

Matt Kelley, Senior Planner  
Nevada County Planning Department

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The following are comments of the San Juan Ridge Taxpayers Association on the Notice of Preparation of an Environmental Impact Report for the Idaho-Maryland Mine Project. We are an organization that includes many residents of Nevada County who regularly visit Grass Valley and rely on its businesses, agencies and schools, and as we do not have significant urban development in our area, consider Grass Valley to be part of our home.

Our experience with an underground gold mine in our community in the 1990s was a disastrous one, and we hope that the Planning Department, Planning Commission, Board of Supervisors and people of Nevada County will take it as a cautionary tale. The hydrological consequences that caused some residential wells and those of the local school and local cultural center to fail were not predicted by the hydrology study of the applicant. We hope not to see anyone in *any* community suffer these consequences. Nor can we imagine having to endure the multiple negative impacts that this huge and complex project would inflict on adjacent communities, businesses and institutions.

We ask that the DEIR seriously consider the potentially significant cumulative impacts that could result from this project, including many impacts that may not be able to be mitigated to a point of insignificance. The health, safety, and water supply of the greater Grass Valley area is at stake.

Specifically, impacts to water quality, water supply, aquatic ecosystems, air quality, and other resources, as well as to human health and safety must be carefully evaluated in light of this project's potentially significant impacts in combination with other cumulative impacts of climate change, population growth, and cumulative air quality impacts such as ambient ozone and particulates.

Finally, we ask to be kept on the list of those informed of this project throughout the CEQA process. Thank you for considering these comments. We can be reached at the following:

San Juan Ridge Taxpayers Association  
P.O. Box 421  
North San Juan, CA 95960  
info@sjrtaxpayers.org  
(530) 478-1941

**1. The DEIR must evaluate potentially significant impacts to water supply and quality in the area of potential impact, identify any impacts that cannot be mitigated, and provide sufficient mitigation measures for impacts that can be mitigated.**

Water is our most precious resource. Climate change and population growth will make water even more valuable over the coming years. Following a poor precipitation year, there is anecdotal evidence that some wells in Nevada County are suffering in 2020. Permitting an 80-year project to use billions of gallons of water to extract a mineral that is not in short supply for the profit of a corporation and its investors is not justifiable.

CEQA requires that the DEIR evaluate potentially significant impacts to water quality and supply in the DEIR, identify impacts that cannot be mitigated, and propose mitigation measures that will reduce impacts below the level of significance.

Toward that end, the DEIR must make realistic projections as to the long term water impacts. The DEIR should predict the total amount of water pumped from underground over the 80 year lifespan of the project and its potentially significant impacts on surrounding communities, groundwater, forests, biological resources, agriculture and businesses. The DEIR should estimate the amount of water the project expects to use from NID, both for daily operations, and to supply residents along East Bennett Street with NID water via a new pipeline. These totals should be compared to the water needs of surrounding communities, forests, biological resources, agriculture and businesses up to at least two miles distant from mining tunnels over the lifetime of the project, using population growth and climate change models.

The DEIR should examine how long it would take to replenish groundwater depleted by the project over its 80-year lifespan, using different precipitation models and forecasts predicted by climate change.

The DEIR should anticipate that certain factors may occur that cause interruptions in underground mining activity, thus requiring that de-watering at high levels would need to be repeated. It should provide the statistical probability of such interruptions over the 80-year lifetime of the project, and estimates of how much additional water would need to be pumped from underground in order to de-water the mine workings should they occur.

The applicant estimates that 3,620,700 gallons of water will be pumped from mine tunnels the first six months (a total of 660,777,750 gallons), followed by 80 years of de-watering at a rate of 1,224,000 gallons per day, all of which will be sent down the South Fork of Wolf Creek. The applicant proposes to use another 47,700 gallons of NID water per day for sinks, toilets, showers and dust suppression and compaction, in addition to supplying the water needs of residents of East Bennett Street with a 1.25 mile long NID pipeline.

Operational mine projects are unpredictable in nature. Interception of water-bearing faults that flood mines can occur, machinery can break down, underground safety issues

can arise, gold and stock prices can fall, and when mines get into trouble, bankruptcy can result. (A combination of most of these factors took place at Siskon Gold Corporation's San Juan Ridge Mine in Nevada County between 1994 and 1997, resulting in its premature shut down.) It is virtually inevitable that one or more of these factors will occur during the lifespan of the project, and that a shutdown of mining operations would result. Consequently, dewatering of the mine workings could quite likely occur on multiple occasions over the lifetime of the project. The DEIR should anticipate such scenarios and should present an estimate of additional water that would be pumped out of the mine should they occur.

The DEIR should evaluate the potentially significant impacts of this project on water supply and quality for the area, including both impacts on aquatic ecosystems as well as water supply for local human populations. The DEIR should acknowledge that such impacts may not be mitigable. Potential mitigation measures to be assessed in the DEIR should include requiring bonds in an amount sufficient to meet long term water needs that are currently served by water supplies that could be impacted, as well as mitigation for aquatic ecosystems.

**2. The DEIR should evaluate the potential for significant impacts to human health and safety as well as violations of California and federal water law related to the dewatering of wells, including loss of water supply and contamination of groundwater by substances harmful to human health.**

The proposed project poses a high risk of significant water impacts to water supply and content, and analysis of this potential should be comprehensive. Impacts that cannot be mitigated should result in a denial of the project; impacts that can be mitigated should be mitigated by measures that are sufficiently robust to prevent loss of water supply, including bonding for water delivery to affected properties for the life of the project and anticipated future impacts.

Worst-case scenarios of intercepting water fractures that could potentially de-water existing wells in the surrounding areas should be presented and analyzed and the DEIR should address the potential significant impacts of the cumulative effects of such events in combination with planned de-watering of the mine workings. The DEIR must assess these potentially significant impacts and also potential mitigation measures, including bonding that would restore long term water supplies if lost. If the potentially significant impacts cannot be mitigated, the project should not go forward.

The applicant should be required to institute a pre-project baseline well-monitoring program for residents and businesses within a minimum two-mile radius of the project area for any who wish to participate. Testing for quantity *and* quality of wells should be done over a period of one to two years at seasonal intervals. The baseline monitoring program should be lead agency-facilitated and include input from community organizations.

There is no way any hydrology study will be able to provide a real-life scenario of what will happen with all the dewatering this project entails. It's simply not possible for a study to accurately predict the hydrological outcome of such a huge dewatering project, which includes not just the current underground workings, but a vast expansion of the workings.

The project description states that 1,224,000 gallons (1.9 cfs/ 850 gpm) will need to be dewatered from the underground workings every day for 80 years. If a permit is granted for this project, the mine will be gambling with enough water to supply 3,060 households, at an average household usage of 400 gpd.

Rise Gold plans to expand upon the current underground mine workings to construct an extensive network of tunnels and raises throughout the lifetime of the mine. This would be done through the use of explosives and drilling.

There is no guarantee that such extensive underground blasting and drilling would not intercept water-bearing fractures, as happened at the San Juan Ridge Mine in 1994 and 1995 when Siskon Gold Corporation's tunneling intercepted two such fractures—resulting in the de-watering of some 14 wells that provided water to the local school, the local cultural center and local residents. Some of the affected wells were nearly two miles away from mine operations. Deepened and replacement wells were of inferior quantity and quality, providing water contaminated with minerals that to this day needs to be filtered and/or treated by many well-owners to provide minimum standards of potability. Grizzly Hill School has had to do so for some 25 years, at great expense to the school district.

Intercepting a water bearing fracture would also result in much larger volumes of water needing to be removed from the mine workings. Do South Fork Wolf Creek and Wolf Creek have the capacity to transport volumes of water greater than the estimated releases during de-watering and tunneling and if not where will the additional conveyance capacity be found? If such an event took place during a heavy rainy season when creek levels were already high, it could result in flooding in Grass Valley and elsewhere.

The 119-acre Brunswick Industrial Site is surrounded by land zoned for residential housing, and many if not most current residences rely on groundwater wells that may be threatened by de-watering. Whereas construction of a 1.25 mile NID pipeline is part of Rise Gold's plans, in order to provide residents along East Bennett Street with potable water in the event of wells being de-watered, this is in no way a guarantee to all adjacent residents of the planned project should their wells be affected by mining operations.

Nevada County can simply not afford to take a gamble like this with our water and with the downstream hydrology of our neighbors. Both current residents and future generations will suffer from the underground hydrologic consequences of this plan.

**3. Potentially significant impacts of allowing the project to go forward given the applicant's history of failing to mitigate negative impacts of past projects must be assessed in the DEIR.**

The applicant has a history of failing to complete mitigation measures or observe legal limits, and this should be taken into account in evaluating potential impacts of the mine. Appropriate mitigations for possible repetition of this bad performance should be included, including requiring bonding sufficient to mitigate impacts should the operator enter into bankruptcy. Past environmental and mine safety performance of Rise Gold CEO Ben Mossman when he was president of Banks Island Gold Mine should be investigated as part of the DEIR. The mine was responsible for dumping toxic mining waste into wetlands that feed salmon-bearing waters. Numerous environmental laws were broken, the mine owner failed to clean up the waste, and the company went bankrupt. Mr. Mossman was fined as a result. The Safety Manager of the mine complained that he was fired for raising safety and environmental violations.

Benjamin Mossman, CEO of Rise Gold, Inc., has already created one extremely large, ongoing pollution event of his own, with his Banks Island Gold project in British Columbia. The mine was shut down in 2015 after its ongoing polluting discharge was discovered. His security deposit was confiscated, to be used to clean up the environmental damage. Estimates show, however, that the deposit will not pay for all the necessary work. After the pollution was discovered, Mr. Mossman's Banks Island Gold project filed for bankruptcy, on January 7, 2016.

According to a January 11, 2019 article in the *Prince Rupert Northern View*, "The company faced 35 total provincial and federal charges after Environment and Climate Change Canada enforcement officers found evidence that the company was dumping waste from its Yellow Giant gold mine into the surrounding woods and wetland area approximately 110 kilometres south of Prince Rupert in 2015. Further, Mossman did not report the spills to any regulatory body or fisheries officer. The mine was shut down in 2015 and the Ministry of Energy and Mines confiscated the company's \$420,000 security deposit to clean the polluted site. But White estimated the total cost of the cleanup will be approximately \$1.6 million."

Nevada County should not allow someone with such an abysmal track record to open a mine with a proposal that already has so many environmental red flags attached to it. Under CEQA, the potential impacts of a failure to perform mitigation measures should be assessed in the EIR.

#### **4. Potentially significant, cumulative impacts on aquatic ecology of streams and on the watershed as a whole should be evaluated in the DEIR.**

The water contamination sources and impacts on creeks and the watershed from this project are numerous. The DEIR needs to address the potential significant impacts of these as well as the cumulative impacts of these and other projects.

In the project description, there is no mention of how the applicant plans to deal with the nitrates from ANFO and emulsion explosives that will pollute the water in the underground workings.

There is no mention of how the pollutant-rich water from gold processing (sulfides, thickeners, fine sediments from crushed ore, collectors, flocculants, promoters, frothers, etc.) will be treated—or how the water that will be “dewatered” from sand tailings will be processed.

How will a 40 acre foot settling pond allow for sediments to settle and the water treatment plant process contaminants quickly enough to discharge decontaminated water while 3,620,700 gallons of water flows into the pond every day during the six month dewatering period?

The DEIR should directly sample and discuss impacts of contaminated water discharge on Wolf Creek and downstream freshwater communities. The majority of the current reports provided discuss primarily special status species. There is no discussion of benthic macroinvertebrate (BMI, stream insects) communities in Wolf Creek and how dewatering will impact these important components of a healthy stream food web. Many sites in Wolf Creek already contain degraded BMI communities which would be effectively destroyed by these operations, while the few sites that contain robust and health BMI communities would be significantly degraded. Further, BMI uptake of heavy metals can lead to rapid contamination of the food web through biomagnification (increasing concentrations in higher-level organisms through consumption of large amounts of BMI; examples include fish), none of which is discussed. The DEIR should assess BMI community composition, likelihood of BMI community degradation, potential for BMI heavy metal accumulation and biomagnification, and overall project impacts on a healthy freshwater stream ecosystem.

**5. The DEIR should address the incompatibility with the Nevada County General Plan and the General Plan’s Goals and Policies for proposed operations at the 119-acre Brunswick Industrial Site. This project is in violation of General Plan provisions, and thus may not lawfully proceed under the Nevada County General Plan.**

The DEIR should address the incompatibility of the proposed zoning change from M1-SP Light Industrial Site Performance Combining District to M1-ME Light Industrial with Mineral Extraction Combining District. According to Nevada County zoning definitions and the General Plan’s Goals and Policies, the County should not allow heavy industrial activity in a light industrial zone, and should not rezone the project area.

The Brunswick Industrial Site is zoned M1-SP, Light Industrial Site Performance Combining District. The area surrounding the Brunswick Industrial Site is primarily in residential zones RA-3, RA-1.5, RA-3PD, RA-X and R-1. Proposed cumulative operations including continual loud noise from a variety of sources, dust that may contain toxins, diesel and explosives fumes, multiple trips by heavy trucks and excessive nighttime lighting are inconsistent with Nevada County General Plan Goals and Policies for Community and Rural Regions.

Nevada County definition of M1 (Light Industrial):

“The “M1” District provides areas for the production, repairing, distribution and warehousing of goods and equipment, along with supporting businesses and services. Uses should provide for buffering from adjacent land uses to minimize incompatibility and should have convenient, controlled access to arterial or major collector roads without passing through residential areas.”

Nevada County definition of M2 (Heavy Industrial):

The purposes of the “M2” District is similar to that of the “M1” District, except that allowed uses are potentially more intensive and may generate greater impacts on adjacent land uses, public facilities and services, and the environment.

Nevada County definition of “ME” Mineral Extraction Combining District:

“The purpose of this District is to allow for surface mining and to provide for the public awareness of the potential for surface mining to occur where adequate information indicates that significant mineral deposits are likely present. This district shall be used only on those lands that are within any of the compatible Nevada County General Plan designations and which are not in a residential zone.”

**6. The DEIR should disclose any potential significant impacts and cumulative effects of expanding the mine workings into the four square miles of underground mineral rights.**

Possible potential significant impacts include subsidence that could devastate residential communities and business areas, impacts to schools, pre-schools, agencies and institutions, impacts to groundwater, and noise impacts for residents and businesses above the mine. Impacts should be evaluated and mitigations that would alleviate impacts to all residents and others should be proposed.

**7. The DEIR should evaluate potential significant impacts to human health and safety hazards of mine workers.**

It should require Rise Gold to spell out when in the project timeline they will train qualified mine rescue teams, and if such teams will be available on-site once miners go underground.

Rise Gold proposes to explore their four square miles of mineral rights with new rises and tunnels that would be deep underground and cover many miles. Miners would be loading and detonating explosives and removing thousands of tons of fractured rock.

Rise Gold’s project description states that the project would include fully trained and equipped mine rescue teams, and that teams would be trained in accordance with Mine Safety and Health Administration standards. It also states that they intend “to seek cross-training opportunities and mutual-aid agreements with local emergency response organizations and other mining operations.” To our knowledge, the closest mine rescue team that could respond to an underground fire, flood or accident is hours away, so

having specially-trained mine rescue teams on site is of utmost importance. Clarification is needed as to what is meant by “seeking mutual aid agreements with local emergency response organizations.” Such aid cannot take the place of properly trained mine rescue teams.

Mining in tunnels 500 feet below the surface is *dangerous work*. See the URLs below. <https://science.howstuffworks.com/engineering/structural/underground-mining.htm#pt3>  
The environmental toll of underground mining is significant. It includes air pollution, changes in water-flow patterns, chemical and gas seepage into water supplies and soil, inaccessible fires in abandoned mines, and dramatic changes in land composition that can make the area unusable after the mining operation is done [source: [Saxena](#)].

Many accidents occur when the mine props collapse due to earth tremors. Explosions, too, trigger casualties when ventilation systems fail to effectively remove exhaust from mining equipment, coal dust and natural underground gas leaks. Blasting can ignite those gases, leading to deaths from both the explosions themselves and the subsequent collapse of mine structures [source: [Macia](#)].

Long-term health problems are a serious job risk, as well. Continually breathing in mineral dust can cause lung diseases like pneumoconiosis or the dreaded black lung. Breathing in welding fumes, radon or mercury (often found in mines) also causes respiratory diseases. Hearing loss from noisy equipment and back injuries from lifting heavy loads are also common [source: [Live Science](#)].

<https://www.thebalancesmb.com/specific-and-non-specific-hazards-in-underground-mines-2367338>

"Specific and Non Specific Hazards in Underground Mines"

<https://www.oshaeducationcenter.com/articles/msha/>

Mine Safety & Health Act Explained

Because the mining industry creates dangerous working conditions, both new miners and current miners are required by OSHA to complete specialized safety training to instruct them on how to recognize health and safety hazards, minimize accidents and injuries, and protect themselves in hazardous and emergency situations. [Learn more](#) about our online MSHA Part 46 training courses and register today.

#### **8. The DEIR should address potential impacts of this project on Nevada County’s ability to meet General Plan housing goals and objectives.**

The DEIR should evaluate impacts of the project on housing, Nevada County’s affordable housing goals and the balance between its potential significant environmental impacts, the kinds of jobs offered by this project (many that will require specialized skills of people who do not reside here already; many of them hazardous underground mining jobs) and the rural, pastoral nature of residential housing and current employment profile around the Brunswick Industrial Site. Alternatives should include proposed housing instead of mining projects.



In our current Coronavirus pandemic crisis, Nevada County—like so many other rural areas of the United States— has seen an influx of well-paid workers and others fleeing from urban centers to the relative safety of the more rural parts of California. As a result, home purchases and rentals in the county are in short supply and prices have been driven up. Many recent immigrants to Nevada County are able to work from their new home base over the internet. There will very likely be more job opportunities through remote working than any opportunities that would be lost when this mine application is, eventually, rejected by the county or abandoned by the project applicant. The Nevada County agencies and those that will review and approve or reject the project should be asking if we are willing to sacrifice our environment and rural quality of life for a massive and highly impactful project, all for the promise of “more jobs.”

**9. The potentially significant impacts of toxic dust on human health and safety and the natural environment, including wildlife, should be evaluated in the DEIR.**

The DEIR should directly address any changes in exposure potential of local wildlife and people to dust containing heavy metals and carcinogens associated with mineral extraction. Mitigations, including bonding sufficient to address possible health impacts to the residents of the greater Grass Valley area should be evaluated in the EIR.

Abandoned mine tailings in our community have historically been significant sources of heavy metals and carcinogens, some of which naturally co-occur in gold-containing rock. For example, the abandoned site of the Champion and Providence mines in Nevada City contained hazardous levels of cadmium, arsenic, and lead, requiring extensive engineering-based remediation work in the last decade. These metals can then be inhaled as dust by the local community either through recreation and direct exposure or indirect exposure on windy days. Plants tested at the Providence site also showed significant uptake of metals, which then provides another pathway for contamination of the local food web (e.g. deer browse). Further, use of this extracted material as engineered fill can lead to further contamination, as evidenced by the metal remediation work needed at Pioneer Park in Nevada City, which used engineered fill from local mines during construction. Finally, the applicant discusses use of the Cemented Paste Backfill (CPB) method for application within the mine itself. The applicant uses a Desktop study to claim that sulfide recovery in this method has 93-96% effectiveness, thus “effectively eliminating water quality issues”. A 93% recovery rate does not eliminate issues; only 100% would. The DEIR should extensively sample for and discuss all potential heavy metal contaminants in removed material and impacts on heavy metal exposure in both humans and wildlife. This should include all potential naturally-occurring carcinogens and sulfide loss if using the CPB method, along with projected impacts of the remaining 4-7% of sulfide not recovered.

**10. Impacts on air quality and the potential to exceed air quality standards should be evaluated in the EIR.**

This project has the potential to result in violations of air quality standards both in particulate emissions and in emissions of toxic metals and substances that would be borne by dust produced by the project. These potentially significant impacts must be evaluated, and the potential to violate air quality standards must be addressed.

**11. The DEIR must consider how the project's anticipated cumulative greenhouse gas emissions contribute to California's statewide greenhouse gas reduction targets for 2030 and 2050.**

**12. The DEIR should include a cost-benefit analysis, to include the potential loss of property values of residents and businesses surrounding project sites and resultant potential loss of property tax to the County.**

If the Planning Department were to create even a preliminary cost-benefit analysis, it would find that costs of the project far outweigh the benefits. We request that such an analysis be made, and that it be used to stop this ill-advised project in its tracks, saving County staff and agency staff from thousands of hours of their time.

#### Costs

\*Degradation of quality of life in a large area surrounding the two sites. (Noise, water issues, traffic, dust from ore and barren rock crushing, ongoing anxiety over water contamination and water loss.)

\*Decreased property values for hundreds of homeowners in the surrounding area, due to degradation of quality of life. These homeowners would be justified in requesting a reduction in property taxes, thus leading to a decrease of property tax revenues to Nevada County.

\*Destruction of Wolf Creek ecosystem due to flooding/scouring of creek by mine dewatering and accidental releases of sediments and waste waters from the site.

\*Release of massive amounts of greenhouse gases -- in order to extract gold for jewelry and investors. (There is already more than enough gold for dentistry/medicine/electronics and other beneficial uses.)

\*Billions of gallons of groundwater removed from the environment, plus daily use of tens of thousands of gallons of NID water.

\*Noise pollution from numerous sources:

Rock and ore crushing;

- "engineered fill" processing;

- dumping of rock into silos;

- loading and unloading rock into/out of trucks;

- piling and compacting "engineered fill" to create two huge mountains;

- heavy vehicles and backup bells driving on surface 24/7;

- ventilation fans, etc

With 24/7 operations, this project—like virtually all other mining and industrial projects that operate in the midst of populated areas—will increase ambient noise levels quite noticeably for many neighbors, even if the project operates within permitted noise levels. This is because ambient noise levels rarely rise to permitted levels for any length of time. But a large industrial project like the one proposed has so many noise sources that it could quite possibly operate continually at maximum permitted levels both day and night.

\*Light pollution from 6000 watts of lighting at Brunswick site

\*Daily transportation for eight decades of 1,000 to 2,000 tons of rock (approximately 700 to 1,400 cubic yards) from Brunswick to Centennial sites will create noise, road hazards and road surface degradation on East Bennett Road.

\*Visual pollution from the creation of 75 acres of 80- to 100-foot-high plateaus of "engineered fill." These barren wastelands will stick out like sore thumbs and be visible in a wide-ranging area.

\*The County and numerous agencies will need to spend huge amounts of time monitoring this mega-project for decades. Virtually every mining project we know of has created numerous unforeseen adverse impacts. Mining companies are forever trying to avoid taking responsibility for negative environmental impacts, cleanup, etc.

\*Nevada County citizens will have to put in massive amounts of *volunteer/unpaid* time and energy to work through this permit process to do whatever we can to prevent the impacts of this project from degrading the quality of our surroundings. Nevada County residents have already spent thousands of hours on Emgold's application. The current application promises to have even worse consequences for us.

\*If the project is ever approved and if it ever actually commences, massive amounts of volunteer community time and energy will have to be put into ensuring that the mining company is abiding by its use permit.

\*Many of the jobs this mine will create will not be filled by current county residents, but by people with experience in mining who will move here from other states. (This was the experience of the Siskon Gold mine on the San Juan Ridge in the 1990s, which, incidentally only provided about one third to one half of the promised jobs while it operated.)

Benefits:

*\*Jobs. However, many of these would be filled by people with mining experience who would move here from outside the county and state, and many would be hazardous underground mining jobs.*

\*Additional taxes to the county? The county will only get tax money if the project actually succeeds. Most gold mining projects don't succeed. And a project that is proposed so close to residential areas like the Rise Gold project has a very big chance of not succeeding.

**These impacts are inconsistent with the goals of the General Plan, and the consistency of this project with the General Plan should be evaluated in light of this cost benefit analysis.**

### **13. Conclusion**

The San Juan Ridge Taxpayers Association has reviewed this project and believes there are a number of potentially significant impacts to the environment and to public health and safety that cannot be mitigated to a point of insignificance. For this reason, the project should be denied.

The DEIR should provide sufficient analysis to highlight potentially significant impacts of the project, and should provide adequate range of alternatives and mitigation measures to assess the economic, social, and environmental costs of various approaches.

The SJRTA looks forward to further participation in the CEQA process.