# WHAT'S AT STAKE IN OAK FLAT?

Resolution Copper's plan for a copper mine at Oak Flat faces resistance from groups concerned about the mine's potential impact on the area's landscape and water.

By John Washington
Photography by Scott Baxter

ENDSLER NOSIE SR., the former chairman of the San Carlos Apache tribe, mimed shutting off a giant water valve. "If I could go wherever you live … and shut the water off. You're gonna ask, 'What happened?' Well," he answered himself, "you gave all the water to Resolution Copper."

"Water," Nosie said, "is one hundred percent of life."

Resolution Copper is the latest international conglomerate to darken the door of the copper triangle—the copper-toned corridor in central and southern Arizona. In 2013, Resolution submitted a general plan of operations for a nearly 7,000-acre copper mine that would dig 1.3 miles straight into the earth outside of Superior—a plan that has been met with resistance from the Apache, environmentalists, rock climbers, birders, and other groups.

Nosie is concerned about the effect the mine would have on the Oak Flat area, located in Arizona's Tonto National Forest, about 70 miles east of Phoenix, which he regards as traditional and sacred Apache land. He worries a mining operation would deplete and poison the area's groundwater.

And, because the mine would be located in the national forest, the plan necessitated the privatization of 2,422 acres of public lands in exchange for 5,344 acres of company-owned terra.

Copper, the primary metal Resolution Mine will be digging for, is one of Arizona's fabled five Cs—boosting the state economy by about $3.5 billion a year. The company has already sunk a whopping $1.3 billion into planning operations for the proposed mine and remains at least 10 years away from potentially pulling the first flecks of copper from the ground.

Copper isn't just any metal. It is the most conductive, malleable, recyclable, myriad-use, and mostly affordable metal on earth. Unless you're a hermit or in freefall, you can't live a few minutes without using something containing copper. Copper is in your computer, your cell phone, your car, your walls, your toaster, your solar panels, your cook pots, your door knob—copper is a natural antiseptic—and every single new electronic gizmo you buy, plan to buy, or add to your overcrowded junk drawer. Altogether, the world uses about 20 million tons of copper a year. And, with more cars, more computers, more cell phones, and more houses—all of it "smart," wired, and copper-dependent—being built all the time, demand for the metal is increasing by the second.

Resolution Copper, hungry to get digging, disputes the deleterious environmental impacts of the mine, claiming effects on the water table would be minimal and would leave the surrounding land safe from contamination. The company even disputes, or at least politely declines to acknowledge, the sacredness of the Oak Flat area, known to the Apache as *Chich'il Bildagoteel*. Nosie, meanwhile, told me that Oak Flat is for Apaches what Mount Sinai is for Jews and Christians.

*At the Oak Flat campground, Wendsler Nosie, Sr., the former chairman of the San Carlos Apache tribe, holds an abalone shell and feathers that are used in prayer.*

Nosie invited me into his home one evening in mid-July. He wore blue jeans, a black T-shirt, and a black bandana; his black hair fell straight down the side of his face. He is one of the few Chiricahua Apaches in the San Carlos region; his great grandfather rode with Geronimo. His wife, Theresa, presented us with bowls of acorn stew—made with acorns harvested from Oak Flat. The three (and only three) ingredients in the stew were acorn, beef, and water. Theresa brought out a Maxwell coffee can filled with ground acorns, explaining that it was enough to feed hundreds of people. I took a pinch. It was powerfully delicious, almost warm in my mouth, like ground walnut, but earthier, denser, and without quite the sting of walnut. The stew (thick, with the hunks of beef cooked to cut-with-a-spoon tenderness) was probably the most flavorful meal I'd had in weeks, and there wasn't a single spice. "This is what they're destroying," Nosie said. "We got these acorns at Oak Flat. These acorns don't grow in San Carlos," he said, referring to the reservation.

I asked him what Oak Flat meant to him. "Now," he said, pausing, "it means death."

Reacting to the serious concerns expressed by Nosie and others, Resolution Copper counters with a lot of promises. They claim the environmental impact won't be nearly as destructive as some fear. There are aquitards—natural fault barriers deep inside the rock—that basically compartmentalize the zone they will be mining, which means groundwater outside of the aquitard-isolated

*An old stack from the original Magma Copper mining operation in Superior.*

area will not be affected. And the rare, beautiful, and critically endangered hedgehog cactus, which grows in the area Resolution will be digging, is being cultivated by the company in nurseries and planted back into the desert. "We can help save a species," Vicky Peacey, senior manager of permitting and approvals, told me. And as for mitigating factors: As many as 1,000 jobs may come to the area, the company claims, though it's unclear how many of those jobs will go to locals. Resolution is also investing in STEM education and has already hired local youth. The defense goes on.

Undoubtedly, the mine will lift Superior's short-term economy. With about 200 miners kicking up the dust in town (Resolution is already digging exploratory shafts and building infrastructure), a downtown hotel is under restoration, a steakhouse is being built, and there seems to be a perpetual line of large men holding giant Styrofoam cups at the local Circle K's soda fountain. Peacey trumpeted how skills learned by these miners are easily transferable to other industries. The campground itself, the sacred Apache grounds, the company promises, will remain open as long as it is safe, and after it's not safe they're offering to build another campground close to Picketpost Mountain. The promises are grand, but there are still serious and unresolved issues. And a promise is only a promise. As Bill Carter, author of *Boom*, *Bust*, *Boom*, wrote, "No large-scale copper mine has ever *not* had an adverse effect on the surrounding groundwater." Not to mention adverse effects on the landscape, the endangered plants, animals, and sacred indigenous sites.

*Randy Serraglio is the Southwest conservation advocate for the Center for Biological Diversity (CBD), which advocates against both the Rosemont and the Resolution mines.*

Resolution plans to use the block caving method to extract the copper, which means they will dig a 7,000- to 10,000-foot shaft—and then start carving out a horizontal corridor to extract the ore (mineral-rich rock) from below, carting it back to the vertical shaft and then elevatoring it up to the surface. It's sort of like liposuctioning the earth, but sucking out rocks instead of fat.

There are only two active block cave mining sites in the United States, both of which are tiny compared to what Resolution will be, which is one reason it's hard to predict the effects on the land and watershed. Resolution estimates that the ground surface will eventually sink around 1,000 feet—into what is termed a "cone of depression." Before any rock is extracted, however, the mining zone needs to be dewatered—it's hard to mine while you're swimming—which is cause for some concern. Resolution is already sucking water out of the proposed site at the rate of approximately 500 gallons a minute, or about 600,000 gallons a day. Resolution claims that pumping all that water out will have minimal effect, due in part to the natural aquitards, those fault lines that act as a sort of underground levee—barriers that *might* protect the surrounding area from being dewatered. The water they're currently siphoning out is treated, piped 27 miles away, mixed with water from the Colorado River, and then used to irrigate farmland.

"It's fair to ask the question: In the arid Southwest, could it be that certain ore deposits are so impactful and require so much water that they should be left in the ground?" said James T. Wells, an independent hydrologist with L. Everett & Associates, who counseled the San Carlos Apaches on the environmental impact

*Tents in the Oak Flat campground are part of the Apache Stronghold, a grassroots group of organizers protecting Oak Flat.*

of the proposed mine. He studied the project for three years, wrote a report, and issued a long letter describing his findings.

According to Wells, the mine would demand much more water than Resolution would be able to take out of the local water table (approximately 5 billion gallons a year) requiring them to tap deeper into the Colorado River water supply, which could have consequences for all of Baja Arizona. "In an era of immensely limited water supply," Wells asked, "with scientists projecting even more limited water supply to the Colorado River basin, does it make sense to commit to a 40-year project?" The mine, Wells estimated, would need the equivalent water supply of a city with a population of about 150,000 people, roughly the population of Tempe.

Wells also described the potential danger of "acid mine drainage." When minerals and metals buried deep in the earth are exposed to water or oxygen, they form sulphuric acid, which "mobilizes metals remaining in the rock" and contaminates any remaining water. Wells described "a significant threat of acidification" from the Resolution mine, which would continue for potentially hundreds of years.

Though Resolution claims that surrounding watersheds are protected, Wells notes that groundwater is dynamic. "We don't have enough information to know how decades of disturbance will affect the area," he told me.

*"Just one actor has an incredible impact on our water security. It's unfair and it's foolish."*

If controversy were gold, Resolution would be a rush. Everywhere I dig in this story I seem to strike it rich. Example: the Land Exchange bill, which granted the 2,400 acres of copper-rich federal land where Resolution hopes to start digging, failed to pass 11 times. Senator John McCain tried for seven years, and finally succeeded in passing the bill only in 2014, after slipping it in with a $500 billion "must-pass" omnibus military funding bill. Republican Representative Rick Renzi was indicted and sent to federal prison for corruption related to previous attempts to pass the land swap. Dig a little further: Senator Jeff Flake worked as a lobbyist for Rio Tinto—Resolution Copper's majority owner—and Rio Tinto affiliates have contributed to McCain's campaigns. Another lode: Rio Tinto spent years in a back-and-forth court battle fighting charges of genocide for their role in a 10-year civil war in Papua New Guinea, where they operated a copper mine. The charges were eventually dropped.

Historically, mining in Arizona has long been linked to the murder and forced removal of native peoples. Mines are noisy, dirty, and destructive. Mines bring congestion, headaches, and occasionally disaster. And, without mines, you wouldn't be reading this. The bulb above your head wouldn't glow. Your refrigerator wouldn't be cold. And the car in your driveway would be about as useful as a yard rock.

Groundwater is at the heart of the controversy over another Baja Arizona mining project, the Rosemont Mine. The Canadian mining company Hudbay Minerals' quest for copper would carve an enormous hunk out of the Santa Rita Mountains. Instead of block cave mining, the Rosemont mine would use the cruder and more traditional method—open pit—which would excise a load of mountain near Barrel Canyon, only about 30 miles south of Tucson.

"Cienega Creek provides 20 percent of Tucson's watershed," said Randy Serraglio, Southwest conservation advocate for the Center for Biological Diversity (CBD), which advocates against both the Rosemont and the Resolution mines. Writing in the *Arizona Daily Star*, UA hydrology professor Jennifer McIntosh asserted that Cienega Creek contains "some of the highest quality riparian woodland, riverine, and cienega wetlands in Arizona." Depending on who you ask, the creek will either be sucked dry, contaminated, or left pristinely untouched.

Serraglio, thin and goateed, with a knack for both old-timey sayings ("like shooting the broad side of a barn") and distilling complicated environmental studies into ear-perking apothegms ("Mining companies are part of a global gambling syndicate—basically organized crime"), has been fighting to derail the Rosemont mine project for 20 years, first as the campaign coordinator for Save the Scenic Santa Ritas, and now with the Center for Biological Diversity. In the summer of 2017, the Forest Service issued a final Record of Decision, greenlighting the mine, though Serraglio and others promise an ongoing legal battle to stop it. The 20-plus-year back-and-forth legal slog reflects what many mining companies have to go through before starting to dig. "The impacts of these projects are so broad, so deep, so dangerous," Serraglio explained, "that we need to take our time evaluating them sufficiently." Which is exactly why he, along with other groups against the Rosemont mine, sees the Forest Service's decision as premature and "motivated by politics and corruption."

*Archaeologist John Welch said, of the area around Oak Flat, "The creator made no mistake: Every single plant here is either edible or medicinal."*

"This huge mine is just too dangerous to get a free pass," the CBD wrote in a statement.

In 2012, the EPA similarly skewered the Forest Service for not "adequately assess[ing] the potentially significant environmental impacts of the proposed project," calling its Environmental Impact Survey one of the worst ever published. The EPA wrote that the "proposed project will result in significant degradation to waters." Likewise, in 2015, a Maricopa County Superior Court judge ruled that the Arizona Department of Environmental Quality was "arbitrary and capricious" in its decision to give clearance to the mine. An appeals court, in 2016, however, reinstated the permit.

Serraglio tried to sum it up for me: "Modern mining is incredibly destructive … they are going so deep they are impacting regional aquifers … changing hydrology at a fundamental level. And that is profoundly dangerous. They are creating a perpetual drain on the aquifer. I mean [in] *perpetuity*," he said.

"The sum total of water they will remove is equivalent to tens of thousands of family homes. Just one actor has an incredible impact on our water security. It's unfair and it's foolish," Serraglio said.

I asked him and others advocating against the mine what we would do without the copper that these mines provide. Roger Featherstone, of the Arizona Mining Reform Coalition (which advocates against the mine), explained that existing mines across the world are operating at less than full capacity. "Until they [increase] operating capacity, and we do a better job recycling, we don't need more mines," he said. He blamed a lot of the copper craze on commodity manipulations. Copper prices are set by an antiquated, twice-daily, Masonic-seeming meeting of the London Mercantile Exchange, in which a dozen financiers from Barclays, J.P. Morgan, and other metal-trading companies (part of what they refer to as, no kidding, "the ring") buy, sell, and set the global copper price.

Shifting the conversation back to Oak Flat, Serraglio told me, "There are places where you could put a mine, and places where you should not put a mine. Period. Oak Flat—it's sacred land."

The Pinal Mountains, one of the few areas of the world where piñon trees and saguaros share habitat, may be one of the last American homes to the ocelot. Along with that rare, lithe, and beautiful feline, the Arizona hedgehog cactus, the black-chinned sparrow, Costa's hummingbird, Lewis's woodpecker, and the gray vireo are all threatened by the proposed mine.

"Getting an ocelot on camera would be frosting on the cake," Featherstone said to me, as he opened the security box on his wildlife camera in a canyon in Oak Flat in late May. Featherstone is a nimble, large-bellied man with a bushy gray moustache and soul patch. He's a veteran of Earth First! and other environmental movements and curses like a pirate, though he has a soft spot for nature. He told me, "When I hear a canyon wren, I know I'm in a place I should be." Featherstone has spent six years placing wildlife cameras and tracking nonhuman visitors in the area, trying to establish a

baseline for which and how many animal residents make the Oak Flat area their home.

I joined Featherstone one hot day in May with archaeologist John Welch, who quipped, "The creator made no mistake: Every single plant here is either edible or medicinal." At one point we came across what Welch thought were the remnants of an Apache livestock corral, probably in use sometime in the late 19th century. We found numerous rhyolite shards and potsherds. Welch showed me first-hand evidence of long-term Apache presence in the Oak Flat area. And on Featherstone's cameras, near a spot where we three stripped our clothes and took a dip in a natural pool, we saw a bear who, the morning before, had taken her own dip, and then shook herself dry for the camera. "In the end," Featherstone told me, "I just want to protect this special place."

***(Below) Rock formations near the base of Apache Leap, east of Superior.***

*A peeling mural on an old building on Main Street depicts the heyday of mining in Superior.*

Jeff Bunkelmann, the interim dean of Science, Business, and Math at Central Arizona College, is a member of the Superior Community Working Group, which was formed by Resolution Copper to address various sticking points about the proposed mine. He is cautiously in favor of digging. Or, as he put it: "I'm not one hundred percent against the mine." He described his concerns—about the environment in general, the watershed, and the tailings—but also knows how hard it can be to live in a mining town that doesn't have a mine. Bunkelmann moved to San Manuel, just east of Oracle, only six months before the San Manuel Mine began shutting down operations, in 1999, and witnessed the exodus of its residents left suddenly unemployed, the shuttering of schools, and the decline of the local economy.

I also spoke with Mila Besich-Lira, mayor of Superior and a fourth-generation resident, whose great-grandparents came from Croatia and Mexico to work in the mines. A mine supporter, she has taken a political approach, trying to work with Resolution on establishing a code of conduct for the mine-community relationship. She told me the two parties are engaged "kind of like in an arranged marriage," which, in my understanding, may mean wreckage as much as abiding bliss. In 2013 the previous mayor and city council took an official position against the mine. Currently, the city is not picking a side, but with the mayor personally in favor and "the average person hopeful," as Besich-Lira told me, she is working with Resolution to "create a better community." (Resolution claims that more than 80 percent of Superior residents support the mine. The handful of residents I chatted with—all of whom either worked in mining or had family in the industry—were all in favor.) Besich-Lira hopes to help Superior become not "just a mining town, but a town with a mine"—a town that has an arboretum and research facility, ecotourism opportunities, a national forest, as well as hiking trails. A town that could survive with or without the quest for copper.

Another local group has a different approach. A proclamation signed by San Carlos Apache Tribe Chairman Terry Rambler states, "We must remind the world that Resolution Copper represents a dark and pernicious force of foreign interests, one that seeks to justify their mine as a matter of economics and jobs, but that no matter what they say they cannot justify the spiritual and environmental harm the mine will have." The proclamation refers to the project as a "nightmare," as well as a threat to religious freedom, and "our beliefs, our spiritual lives, the very foundation of our language." It is signed by leaders not only of the San Carlos Apache but also the Tohono O'odham Nation, Yavapai-Apache Tribe, Havasupai Tribe, Kaibab Paiute Tribe, Soboba Band of Luiseño Indians, Hualapai Tribe, the Navajo Tribe, and religious organizations and leaders from around the country.

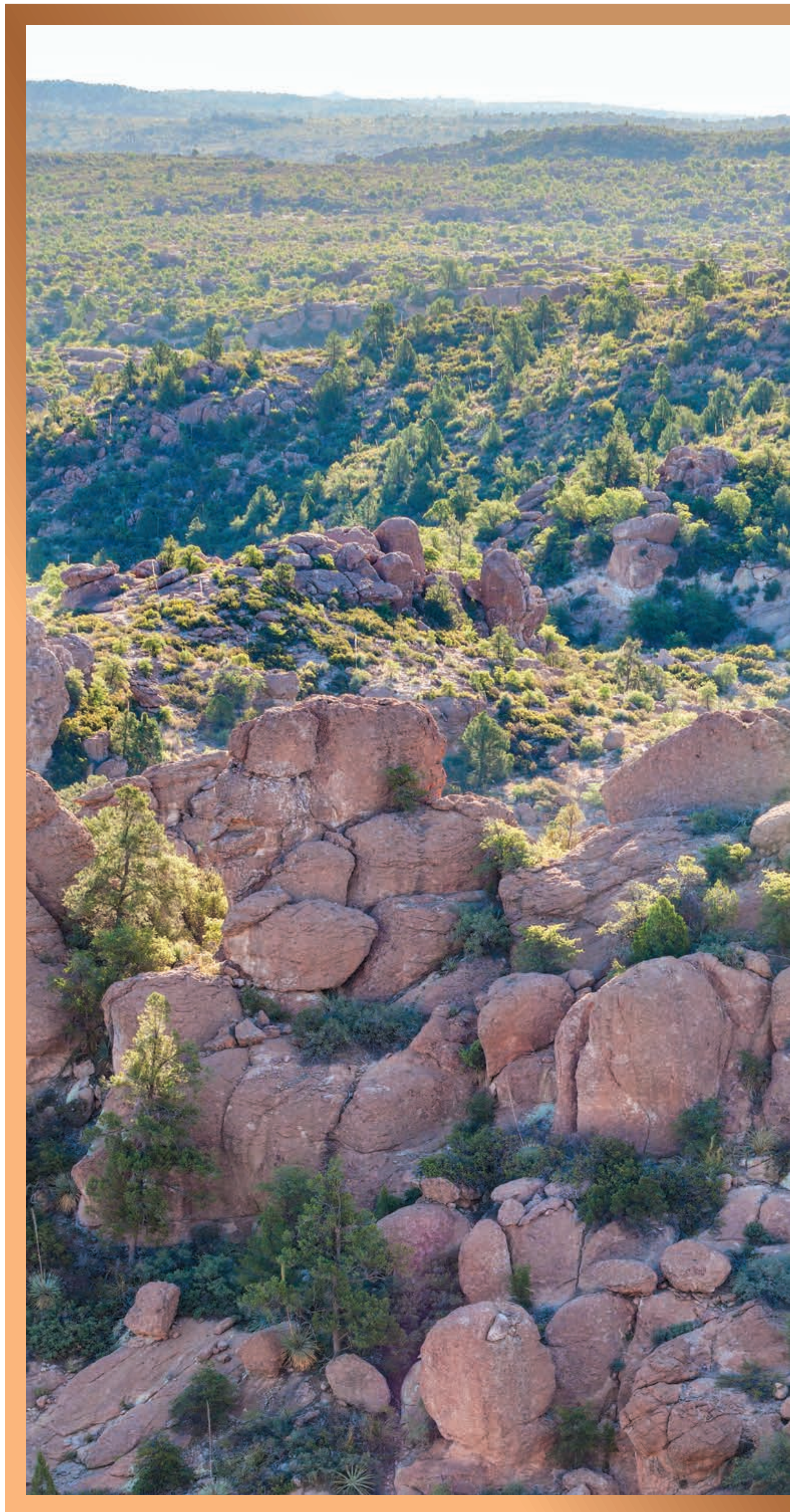
Above a flat screen television in Nosie's family room hangs a framed 1881 photo of his grandparents, titled "Chief Nosie and wife of the Chiricahuas." The other walls are covered in large photos of his daughters participating in sunrise ceremonies—elaborate coming of age ceremonies in which girls go through rituals, including being sprayed with a mixture of cornmeal and clay. In recent years, Apache girls are starting to have their sunrise ceremonies at Oak Flat.

Apaches have spent centuries pushing back against colonial policies of extermination and assimilation. Archaeologist John Welch traces the correlation between the rise of mining in Arizona and the decimation of the Apache and Yavapai. The Apache "occupied the Globe-Miami mining district up until the 1870s, and then they didn't. They were extirpated," Welch told me. Mining magnates in the 19th century, Welch explained, "wanted clear and unencumbered access" to mineral rights—a desire that translated into the killing and relocation of Native people in order to entice essential capital investments from Europe. This has been what Apache people have been struggling against in Arizona since the 19th century. Nosie referred to his parents and grandparents, forced onto the reservation, as POWs.

I asked Nosie if he thinks Resolution will eventually dig a mine. "No," he said. "There's too much. The water. The animals. The religious aspects. The contamination. I have faith in all the people." He paused. "If Arizona people put pressure on our leaders … the mine can be stopped. There are too many wrongs. It's that simple."

When I asked Nosie about the long legacy of Apache resistance to colonialism, he described his changing attitude toward the government. They're no longer his principal adversary. Rather, it is the corporations, he explained, who are tearing apart the environment and traditional life. You have a choice between living a corporate life, he told me, or a community life. In his view, the mine will be another step in the dismantling of community life and the advance toward corporate life. It is, he said, the "corporation which destroys the future."

Nosie explained the Apache distinction between male mountains—which are bare, rocky, have no water and little life—and female mountains—areas like Mount Graham and Oak Flat, where there are natural foods and medicines. "If you're going to dig a mine," Nosie said. "At least do it on a male mountain. Not a female mountain."



Driving east out of Superior, after passing through the Queen Creek tunnel, you burst into view of a skyline of variegated hoodoos, which stand as if in guard of Oak Flat. The surrounding umber red of the rock and the startling green of the spring-drenched piñons and mesquite, the occasional arm shafts of saguaros or the yellow spike of agave—it all adds up to the feeling of something holy.

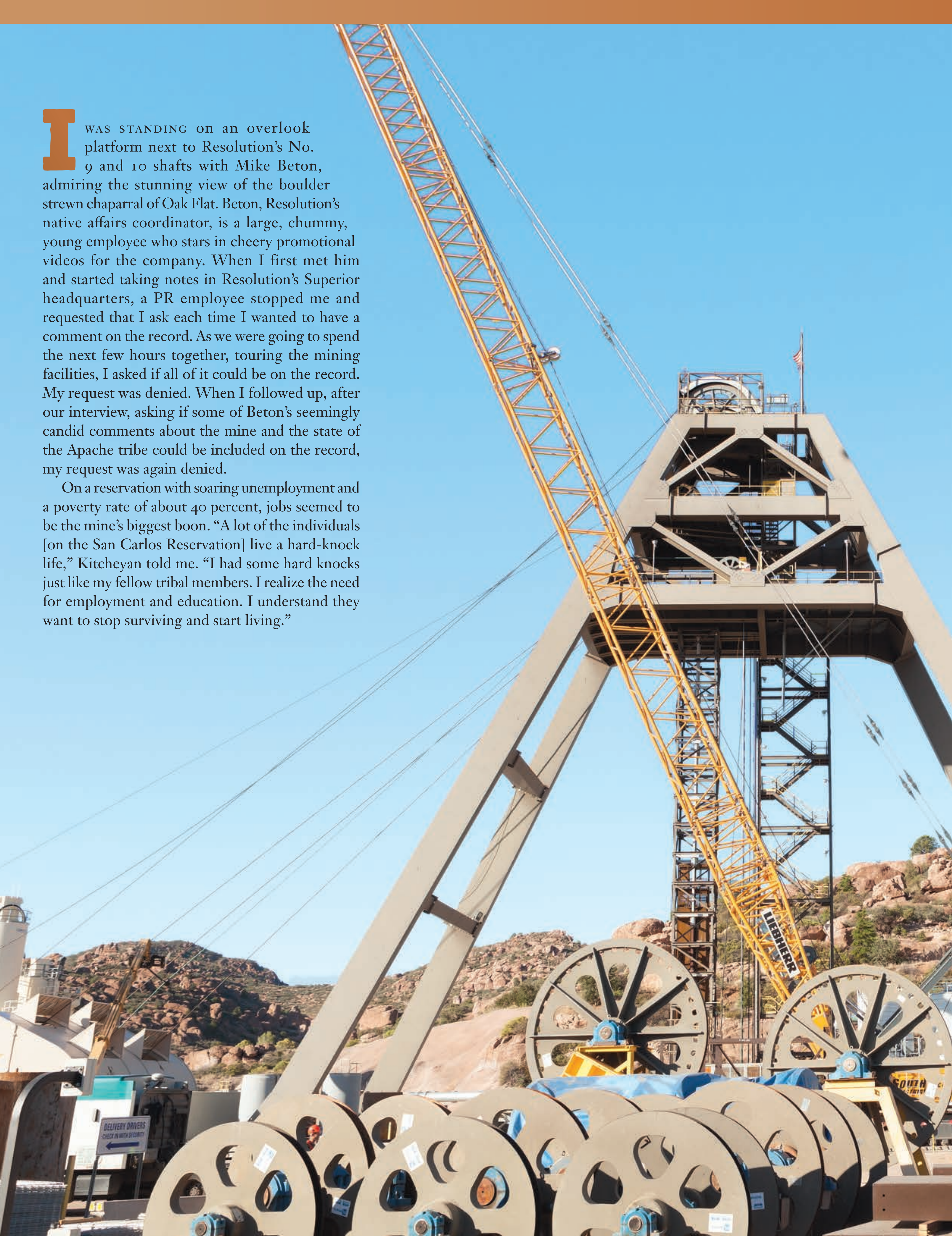
When I tried to clarify Resolution's position on whether Oak Flat was sacred ground or not, I was met with consistent dithering. On a conference call with three Resolution employees, including Vicky Peacey and Tara Kitcheyan, Resolution's senior adviser on Native American affairs, Peacey told me, "Some say it's sacred and some say it isn't. We don't really get involved in that conversation." She continued: "If some people say it's special, then can we avoid some of the areas they believe are special? If not, can we minimize the impact?" Special, however, is not the same as sacred.

I had to ask multiple times for a direct response from Kitcheyan. Finally, Kitcheyan responded: "I don't want to speak on behalf of anybody." There are multiple clans which make up the people generally referred to as Apache, and she said in her tradition, Oak Flat was not a sacred site. Later, I spoke with Kitcheyan's cousin, Karen Jones, one of the few Apache members of the Superior Community Working Group, who, though concerned about the environmental impacts of the mine, repeated to me that, as she was taught, Oak Flat is not one of the traditional sacred sites.

Peacey told me: "Who are we to dispute what people believe? Don't all views get respected and have a voice?" I pointed out that digging the mine would be disputing a belief—it's either saying that the claim Oak Flat is a sacred space is invalid, or that it is valid but not sacred or significant enough to stop Oak Flat's destruction. "All land is important," Peacey replied. "And all water is important."

Vernelda Grant, director and tribal archaeologist of the San Carlos Apache Tribe Historic Preservation and Archaeology Department, told me that Apaches have been using Oak Flat and the surrounding area for food and medicinal purposes, as well as holding various tribal and personal ceremonies there for hundreds, if not thousands, of years. Only in the last few centuries have they been called upon "to prove that we have been present in Oak Flat for all these years," Grant explained. "Our ways of life did not include documenting and keeping records of areas or property. We roamed free within the area bound by holy mountains that are alive with prayer. Mountains that we believe our creator made for us to live within."

*A proposed drilling site in the Oak Flat area.*




I was standing on an overlook platform next to Resolution's No. 9 and 10 shafts with Mike Beton, admiring the stunning view of the boulder strewn chaparral of Oak Flat. Beton, Resolution's native affairs coordinator, is a large, chummy, young employee who stars in cheery promotional videos for the company. When I first met him and started taking notes in Resolution's Superior headquarters, a PR employee stopped me and requested that I ask each time I wanted to have a comment on the record. As we were going to spend the next few hours together, touring the mining facilities, I asked if all of it could be on the record. My request was denied. When I followed up, after our interview, asking if some of Beton's seemingly candid comments about the mine and the state of the Apache tribe could be included on the record, my request was again denied.

On a reservation with soaring unemployment and a poverty rate of about 40 percent, jobs seemed to be the mine's biggest boon. "A lot of the individuals [on the San Carlos Reservation] live a hard-knock life," Kitcheyan told me. "I had some hard knocks just like my fellow tribal members. I realize the need for employment and education. I understand they want to stop surviving and start living."

The mine would bring significant financial opportunities to the Apache people, but it would also, perhaps, bring devastating environmental impacts, as well as the destruction of a sacred site. Once more, Apaches are forced to choose between two bad offerings. Mine or don't mine. Assimilate or be marginalized. Run or fight. While Beton was kept mum by Resolution's PR machine, Nosie had an answer for me. Education and agriculture, he said, are two paths to the future. And, as he sees it, an untouched Oak Flat is necessary for both—for cultural and spiritual continuity, as well as for the necessary clean water for their crops.

Even as the sacredness of the site remains in dispute, there are numerous cultural and archeological sites in peril in the Oak Flat region. According to Scott Wood, the Tonto National Forest archaeologist, Oak Flat contains "the single largest Apache archaeological site currently known," as well as hundreds of other nearby sites. Vernelda Grant said, "The entire place is significant and holy."

As I was leaving Nosie's home, after hours of conversation, he tried to squeeze in one more description. "Oak Flat is a grocery store, a hospital, a church. It's a community of its own. For 40 years of [mining], they want to destroy it forever." Wells, the hydrologist, said, "the consequences" of digging one of the largest copper mines in North America "are permanent. There is no reclamation for a mine like this. The reclamation for the collapse zone is a big sturdy fence."

SHOULD THERE BE A MINE at Oak Flat or in the Santa Ritas? Either way, some people will lose—and lose either billions of dollars or priceless religious grounds. Is Oak Flat as sacred as Nosie insists? Or has Oak Flat been synthesized into a symbol of centuries of marginalization, oppression, and extermination? Either way, the symbolic value of Oak Flat is encouraging in those against the mine expressions not of rage but of a deep sympathy toward the earth—as well as a critique of extractive capitalism. "Capitalism," Serraglio said, "has so distorted our perception and relationship to the land that it's become profoundly dangerous. It just breeds irresponsibility."

If we continue down the path of intensive consumption—gobbling and trashing resources, burning oil, scrapping metal, and clear-cutting trees—we *will* need more and more copper. The Resolution team is right: All land is sacred, not just Oak Flat. But Nosie is also right: All environmental sacrilege is devastating, and devastating to what makes us human.

Serraglio described mining as the "profligate consumption of resources." We buy and discard, buy and discard. Cars, phones, computers, and houses today are all electronic, plastic, and copper-filled whizbangs. Maybe the question is simpler, and much more difficult, than the question of to mine or not to mine. And maybe the answer does not lie in the question of *to dig or not to dig*, but: how does the way we live affect the planet we live on? ✜

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*The drilling rig installed by Resolution will drill approximately 7,000 feet down, and one mile out horizontally.*