

# **“Our National Forests at Risk: The 1872 Mining Law and its Impact on the Santa Rita Mountains of Arizona”**

February 24, 2007

Testimony from Cynthia Lunine

My thanks go to Congressman Grijalva and the committee and guests here today to hear these comments and consider diverse perspectives on a historically powerful process of land modification in the southwestern United States. I am grateful to all those who are willing to step forward at a national level to advocate bringing our laws in line with current American values and realities.

It is because I would so much like to see true reform accomplished in my lifetime that the following comments are balanced between a desire to live within and adjacent to an uncontaminated environment that is beautiful and protected from devastation and a recognition of the dependence I also have on minerals in my lifestyle and the respect that I have for people of integrity that I know and who work in the mining industry.

The viewpoint that I will attempt to describe is that of a small landowner living for 12 years at the southern base of the Santa Rita Mountains; the previous 18 years in Tucson, Arizona, and a childhood in the small town of Lordsburg, New Mexico. All of my life I've lived close to mines and their influence and this testimony will be a personal opinion of how mining has affected my family and the various communities that I've been a part of. Part of the perspective has been shaped by exposure to both economic and political careers of members of my family. My uncle, Claude Wood, was the top aide to Senator Clinton P. Anderson throughout his Senate career (1949-1973) and took over many of his duties as the Senator suffered from Parkinson's disease in his last two terms. He has inspired me with stories of the delicate and protracted years of negotiations that resulted in the Wilderness Act of 1964, legislation whose final form and reality of passage owes much to the Senator's talent in deal-making and integrity, but also to the skill of a tightly-run staff and their behind-the-scenes activity.

My family roots in the southwest extend back to the late 19<sup>th</sup> century when the West was being settled; my ancestors were looking for land to make a living upon and took advantage of the Homestead Act and hard work to eventually stay in southern New Mexico along the Gila River near Red Rock for my mother's parents and south of Lordsburg for my father's. Both sets of grandparents had small ranches where they raised a few cattle from time to time, but mostly angora goats for their mohair. This was the early 20<sup>th</sup> century and the land was dry and arid, and ranching was always very marginal for small land-owners and people often had to work at other activities during periods of drought or depressed economies. My mother's father worked at least at one time of his life hauling ore for mines south of Lordsburg; an uncle was employed at various mines (the Banner, Bonney, the 85 Mine) in the 1930s & 40s and had a few of his own small claims that he worked on and off for years. In my childhood, once a year another uncle, Jack Ewing, came to do his annual assessment work on claims near Steins, NM, and I would always enjoy going along to help with what I could and be in the outdoors and pick up samples of ore from the floor of the tunnel. Uncle Jack still does the assessment work today, in order to keep the claims, although the mine hasn't been actively producing for decades. I am not averse to

extractive activities on public land. A few years ago I purchased a permit from the Forest Service to take out landscape stones for building walls around our home. My permit was just adjacent to the land now owned by Augusta. We did most of the work by hand ourselves and were always very careful to leave no visible trace by selecting only some stones, by filling in any holes and by not taking stones from sloped areas that could erode.

### **Small Mining Operations**

There are two points to be made regarding small (under 5 acres) mining activities. The first point is that small mining has been both economically important and perceived as a treasured “right” within individual families and small communities in the southwest and politically has blocked mining reform because of the large numbers of citizens who are involved in it or support it. The perception has been that reform of the 1872 Act would eliminate or seriously reduce the ability to participate even in limited activities such as panning for gold or taking small amounts of turquoise for jewelry manufacture. In 1977 Mo Udall proposed a bill to repeal the 1872 mining act, a move that met with punishing resistance in Pima County in particular and Arizona in general. Mining law historian Charles Miller (Miller 1991 p. 245-246) writes, “*The ‘little man,’ the ordinary prospector/miner and small businessman, was the primary opponent of Udall’s proposal. Congress had initially directed the Mining Laws of 1866, 1870, and 1872, at this group. Over a century later considerable evidence exists that the “little man” who was supposed to benefit from the law was still doing so, at least psychologically.*” Representative Udall’s proposal was dropped and serious attempts at reform of these laws was not again attempted until 1990, and was narrowly defeated then. Perception is paramount.

The second, some might say opposing point, is that in my experience on the land all of my life, small mining activities are rarely cleaned up or filled in, and are extremely hazardous on a number of levels. My mother’s direst warnings to me when we hiked in the hills was to look out for holes, because there were open shafts and tunnels that were not protected by wire fences or filled in. I still see these when we go out south of Lordsburg on my Dad’s family’s ranch (now owned by Ed & Lindy Kerr). Every once in awhile one would hear of someone falling in and either being injured or killed. Those people (usually young men, although I did it a couple of times too) who climbed down without injury reported skeletons of wildlife at the bottom, so they obviously are hazardous to wildlife, and ranchers still lose an occasional animal.

This is only the most obvious hazard. Another hazard that I’m now more aware of is the possible level of toxicity to tailings or waste piles left behind after yet another mining company declared bankruptcy or left without cleaning up. Only lab tests would tell which heaps of mining materials I and my family have climbed up and down on are dangerous to touch or breathe dust from, but it’s very difficult to hike off-trail for any distance in southern Arizona or New Mexico without encountering one. Abandoned works of small mines are reputed to pollute ephemeral drainages such as those running into Temporal Gulch, north of Patagonia, where local residents warn you not to drink or let your kids wade in the water. Mansfield Canyon has been referred to as a superfund site. Flux Canyon, south of the town, is scheduled for another round of expensive cleanup because of small mining activities that left toxic materials leaching into drainages and exposed to wind. I just spoke (Feb. 21) with

John Millikin, Arizona Game and Fish Unit Manager (south of Highway 82) who said that high levels of toxic minerals in perennial streams or springs would prevent reintroduction of threatened or endangered species of fish or amphibians. He also reiterated common knowledge that the laws don't have too many teeth in requiring adequate cleanup of mining activities. (see also the discussion of Wildlife Impacts from Kurt Bahti, in later paragraphs)

In addition to hazards, mines destroy property values. My mother's family home and adjacent 300 acres came on the market again from the family who bought it from them in the 1950s. It is the ranch located closest to the National Forest at the mouth of the box on the north side of the Gila River and is beautiful country. My husband and I wanted to purchase it as a link to our family roots, to hold for retirement, to encourage a local tenant to do a little farming. What we found was that it had been devastated by mining. A fluorspar mine across the Gila River had been allowed to dump all the mill crushings/tailings on the land in a huge multi-acre surface, I believe in the 1970s or 80s. In addition, Phelps Dodge bought all the water rights to the property except for a residential permit, making agriculture unfeasible, even though the property includes productive agricultural wells. The property is still on the market, but will be a difficult sell because it has been heavily degraded. Phelps Dodge has been known in that area (Red Rock) to have bought numerous water rights from retiring or financially needy ranchers and farmers along the Gila River. This transference of water from agriculture to mining is allowed by law, but can make huge changes in culture as well.

### **Small Communities and Boom-Bust Mining Economy**

Urban centers, such as Tucson, are large enough to absorb the surge of prosperity as mines and mineral prices rise, then deflate precipitously as the mine works out and /or copper prices plummet. Small communities—Superior, Arizona, Lordsburg, New Mexico (where I grew up), and Sonoita, adjacent to the proposed Rosemont Mine are not so resilient to the large-mine economic reality.

My father, Fred Ewing, worked in the bank in Lordsburg for all of my life. He had been driven from ranching by the drought in the 1950s and took a job in town and worked his way up to retire in 1989 after a long tenure as president (First National Bank, now Western Bank). As his daughter, and working summers at the bank during college years in the 1970s, I had an inside picture of the local economy. The Tyrone mine employed many local people from Lordsburg during that time, the smelter at Playas, NM took several years to be built by the Brown & Root Corporation out of Houston, and those times allowed people to buy homes, cars, pickups, and make good money. The bank opened a branch at Playas, built a building, employed a couple of people full time. Tyrone built a little town, complete with supermarket and gas station. Another cluster of homes was constructed at Playas. But when copper prices plunged, when the smelter was finished, when it shut down completely, those people were out of work and the businesses were just gone. The supermarket at Tyrone never re-opened, even though Phelps Dodge's mine is back in operation. Those low-quality homes are more of an eye-sore and maintenance nightmare than cherished neighborhoods (Homeland Security recently bought the town of Playas to use as some sort of training center). Silver City's economy seems to be fairly robust because of its climate and beauty and proximity to the Gila National Forest and Wilderness recreation areas. Lordsburg, at this time, is crumbling. It's my opinion that a very

large factor was the inability to recover after the last wave of mining left. Even now, a couple of years into the new mining “boom”, because small businesses hadn’t survived the previous bust, there’s inadequate shopping, very little recreation for kids, no parks, deteriorating housing. My aunt’s brick home was placed on the market, years ago after she passed away, at a bargain \$36,000 and just sold last year at a paltry \$12,000. The influx of Border Patrol workers hasn’t made much difference; they all live in larger communities such as Silver City or Deming that have always had more diverse economies & commute an hour to Lordsburg for work. In Superior, Arizona, friends of mine bought a pharmacy a couple of years before the mine closed (early 1980s?). They told stories about the surge in shoplifting that occurred in their business after the economy collapsed, and they lost their investment in the business.

The critical aspect of the modern large mining economy to small communities is that the cycle is so long—usually ten to twenty years—that people become very rooted to their jobs and their community. No one is going to take a menial low-paying service job if they can work for a well-heeled mining company with excellent pay and benefits. The mining company doesn’t tell them that most of these jobs will be gone sooner or later, at which time their family will be unemployed and most likely, untrained to do other skilled work. They are not required to retrain and relocate workers or provide bonds that provide for this activity. If workers do leave to find other jobs, what about the community they leave behind? They don’t say that the local economy will possibly collapse and businesses will leave empty, boarded-up buildings and loans that go into default. They don’t point to higher crime statistics and higher levels of dependence upon public assistance. And small communities often do not have the sophisticated and deft political clout that can demand that the mining company pay for required infrastructure upgrades in times of prosperity. Once again, the laws have no teeth.

Our son is now 11 years old, in fifth grade at Elgin Elementary School. If there is an opening of a Rosemont open pit mine with a 20-year “boom” of production, he will, most likely, be just starting a family when the “bust” occurs. If he has chosen to stay in the Sonoita area, I would say with some certainty that it will be enormously difficult for him to maintain whatever job he had here and he may have to move away from his childhood home, along with many of his friends.

The little village of Sonoita is far too small to survive one of these cycles unscathed. It mustn’t be allowed to occur.

### **Mining Profits Leaving the United States**

I have not read the Mining Laws and may not understand them if I did. I know, however, that Augusta is a Canadian company and that much of the money produced from this mine would leave the county, leave the state, and probably leave the country (depending on who the owners and investors are). Evidently, Augusta has some interests in the Patagonia Mountains as well, and residents there (personal conversation with Don Wenig) have publicly expressed dismay and frustration at the lack of information and at the fact that any profit would be gone forever. Yes, some jobs are created and some cash would end up in Arizona, but I’ve been told that it is one industry that gets a free ride by not having to pay royalties on the minerals extracted.

It's an archaic and economically unsound system that was developed for frontier times, not for the 21st Century. These areas need to be withdrawn from mineral exploitation.

### **Health Concerns**

As we waited for a Pima County Supervisor's meeting to convene late last year, people sitting close to me, from Green Valley, talked about how their houses and yards would get covered with dust from the tailings piles of the mines along I-19. They had come to protest the Rosemont Mine initiative, as had I, and knew directly what it was to live with the aftermath. What is the health hazard to that dust? Evidently, nobody knows with certainty, even now.

A couple of days ago (Feb. 20) I called my friend and neighbor, Mary Kay O'Rourke, a researcher at the U of A medical school who does this kind of work (O'Rourke 2007). She authorized me to quote her in this testimony and described the difficulty of unraveling causes and effects of contaminants on human health of people living in mining communities. She sent me a few copies of journal articles, one of which concluded that "*High serum copper, low serum magnesium, and concomitance of low serum zinc with high serum copper or low serum magnesium contribute to an increased mortality risk in middle-aged men.*" (*Epidemiology* 2006;17: 308-314)

Her e-mail response to my questions about whether epidemiology studies had been done with people living near mines comes down to the difficulty in separating out causes from mining versus problems that would occur even if a mine weren't further exposing existing minerals to the air & water. Higher than normal levels of Arsenic, for example, are found in test subjects in some mining towns, but not in all (O'Rourke, et. al., 1999). People move in and out of communities and may have been exposed to toxins from other sources. In the case of arsenic, the researchers had to correct for those people who had high levels because they ate a lot of fish.

So, it's not so simple. But I don't want my child growing up breathing that dust, or drinking water downstream from an open-pit mine.

It is, however, pretty easy to predict what can happen when traffic increases along Highway 83 between the Rosemont site and I-10. Someone counted the number of school buses that traverse that section of highway twice a day—I don't remember the number, but I do know that many kids from Sonoita and north of there go to high school and middle school in Vail and that's who is in the buses. And I know from training and experience as an Emergency Medical Technician that higher traffic translates into more accidents. Are our kids going to be on the road with mining trucks? With workers speeding because they're late to punch in? Contractors delivering supplies who are behind schedule?

What about people in Patagonia as mining reawaken old claims in the Patagonia Mountains because the price of copper is now so high? How will mining impact their water quality? Who will see to it that adequate bonding is secured to do truly effective cleanup?

What does “reclamation” really mean in practical terms? I haven’t seen anything on mine tailings/overburden sites that is convincingly sustainable, no matter how mining companies make progress. (attached photos of Tyrone reclamation slopes) The fine material of the tailings will inevitably erode in many places after the mining company has left. Because they have been through a crusher mill, the tailings will always be finer particulates than adjacent consolidated soils. What water and air contaminants will leach out of those finer-than-natural particulates? In PD’s own words on a sign in front of their newly graded tailings slopes it says, *“There will always be evidence on these private lands that this was a mining district.”*

### **Mining from Space**

Our actions as a society leave a legacy for the future. Do we want Arizona’s legacy to be a continuation of landscape devastation? A number of years ago, an astronaut took pictures of Tucson from the space shuttle (Jones, STS059) and sent one to my husband, Jonathan. He did his doctoral work at the University of Arizona Lunar and Planetary Laboratory and lived in Tucson for a number of years, then went on to NASA and flew on several space shuttle missions. It’s ironic that the most visible evidence of Tucson is the mine complex. When I spoke with Tom (now retired from NASA) on the 20<sup>th</sup> of February, he told me that the Great Wall of China, one of the world’s largest man-made structures, is not visible to the naked eye from space as many people believe, but these mine sites are. What are we leaving for future generations to see of our work on the planet?

### **Visual Resources**

The site for the Rosemont mine has the misfortune to be centrally located in one of the most scenic vistas along the Patagonia-Sonoita Scenic Road, the state’s second officially-designated scenic drives (designated in 1985). Criteria from Arizona’s process and a tour of this road were part of the development of Federal legislation know as National Scenic Byways in the Intermodal Surface Transportation Efficiency Act of 1991. In 2003, the Arizona Department of Transportation (ADOT) released a Corridor Management Plan (Wheat & Scharf 2003) that represented hundreds of hours of community-volunteered time and many thousands of dollars spent by ADOT to plan for protection of the values inherent to the corridor. Out of 23 values assessed, *“scenic overlooks along the corridor”* ranked in the top 3, along with the Patagonia-Sonoita Creek Preserve and the Las Cienegas NCA (the corridor includes the start of State Highway 83 from I-10 in the north to Sonoita, then turns right and follows Highway 82 through Patagonia to Nogales).

That overlook is my favorite view, with its series of folded, oak-studded ridges; the dramatic skyline of Mt. Wrightson shoots up on the left and jagged ridges and the Gunsight slot spread out on the right. Because the highway is very close to the top of the pass here, it would expose even more of the mine’s devastation to view than if it were lower. People stop in the pullout and take pictures.

I am one of the citizens who attended many of the management plan meetings, and later became a member of ADOT’s Development & Construction Review Committee that has met regularly, for the past 2 years, with the Tucson District Engineer and his staff and a coordinator in Tucson to attempt to monitor and advise them of ongoing

local concerns. A lot of time and energy and state money has been spent to date to work on the values contained in the Corridor Management Plan. Initiation of the mine would invalidate much of that effort by industrializing the entire northern end of the drive. Tourism is the primary industry in Sonoita and Patagonia and many people come just to do that drive. Tourism is sustainable over generations, mining is not.

### **Wildlife in the Santa Ritas**

Kurt Bahti is Field Supervisor for Arizona Game and Fish for the sector that stretches from I-10 to Mexico in the south, and from the Tohono O'Odham Reservation to Sulfur Springs Valley near Wilcox. It includes the Santa Rita Mountains. Kurt is also a long time resident & landowner in the foothills of the mountains, east of Sonoita, has worked for 25 years here, and was previously Wildlife Manager in the Santa Rita Mountains. He has the local reputation of knowing these mountains better than just about anyone and is trusted by all the people I know to give honest, direct, detailed, and highly useful advice about issues pertaining to wildlife and natural resources. I spoke to him Feb. 21 about the issue of mining in the Santa Ritas and he authorized me to quote him in this testimony.

When asked about the effects of the proposed Rosemont Mine on wildlife, he answered unequivocally that it would be disastrous to wildlife in the northern portion of the range. He said that although he doesn't know the exact size of the footprint of pit, overburden, tailings and operational facilities, that a boundary extending from one to two miles around it would potentially affect wildlife populations and behavior, depending on the species and their sensitivity to various human activities and the mine would disrupt wildlife corridors and fragment habitat. He mentioned existing populations of whitetail deer, javelina, mountain lions, and bear that would be affected, along with many smaller mammals & amphibians. He noted that a couple of natural springs in the area that supply water to wildlife would likely be compromised, and that it would make reintroduction of the Tarahumara frog to the area not possible because of their sensitivity to changes in acidity in their environment. He is concerned that their current reintroduction of wild turkeys into the Josephine drainage (April of last year and again last week) would not spread the population as they would expect from the success they've experienced in the Huachucas, if the mine is developed.

I asked Kurt about any problems from historical mining in the mountains and he told me that he had had water samples from an area that used to be mined in Mansfield Canyon tested for Ph (acidity) and the results showed a startling 2.1. As an example of what that level, or similar levels of acidity does, he told me he had worked bare-handed for a few minutes in the mud in Happy Jack canyon (site of another extensive mining tunnel complex) to release some dammed-up water and got up to realize that he no longer had fingerprints on his fingers. They had been burned off by the acid. Other anecdotes are common locally—people talk about sitting down on a rock covered with the ochre precipitate and getting up without seats in their jeans. Kurt noted that although wildlife naturally stay away from water that smells bad or is heavily acidic, he suspects they would drink water that may contain unsafe levels of heavy metals or other contaminants that cannot be smelled or tasted. Game and Fish has not performed these tests on the waters in drainages in the Santa Ritas. Once again, amphibians or native fish cannot live in water that is contaminated by acidic mine leachings & effects of metals are unknown.

## Summary

Copper and other valuable minerals are useful and prominent in everyone's life. It is necessary, however, that their true cost be reflected in the manner in which they are extracted and that extraction does not destroy valuable landscapes, wildlife habitat, recreational resources, and local cultures. Our laws and costs of metal must reflect our most deeply held values, not the ephemeral values of profit and instant gratification.

Values that Americans commonly hold--those that history has validated--dictate that issues of such major impact not be left to the primary influence of the market and profits and short-term gains. The copper will be there for future generations who may have greater wisdom and technology to extract it without destroying everything else, should there be a national crisis. But just because copper sells for \$4 a pound right now doesn't make it the right time to dig it out; this land is too precious to too many people to be utterly destroyed.

Please initiate mineral withdrawal for land in the Santa Rita and Patagonia Mountains.

Once again, I extend gratitude to those of you who are willing to undertake this activity with the wisdom of reading history, the years of persistence that will be required, and the love of this land and its people.

Sincerely,  
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### *Postscript:*

I would recommend a very concise and well-written account of Anderson's career, written by Senate historian Dick Baker, for historical details of the issues of western conservation legislation, including interests of mining, which played large in the landmark Wilderness bill. The book is *Conservation Politics The Senate Career of Clinton P. Anderson* by Richard Allan Baker, UNM press, Albuquerque 1985. Another good, but short account of legislative history is *Miller's Stake Your Claim! The Tale of America's Enduring Mining Laws* (cited below).



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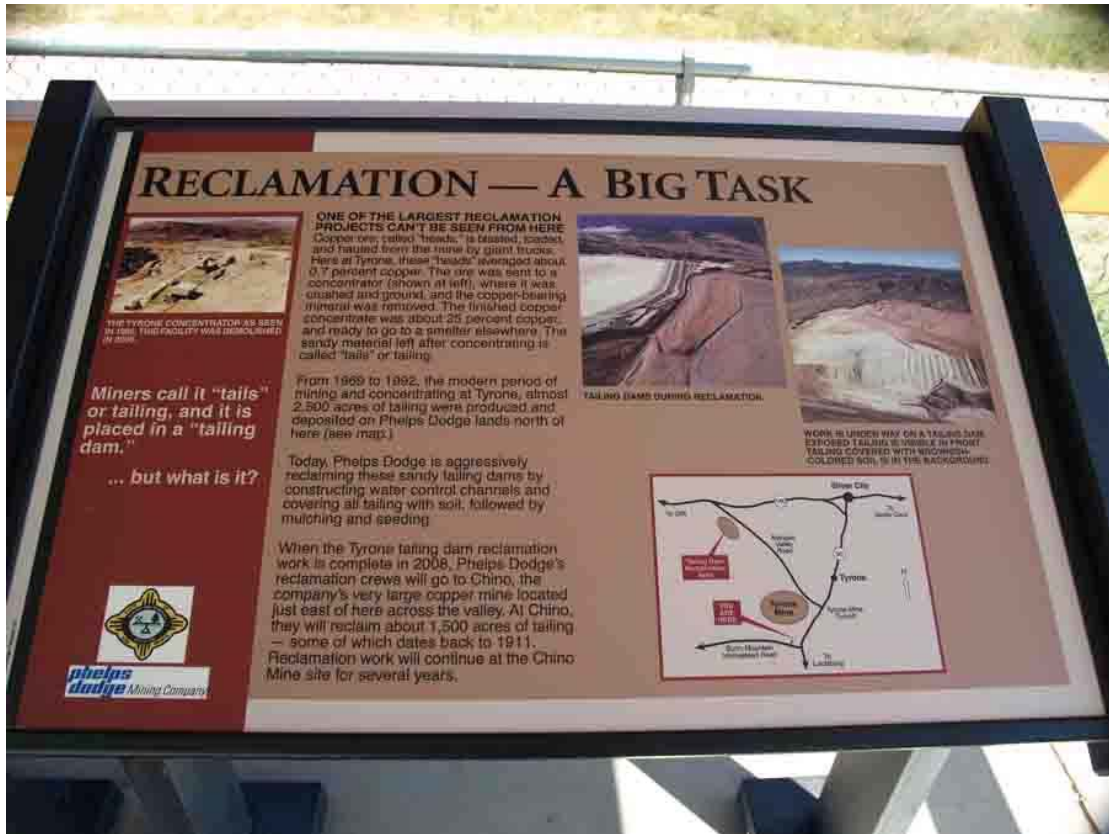
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Tucson from earth orbit; mine scars are in upper left corner (NASA image)



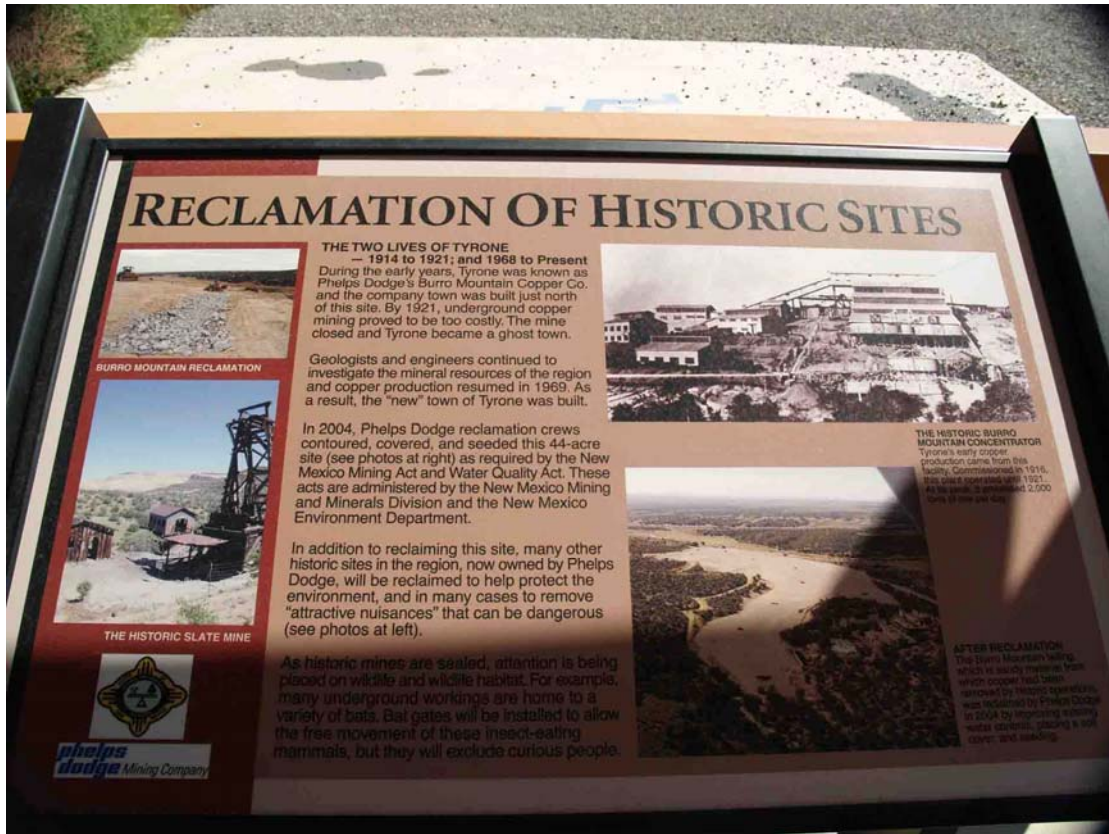
Zoomed out view; Santa Rita Mountains are at lower left corner (NASA image)



At Tyrone Mine: Note photos of soil-covered C slopes (photo by. Lunine 2007)



Tyrone mine: see statement at the bottom regarding limited reclamation goals (photo by C. Lunine 2007)



site in lower left is finished result of reclamation by PD (photo by C. Lunine 2007)



reclamation of slopes at Tyrone Mine, September 6, 2006 (photo by C. Lunine)