 (citing *Grand Canyon Trust v. FAA*, 290 F.3d 339, 345, (D.C. Cir. 2002)). As defined at 40 C.F.R. § 1508.7, cumulative impact means "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

As described throughout this comment letter, the DEIS fails in several ways to evaluate the cumulative impacts of the proposed mine on the environment. First, there is insufficient identification of past, present, and reasonably foreseeable actions that continue to have, are having, or likely to have an impact on the same resources that would be affected by the proposed Resolution Copper mine. The DEIS never discusses these in any comprehensive or meaningful way, and only lists a few reasonably foreseeable future actions in piecemeal, stating in several places that "As noted in section 3.1, past and present actions are assessed as part of the affected environment." (DEIS pp. 206, 233, 269, 292, 340, 419, 444, 476, 509, 554, 572, 582, 619, 636, 656, 668, 684, and 700). No comprehensive analysis of the "Affected Environment" ever appears in the DEIS, instead is confusingly segmented under specific topics for no apparent reason (DEIS pp. 134, 165, 215, 246, 280, 303, 366, 424, 451, 484, 520, 562, 576, 588, 625, 641, 661, 675, 689). Each of these sections contains only a few perfunctory, non-substantive paragraphs containing little to none of the promised analysis of past and present actions.

Particularly with regard to water, the DEIS entirely fails to evaluate "past" and "present" dewatering actions undertaken by Resolution Copper; fails to evaluate "reasonably foreseeable future" Colorado River shortages and cuts, as well as those events that will take place once shortages occur. It also fails to look at the project's impact on regional water resources when combined with these shortages; fails to evaluate the formation and chemical composition of a subsidence pit lake, fails to analyze future potential spills and breaches from its tailings dams, and many other actions discussed in these comments.

Mere vague reference to cumulative impacts without discussion or analysis is not adequate for purposes of NEPA. Failure to take this "hard look" at environmental impacts violates NEPA.

> In a cumulative impact analysis, an agency must take a "hard look" at all actions. An EA's analysis of cumulative impacts "must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment." *Lands Council*, 395 F.3d at 1028. "General statements about 'possible effects' and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided." *Neighbors of Cuddy Mountain*, 137 F.3d at 1380. "[S]ome quantified or detailed information is required. Without such information, neither the courts nor the public . . . can be assured that the [agency] provided the hard look that it is required to provide." *Id*. at 1379.
>
> *Te-Moak Tribe of Western Shoshone v. Dept. of Interior*, 608 F.3d 592, 603 (9th Cir. 2010).

For example, regarding Alternative 6 (Skunk Camp), the DEIS states that more than 300 archaeological sites would be impacted and "may be lost completely," but since the Tribal Monitor study of the Skunk Camp tailings site is ongoing, "full impacts for this alternative are still unknown" and that "indirect impacts for Alternative 6 are the same as for Alternatives 2, 3, and 5." (DEIS p. 668). How impacts to two completely different sites can have "the same" impacts are never explained; this conclusory statement appears intended to gloss over the gross failings under NEPA relative to the Alternative 6, which is a violation of the "hard look" requirement under NEPA.

8. Monitoring and Mitigation is Insufficient.

The identification of possible mitigation measures is an integral and important part of NEPA analysis. While NEPA does not require mitigation, it does require the identification of possible mitigation measures for adverse environmental impacts. As the U.S. Supreme Court has said:

> Implicit in NEPA's demand that an agency prepare a detailed statement on 'any adverse environmental effects which cannot be avoided should the proposal be implemented,' 42 U.S.C. § 4332(C)(ii), is an understanding that the EIS will discuss the extent to which adverse effects can be avoided. [cite omitted] More generally, omission of a reasonably complete discussion of possible mitigation measures would undermine the 'action forcing' function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects. An adverse effect that can be fully remediated by, for example, an inconsequential public expenditure is certainly not as serious as a similar effect that can only be modestly ameliorated through the commitment of vast public and private resources. Recognizing the importance of such a discussion in guaranteeing that the agency has taken a 'hard look' at the environmental consequences of proposed federal action, CEQ regulations require that the agency discuss possible mitigation measures in defining the scope of the EIS, 40 C.F.R. § 1508.25(b) (1987), in discussing alternatives to the proposed action § 1502.14(f), and consequences of that action, § 1502.16(h), and in explaining its ultimate decision, § 1505.2(c). *Robertson v. Methow Valley Citizens Council*, 490 U.S. at 352 (1989).

A mere perfunctory description of mitigation measures is inconsistent with the "hard look" the USFS is required to take under NEPA. Rather, "[m]itigation must 'be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated." *City of Carmel-By-the-Sea v. U.S. Dep't of Transp.*, 123 F.3d 1142, 1154 (9th Cir. 1997) (quoting *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 353 (1989)). "A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." *Northwest Indian Cemetery Protective Ass'n v. Peterson*, 795 F.2d 688, 697 (9th Cir. 1986) (rev'd on other grounds), 485 U.S. 439 (1988).

As noted earlier, the DEIS's identification of mitigation measures for the many severe adverse impacts identified in the document is extremely deficient. The DEIS (p. 159) even states that the USFS' mitigation plan is not yet complete but that it is "in the process of developing" that plan. Appendix J *Mitigation and Monitoring Plan* is actually not a plan at all, but rather is described in the DEIS (p. 159) as merely "descriptions of mitigation concepts being considered." Furthermore, any voluntary mitigation and protection measures proposed by Resolution Copper are uncertain by definition:

- The "voluntarily" raised suggestion to move the process water pond (DEIS p. 100);
- Resolution Copper's promise to "voluntarily" follow industry best practices (DEIS p. 520);
- "[R]echarging water and acquiring storage credits […] is a voluntary measure by Resolution Copper" (DEIS p. 341);
- Groundwater sampling and ongoing cleanup at the West Plant Site is "voluntary" (DEIS p. 367);
- Study and remediation of contaminated soils at the West Plant Site is being done "under the authority of the ADEQ Voluntary Remediation Program" (DEIS p. 577);
- Resolution Copper "would voluntarily commit to conservation actions" with regard to stock tanks, AZGFD wildlife waters, and the conservation needs of proposed or candidate species of wildlife including the Sonoran Desert Tortoise, and bats (DEIS p. 480; Appendix J, pp. J-11, J-12).

None of these should be considered as reliable "concepts" (let alone plans) for mitigation under NEPA.

For a number of serious impacts, there are simply no mitigation measures identified in the DEIS. This is particularly true with regard to cultural and historic resources and the religious freedom of impacted tribal members. Also, in several sections, such as water, the mitigation that is proposed is severely inadequate. Since mitigation is currently only in the "consideration" phase as a discussion of

"concepts," the enforceability of certain measures for a number of types of impacts is never addressed, and where addressed, is meaningless without an actual, identified, mitigation plan. Again, this violates NEPA.

Similarly, there is little to no discussion of monitoring for many affected resources in the DEIS (including but not limited to the impacts of water use in the MARRCO wellfield). Thus, the public has no way of commenting on whether and how the TNF, other involved public agencies and the affected communities could determine whether any mitigation "concepts" (if ever even selected and developed as mitigation plans) would ever actually be implemented and, if so, what their effectiveness might be over the lifetime of the proposed mine and following its shutdown. These failures violate NEPA and the USFS obligations. *See Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372 at 1381; *see also Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 993 (9th Cir. 2004) (rejecting as insufficient an environmental assessment that failed to meaningfully analyze mitigation measures where the agency concluded that the "[i]mpacts are being avoided by project design," because "[t]he EA[s] are silent as to the degree that each factor will be impacted and how the project design will reduce or eliminate the identified impacts.").

An essential component of a reasonably complete mitigation plan must include an assessment of whether the proposed mitigation measures can be effective. *Compare Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1381 (9th Cir. 1998) (disapproving an EIS that lacked such an assessment) *with Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 477 (9th Cir. 2000) (upholding an EIS where "[e]ach mitigating process was evaluated separately and given an effectiveness rating"). The Supreme Court has required a mitigation discussion precisely for the purpose of evaluating whether anticipated environmental impacts can be avoided. *See Methow Valley*, 490 U.S. at 351–52 (citing 42 U.S.C. § 4332(2)(C)(ii)). A mitigation discussion without at least some evaluation of effectiveness is useless in making that determination under NEPA. None of these requirements were met in the DEIS and they are not being met today.

In short, broad generalizations and vague references to mitigation "concepts being considered" by the USFS in the DEIS do not constitute the requisite detail that is required by NEPA and other applicable laws, since they fail to disclose at any level of specificity what mitigation measures would be undertaken and the potential effectiveness of these measures. At this phase in the Project, USFS's failed approach to mitigation is simply unacceptable. The DEIS must be redone for these reasons stated herein.

The broad generalizations and vague references in the DEIS to potential monitoring and mitigation measures that may be used in the future also do not address all of the known impacts of the project, and thus fail to provide sufficient detail and certainty relative to mitigation measures.

VIII. CONCLUSION

This DEIS contains numerous failures and inadequacies. Analysis of impacts, mitigation, and other mandatory components of NEPA are absent from the document on major points of concern. Whether the TNF was subject to political pressure to produce this DEIS document too early or whether it simply has just grossly failed in its efforts, either way the TNF must return to the drawing board and produce a proper DEIS which fully complies with the requirements of NEPA and § 3003 of the NDAA.

ITAA appreciates this opportunity to provide comments to the TNF on the Draft Environmental Impact Statement on behalf of our 21 Member Tribes.

Please direct any questions or concerns to Ms. Maria Dadgar, ITAA Executive Director at (602) 258-4822.

Sincerely,

Shan Lewis,
President, Inter Tribal Association of Arizona
Vice-Chairman, Fort Mojave Indian Tribe

cc: ITAA Executive Committee
Department of the Army, Los Angeles District
U.S. Army Corps of Engineers, Regulatory Division
Attn: Michael Langley
3636 N. Central Ave., Suite 900
Phoenix, AZ 85012-1939
ResolutionMine404Comments.SPL@usace.army.mil
Kathryn Leonard, State Historic Preservation Office

INTER TRIBAL ASSOCIATION OF ARIZONA

21 TRIBAL NATIONS

RESOLUTION 0419

Support for Repeal of Section 3003 of the FY 2015 National Defense Authorization Act, the Southeast Arizona Land Exchange

WHEREAS, the Inter Tribal Associa6on of Arizona, an association of 21 tribal governments in Arizona, provides a forum for tribal governments to advocate for national, regional and specific tribal concerns and to join in united action to address these issues; and

WHEREAS, the Member Tribes of the Inter Tribal Association of Arizona have the authority to act to further their collective interests as sovereign tribal governments; and

WHEREAS, the Inter Tribal Association of Arizona has the charge to support and represent particular Member Tribes on matters directly affecting them upon their request;

WHEREAS, through treaties with the United States, federal laws mandating the allotments of Indian lands, and other U.S. takings, tribal governments ceded and had taken hundreds of millions of acres of tribal homelands to help build this Nation; and

WHEREAS, federal lands are carved out of the ancestral lands of Indian tribes, although the historical and spiritual connections of Native Americans to these lands have not been extinguished; and

WHEREAS, some of these lands contain the remains of our ancestors and Native Americans continue to pray, hold ceremonies, and gather traditional and medicinal plants on these lands; and

WHEREAS, the United States Government has legal and moral obligations to provide access to Native Americans and to protect these traditional cultural territories in a manner that respects the cultural, historical, spiritual and religious importance of these lands to Indian tribes; and

WHEREAS, for more than ten years, Congress considered and rejected legislation titled the "Southeast Arizona Land Exchange and Conservation Act" ("the Land Exchange") that proposed a mandatory conveyance of National Forest Service lands to Resolution Copper, a private mining company owned by the foreign mining giants Rio Tinto PLC (United Kingdom) and BHP Billiton Ltd (Australia), in order to facilitate the development of a massive and unprecedented block cave copper mining project; and

WHEREAS, the lands to be conveyed under the Land Exchange lie within the Tonto National Forest and are known as Oak Flat, which are part of the ancestral homelands of the Western Apache, Yavapai, Hopi, Zuni, and O'odham people; and

WHEREAS, Oak Flat is a place filled with power—a place where Native people go today for prayer, to conduct ceremonies such as Holy Ground and the Apache Puberty Rite Ceremony that some refer to as the Sunrise Dance, which celebrates a young woman's coming of age, to gather medicines and ceremonial items, and to seek and obtain peace and personal cleansing; and

WHEREAS, Oak Flat has played an essential role in Apache religion, traditions, and culture for centuries and is a holy site and traditional cultural property with deep tribal religious, cultural, archaeological, historical and environmental significance; and

WHEREAS, on March 4, 2016, Oak Flat was listed on the National Park Service's National Register of Historic Places as a Traditional Cultural Property; and

WHEREAS, the Land Exchange circumvents federal laws that mandate protection of Native religion and culture and circumvents federal laws that mandate protection the environment; and

WHEREAS, ITAA has passed resolutions opposing the Land Exchange and has joined hundreds of Native Nations, Native organizations and others in opposition to the Land Exchange, because the proposal will destroy the religious and cultural integrity of Oak Flat, and set dangerous precedent for all of Indian Country by

conveying federal lands that encompass a known Native sacred area to a private company for mining activities; and

WHEREAS, over united opposition by ITAA Member Tribes and other Indian tribes, nations and organizations across the country, the Southeast Arizona Land Exchange legislation was attached to the FY 2015 National Defense Authorization Act and enacted in December 2014; and

WHEREAS, under Section 3003, the United States Department of Agriculture (USDA) must begin implementation of the Land Exchange, which includes conducting an environmental assessment of the Land Exchange and conducting government-to-government consultation with impacted Indian tribes—but which also includes a mandatory transfer of Oak Flat to the foreign-owned mining corporation regardless of the results of the environmental assessment and tribal government consultation; and

WHEREAS, today, the U.S. Forest Service is working to implement the directives of Section 3003 and just this month announced that it has completed a draft environmental assessment of the Land Exchange and mine project, making the Land Exchange imminent; and

WHEREAS, by Resolution 0115 adopted on August 28, 2015, the Inter Tribal Association of Arizona has previously expressed its Support for the Repeal of Section 3003 of the FY 2015 National Defense Authorization Act, the Southeast Arizona Land Exchange; and

WHEREAS, legislation calling for the Repeal of Section 3003 of the FY 2015 National Defense Authorization Act ("To repeal section 3003 of the Carl Levin and Howard P. "Buck" McKeon National Defense Authorization Act for Fiscal Year 2015" or the "Save Oak Flat Act") has now been re-introduced in the current 116th Congressional session as H.R. 665 (sponsored by Representative Grijalva), and S. 173 (sponsored by Senator Sanders).

NOW THEREFORE BE IT RESOLVED, the Member Tribes of the Inter Tribal Association of Arizona hereby reaffirm our commitment to the protection of Native sacred and cultural sites located on federal lands; and

BE IT FURTHER RESOLVED, the Member Tribes of the Inter Tribal Association of Arizona urge Congress to pass the Save Oak Flat Act in order to repeal Section 3003 of the FY 2015 National Defense Authorization Act and protect Oak Flat from being exchanged to foreign mining interests to facilitate a highly destructive copper mine.

CERTIFICATION

The foregoing resolution was presented and duly adopted at a meeting of the Inter Tribal Association of Arizona , where a quorum was present on **Friday, August 23, 2019**.

Shan Lewis,
President, Inter Tribal Association of Arizona
Vice-Chairman, Fort Mojave Indian Tribe

THE NATIONAL CONGRESS OF AMERICAN INDIANS

RESOLUTION #ABQ–19–062

TITLE: Support for the Protection of Oak Flat and Other Native American Sacred Spaces from Harm.

WHEREAS, we, the members of the National Congress of American Indians of the United States, invoking the divine blessing of the Creator upon our efforts and purposes, in order to preserve for ourselves and our descendants the inherent sovereign rights of our Indian nations, rights secured under Indian treaties and agreements with the United States, and all other rights and benefits to which we are entitled under the laws and Constitution of the United States and the United Nations Declaration on the Rights of Indigenous Peoples, to enlighten the public toward a better understanding of the Indian people, to preserve Indian cultural

values, and otherwise promote the health, safety and welfare of the Indian people, do hereby establish and submit the following resolution; and

WHEREAS, the National Congress of American Indians (NCAI) was established in 1944 and is the oldest and largest national organization of American Indian and Alaska Native tribal governments; and

WHEREAS, through treaties with the United States, federal laws mandating the allotment of Indian lands, and other U.S. takings, tribal nations lost hundreds of millions of acres of tribal homelands to help build this Nation; and

WHEREAS, federal lands are carved out of the ancestral lands of tribal nations and the historical and spiritual connections of Native Americans to these lands have not been extinguished; and

WHEREAS, some of these lands contain the remains of our ancestors and Native Americans continue to pray, hold ceremonies, and gather traditional and medicinal plants on these lands; and

WHEREAS, the United States government has legal and moral obligations to provide access to these ancestral lands to Native Americans and to protect these traditional cultural territories in a manner that respects the cultural, historical, spiritual and religious importance of these lands to tribal nations; and

WHEREAS, for more than ten years, Congress considered and rejected legislation titled the "Southeast Arizona Land Exchange and Conservation Act" ("the Land Exchange") that proposed a mandatory conveyance of National Forest Service lands to Resolution Copper, a private mining company owned by the foreign mining giants Rio Tinto PLC (United Kingdom) and BHP Billiton Ltd (Australia), in order to facilitate the development of a massive and unprecedented block cave copper mining project; and

WHEREAS, pursuant to § 3003 of the National Defense Authorization Act of 2015 (NDAA), Congress authorized the transfer of all right, title, and interest of the United States in approximately 2,242 acres federal lands in the Tonto National Forest, commonly known as Oak Flat, in exchange for all right, title, and interest in specifically identified non-federal lands held by Resolution Copper; and

WHEREAS, Oak Flat is part of the ancestral homelands of the Western Apache, Yavapai, Hopi, Zuni, and O'odham people; and

WHEREAS, Oak Flat is a place filled with power—a place where Native people have, since time immemorial, and continue to go to for prayer, to conduct ceremonies such as Holy Ground and the Apache Puberty Rite Ceremony that some refer to as the Sunrise Dance, which celebrates a young woman's coming of age, to gather medicines and ceremonial items, and to seek and obtain peace and personal cleansing; and

WHEREAS, Oak Flat has and continues to play an essential role in Apache religion, traditions, and culture for centuries and is a holy site and traditional cultural property with deep tribal religious, cultural, archaeological, historical and environmental significance; and

WHEREAS, on March 4, 2016, Oak Flat was listed on the National Park Service's National Register of Historic Places as a Traditional Cultural Property; and

WHEREAS, the Land Exchange circumvents federal laws that mandate protection of Native American religion and culture and circumvents federal laws that mandate protection of the environment; and

WHEREAS, the Inter Tribal Association of Arizona ("ITAA"), an association of 21 tribal governments in Arizona, provides a forum for tribal governments to advocate for national, regional and specific tribal concerns and to join in united action to address these issues; and

WHEREAS, the ITAA has passed resolutions opposing the Land Exchange and has joined hundreds of tribal nations, Native organizations and others in opposition to the Land Exchange, because the proposal will destroy the religious and cultural integrity of Oak Flat, and set dangerous precedent for all of Indian Country by conveying federal lands that encompass a known Native sacred area to a private company for mining activities; and

WHEREAS, by standing resolution #REN–13–019, NCAI has opposed the Land Exchange (H.R. 1904 and H.R. 687, and S. 339), the Southeast Land Exchange, and

has joined hundreds of tribal nations, tribal organizations and others in opposition to the Land Exchange; and

WHEREAS, over united opposition by NCAI, ITAA member tribes, and other tribal nations, and organizations across the country, the Southeast Arizona Land Exchange legislation was attached to the FY 2015 National Defense Authorization Act and enacted in December 2014; and

WHEREAS, under Section 3003, the United States Department of Agriculture (USDA) must begin implementation of the Land Exchange, which includes conducting an Environmental Impact Statement of the Land Exchange and conducting government-to-government consultation with impacted Indian tribes—but which also includes a mandatory transfer of Oak Flat to the foreign-owned mining corporation regardless of the findings of the Environmental Impact Statement and tribal government consultation; and

WHEREAS, the U.S. Forest Service, in carrying out the directives of Section 3003 published the Draft Environmental Impact Statement of the Land Exchange and mine project; and

WHEREAS, by standing resolution #MSP–15–001, the NCAI expressed its support for the Repeal of Section 3003 of the FY 2015 National Defense Authorization Act, the Southeast Arizona Land Exchange; and

WHEREAS, legislation calling for the Repeal of Section 3003 of the FY 2015 National Defense Authorization Act has now been re-introduced in the current 116th Congressional session as H.R. 665 (sponsored by Representative Grijalva), and S. 173 (sponsored by Senator Sanders).

NOW THEREFORE BE IT RESOLVED, that the National Congress of American Indians (NCAI) reaffirms its commitment to strongly advocate for the protection of Native American sacred places in accordance with its 2002 Policy Statement, NCAI standing resolution #PHX–08–069c, "NCAI Policy Statement on Sacred Places," NCAI standing resolution #SD–02–002, "Essential Elements of Public Policy to Protect Native Sacred Spaces," and other resolutions that oppose mining that harms sacred places; and

BE IT FURTHER RESOLVED, that NCAI will support national and international administrative and legislative actions that meet the standards set forth in, but not limited to, the above mentioned NCAI resolutions and protect sacred places from destruction and harm; and

BE IT FURTHER RESOLVED, that NCAI supports legislative efforts to repeal Section 3003 of the FY 2015 National Defense Authorization Act because it affirms the trust responsibility of the United States to protect Native American sacred places; and

BE IT FINALLY RESOLVED, that this resolution shall be the policy of NCAI until it is withdrawn or modified by subsequent resolution

CERTIFICATION

The foregoing resolution was adopted by the General Assembly at the 2019 Annual Session of the National Congress of American Indians, held at the Albuquerque Convention Center, October 20–25, 2019, with a quorum present.

Fawn Sharp, President

ATTEST:

Juana Majel Dixon, Recording Secretary

NATIONAL ASSOCIATION OF TRIBAL HISTORIC PRESERVATION OFFICERS
(NATHPO)
WASHINGTON, DC

March 10, 2020

Hon. RAUL GRIJALVA, *Chair*,
House Natural Resources Committee,
1324 Longworth House Office Building,
Washington, DC 20515.

Hon. RUBEN GALLEGO, *Chair*,
Subcommittee for Indigenous Peoples of the United States,
1324 Longworth House Office Building,
Washington, DC 20515.

Re: U.S. Forest Service (USFS) Resolution Copper EIS and H.R. 665/S. 173, Save Oak Flat Act

Dear Congressmen Grijalva and Gallego:

Thank you for your actions regarding the irreparable environmental and cultural impacts of the proposed Resolution Copper mining operation at Tonto National Forest. The National Association of Tribal Historic Preservation Officers (NATHPO) is a nonprofit organization whose members are the Tribal government officials (THPOs) implementing the National Historic Preservation Act (NHPA) as delegates of the Secretary of the Interior on tribal land. NATHPO serves THPOs by providing training, coordination, advocacy, and elevation of their collective voices. As the entity representing a key constituency who will be substantially impacted by the proposed actions, we have grave objections and concerns, and we support the Save Oak Flat Act, H.R. 665/S. 173.

The U.S. Forest Service (USFS) closed the public comment period on the Draft Environmental Impact Statement (DEIS) on November 7, 2019, and is rushing to finalize the EIS on the Resolution Copper mine by summer 2020. Under legislation passed in Dec. 2014 (SE AZ Land Exchange), once the EIS is finalized, then USFS must transfer the National Register of Historic Places-listed Chí'chil Bildagoteel Historic District Traditional Cultural Property (TCP) known as Oak Flat to Resolution Copper within 60 days where it will then become private land owned by this foreign mining company and will not be subject to federal laws.

Resolution Copper plans to develop its copper mine at Oak Flat, which will destroy this Traditional Cultural Property. The DEIS confirms what tribes, historic preservation advocates, and concerned citizens have repeatedly warned for over 15 years—Resolution Copper's mine, despite years of denials, will directly, adversely, and permanently affect numerous cultural resources, sacred springs, traditional areas, burial locations, and other places and experiences of high spiritual and cultural value.

The DEIS states that Resolution Copper plans to detonate and extract 1.4 billion tons of rock from 7,000 feet below Chí'chil Bildagoteel Historic District TCP, creating a massive crater that TNF estimates will be over 1,000 feet deep and 1.8 miles across. Prior to the release of this DEIS, Resolution Copper denied over the decades there would be a crater at all—much less one this big and deep.

The proposed actions of various federal agencies to expedite massive mining operations proposed by Resolution Copper LLC, jointly owned by international mining giants Rio Tinto and BHP, will irreversibly damage hundreds of thousands of acres of public lands, which are the ancestral homelands of tribes in the region, and surrounding areas. This mine would likely be the largest and deepest mine in North America.

Moreover, the DEIS reveals that, due to dewatering activities of Resolution Copper since 2009, the expansive water table under Chí'chil Bildagoteel Historic District has already decreased more than 2,000 feet, which is shocking, especially in the Arizona desert during a drought. Resolution Copper also proposes developing miles of pipelines, powerlines, roads, electrical substations, and other facilities in the region on additional public lands.

According to the DEIS, Resolution Copper will blast the massive ore body from underneath Chí'chil Bildagoteel Historic District, with the rock falling into a system of underground tunnels and shafts. Once in the tunnels, the mined ore will be transported by a conveyor system through a new tunnel that Resolution Copper proposes to construct under Apache Leap, which could jeopardize this prized escarpment, to Resolution Copper's West Plant site in Superior for chemical processing. Then, the

copper concentrate will be pumped as slurry through a 22-mile pipeline to a filter plant and loadout facility near Florence Junction, Arizona, for transport to China and other countries. The DEIS states that Resolution Copper's mining activities will generate 1.37 billion tons of contaminated rock waste (tailings) and that Resolution Copper seeks to pump this waste as slurry through pipelines to dump on approximately 5,000 acres of possibly public land near populated areas.

The wholesale and wanton destruction of this sacred place would be an atrocity and yet another indelible stain on our nation's history regarding the treatment of its original peoples. We are grateful for your actions to oppose it and hold responsible federal agencies and parties accountable.

Sincerely,

VALERIE J. GRUSSING, PHD,
Executive Director

Statement for the Record

Terry Rambler
Chairman, San Carlos Apache Tribe

My name is Terry Rambler. I am the Chairman of the San Carlos Apache Tribe ("Tribe"), representing 16,900 tribal members. The U.S. entered into the ratified Apache Treaty of Santa Fe in 1852 to end hostilities. Today, the San Carlos Apache Reservation ("Reservation") is located in rural southeast Arizona and spans 1.8 million acres. Thank you for the opportunity to provide written testimony regarding the "The Irreparable Environmental and Cultural Impacts of the Proposed Resolution Copper Mining Operation."

Introduction

Over the Tribe's strenuous objections and despite the bill being unable to pass either the House or Senate, the Southeast Arizona Land Exchange Act ("Land Exchange") was passed as a last minute rider (Section 3003) to the FY 2015 National Defense Authorization Act ("NDAA") in December 2014. Section 3003 requires the Secretary of Agriculture to transfer 2,422 acres of Tonto National Forest ("TNF") land known as Oak Flat to Resolution Copper, a joint venture of Rio Tinto (United Kingdom/Australia) and BHP Billiton, Ltd. (Australia), no later than 60 days after the publication of a final environmental impact statement ("FEIS"), regardless of the findings of the environmental analysis, so that they can build the largest and deepest underground copper mine in North America.

Through this legislation, these two foreign mining companies have rigged the environmental review process to provide cover for a massive federal giveaway of natural resources that will result in the destruction of the Chi'chil Bildagoteel (Oak Flat) Historic District, a traditional cultural property ("TCP") listed on the National Register of Historic Places and other cultural resources of the San Carlos Apache Tribe and other tribes and will have severe impacts on the water resources of the entire region. The Resolution Copper Mine ("RCM") project will leave a crater 1.8 miles in diameter and between 800 and 1,115 feet deep.[1] If Oak Flat is transferred and the RCM project is approved, my people will no longer be able to come together there for ceremonies, or to pray, or to gather our medicinal plants and traditional foods, such as the Emory oak acorns that are plentiful there.

The federal government has a treaty and trust responsibility to protect TCP's and tribal cultural resources located on federal land from being transferred to private interests that will cause the destruction of the TCP and other cultural resources. We call on Congress to not allow the transfer of Chi'chil Bildagoteel from Tonto National Forest to Resolution Copper.

Oak Flat is not only a sacred area for the San Carlos Apache Tribe, but as noted by the ethnographic study prepared for TNF, 9 other tribes have traditional ties to the area.[2] Each of these tribes have cultural resources on and maintain strong

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[1] Draft Environmental Impact Statement ("DEIS") for Resolution Copper Project and Land Exchange, p. ES-22.

[2] Ethnographic and Ethnohistoric Study of the Superior Area, Arizona, Hopkins, Colwell, Ferguson, and Hedquist, p. iii.

cultural ties to this land. The ethnographic study identified 404 cultural resources in the Superior area demonstrating the connections of these tribes.

On August 1, 2019, the TNF released a Draft Environmental Impact Statement ("DEIS"), which although it is the product of a rigged process and had numerous deficiencies still confirmed the damage to Oak Flat and other cultural resources as well as the significant environmental impact on the water resources of the entire region. Already, due to Resolution Copper's mine dewatering activities on their private land near Oak Flat, the groundwater levels under Oak Flat have fallen 2,000 feet since 2009.[3] Numerous sacred springs and groundwater dependent ecosystems ("GDE") will either dry up or slow to a trickle. Massive groundwater pumping, estimated at 550,000 acre feet, to support mine activities will result in drawdowns for well users throughout the Desert Wellfield. Not only does the RCM project include the mine, but it also includes a massive amount of supporting infrastructure, such as a tailings facility, two processing plants, a huge tunnel under Apache Leap, wells, pumping stations, pipelines to slurry copper and tailings, powerlines, and access roads. In total, TNF's preferred alternative encompasses approximately 15,872 acres of land.[4] According to the DEIS, all of this infrastructure will also have serious impacts on cultural resources and water resources. Unfortunately, despite these findings, TNF is still required to move forward with the land transfer within 60 days after they issue a Final EIS ("FEIS").

Even though it confirmed many of the impacts that the Tribe has warned about for years, the DEIS also has significant deficiencies which often result in understating impacts or in not reporting additional impacts. In some cases, the DEIS makes assumptions about baseline models that skew the results, and in other cases, the models themselves are not accurate enough to be used to fully understand all of the impacts. Often, the DEIS simply lacks a thorough analysis of the impacts to cultural resources and the environment. In sum, these deficiencies prevent a full understanding of the environmental impacts of the RCM project.

Finally, Section 3003, the National Environmental Protection Act ("NEPA"), the National Historic Preservation Act ("NHPA"), and Executive Order 13175 all require meaningful government-to-government consultation, but throughout this process TNF has not engaged in meaningful consultation with the Tribe. In fact, TNF has not conducted proper consultation with the Tribe regarding its' preferred alternative for siting the tailings storage facility at Skunk Camp, which the DEIS reports will impact 323 cultural resources.

We ask your help in preventing Oak Flat from being transferred to Resolution Copper, and we ask your help in requesting that TNF withdraw the DEIS in order to conduct appropriate tribal consultation and a real environmental analysis for the region. Once the RCM project starts, there is no mitigation that can replace Oak Flat for my people.

Oak Flat is a Sacred Area Listed on the National Register of Historic Places

For hundreds of years, the Oak Flat area, known in Western Apache as Chi'chil Bildagoteel meaning "a broad flat of Emory oak trees", has been a place of cultural and religious significance to Western Apaches, including the San Carlos Apache Tribe, and other tribes. Recognizing its historical and modern importance to Western Apaches, the National Park Service ("NPS") listed the Chi'chil Bildagoteel Historic District on the National Register of Historic Places as a TCP in 2016.

Oak Flat is located in the Tonto National Forest and is part of the aboriginal territory of the San Carlos Apache Tribe and other Western Apaches. The Tonto National Forest is named after the Tonto Band of Apaches who lived in the area along with other Apache bands. In the 1870s, the U.S. Army forcibly removed Apaches from our aboriginal lands, including the Oak Flat area, to the San Carlos Apache Reservation. We were made prisoners of war there until the early 1900's. In fact, U.S. military forces were stationed on the Reservation until 1900, almost 30 years after the conclusion of the Western Apache wars and at Ft. Apache until 1920. Even though we were removed at gunpoint by the United States from the Oak Flat region, we still have a unique and sacred connection to this land.

At least eight Apache Clans and two Western Apache Bands have documented history in the area. Apaches on the Reservation have ancestors who came from the Oak Flat area before being forced to Old San Carlos. Tribal members' ancestors passed their knowledge to their descendants who are alive today. Our people have lived, prayed, and died in the Oak Flat area for centuries before this mining project was conceived.

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[3] DEIS, p. 320.
[4] DEIS, p. 94.

Today, the San Carlos Apache Reservation borders the Tonto National Forest to the east, and the Oak Flat area is located just 15 miles from our Reservation. As documented in the nomination of Chi'chil Bildagoteel to the National Register, the Oak Flat area continues to play a vital role in Apache religion, tradition, and culture. The Oak Flat area is a place filled with power—a place where Apaches go to pray, to conduct ceremonies such as Holy Ground and the Sunrise Dance that celebrates a young woman's coming of age, to gather medicines and ceremonial items, and to seek and obtain peace and personal cleansing. Oak Flat is the *goiíí'* (home) of our *diyí'n* (sacred power), visited by our ga'an (spiritual beings) who provide us with healing and spiritual services. Oak Flat is the foundation of our religious beliefs.

For years, the Tonto National Forest administration was aware that there are important cultural sites to the San Carlos Apache Tribe and other tribes in the Oak Flat area and that San Carlos Apache tribal members went to Oak Flat to conduct ceremonies and gather traditional plants and foods. In January 2012, the TNF began the formal consultation process with tribes regarding the nomination of Chi'chil Bildagoteel to the National Register of Historic Places. This exhaustive process included archival research, interviews with Apache elders, and fieldwork to identify cultural sites. By July 2014, the TNF sent a draft nomination to the Arizona State Historical Preservation Office for comment and followed up with others seeking comment. In December 2015, TNF formally submitted the nomination to the National Park Service. After over four years spent documenting the cultural importance of Oak Flat and going through the proper federal agency process, on March 4, 2016, the National Park Service listed Chi'chil Bildagoteel on the National Register of Historic Places as a traditional cultural property.

If the RCM project is allowed to move forward, it will destroy Chi'chil Bildagoteel and diminish the power of the place. There are no human actions or steps that could make this place whole again or restore it once lost. If Oak Flat is destroyed then with it will be destroyed unique, centrally important, and irreplaceable aspects of Apache religion.

Southeast Arizona Land Exchange Passed Congress as a Last Minute Rider to the NDAA

Starting in 2005, Resolution Copper sought passage of legislation called the Southeast Arizona Land Exchange Act that would transfer Oak Flat from the Tonto National Forest to their control in order to develop one of the largest copper mines in North America. The Tribe consistently opposed these efforts because it would result in the destruction of a sacred area, a place where ceremonies were conducted and medicinal plants and traditional foods were gathered, and it would have significant impacts on the water resources of the region. The Tribe argued that at a minimum the RCM project should have to go through the full NEPA process to appropriately evaluate the environmental impacts and impacts to cultural resources before the land was transferred. Over the years, the legislation had been opposed by a wide range of tribes, tribal organizations, religious groups, local citizen groups, recreational groups, and environmental groups

In the 113th Congress, after the House bill mandating the land exchange had to be pulled from the floor twice because a majority opposed the bill and the Senate never even considered the bill, the Southeast Arizona Land Exchange was forced into a public lands package over the strong objections of the Tribe and others opposed to the bill that was then attached to the FY 2015 NDAA as Section 3003 in the waning days of the 113th Congress in December 2014. Although Rep. Tom Cole and Rep. Betty McCollum championed an amendment to strike this provision from the NDAA, no amendments were allowed to the NDAA and no further debate or consideration could be made. The Southeast Arizona Land Exchange passed as a last minute rider to the NDAA, but to be clear, this was not legislation that was supported by a majority in Congress. Since the passage of the land exchange, Chairman Grijalva has introduced legislation (H.R. 665 in this Congress) that would repeal Section 3003, for which we are very grateful.

Section 3003 of the FY 2015 NDAA will transfer 2,422 acres of the Tonto National Forest land known as the Oak Flat Parcel pending the issuance of a FEIS. According to the legislation, *regardless of what the environmental or cultural resource impacts are to Oak Flat*, TNF must convey the Oak Flat Federal Parcel to Resolution Copper no later than 60 days after completion of the FEIS. Further, the legislation states that a single environmental impact statement will be used to not only consider the land transfer but also the Mine Plan of Operations (or General Plan of Operations—"GPO"). The legislation also stipulates that the EIS shall assess the cultural and archeological resources located on the land to be transferred and identify measures to minimize potential adverse impacts, but makes no special

requirements to protect those cultural resources. Thus, Section 3003 circumvents the federal laws that were designed to protect tribal sacred areas, such as the National Historic Preservation Act, and creates a nonsensical process whereby an environmental analysis is conducted but has no relevance on actually exchanging the land.

The DEIS for Oak Flat is a Rigged Process

Under NEPA, Congress required that the environmental impact statement process provide a balanced and fair report to the American people of the benefits and harms of any major federal actions. NEPA came into being because there were countless environmental disasters and Americans were being harmed by industry. But, the Oak Flat EIS process is not designed to produce a fair report.

TNF has always viewed the Land Exchange as a "done deal," and this shows in the DEIS. After all, this is the process that the Land Exchange Act provides, a process specially crafted to provide an exemption to foreign mining companies so that they do not have to go through the same process every other mine in America must follow.

Once Oak Flat is in RCM hands, a myriad of problems disappear for both TNF and RCM. RCM's mining method is no longer a problem because the land above the ore body is now private, not federal, property. A huge polluted pit lake is no longer a problem because the land where the lake sits is in private hands. And, those problems which can be corrected after the Land Exchange will be done with tribes and the public completely shut out of the process, because Oak Flat will already be in RCM's hands.

TNF's DEIS is a rush to judgment so that no matter the environmental devastation that will occur, Oak Flat becomes private property. In rushing the DEIS, TNF is able to facilitate the early Land Exchange knowing that it can still make corrections to the faulty DEIS before a final Record of Decision is issued by the Regional Forester.

Make no mistake about it, if this DEIS were to go to federal court as it stands now, it would be rejected. The investigation is grossly incomplete, and the analyses are flawed. The groundwater impact models provide the outcome RCM wants us to see, not what will happen. The DEIS fails to perform basic seismic analysis, which will only serve to risk lives and property.

TNF's view that the Land Exchange is a foregone conclusion is even causing it to alter the normal process for the examination of a DEIS. Normally, an initial DEIS will be followed by a Supplemental DEIS before a Final EIS is issued. This process is then followed by public comment and a review by the Regional Forester before the Record of Decision is issued. That exhausts the administrative procedure. By contrast, the DEIS process for RCM does not even afford tribes the benefit of a Supplemental DEIS for public review and comment. Here, once the Final EIS is issued, the tribes' only recourse is to expose this process in the courthouse.

We ask Congress to honor its trust responsibility and to stop Oak Flat from being transferred to Resolution Copper. We ask Congress to help us request that TNF withdraw the DEIS to conduct appropriate tribal consultation and a fair EIS process.

DEIS Confirms the Destruction of Oak Flat and Substantial Environmental Damage

Even with the EIS process being rigged, the DEIS still confirms many of the things that the Tribe has been arguing for years about including the destruction of Oak Flat and severe impacts to water resources throughout the region. It is no mistake that Resolution Copper designed a land exchange process in the Southeast Arizona Land Exchange Act that requires a mandatory transfer of the land no matter what the EIS finds because the level of destruction and environmental damage that will result from this project would disqualify it from ever happening if the regular NEPA process was followed.

The impacts of the project cannot be overstated: (1) Chi'chil Bildagoteel ("Oak Flat"), a TCP listed on the National Register of Historic Places, and numerous other cultural resources will be destroyed; (2) the water resources of the area will be depleted; and (3) the project will require significant infrastructure covering 15,872 acres such as tunneling under Apache Leap, a massive tailings storage facility, and pipelines to slurry ore and waste across federal land.

The Destruction of Chi'chil Bildagoteel ("Oak Flat")

Over the years, Resolution Copper and supporters of the mine have suggested that there would be "limited surface impact"[5] to the Oak Flat area. Instead, the DEIS states that the RCM project will result in a "subsidence crater at the Oak Flat Federal Parcel" that "would be between 800 and 1,115 feet deep, and would be about 1.8 miles in diameter."[6] This will destroy Chi'chil Bildagoteel with no chance of ever restoring the damage.

Resolution Copper's proposed GPO states that they will employ a block cave mining technique to remove the copper ore from 7,000 feet underground. This technique consists of drilling tunnels under the rock to be excavated; blasting the rock from underneath; letting it collapse into funnels; and then removing the rock through the tunnels and a conveyor system built under Apache Leap. As Resolution Copper blasts the rock from underneath, the surface will subside into the void created by extracting the rock underground. Ultimately, the block cave mining underneath Oak Flat will cause the surface to subside and create an enormous crater. As stated in the DEIS, "The NRHP-listed *Chi'chil Bildagoteel* Historic District TCP would be directly and permanently damaged by the subsidence area at the Oak Flat Federal Parcel."[7] Again, Chi'chil Bildagoteel is a unified cultural and religious landscape for the Apache people that will be permanently destroyed and cannot be replaced. Further, because of the subsidence and the resulting public safety concerns, the entire area will be fenced off and inaccessible to the public. Thus, our people will no longer be able to conduct our ceremonies there nor will they be able to collect our medicinal plants and traditional foods there. As stated in the DEIS:

> *. . . the Chi'chil Bildagoteel Historic District, which comprises the Oak Flat and Apache Leap areas, is a Forest Service-recognized TCP. This project is located in an area that is important to many tribes and has been for many generations and continues to be used for cultural and spiritual purposes. No tribe supports the desecration/destruction of ancestral sites. Places where ancestors have lived are considered alive and sacred. It is a tribal cultural imperative that these places should not be disturbed or destroyed for resource extraction or for financial gain. Continued access to the land and all its resources is necessary and should be accommodated for present and future generations. Development of the Resolution Copper Mine would permanently alter lands that hold historical, cultural, and spiritual significance for many tribal members.*[8]

Not only is Chi'chil Bildagoteel impacted by the project, but the extensive infrastructure including processing plant sites, a massive tailings storage facility, pipelines to slurry material, and a tunnel under Apache Leap will also impact hundreds of other cultural resources. The DEIS reports that the preferred alternative for the tailings storage facility, Skunk Camp-North Option, will alone result in adverse impacts to 323 cultural resources.[9] In addition to these known cultural resources, the DEIS anticipates that there will be burial sites impacted by the proposed mine, however the actual number and locations of these burial sites will not be known until they are disturbed by the activities of the mining company.

> *"Linear facilities, including new pipelines, power lines, and roads, as well as other facilities such as electrical substations, would also be constructed in support of mine operations. In addition, development of the proposed tailings storage facility at any of the four proposed alternative locations would permanently bury or otherwise destroy many prehistoric and historic cultural artifacts, potentially including human burials."*[10]

Further, the DEIS notes that, "[s]acred springs would be eradicated by subsidence or tailings storage construction and affected by groundwater water drawdown."[11] In particular, 14–16 groundwater dependent ecosystems ("GDE") would be impacted, with 10 to 13 sacred springs being lost due to mine dewatering activities and depending on the siting of the tailings facility.[12]

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[5] Senate Energy & Natural Resources Hearing, 110–572, p.42, Verbal Testimony of Resolution Copper President David Salisbury.
[6] DEIS, p. ES-22.
[7] DEIS, p. ES-26.
[8] DEIS, p. 668.
[9] DEIS, p. 365.
[10] DEIS, p. 25.
[11] DEIS, p. 713.
[12] DEIS, Appendix E, E-3.

Finally, the DEIS Executive Summary asserts that there will be no damage to Apache Leap, but under current projections, the fracture zone is a mere 340 meters away from Apache Leap. Further, in its analysis the DEIS states that there will actually likely be 1.5 feet of vertical and horizontal displacement which "could potentially cause angular distortion to locally exceed the damage threshold at Apache Leap and lead to localized rock block failure."[13] Also, the modeling workgroup acknowledged that there are uncertainties regarding rock composition and fault strength that could also affect the possibility of damage. So, instead of there being no damage, the reality is that there will likely be at least localized damage to Apache Leap as a result of mining activities. While Resolution Copper insists that it is constantly monitoring and would be able to stop mining if there were larger effects on Apache Leap, in the end, there is no real recourse if Resolution Copper and the Forest Service have miscalculated and Apache Leap is widely damaged. In fact, Section 3003(g)(6) expressly prevents any restrictions on mining activities as part of the Apache Leap Special Management Area:

> *(6) MINING ACTIVITIES.—The provisions of this subsection shall not impose additional restrictions on mining activities carried out by Resolution Copper adjacent to, or outside of, the Apache Leap area . . .*[14]

Currently, Chi'chil Bildagoteel and our other cultural sites and resources are protected under the NHPA and other laws. However, once Oak Flat is transferred to Resolution Copper, there are no more federal protections for our ancestors buried there, for our cultural resources located there, for our traditional plant and food gathering sites, or for our ceremonial areas at Chi'chil Bildagoteel. Once these are destroyed there is no mitigation that can replace what has been lost. As stated in the DEIS:

> *Given the known presence of ancestral villages, human remains, sacred sites, and traditional resource-collecting areas that have the potential to be permanently affected, it is unlikely that compliance and/or mitigation would substantially relieve the disproportionality of the impacts on the consulting tribes.*[15]

The Water Resources of the Region Will Be Severely Impacted

Prior to passage of the land exchange, Resolution Copper and other supporters of the mine insisted that there would be no impact on water supplies or water quality. As an example, in 2011, Resolution Copper President John Cherry testified, "Resolution Copper has already spent more than $33 million to date studying the hydrogeology in and around the mine project, and has drilled more than 30 holes in the area to assess the water resources. These activities so far show little if any impact to local water quantity or quality from the new operations . . ."[16] Although it underestimates the impacts on water resources, the DEIS confirms that this could not be any further from the truth. In fact, there will be substantial impacts to water quantity and quality for the entire region.

Since 2009, Resolution Copper has engaged in mine dewatering activities on their land near Oak Flat that has caused groundwater levels below Oak Flat to drop over 2,000 feet, and near Superior, water levels to decline roughly 20 to 90 feet.[17] This is even before the land exchange and actual mining project begins.

The DEIS expects Resolution Copper to pump 87,000 acre feet specifically to dewater the mine over the life of the project, although how the Forest Service and Resolution Copper came to this number is unclear. In addition, the preferred alternative for the tailings site, Skunk Camp-North Option, will require pumping 550,000 acre feet from the Desert Wellfield in the East Salt River Valley. As noted previously, as a result of these actions between 14 and 16 GDEs are anticipated to be impacted with many completely drying up, and depending on the siting of the tailings facility, 10–13 sacred springs will be "lost". This will be devastating to riparian habitats supported by these GDEs and the wildlife that depends on those habitats. Further, "[d]rawdown from 10 to 30 feet is anticipated in wells in the Superior area,"[18] and wells in Top-of-the-World are also expected to be impacted. Pumping from the Desert Wellfield "would incrementally contribute to the lowering of groundwater levels and cumulatively reduce overall groundwater availability in

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[13] DEIS, p. 154.
[14] Sec. 3003(g)(6) of the FY 2015 National Defense Authorization Act.
[15] DEIS, p. 683.
[16] House Committee on Natural Resources Hearing, 112–40, p. 47.
[17] DEIS, p. 312.
[18] DEIS, p. 325.

the area."[19] Specifically, the DEIS estimates that the water levels in the Desert Wellfield area could be drawn down 199 feet.[20] In total, according to the DEIS, the pumping of 550,000 acre feet of water would represent more than 6.7% of all water in the Desert Wellfield.[21]

Although Resolution Copper and other supporters of the mine have often argued that Resolution Copper was banking water and either had or would secure enough water for the life of the project, the DEIS confirms that in fact, Resolution Copper has only secured 43–52% of the needed water for the project and it concludes, "[c]umulatively, the total demand on the groundwater resources in the East Salt River valley is substantial and could be greater than the estimated amount of physically available groundwater."[22]

In addition to significant water quantity impacts as a result of this project, the DEIS confirms that there are water quality concerns as well. The DEIS notes that after the mine has been closed the cave zone would reflood and would likely have poor water quality. It is also likely that storm water runoff from tailings facilities would have poor water quality. In addition, all of the tailings storage facilities would have seepage from the facility with poor water quality, and specifically the DEIS concludes that Resolution Copper's proposed tailings storage facility site would result in water quality problems in Queen Creek.[23]

The DEIS Reveals Massive Amount of Infrastructure to be Built Across the Region

When the Southeast Arizona Land exchange was being considered in Congress, what was often not discussed or evaluated was the enormous scope of the project and the need for extensive infrastructure in addition to the mining area. When testifying before Congress in 2009, Resolution Copper President David Salisbury stated that Resolution Copper would "deposit the tailings to fill one or more existing open pits from closed mines, and then reclaim and re-vegetate those backfilled pits. We believe that undertaking will significantly benefit the environment."[24] While this certainly sounded environmentally responsible, in reality Resolution Copper's GPO considered by the DEIS proposes nothing of the sort. Rather, the GPO proposes the largest and deepest underground copper mine in North America with a number of processing and tailings storage facilities, a huge tunnel under Apache Leap with conveyors, and pipelines to move the copper ore and tailings slurries.

Specifically, a support facility known as East Plant Facility located in the Oak Flat Area will be expanded to support a huge underground tunnel to be built under the ore body to enable the ore to be blasted, fall down, and then partially crushed. Another tunnel will be built under Apache Leap for a huge conveyor to transport the partially crushed rock 2.5 miles to the West Plant Facility where the ore will be processed into copper and molybdenum concentrate. Then, the copper concentrate will be pumped as a slurry through a 22-mile pipeline along the Magma Arizona Railroad Company ("MARRCO") corridor to a filter plant and facility in Florence Junction to load the copper onto rail cars or trucks. The MARRCO Corridor will also have water pipelines, power lines, pump stations, and groundwater wells to support the mining project. Under Resolution Copper's proposal, the ultimately 1.37 billion tons of tailings that need to be stored in perpetuity would be pumped as a slurry through different pipelines 4.7 miles to a 3,300 acre tailings storage facility with 4,900 acres fenced off from public access called Near West located on Tonto National Forest land just east of Queen Valley. However, rather than the Near West site, the preferred alternative in the DEIS, Skunk Camp-North, located on State land, would have the tailings slurried through pipelines for 20 miles partially through the Tonto National Forest to a 4,000 acre tailings facility with 8,600 acres fenced off from public access. In some areas, these pipelines will be buried, and in some areas, there will be spans across canyons. Access roads along the pipeline will also have to be built to facilitate construction and maintenance. Powerlines may also be running along these pipeline corridors. ***In total, under the preferred alternative, the mine project infrastructure will cover approximately 15,872 acres or nearly 25 square miles of land.***

The project involves at a minimum the Forest Service allowing miles of power lines, tailings slurry pipelines, and access roads to the pipelines to be built across the Tonto National Forest and potentially even siting a tailings storage facility

[19] DEIS, p. ES-24.
[20] DEIS, p. 339.
[21] DEIS, p. 340.
[22] DEIS, p. 342.
[23] DEIS, p. ES-24.
[24] Senate Energy & Natural Resources Hearing 110–572, p. 45.

using 4,900 acres of the Tonto National Forest. In fact, much of the DEIS is actually a consideration of a variety of alternatives for siting the tailings storage facility because there are significant environmental and public safety concerns with storing such a vast quantity of tailings. When it was passed, the Southeast Arizona Land Exchange did not contemplate this considerable level of additional infrastructure and its significant impact on Tonto National Forest and the broader region.

The siting of a tailings storage facility on TNF land or even pipelines and access roads across TNF land has significant implications for the San Carlos Apache Tribe. The DEIS notes that the preferred alternative of Skunk Camp-North will impact 323 cultural resources. It is unclear how accurate or exactly what these cultural resources are because SCAT has not been fully consulted by TNF to fully understand what cultural resources may be impacted by these various alternatives.

Not only will the destruction of Chi'chil Bildagoteel have a terrible negative impact, but this massive additional infrastructure will also have huge impacts for the Tribe and for other communities in the region. Much more time and analysis should be taken to fully understand the implications of these alternative sites for the tailings storage facility and the pipelines before making a final decision.

The Draft EIS Fails to Account for Significant Damage to Cultural and Water Resources

Although the DEIS lays out in a number of ways the significant impacts that the Resolution Copper mine will have on the Tribe's cultural resources and the regions' water resources, it also fails in a number of important ways. Before moving any further, TNF should withdraw the DEIS and conduct proper tribal consultation; take appropriate steps to fully consider the Tribe's cultural resources; undertake a thorough water resources analysis; and undertake a full and fair analysis of all alternatives.

Lack of Adequate Consultation

Under Section 3003(c)(3) of the FY 2015 NDAA, the Forest Service is expressly required to consult with affected Indian tribes regarding "issues of concern" with the land exchange. Further, NEPA and the NHPA require the Forest Service to engage in consultation with affected Indian tribes. However, the Forest Service has thoroughly failed to adequately consult with the Tribe as prescribed by Section 3003(c)(3), NEPA, and NHPA.

The Tribe has repeatedly attempted to engage the Forest Service in consultations related to the land exchange including attempts to develop a Memorandum of Understanding (MOU) to engage in consultation under Section 3003(c)(3). In 2016, the Tribe worked hard in good faith to reach an understanding with the Forest Service, but after many months of deliberation to develop a final MOU, the Forest Service eviscerated the previously agreed upon draft MOU. Efforts to reach an MOU with the Forest Service finally collapsed in 2017.

So, the Forest Service ignored its Section 3003(c)(3) consultation requirements and instead engaged in consultation solely under the NHPA Section 106 process. Even so, the Forest Service failed to pursue adequate government-to-government consultations that are critical to the Section 106 process. In particular, the Forest Service failed to conduct adequate consultations on appropriate identification efforts to document historic properties; to evaluate the importance and eligibility of identified historic properties; to assess the adverse effects on those historic properties as a result of the mine; and to resolve adverse effects.

TNF should withdraw the DEIS and begin actual government-to-government consultation with affected tribes, including the San Carlos Apache Tribe.

Failure to Appropriately Consider the Impacts to Water Resources

Although it reveals significant impacts, the DEIS fails in a number of ways to fully consider all of the impacts to the water resources of the region as a result of the RCM project. Further, the water analysis fails to account for the limited water resources of Arizona and the broader effects that the RCM project will have on these water resources into the future.

The Baseline Model for the DEIS Water Analysis is Flawed

The baseline model from which the DEIS uses to then measure future impacts of the RCM project is terribly flawed. Since 2009, Resolution Copper has been dewatering the deep aquifer from the East Plant site on private property near the Oak Flat Withdrawal Area in order to begin building its deep mine. For the last 5 years, the average pumping rate to dewater the mine has been approximately 1,000 acre feet per year. This has already resulted in a 2,000 foot decline in water levels in the deep bedrock aquifer.

While this is clearly a significant impact of the project, remarkably the current dewatering of the mine is considered to be a baseline condition in the DEIS.[25] Thus, the "No Action" alternative in the modeling assumes that the mine dewatering will continue as-is for the next 51 years even if the mine is never developed. Further, the impacts of developing the mine, which includes additional dewatering, are measured as the difference between this additional dewatering and the baseline dewatering of the mine. This means that a huge proportion of the dewatering of the mine is not even considered as part of the mining project. As a result, the DEIS fails to fully capture the impacts to water supplies and to the streams and other GDE's, and it vastly underreports the amount of dewatering that will occur as a result of the project. Including the current dewatering of the mine in the baseline leads to the ridiculous idea in the DEIS that the "No Action" alternative will result in drawdowns for 6 different springs including 30–50 feet for the Bored Spring just west of Apache Leap, which will likely cause it to dry up and destroy the riparian habitat located there. The Forest Service should remove current dewatering activities from its No Action alternative and accurately assess the full impacts of the mining project.

Limited Timeframe of Model

The Groundwater Modeling Workgroup decided that the results of the model could only "be reasonably assessed up to 200 years into the future" and thus, the DEIS only reports the quantitative results of this model for 200 years.[26] However, many hydrogeological impacts take centuries to recover and can even get worse over time frames longer than 200 years. The DEIS even notes that typically, "[g]roundwater models are generally run until they reach a point where the aquifer has sufficient time to react to an induced stress (in this case, the effects of block-caving) and reach a new point of equilibrium."[27] In fact, the groundwater model was actually run for 1,000 years in order to approach equilibrium, but the DEIS only reports the first 200 years of this analysis quantitatively. By limiting the analysis to 200 years, the DEIS fails to fully account for significant impacts, such as the fact that the analysis for Hidden Spring predicts declining levels of water for up to 800 years as a result of the project. Given the enormous scale and significant impacts of this project on the region's environment, it is essential that the DEIS accurately provide the full set of impacts, which will last for many centuries even after the mine closes.

The Model Does Not Accurately Assessing the Hydrogeology of the Area

Given the complexity of the hydrogeology of the area with its multiple faults, aquifers, and rock types and the enormous scale of the mining project, it is a significant challenge to conduct an accurate groundwater impact analysis. The Tribe has significant concerns with the Forest Service's and Resolution Copper's understanding of the hydrogeology of the area. For example, the DEIS asserts that the West Boundary Fault, Concentrator Fault and other faults have limited the extent of groundwater drawdown from current mine dewatering at Shafts 9 and 10 to the area within those faults. However, even under the "No Action" plan which maintains current levels of dewatering, the DEIS separately predicts that there will be significant drawdowns of water to the west and under the Town of Superior. The scale of this project and the possible impacts are simply too great to not have a complete understanding of the hydrogeology of this area.

The DEIS Improperly Segments its Environmental Analysis

In its analysis of water resource impacts, the Forest Service undertakes two separate analyses of the impacts of the dewatering of the mine and of the impacts of pumping water from the Desert Wellfield. The Forest Service uses separate computer models and model domains to understand the hydrogeological impacts of these actions. Any effects of aquifer drawdown from the Desert Wellfield are not considered in the Mine Groundwater Model and *vice versa*. However, it is almost certain that drawdown from these two pumping areas overlap. Thus, the cumulative impacts of the mine dewatering and desert Wellfield pumping are impossible to fully assess.

Inadequate Analysis of the Mine's Usage of Water on Regional Water Supplies

The DEIS estimates that the amount of water available for pumping in the East Salt River Valley is 8.1 million acre feet, but there is no discussion on where this estimate comes from or how likely this estimate is to be true. In addition, the DEIS spends little time discussing the direct impacts on well users. For each tailings site

[25] DEIS, p. 300.
[26] DEIS, p. 300.
[27] DEIS, p. 300.

alternative, the DEIS lists the potential drawdown (in the case of the preferred alternative this is up to 199 feet), but there is no discussion about how this will directly impact well users. Will residents who use wells have to ultimately sink their wells 200 feet? In addition, while the DEIS acknowledges that total demand on groundwater could exceed the physically available groundwater, the DEIS refuses to actually analyze this possibility and what this could mean stating, "it is not possible to quantify the cumulative water use in the area."[28] However, given the huge amounts of water that this project requires and the limited amounts of actual groundwater available, it is absolutely essential that the DEIS actually analyze the cumulative impacts of pumping an additional 550,000 acre feet of groundwater for a new mining project on well owners and water users throughout the region.

Impacts to Groundwater Dependent Ecosystems Understated

One of the critical aspects of the DEIS is to accurately assess the project's impact to the many springs and perennial streams supporting the GDEs. However, the DEIS notes, "the inability of a regional groundwater model to fully model the interaction of groundwater with perennial or intermittent streams."[29] Instead, the Groundwater Modeling Workgroup arbitrarily decided that a finding of hydrogeological impact would only be identified if the model predicted at least a 10-foot drop in the groundwater elevation in the immediate vicinity of a GDE. However, the model that was used had an uncertainty of +/− 10 feet, so all results below 10 feet were not considered an impact. Yet, even the DEIS recognizes that drawdowns of less than 10 feet could in reality have serious impacts on some GDEs, including drying up. Thus, the model that was used is simply unable to accurately assess the full range of impacts on streams and GDEs as a result of the mining project. There are likely more GDE's that are actually impacted, but the model simply does not capture those impacts. The Forest Service must undertake a new analysis with another model that can more accurately assess the impacts to GDEs.

Water Quality Impacts Understated

In analyzing the potential for water quality problems, the DEIS notes that there are significant sulfide-bearing minerals such as pyrite in the upper areas of the deposit that if interacted with oxygen could cause acid rock drainage, which could pollute streams with toxic metals. Much of this area will not be mined out and instead will collapse into the crater. Incredibly, however, the DEIS makes the assumption that these minerals will not come into contact with oxygen and thus will not cause acid rock drainage. It is likely that oxygen will penetrate the fracture zone and the DEIS likely vastly understates the impacts of acid rock drainage.

The DEIS also considerably understates the water quality problems associated with the tailings storage facility. There are 1.87 billion tons of tailings that will need to be stored in perpetuity. The tailings storage facility at the preferred alternative of Skunk Camp is envisioned to be 3 miles long with 490 foot embankments covering 4,000 acres.[30] The water quality impacts from tailings of a mine this size are some of the most important issues to thoroughly analyze. However, other than the Near West alternative proposed by Resolution Copper in its GPO, there is no baseline hydrological or geotechnical data provided for the tailings facilities alternatives in the DEIS. Not unsurprisingly, the detailed analysis of the Near West alternative showed significant water quality concerns from seepage. Yet, there is no data supported site specific analysis for the other alternatives in the DEIS. It is unconscionable to site a massive tailings facility with huge potential impacts for the entire region without providing the basic underlying analysis for making that decision.

Failure to Fully Analyze the Preferred Alternative—Skunk Camp

The Skunk Camp tailings storage facility has been selected by TNF as its preferred site. However, it was first examined late in the DEIS process and has never been analyzed as thoroughly as the Near West location preferred by Resolution Copper and the subject of the Baseline Environmental Assessment and Record of Decision. Indeed, the Environmental Protection Agency's comment on the DEIS analysis of the Skunk Camp alternative expressed concern about the lack of field work by TNF on the Skunk Camp location. The Skunk Camp site was not selected by TNF based upon thorough analysis and planning. Nor was it selected by TNF as the safest or least environmentally damaging site. Rather, the DEIS admits

[28] DEIS, p. 342.
[29] DEIS, p. 301.
[30] DEIS, p. ES-20.

that TNF selected the site because it has judged it to be "largely isolated", simple to construct in that location, and impacts to TNF lands are minimized. In other words, the "out of sight, out of mind" mentality has prevailed.

The Skunk Camp site has significant safety and environmental damage concerns. The seismic analysis performed by RCM and accepted by TNF does not comply with the widely accepted 1:10,000 year industry standard. Further, a geological fault runs through the middle of the Skunk Camp site. With a tailings storage facility of this size, lives are at risk if the embankments fail. Potential environmental damage is also heightened for the Skunk Camp site because pipelines for tailings slurry are longer (between 20 to 25 miles in length) than for any other site. The pipelines for Skunk Camp will have to traverse rugged terrain with its own set of geological faults. No analysis has been done on this issue and the potential environmental impacts of a pipeline failure.

The lack of field work has also resulted in a lack of information provided to tribes on cultural, historic, sacred and heritage sites within the Skunk Camp area of potential effect. The DEIS acknowledges that the greatest number of cultural resources will be impacted at the Skunk Camp site, between 318 and 343 sites, as compared to Alternatives 2 and 3 (101), Alternative 4 (122) and Alternative 5 (114–125).

The San Carlos Apache Tribe was not consulted about either the Skunk Camp tailings storage facility location or the pipeline locations. Skunk Camp planning was announced in the summer of 2018. Sacred seeps and springs and culturally important sites were largely inaccessible due to the large amount of private land in the area not previously available for the Tribe's inspection. Skunk Camp is located within San Carlos Apache ancestral territory and is located closest to the Tribe's Reservation lands. It is important to consider that impacts to cultural resource sites are not just site specific but are impacts to the people who value, care about, care for, and derive their identity and health from the affected cultural resources. The DEIS fails to adequately or meaningfully analyze this variation in site impacts and, by extension impacts to Apache people and communities.

TNF was in such a rush to issue the DEIS that the information and analysis of the Skunk Camp alternative is incomplete. TNF has failed to provide an evidence-based rationale for its selection of Skunk Camp. Because the DEIS was released before significant public and tribal involvement in the comparative analysis of tailings storage facility alternatives, TNF has essentially eliminated public participation in identifying the best site alternative for the tailings storage facility.

Failure to Appropriately Consider Alternatives to Block Cave Mining

Resolution Copper intends to employ block cave mining at the RCM project which will result in a 1.8 mile wide crater with profound effects upon the environment. The block cave method requires that the Apache Leap Tuff Aquifer, which is a source of water for many springs and creeks, be dewatered. These permanent impacts would not occur if alternative underground mining methods were used instead. However, the Forest Service never conducted an adequate analysis of alternative mining methods that could avoid these impacts because they simply accepted Resolution Copper's assertion that any other method of mining would be too expensive. But, how do you calculate the value of a sacred area? How do you calculate the value of sacred springs and creeks? How do you calculate the value of clean water? If these are gone forever, are these not costs of the project, too? Are these not worth the effort of exploring alternative mining methods?

Conclusion

For centuries, Oak Flat, Chi'chil Bildagoteel, has been a sacred place for Apaches and other tribes. We conduct ceremonies there. We pray there. We gather our medicinal plants and our Emory oak acorns. It is a place of power, a holy place where we can practice our religion. Because of these reasons and others, Oak Flat was listed as a traditional cultural property on the National Register of Historic Places.

The RCM project will destroy Chi'chil Bildagoteel. There is no mitigation that can be done, no replacing Chi'chil Bildagoteel once it is gone. We cannot build it somewhere else.

We know that most Members of Congress did not and do not support this. We ask for your help to protect Oak Flat and to prevent it from being transferred from federal land to a foreign owned mining company. We ask for your support in requesting that the Tonto National Forest withdraw the DEIS, to engage in government-to-government consultation, and to take the time to conduct a thorough and fair analysis. Too much is at stake to approve this project without fully understanding the impacts of it.

SOUTHSIDE PRESBYTERIAN CHURCH
TUCSON, ARIZONA

Hon. RAUL GRIJALVA, *Chair*,
House Natural Resources Committee,
1324 Longworth House Office Building,
Washington, DC 20515.

Hon. RUBEN GALLEGO, *Chair*,
Subcommittee for Indigenous Peoples of the United States,
1324 Longworth House Office Building,
Washington, DC 20515.

Re: U.S. Forest Service (USFS) Resolution Copper EIS and H.R. 665/S. 173, Save Oak Flat Act

Congressmen Grijalva and Gallego:

I am writing to express my deepest gratitude for your actions to protect Oak Flat from irreparable environmental and cultural impacts of the proposed Resolution Copper mining operation at Tonto National Forest. My congregation and I have been deeply concerned about the proposed mining which would destroy a site that is sacred to our siblings of the San Carlos Apache Nation. Others can speak with more authority to the vast environmental damage that such mining would cause; others can speak with more knowledge about how governmental regulations have been tossed aside; and others can speak with more wisdom about the vast amount of cultural and archeological damage that would be done. But I am a pastor, and so I speak as a pastor who is outraged that the religious freedoms and practices of the San Carlos Apache are being denigrated by the proposed mining. As has been pointed out by members of the San Carlos Apache, the proposed mining is like bulldozing a church, or like mining on Mt Sinai, a mountain held sacred by the Abrahamic faiths. I believe it to be a grave miscarriage of justice and a threat to equal representation under the law that the religious rights of some are heralded as sacrosanct, while the religious right of native peoples are easily traded away for the possibility of turning a profit.

It is time that we stop treating the religion of native peoples as inconsequential and unrecognized. We must recognize that native people's have religious freedoms that must be protected. We must also stop treating the earth as only a vehicle for development and profit and start recognizing that our fate is tied to the fate of our earth.

Thank you for all that you are doing to opposed this proposed mining by Rio Tinto. In doing so you are not only protecting a sacred piece of earth, but you are standing in support of the religious rights of indigenous peoples in the United States.

With Deepest Regards,

ALISON HARRINGTON,
Pastor

WHITE MOUNTAIN APACHE TRIBE
EXECUTIVE OFFICE OF THE CHAIRWOMAN
WHITERIVER, ARIZONA

March 10, 2020

Hon. Raul M. Grijalva, Chairman,
Hon. Rob Bishop, Ranking Member
Hon. Ruben Gallego, Subcommittee Chair
Hon. Darren Soto, Subcommittee Member
Hon. Michael San Nicolas, Subcommittee Member
Hon. Deb Haaland, Subcommittee Member
Hon. Ed Case, Subcommittee Member
Hon. Matt Cartwright, Subcommittee Member
Hon. Jesus G. "Chuy" Garcia, Subcommittee Member
Natural Resources Committee,
Subcommittee on Indigenous Peoples of the United States,
1324 Longworth House Office Building,
Washington, DC 20515.

Re: March 12, 2020, Oversight Hearing: Southeast Arizona Land Exchange Act (Oak Flat Land Exchange)

Dear Members of the House Natural Resources Committee Subcommittee on Indigenous Peoples of the United States:

The White Mountain Apache Tribe opposes the Southeast Arizona Land Exchange Act, also known as the Oak Flat Land Exchange, that would allow Resolution Copper, a joint venture mining company owned by two foreign companies, Rio Pinto PLC (United Kingdom) and BHP Billiton, Ltd. (Australia), to conduct a massive block cave copper mining project on 2,242 acres of land within the Tonto National Forest, commonly known as Oak Flat. Although our Tribe is a proponent of free enterprise and economic development, we have opposed the Act since 2006 for reasons summarized below.

The mining project will destroy and contaminate the aquifers below the town of Superior, Arizona, and much further. The destruction of national forest land and water does not benefit the American people. It only serves foreign mining interests who will leave our country a polluted site for centuries to come. The Land Exchange Act did not consider the destructive long-term environmental impact the mine would produce before it was enacted. It was simply attached to the 2015 National Defense Authorization Act to avoid the customary environmental impact study, and to avoid further rejection by Congress.

The mine will also desecrate and destroy Apache sacred springs and waters and will eradicate forever our traditional use of the Oak Flat cultural and religious sites and acorn gathering locations. For countless generations, we have been taught the sacredness of *dobe'cho da'szin* ("Apache Leap"), *chich'il bil nagosteel* ("Oak Flat campground"), and *Gaan bikoh* ("Devil's Canyon") watershed and stream. Oak Flat is an integral part of the ancestral homelands of the Western Apache, Yavapai, Hopi, Zuni and the Tohono O'odham people, and is formally listed in the U.S. National Register of Historic Places.

The White Mountain Apache Tribe respectively requests that the Subcommittee recommend the protection of Oak Flat, the repeal of the Land Exchange Act, and return of Oak Flat to the Tonto National Forest.

Sincerely,

GWENDENA LEE-GATEWOOD,
Tribal Chairwoman

[LIST OF DOCUMENTS SUBMITTED FOR THE RECORD RETAINED IN THE COMMITTEE'S OFFICIAL FILES]

Pueblo of Tesuque: "Support for H.R. 665/S. 173, Save Oak Flat Act and Opposition to Resolution Copper Mine in Tonto National Forest," Hon. Robert A. Mora, Governor, Pueblo of Tesuque, dated March 11, 2020.

Access Fund: "Comments on 'The Irreparable Environmental and Cultural Impacts of the Proposed Resolution Copper Mining Operation'," Curt Shannon, Policy Analyst, dated March 26, 2020.

Anthropological Research, LLC: "Statement for the Record: Oak Flat is an Important Cultural Site for Nine Tribes, The Resolution Copper Mine Will Impact Hundreds of Tribal Traditional Cultural Properties," T.J. Ferguson, Maren P. Hopkins, and Chip Colwell, Anthropological Research, LLC, March 12, 2020.

"Native American Cultural Impacts and Ramifications of Mining at Oak Flat," Nancy Freeman, dated March 25, 2020.

"U.S. Forest Service Resolution Copper EIS and H.R. 665/S. 173, Save Oak Flat Act," Rev. Karen MacDonald, dated March 11, 2020.

"U.S. Forest Service Resolution Copper EIS and H.R. 665/S. 173, Save Oak Flat Act," Sarah M. Roberts, dated March 12, 2020.

"U.S. Forest Service Resolution Copper EIS and H.R. 665/S. 173, Save Oak Flat Act," Hon. Thomas D. Wooten, Chairman, Samish Indian Nation, dated March 10, 2020.

"Testimony of the Honorable Arthur "Butch" Blazer, Former Deputy Under Secretary for Natural Resources and Environment, U.S. Department of Agriculture," dated March 12, 2020.

"Comments on the Draft Environmental Impact Statement for the Resolution Copper Project and Land Exchange," San Carlos Apache Tribe, dated December 23, 2019.

The Wilderness Society: "Statement for the Record," Mike Quigley, Arizona State Director, dated March 11, 2020.

Letter to U.S. Department of Agriculture from the San Carlos Apache Tribe, dated December 23, 2019.

White Mountain Apache Tribe: "Resolution Opposing Proposed Exploitation of Apache Leap, Oak Flat, ad Devil's Canyon (05–2006–169)," dated May 17, 2006.

Submissions for the Record by Dr. Steven H. Emerman

— "Potential Impact of Geothermal Water on the Financial Success of the Resolution Copper Mine, Arizona," Dr. Steven H. Emerman, Malach Consulting, dated September 14, 2018.

— "Projected Consumption of Electricity and Water by the Proposed Resolution Copper Mine, Arizona," Dr. Steven H. Emerman, Malach Consulting, dated March 31, 2019.

— Evaluation of Predictions of Land Subsidence due to Panel Caving at the Resolution Copper Mine, Arizona," Dr. Steven H. Emerman, Malach Consulting, dated March 17, 2019.

— "Evaluation of the Maximum Design Earthquake for the Tailings Storage Facilities for the Proposed Resolution Copper Mine, Arizona," Dr. Steven H. Emerman, Malach Consulting, dated April 1, 2019.

— March 12, 2020, Testimony PowerPoint Presentation, Dr. Steven H. Emerman, Malach Consulting.

Submissions for the Record by Naelyn Pike

— March 12, 2020, Testimony PowerPoint Presentation, Naelyn Pike, Apache Stronghold.

Submissions for the Record by Dr. James Wells

— March 12, 2020, Testimony PowerPoint Presentation, Dr. James Wells, COO, L. Everett & Associates.

Submissions for the Record by Rep. Bishop

— United Steelworkers, Letter for the Record from Roy Houseman, Jr., Legislative Director, dated March 12, 2020.

— Tonto National Forest's Record of Tribal Consultation Meetings for the Resolution Copper and Land Exchange Project, 2008–2020, USDA Forest Service, March 12, 2020.

— Land Subsidence Monitoring Report No. 4, Arizona Department of Water Resources, March 12, 2020.

— Various Comments on Resolution Copper's DEIS—United Steelworkers Union, Yavapai Apache Nation, White Mountain Apache Tribe, Hon. Dennis DeConcini, Rep. Andy Biggs, Rep. David Schweikert, County Supervisors Association of Arizona, Town of Superior, Town of Miami, City of Globe, City of Apache Junction, Town of Florence, Mesa City Council Member Kevin Thompson, USDA Forest Service, City of Phoenix Vice Mayor Jim Waring, City of Phoenix Councilman Sal DiCiccio, Arizona State Sen. David Gowan, Arizona Chamber of Commerce and Industry, Arizona State Rep. John Fillmore, Arizona State Sen. Karen Fann, Arizona State Rep. Shawnna Bolick, Arizona State Rep. Cesar Chavez, Arizona State Rep. Daniel Hernandez, Jr. Arizona State Rep. Mark Finchem, Arizona State Rep. Regina E. Cobb, Arizona State Rep. Leo Biasiucci, Arizona State Rep. Jeff Weninger, Arizona State Rep. Lorenzo Sierra, Arizona State Rep. Kevin Payne,

Arizona State Rep. Steve Pierce, Arizona State Rep. Robert Meza, Pinal Country Supervisor Pete Rios, Robert A. Reveles, Arizona State Sen. Dave Bradley, Arizona State Sen. Heather Carter, Arizona State Sen. Eddie Farnsworth, Arizona State Sen. Vince Leach, Arizona State Sen. Sylvia Allen, Arizona State Sen. Rick Gray, Arizona State Sen. Sine Kerr, University of Arizona Professor George Ruyle, Arizona Rock Products Association Executive Director Steve Trussell, Superior Community Working Group, Great Florence Chamber of Commerce Executive Director Roger Biede, Globe-Miami Regional Chamber of Commerce Executive Director Tianna Holder, Rebuild Superior, Inc., Superior Chamber of Commerce, Oddonetto Construction, Inc. (Various Dates)

— Op-Ed: "My Turn: Oak Flat a sacred site? News to me." AZ Central, by Dale Miles, dated July 23, 2015.

— Resolution Copper Submission for the Record, March 12, 2020.

— Rep. Paul Gosar Statement for the Record, March 12, 2020.

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