

Meeting #16
Field Trip
March 12, 2014 Meeting
MEETING SUMMARY

Meeting Attendees

Community Working Group members present:

George Martin – JF Ranch
Lynn Martin – JF Ranch
Fred Gaudet (for Matt Nelson) – Arizona Trail Association
Nancy Vogler – LOST Trail & Superior Copper Alliance
Bill Vogler – LOST Trail & Superior Copper Alliance
Pam Bennett - Queen Valley HOA
Cecil Fendley – Queen Valley Water Board
Bruce Wittig – Queen Valley Water Board
Roy Chavez - Concerned Citizens and Retired Miners
Matt Nelson – Arizona Trail Association
Kim Stone (for Mark Siegwarth) – Boyce Thompson Arboretum

Community Working Group members not present:

Pam Rabago – Superior Chamber of Commerce
Jeff Bunkelmann – Central Arizona College
Mark Siegwarth – Boyce Thompson Arboretum
Steven Byrd – Superior Junior-Senior High School
Dominic Perea – Superior Junior-Senior High School
Martin Navarrette – Superior Little League

Resolution Copper:

Vicky Peacey – senior manager of approvals, communities & environment
Frank Deal – tailings manager
Rich Heig – technical management
Chris Pascoe - mining engineer
Greg Ghidotti – mining engineer

Facilitators – Godec, Randall & Associates (GRA)

John Godec
Debra Duerr

Guests:

John Rendall – Arizona Trail Association
Pablo Burghardi – USFS and Arizona Trail Association
Laura White – USFS and Arizona Trail Association

Housekeeping

Erica Real of Resolution Copper showed a safety training video to attendees, and asked everyone to sign a site pass. The group gathered in several vehicles for a trip to the tailings site location.

Tailings Site Visit

A lookout point for the tailings disposal area was located along Hewitt Station Road. Frank Deal gave the group an overview of where the facility would be located, approximately bounded by Potts Canyon to the east and Robles Canyon on the west. He said the pile would be about 500 feet tall at completion, growing about 25 feet per year for the first ten years, then about 3 to 4 feet per year after that.

Several representatives from the Arizona Trail attended, and so were particularly interested in how the site would affect the trail alignment and scenic views. Deal had a map showing the trail relative to the tailings facility, and told the group that Resolution is working on preparing a visual simulation based on Google Earth that would allow them to look at how the facility will develop over time.

The group's questions and comments included the following:

- How will hunters and recreationists get around the area in the future, since the tailings pile will cut off numerous connector roads and trails?
 - As part of the Mine Plan of Operations, Resolution has prepared a road use plan. Vicky Peacey said she will provide copies of this to the group.
- It was clarified that this site is the westernmost alternative, except for the State Land parcel near Florence Junction. The other site alternatives were reviewed.
- What is the schedule for Forest Service review of the tailings site?
 - Peacey said that the Forest Service's review of the Mine Plan/application will likely take through the end of this year, with the Environmental Impact Statement beginning in 2015.

Concentrator Site Visit

Rich Heig, a consultant to Resolution, informed the group about the planned copper processing operations associated with the mine. He explained that that processing water will come from a process pond to be located on National Forest land upstream of the concentrator site, augmented with recycled water piped from the tailings operation and Central Arizona Project (CAP) water when needed. Crushed rock from the mine will be transported to the site on conveyor belts and stockpiled for up to two years, at the rate of about 60,000 tons per day, or 10 million tons over the life of the project. This rock will contain about .7% copper. Copper concentrate will be precipitated out of the rock by a flotation process in facilities located inside of processing buildings. The copper concentrate will be transported via pipeline to a railhead facility on the existing MARRCO (Magma Arizona Rail Road Company) near Florence Junction, where it will

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be filtered and stored to be loaded on unit trains to one of the three smelters in the United States (located at Hayden, Miami, and Salt Lake City) or to offshore shipping ports in California.

Molybdenum concentrate is also a byproduct of the precipitation process; this will be loaded on trucks at the site for transportation.

The waste product from the process plant will be thickened from 30% solids to 60% solids. The waste is separated into two streams, “pyrite” tailings from the cleaning process, which can generate acid leachate, and “scavenger” tailings that are non-acid-generating. These are disposed of separately. Tailings will be slurried in a pipeline to the tailings site.

Questions and comments included:

- How do you get reclaimed water from the tailings pile to the processing site?
 - Through a pipeline
- Will the concentrator be underground?
 - No, it’s in a building.
- Will there be waste from storing the product at the rail line?
 - No, all wastewater will be recycled.
- What does Resolution plan to do with the old Tailings 6 pond?
 - It will be reclaimed.
- Is there silver in the mine product?
 - Very little, and not of commercial significance
- How do purchasers buy copper years in advance of when they need it?
 - Resolution sells on the open – or spot – market rather than engaging in long-term contracts.

The group further discussed marketing methods for copper and different products and recovery methods that are used around the world.

Mine Site Visit

Chris Pascoe of Resolution Copper explained the proposed mining operations to the group at an informational lookout platform near the existing shafts. There will be two new production shafts to about 7,000 feet deep. Since temperatures at the bottom of the shafts can exceed 180 degrees Fahrenheit, a third exhaust shaft and cooling equipment will be constructed, along with “refuge chambers” that will hold provisions for five days. A new 230 kilovolt power line will be installed to provide the necessary electricity. The service shaft will be 33 feet in diameter to allow for large equipment to be lowered into the mine, and production shafts will be 10 feet in diameter, used to produce about 60,000 tons of ore per day. By comparison, it was noted that the current largest mine production in the world is in South Africa, and produces about 35,000 tons per day.

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Resolution estimates that there is approximately 1.7 billion tons of ore containing less than 1% copper in the core mining area, which will be mined using the “block cave” method, in which most operations are performed underground. Checkerboard chambers will be constructed where rock will be dynamited out from under the ore body, from approximately 100 points at a time, each to a depth of about 100 feet per day. Ore is collected by front end loaders, crushed, and placed on a train to an area where it is hoisted halfway up the shaft (3,500-foot depth) to a conveyor belt system that will take it to the concentrator site.

The ultimate ground subsidence from mining operations is expected to be 650 to 1,000 feet deep, the closest subsidence point to Apache Leap being 1,500 feet away. This will occur over the 40-year life of the mine.

Greg Ghidotti from Resolution talked to the group about water impacts. Resolution has a network of 48 monitoring wells, to depths of 1,000 to 7,000 feet, around the region from Mineral Creek to Government Ranch to Dripping Springs Mountain that are being used to perform site characterization. Some of these wells also monitor water quality. What has been learned about subsurface conditions is that there are natural pools in the formation known as Apache Leap Tuft that may be affected by the mine. A group member noted that these are the largest natural pools currently known, and so are of high ecological importance. Below the tuft is the White Tail Conglomerate, which acts as a barrier to water flow and is an unconnected aquifer. Below that is a deep aquifer in “tight” rock. The data collected from the monitoring wells will be used to perform groundwater modeling to be used in the environmental impact statement studies. A seismic monitoring system will also be installed during mining operations.

Resolution has been pumping out water from the mine area over the past five years, producing about three billion gallons (or 6.5 acre feet). This water has been pumped to a treatment plant in Superior, then transported in a pipeline to the Roosevelt Irrigation District where it is injected into the groundwater table in accordance with Resolution’s “water banking” agreement. This amount represents about half of the total banking commitment of the company for water that will later be extracted for mining operations.

The group’s comments and questions included the following.

- Will there be stockpiling of material in the mine?
 - No
- Will the mine site be located on private land?
 - If the proposed Congressional land exchange is approved, the portion of the site that is now in federal ownership will be transferred to Resolution Copper Company. At this time, the land is part of a conservation withdrawal, and so Resolution is not able to install test wells on that portion of the site.
- A group member compared the San Manuel mine to this one, saying that the subsidence there is significant from mining 55,000 tons per day, and that the land

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is still subsiding after the mine has been closed for 10 years. This land will be unusable after it has subsided.

- A group member expressed continuing concern about the application of the National Environmental Policy Act requirements to private land.
- Is this body the richest ore in North America?
 - No, it's not the richest but it is the largest deposit known in North America.
- How much water per year is needed for mining operations?
 - Resolution is estimating from 15,000 to 20,000 acre feet per year will be needed.
 - A group member commented that this would be about the size of Roosevelt Lake.
- Would the contracted Central Arizona Project (CAP) water be the first to be lost in a case of water emergency?
 - No, mining water rights are protected under the Mining Act of 1872; agricultural water would be most at risk in times of shortage.
- How does water get into the aquifer?
 - Resolution is pumping water into the aquifer in exchange for agricultural users pumping it at this time; farmers are now using Resolution's CAP allocation instead of groundwater, allowing the aquifer to build capacity. In later years, Resolution will use its CAP allocation and agricultural users will pump the "banked" groundwater.

CWG Meeting

The group had a short meeting following the field trip. Several members suggested people who they felt would be good additions to the working group, and the facilitators will follow up on these suggestions. John Godec reported that he had had a couple of conversations about possible representatives from the San Carlos Apache Tribe, and that Melissa Rabago has contacted replacement representatives from Cobre Valley Regional Medical Center.

The group decided that meeting once per month is not sufficient and that they would like to resume meeting more often. They asked that the next meeting be held on:

**Wednesday, April 2
5:00 PM**

Agenda:

1. Continue discussions about the tailings site and facility, especially relative to recreation.
2. Discuss the types of NEPA studies that will be performed on the tailings site.
3. Revisit the question of whether and how NEPA applies to private land.
4. View Frank Deal's Google Earth simulation of tailings site, if available.

The second monthly meeting in April will be held on Thursday, April 24. The facilitators will develop a draft meeting schedule for the remainder of the year to reflect the group's desire to meet more frequently.