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*SUBMITTED VIA WEB PORTAL*

October 28, 2020

Re: Stibnite Gold Project DEIS

Dear Ms. Jackson:

Save the South Fork Salmon provides the Forest Service with these comments containing additional points to those submitted on October 27, 2020.

Save the South Fork Salmon (SSFS) is a community-based citizens' organization, headquartered in Valley County, Idaho, dedicated to protecting the South Fork of the Salmon River watershed, its outstanding and remarkable natural values, and the economies that depend on those values. SSFS's members and supporters have a strong interest in protecting natural resources, maintaining recreational opportunities and access, and ensuring future generations can enjoy and benefit from these resources and opportunities in the South Fork of the Salmon River watershed.

The South Fork Salmon River watershed is critical habitat for Endangered Species Act-listed anadromous fish and continues to support wild populations of these fish. It is a major economic driver for communities in Valley County that rely on a recreation-based economy which includes activities such as sportfishing, hunting, hiking, mountain biking, motorcycling, OHV, backcountry skiing, kayaking, canoeing, and rafting. The South Fork of the Salmon watershed within the Payette and Boise National Forests lies within the Nez Perce Tribe's treaty reserved lands and is of immense cultural importance to them. A project the size of the Stibnite Gold Project could drastically impact the natural resources of the South Fork of the Salmon watershed, and could have significant long-term environmental and economic impacts to Valley County, Idaho and surrounding areas.

## **I. PUBLIC PARTICIPATION IN THE NEPA PROCESS WAS SEVERELY HINDERED**

As a community-based organization with a substantial number of our supporters coming from Valley County, and who will be impacted the most by the proposed gold mine, we are downright disappointed in how the process under the National Environmental Policy Act (NEPA) has proceeded for the Stibnite Gold Project.

Although SSFS and numerous other organizations, individuals, and even members of Congress expressed the need for a 120-day comment period for this technically complex and voluminous, and what turned out to be totally disorganized, DEIS, the Forest Service refused to grant that extension. One of SSFS's mission is to provide factual information about the Stibnite Gold Project to the public to promote public engagement in the NEPA process. It is important to SSFS that members of our community—who stand to be affected by this mine the most—are able to critically evaluate the analyses presented in the DEIS on the numerous resources that will be impacted, to have the resources to write substantive comments to the Forest Service, and to ensure that the agency's decision on the project is an informed one. Although the Forest Service did grant an extension above the required 45-day comment period to 75 days, this extension—given the complexity of the project, the disorganization of the DEIS, the voluminous nature of the DEIS and supporting documents, and the complications of community engagement due to COVID-19—was simply not enough to fulfil the critical role NEPA plays in public involvement.

The lack of a sufficient comment period is only the beginning. Access to the DEIS and supporting documents was also difficult, whether online or in print. We heard from many of our members, and experienced issues ourselves, attempting to access the DEIS or supporting documents online, as the website was often “down for maintenance” or links were broken. And that was a problem for those with computer and internet access. As you well know, there is a significant number of Valley County residents who do not have home-based—or even work-based—access to a computer or internet connection. Normally, it would be possible to use the local library's computer resources, but due to COVID-19, use of those resources was restricted, making digital access to these documents impossible for some.

Despite these different complications with online access in rural communities, the Forest Service, to our knowledge, provided only one hardcopy to the McCall Public Library that had to be used at the library, which was difficult because, again, use of the library was restricted due to COVID-19. And although SSFS was able to obtain a hardcopy of the DEIS, one copy was insufficient to distribute among interested members in the comment period timeframe.

Simply put, the Forest Service and Midas Gold have put getting this project out the door and approved above providing the opportunity for meaningful public participation on

how the public's lands will be used and managed. This undermined one of the fundamental tenets of NEPA.

## II. AIR QUALITY

The air quality analysis suffers from some significant flaws. As would be expected from a large-scale industrial facility like the Stibnite Gold Project, there will be substantial emissions from various sources that will have deleterious effects on air quality. Emissions considered in the DEIS include criteria pollutants, non-criteria pollutants, and Hazardous Air Pollutants (HAPs).

### A. The DEIS failed to consider arsenic and antimony emissions as part of the HAPs analysis.

It appears that the portion of the emissions inventory attributable to HAP contributions may be seriously underestimated. *See* DEIS at 4.3.1.1.2. Mercury is specifically identified as a HAP that is emitted from three different sources, yet there is no mention or consideration of other HAPs that are most certainly present at the site—in particular, arsenic and antimony are the primary contaminants of concern at Stibnite. These elements and their compounds (along with mercury) are listed at 42 USC § 7412(a)(6) as HAPs. These elements are inherent to the ore deposit and are present throughout the site in rock, soil, and water. Numerous pathways to air exist. They should be included in the HAP inventory, but they are not. And there is no explanation as to why they are missing. Additionally, there is a major discrepancy between the concentration values used for the mercury inventory and the values reported in multiple whole rock assay tests. Details of these problems are given in Johnson (2020) (Attached). Failure to appropriately represent HAP and metal concentrations in these feed materials is a significant oversight and needs to be addressed.

This under-reporting of HAPs raises questions as to the classification of the Stibnite Gold Project facilities as a “non-major” emissions source by the Idaho Department of Environmental Quality (IDEQ) during their parallel review of Midas Gold’s permit to construct application submitted under the Clean Air Act. IDEQ seems to disingenuously exempt the operation from the stricter emission controls required by “major” emitters by invoking IDAPA.58.01.01.008.10.c, which excludes fugitive dust from the source inventories. Why then is fugitive dust containing mercury listed in the HAP inventory in the DEIS at 4.3.1.1.2? If arsenic and antimony emissions were included in the HAP inventory the Stibnite Gold Project would likely qualify as a major source under the criteria of IDAPA.58.01.01.008.10.a.ii (25 tons per year combined HAPs). Furthermore the lime kiln proposed under Alternative 2 is a “designated facility” as defined under IDAPA.58.01.01.008.10.c.i, thus requiring the inclusion of fugitive dust in an inventory. The DEIS failed to do so. Additionally, SK 2017 assay data on lime feed indicates potential lime kiln mercury emissions in Alternative 2 of over 100 lbs/year. With the path to permitting from the State still being in question, it is impossible to judge the environmental effects to air quality in the DEIS.

**B. The stated dust control efficiencies, which are critical to NAAQS compliance, are unrealistic, thus rendering the air impacts analysis questionable.**

The largest source of air emissions from the proposed project is fugitive dust from mining operations and, in particular, vehicular traffic using haul roads. The DEIS's emissions calculations assume 93.3 percent effective fugitive dust control—90 percent control from chemical application, and 33 percent from watering for a combined total of 93.3 percent control. In response to Midas Gold's application for a permit to construct under the Clean Air Act, the Idaho Department of Environmental Quality (IDEQ) stated that "it may prove challenging to consistently and continuously achieve targeted levels of fugitive dust control." *See Attachment.*

Just within the mine site itself, there will be 55 miles of unpaved roadways with a fleet of 32 haul trucks weighing between 37 and 357 tons. That doesn't include the additional haul routes on the proposed Burntlog Road, which will also create fugitive dust. There is no information, including a Fugitive Dust Control Plan, in the DEIS which details how this extremely high level of control will be achieved on mine site haul roads and Burntlog Road.

Ensuring compliance with CAA permit requirements for particulate matter may require additional measures beyond chemical application and watering, particularly during the warm weather season. These additional measures may include lowering vehicle speeds, road treatments with crushed rock, and grading or scarifying, as needed. More monitoring may be proposed, such as performing daily visible emissions checks during daylight hours, monitoring weather conditions, including wind speed and direction, and keeping daily records on watering or chemical application. Considering the difficulty in meeting the stated dust control efficiencies due to the nature of dust creation, there should be requirements for extensive, detailed, and continuous monitoring and recordkeeping to verify the efficacy of emissions controls, regular inspections, and additional measures, including enforceable limits on traffic volume or vehicle speed, to ensure that dust is controlled during the warmer weather season. If this extremely efficient level of dust control cannot be achieved, it may have significant impacts on air quality. Thus, basing the air quality analysis on this unreasonable degree of dust control is not reasonable.

Moreover, most fugitive dust control strategies on road surface include application of magnesium chloride, oil, and/or regular applications of water. All have the potential to affect water quality and adjacent riparian areas and wetlands. The DEIS made unsupported assumptions regarding fugitive dust control, it fails to provide a Fugitive Dust Control Plan for public review, and it fails to consider how dust control measures will impact water quality. NAAQS compliance is contingent on 93.3% dust control. The Fugitive Dust Plan has to go through public review, and include enforceable limits and monitoring to verify continuous compliance.

### **C. Modeling of air quality impacts was inadequate.**

Modeling of impacts to air resources in the DEIS was inadequate. We identified the following issues that need to be corrected in a supplemental DEIS:

- Modeling included limited contributions from roads, including the proposed Burntlog Road. Unpaved roads are expected to have a significant contribution of fugitive dust emissions.
- Emissions from blasting, mining, and materials management were modeled as a volume source inside a pit at year seven, after several years of mining will have deepened the pits. Emissions escaping from the pits from blasting and associated ore transport and handling would be greater and have more impact per volume of ore processed in the earlier years when pits are less deep. Emissions may also vary due to spatial distribution over the different years the mine is in operation. Thus, the predicted ambient air quality impacts may be underestimated by not analyzing the maximum potential daily emissions during earlier years when the pits are less deep or not analyzing the different spatial distribution or potentially different concentrations from one pit and disposal area to the next.
- Modeling analyses were based only upon smaller Alternative 1 scenario. At a minimum, alternative 2, which has a significant change—the lime kiln—should have been modeled. Instead, the DEIS should model and disclose the alternative with the largest potential emissions, and then scale downward for other alternatives.
- The near field analyses of impacts within 10 kilometers of the project site all assume straight line dispersion based upon onsite surface winds measured in a central location within the project area, and are only representative of a small area near the monitoring station. Actual dispersion in this area is terrain driven, flowing up, down, and around valleys, and over ridges to the next valley. Assessing impacts using straight line dispersion therefore may not reflect impacts at all locations and actually underestimate impacts of emissions.
- There seems to be a gap in the analyses between the 10km near field analysis and the 50km far field analysis, leaving impacts in the area in between area unanalyzed. There is also a discontinuity in the methodology between the near field and far field analyses. Near field analyses used linear transport—i.e., ignored terrain forcing. Whereas the far field analysis used a more model that allows the emitted pollutants to change direction as winds or terrain dictate for long range transport.
- The visibility analyses show perceptible impacts in the Frank Church River of No Return Wilderness (FCRNRW) of 30 percent of daytime hours and 73 percent of evening hour. Why should that be acceptable in a wilderness area with some of the best background visibility in the country?
- Emission points are almost all in one drainage basin. Visual points in the visibility impact analysis should be at or beyond ridges, or looking at where the plume would circulate within or where it would exit that basin.

- The FCRNRW, as Class II airshed, has limited protections, no more than any other area in the state including developed areas, due to being designated after 1977. Comparatively, Hells Canyon, Sawtooth, Selway, and Craters of the Moon Wilderness areas get Class I protection to keep them pristine. This is despite IMPROVE monitoring that verifies that central Idaho wildernesses show some of the best visibility and cleanest air in the country. Still, impacts of proposed operational impacts in or near the FCRNRW would exceed the same NAAQS standards applicable in urban areas.
- Regulatory and DEIS impact analyses are limited to max emissions scenario in LOM year 7, with a few scenarios for where ore was taken from and delivered to. But impacts could be higher in other years or other scenarios due to spatial distribution and/or varying pit depths. Similarly, the regulatory and DEIS analyses assume concentration in one pit and disposal area. Whereas concentration in alternative areas could yield higher impacts.
- Air quality impact analysis indicates impacts for NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> above Class II significant impact Levels (SILs), which would mandate further analysis is required for this facility if it was a major source. The vast majority of emissions (>3000 tons/yr of particulates) were excluded from regulatory review as a result of fugitive emissions (blasting, loading, and transportation of ore). Similarly, impacts are greater than Class I area increments, which would mean this project could not proceed if the FCRNRW had the same protections as the Selway, Sawtooth, Hells Canyon, Craters of the Moon Wilderness areas.
- The DEIS proposes mining rates of 180,000 tons material per day from the West End pit. The West End pit is located in the Sugar Creek drainage about two kilometers northeast of Cinnabar Peak. Modeling shows that particulate ambient air concentrations at Cinnabar Peak would exceed NAAQS limits and qualitatively show that lower mining rates at the West End pit of about 120,000 tons per day would be required in winter to barely comply with ambient air quality standards. There is no demonstration of NAAQS compliance for winter conditions. Therefore, a permit that allows operations during winter conditions cannot be issued
- Mercury seems to be the only metal considered in the voluminous fugitive dust and the refining processes. Numerous others, including antimony, selenium, and other heavy metals would be present. No more Hg controls than required are proposed.
- The impacts analysis does not account for mercury respiration from vegetation after uptake. Uptake of mercury by vegetation is the largest point of entry for atmospheric mercury into terrestrial environments. Due to the long history of mining in the area, the predicted impact from respiration is 19 percent above background levels. The impact analysis did not account for this potential release of mercury.
- The lime kiln proposed in the preferred alternative and associated mining and material processing, or imported lime, would generate dust. Limited analyses are

provided for the ambient air risks associated with those high pH dusts, or their deposition which would raise soil pH, inhibit vegetation, and contribute to risks from associated pathways.

- Deposition pathways for N, S, Hg, and other metals and chemicals feed into vegetative uptake, water quality, and animal and human intake pathways. Analysis of any of those pathways and their effects on vegetation, soil stability, or other risk pathways is lacking for anything than mercury. The analysis for mercury is acknowledged to underestimate emissions and risks.
- Almost all deposition will be in the Salmon River drainage, mostly in the East Fork of the South Fork Salmon River, Monumental Creek, and Indian Creek. Those impacts will adversely affect water quality and ecological integrity in the most ecologically intact drainage in the lower 48 states.
- Nitrogen deposition from this project alone of 4.73 percent in distant FCRNRW almost reaches the 5% threshold for Class 1 wilderness areas.
- Historical data show deposition trends at background stations presented, CRMO and Reynolds Creek, trending up.
- Impacts analyzed along the Burntlog Road, which runs immediately along FCRNRW boundary, are limited. Particulate impacts are analyzed with a straight-line model unrepresentative of the dispersion along that road, and lack analysis of Air Quality Related Values (AQRVs) like visibility and deposition
- The entire air quality analysis says nothing about post mining conditions other than they will try to revegetate. Because of the climate, metals, and chemicals, there will be limits to the effectiveness of revegetation, and the area will remain a source of dust and erosion with heavy metals

The full extent of our comments can be found in the attached report: CJ Environmental, LLC, *Analysis of and Comments on the Stibnite DEIS Air Quality Section* (2020) (Attached); SSFS, *Comments on Application for Permit to Construct and Operate an Air Pollution-Emitting Source, Docket No. AQ 1667* (Oct. 12, 2020) (Attached).

### **III. CAMPS AND ASSOCIATED INFRASTRUCTURE**

#### **A. Employee housing during construction phase.**

The DEIS does not appear to include a clear and detailed plan for temporary construction camps. This is an important factor due to the obvious environmental impact of housing up to 1000 personnel or more at site for three years.

First, there are several omissions and inconsistencies in limited information that is provided for the camps. For example, in section 2.3.4.1 (Overview), the DEIS states that “Midas would install 15 to 20 temporary trailers on private lands adjacent to the existing exploration camp to accommodate construction crews.” Fifteen to 20 trailers will not come close to housing 1000 personnel. There are references in both the Midas Prefeasibility Study

and the Midas Plan of Restoration and Operations where they state that the existing exploration camp which houses 60 people will be relocated and expanded to house the construction workforce, and then downsized for use during the operations phase. However, they also state that the expanded exploration camp will be used until the “Stibnite Lodge” is completed, which will house Midas employees and contractors.

There are references in section 2.3.4.1 (Overview) to three construction camps consisting of trailers located at borrow sources, again, with very little detail regarding capacity and required utilities including the necessary water and sewer. There is also a statement in this section that some of the construction workers will be housed in the city of Cascade. This is further evidence of the lack of planning given to employee housing during construction. Having employees commute to and from Cascade to the site everyday does not make sense given the distance and risk involved.

## **B. Sewer and water for employee housing**

As is the case with an over-all camp plan there is insufficient information and no detail plan included in the DEIS for providing potable water and to manage sewage for the camps including cooking, bathroom, and laundry facilities. Section 2.3.5.10 (Sanitary Waste Handling Facilities) simply states that there will be on-site facilities constructed and operated in accordance with Valley County, Idaho Department of Environmental Quality, and Idaho Department of Health and Human Services.

Section 2.3.4.1 (Overview) indicates that the existing sewage treatment plant at the exploration camp will be used/expanded during construction. There seems to be little or no information available in the DEIS regarding this existing treatment plant. For example, what is the capacity; where is the effluent discharged; and how is it tested? The plant apparently handles 60 people currently; upgrading to handle 1000 seems to be more than just an expansion.

There are numerous references in the documents to the use of portable toilets during construction. There should be some detail provide that addresses how these portable facilities will be managed. For example, given their nature these facilities will have to be pumped out regularly and the raw sewage hauled somewhere for treatment and disposal. Where will these sewage trucks be discharging their loads? At the expanded exploration camp treatment plant or will it be hauled off site and if so, to where? To the already overtaxed a McCall or Cascade treatment plants?

According to section 4.18.2.1.1.5 (Groundwater Quality) “[t]here are no active domestic groundwater wells used for residential drinking water within 15 miles of the mine site.” Where does Midas currently get the potable water for the exploration camp? Is it hauled in and if so, from where and how is it monitored? Providing potable/drinking water for a workforce of 1000 and the associated cooking, bathroom, and laundry facilities merits a plan for how it will be managed and what local resources are impacted. Water in general for



this project is going to be a very important issue therefore even for camp usage it merits detail planning and management.

The subject of camps and their associated infrastructure is an important factor for any project like the Stibnite Gold Project—not just for the success of the project, but also for disclosure of its impact on the environment. One thousand or more people living in a camp will obviously use a significant amount of water and generate significant amounts of sewage and other domestic waste. If not properly planned and monitor the sewage alone can pose a very real threat to both the surrounding environment and waterways but also to the health and safety of the employees. The success of similar projects around the world has been negatively impacted along with the health, safety and wellbeing of their employees and neighboring communities as a result of insufficient planning and management of the camp facilities. This is not only a concern based on the review of the DEIS documents, but also the review of other documents generated by Midas such as the Prefeasibility Study and Plan of Restoration and Operations.

### **C. Maintenance and repair shops**

Other than a few brief mentions such as in section 2.3.5.8, very little detail could be found in the DEIS regarding maintenance and repair shops either for the construction of operations phase. Due to the large equipment and vehicle fleets anticipated to be required during both construction and operations, there is a potential for serious environmental impacts due to improper disposal or accidental spills of petroleum products, solvents, and other chemicals during the life of the project. Therefore, the following omissions and questions should be addressed:

Equipment wash facilities: Section 2.3.5.8, Mine Support Infrastructure, states a truck wash facility will be installed with an oil/water separation system for the mine fleet. Will a similar facility be installed for the construction fleet? Will the recovered water from the separation process be used for other purposes? If so how will the water be tested/treated before reuse? How will the recovered oil be disposed of and where? What type of containment will be installed around these facilities? What contingency plans will be put in place for decontamination of equipment or vehicles that may unexpectedly come in contact with hazardous substances from previous mining operations?

Maintenance shops: Both the mine and construction equipment and vehicle fleets will require significant installations for routine maintenance and repairs. There is very little detail provided in the DEIS regarding these facilities. How and where will spent petroleum products and other maintenance items be disposed of? What type of spill containment will be provided at these facilities? How and where will spent tires especially from the mine haul trucks be disposed of? How will the routine maintenance be conducted and contained for large equipment such as cranes and shovels that are too large to move to shops requiring maintenance to be done in the field?

Other shops: There will likely be several small maintenance and fabrication shops scattered around the site especially during the construction and start-up phase. At least a preliminary plan should be included in the DEIS identifying the location and purpose of all shop facilities. What type of specialty shops and installations are expected during construction and startup? Will nuclear testing equipment be used on site? Will any other specialty hazardous materials be used on site during construction and started up such as transformer oils or specialty gases and liquids?

Fuel storage and depots: Both during construction and operation there will be a very significant amount of diesel fuel and gasoline stored and used on site. Will the permanent fuel depots be installed early on site for use during construction or will temporary and mobile services be used? Are there any underground or above ground fuel distribution pipelines anticipated for the construction or operation phase? As with the other on-site facilities at least a preliminary plan should be submitted with the DEIS showing the location of fuel storage and distribution depots especially relevant to waterways, wetlands and other environmentally sensitive areas.

Spill containment and mitigation plans should also be included for all fuel storage and distribution depots.

Based on review of the DEIS and associated documents it would appear that insufficient attention has been given to on-site infrastructure facilities and the potential for environmental impacts caused by these facilities. As stated above, at a minimum a supplemental DEIS should include at least a preliminary infrastructure plan.

#### **IV. TAILINGS STORAGE FACILITY**

The tailings storage facility (TSF) represents one of the most serious environment risks posed by the project. Equally important is the fact that it poses the most long-term risk in that it, at least in theory, it will exist in perpetuity. Given the importance of the magnitude of the risk represented by this facility, there is surprising little detail included in the DEIS for its design, construction, operation and long-term maintenance. Two relatively recent incidents of tailings dam or “embankment “ failures in the mining industry serve to highlight the risk involved in this type of installation. The first incident is the failure tailings dam in 2014, at the Mount Polley mine in British Columbia, which severely impacted downstream waterways, lakes, and the surrounding environment and wildlife. The second example is the Brumadinho dam failure in 2019, in Brazil in which 259 people lost their lives and significant damage was done to downstream waterways, the environment and wildlife. Both of these examples obviously also have untold and unquantified socioeconomic impacts. Section 2.3.5.7 (Tailings Storage Facility) contains only a brief description of the facility and embankment along with a very basic drawing in Figure 2.3-5. This leads to, at a minimum, the following general comments and observations:

Due to the environmental criticality of this installation, the DEIS should contain significantly more detail for its conceptual design. For example, what is the basic design criteria for the embankment design, including backfill material characteristics and compaction requirements for both the starter embankment and future stages? Why do Alternatives 1, 2 and 3 not include a design that complies with current Idaho regulatory requirements, such as is the case with Alternative 4? Is there reason for Midas or the Forest Service to believe that these regulations will be relaxed by IDEQ, and if so, why?

Given the potential for damage to the groundwater, surface runoff, waterways and surrounding environment represented by this facility, would not all Alternatives merit the secondary liner and leak detection system included in Alternative 2?

Will future stages of the TSF embankment include the buttress of “development rock” or only the starter embankment? Is it anticipated that the tailings itself will be used in raising the embankment height in the future? If so is this based on bench testing of the geotechnical characteristics of the tailings?

Section 2.3.5.7 states that the TSF will be surrounded by an 8-foot high chain link fence “designed to keep wildlife, such as deer and elk, from entering the impoundment area.” Since this fence will obviously not be effective for burrowing and climbing animals; what provisions will be made to prevent these type animals from entering and becoming contaminated and/or stuck in the tailings? The same question as above would apply to all birds especially waterfowl that would be particularly attracted to the supernatant pond.

Current life of mine is estimated to be less than 15 years. Since there is ongoing exploration being done at the site there is obviously the possibility of a longer future life of mine. What provisions, if any, have been made for what could become a much larger/higher TSF?

## **V. TAILINGS TRANSPORT AND DISTRIBUTION**

Other than a brief mention in section 2.3.5.7, there is very little information included in the DEIS regarding tailings transport and distribution. In that section, the DEIS states that the tailings will be pumped from the ore processing facility to the TSF. Due to the potentially contaminated and abrasive nature of tailings slurry, this leads to a series of unanswered questions as detailed below:

- Will the tailings pumps be located inside of a secondary containment in case of a failure or leak allowing tailings to escape to the surrounding area and potentially into waterways?
- Due to the abrasive nature of the tailings, will the pumps be rubber lined or have other types of anti-abrasive lining?
- Because these pumps are typically high maintenance, will there be redundant pumps installed in case of an unexpected failure?

- What type of piping will be used for the tailings transport lines? For example, carbon steel pipe with rubber, HDPE or ceramic lining?
- What type of connections will the tailings transport piping have, welded, flanged or another type of connection?
- Will the tailings be pumped all the way to the discharge point into the TSF? If so what is the scheme for energy dispersion and erosion prevention at the discharge point?
- If the tailings are not pumped to the discharge point what is the detail for the transition from pressure to the gravity flow distribution piping and the associated secondary containment measures for this installation?
- If the tailings distribution piping around the TSF is gravity flow to the discharge points what type of piping will be used? Will the gravity flow line be rotated periodically due to abrasive wear in order to prevent wall thickness failure?
- Will a program be implemented to monitor the degradation of the pipe lining due to abrasion in order to prevent unexpected failure and discharge?
- Per Section 2.3.5.7 both the tailings delivery and reclaim water pipelines will be routed in a “geosynthetic-lined trench” as a form of secondary containment in the event of a pipeline failure. Since both of these lines will be operating under pressure what will prevent the trench from overflowing? Will the trench be sloped to one end or the other?
- What type of “geosynthetic lining” will be used in the containment trench and what are its design characteristics?

These questions are important due to the mining industry’s numerous and well documented accidental discharges of tailings slurry into waterways and adjacent areas both in the US and around the world.

These systems have a high potential to negatively affect the environment. This is due to the fact that they are over land conveyance systems under pressure which carry potentially contaminated and toxic materials. Furthermore, as mentioned previously, the mining industry as a whole does not have a good track record regarding accidental spills from these types of installations. Therefore, more attention should be given to their design and preventive/maintenance details in the DEIS.

## **VII. COMMUNITY IMPACTS**

### **A. Traffic and Transportation**

Throughout the DEIS there are various references and sections dedicated to the topic of roads, access, traffic, and transportation. The fact that the project site is located in a high-use recreational area combined with the increase in tourism in Valley County should highlight the importance of this subject. It is common knowledge that people come from all around the State as well as from other states to enjoy and recreate in this part of Idaho.

Adding the complexity of a large construction project and then an operating mine to this high-use recreation and tourism area leads to many questions and concerns.

State Highway 55 is already a heavily used corridor from the population centers to Valley County for recreation and tourism. Recent growth in the city of Boise and its surrounding area have further added to this usage resulting in more congestion and traffic accidents. Add to this a three-year construction project with a workforce of at least 1000 plus the deliveries that will be required and the impact to local traffic will likely be very significant. The same will be true to a somewhat lesser extent during the mine operation phase of at least three years.

Midas Gold recently received approval by Valley County to establish an off-site logistics facility in the Scott Valley. Part of the purpose of this facility according to Midas is to minimize traffic impacts during construction and operations. Although it will likely accomplish that goal on Warm Lake Road and the remainder of the route from the facility to the mine site by consolidating personnel on busses, it will have little to no effect on the additional traffic in the local communities and a Highway 55. This is especially true in the city of Cascade through which it is estimated that two-thirds of the mine traffic will pass.

Closer to the mine site the interaction between recreational traffic and construction/operations traffic will certainly pose a variety of problems from dust control to responsibility for road maintenance and emergency response.

Due to the normally heavy snowfall and avalanche risk during the winter, a detailed winter traffic plan will need to be developed including a responsibility matrix for Midas Gold, Valley County and the Forest Service. What has been done to date by Midas Gold and the responsible agencies to bring some clarity to these issues?

## **B. Public services**

Impacts to public infrastructure and services is not well-described. Although the majority of the project workforce will reside at the mine site, there will still be a great deal of interaction with the local communities. This will impact all local services including, police, medical, emergency response, and road maintenance. What planning has been done by Midas Gold and the local authorities to plan for these impacts?

Valley County has been through the boom and bust cycle previously with the Tamarack Resort failure. What assurance do local businesses and residents have that this won't happen with the Stibnite Gold Project? What will the impacts be if the mine has to temporarily shut down? Such an event will be sudden and have a significant impact not only on local residents employed by the mine, but also all the support business that are dependent on mine employees spending money in the local community.

All information provided to date by Midas Gold and by the DEIS indicates a life of mine cycle of 12 years. Is Midas Gold continuing exploration at the site now? If exploration indicates a larger ore body at the site is it projected that the mine will continue to operate after the current 12-year estimate? If so it would appear that the community is being misled and should be informed of this possibility.

In addition to the above concerns, there is the less tangible impact of the loss of local lifestyle and culture that will inevitably occur if the mine goes forward. Midas Gold has conducted an intense and sophisticated public relations campaign to convince the local residents that if the mine goes forward that the net effect will be positive for the environment and the community. Unfortunately, this is likely far from the truth. If the project does go forward we can only hope the Forest Service and other responsible agencies will hold Midas Gold accountable for their commitments and responsibilities and at least minimize the negative impact on our State and our home.

Sincerely,

A handwritten signature in black ink, appearing to read "Julia Thrower". The signature is written in a cursive style with a large initial "J" and a long, sweeping underline.

Julia Thrower

Secretary, SSFS Board of Directors

## **Analysis of and Comments On the Stibnite DEIS Air Quality Section**

Prepared by

CJ Environmental, LLC

This analysis and set of comments the air quality section of the Stibnite DEIS Air Quality section provides Save the South Fork Salmon (SSFS) a deliverable joint ownership review of that NEPA document. The analysis focuses on critiquing the information presented, including the analysis of potential emissions and impacts, and provides comments as to the adequacy of the DEIS analyses and the potential impacts of the proposed action. A separate document will be provided to SSFS providing similar analysis and comments on the proposed IDEQ air permit for the proposed Stibnite actions.

### **Emissions, emission controls**

Air Emission Inventory (EI). Very significant fugitive and combustion emissions, far exceeding Prevention of Significant Deterioration (PSD) program thresholds, but IDEQ air quality regulatory fugitive emission exclusion (IDAPA.58.01.01.008.10.c) and not being considered a “designated facility” lead this project to be categorized as a minor source. Blasting, loading, and transport emissions should count for mines because they are integral to the facility operations. Because those dust emissions aren’t counted, this facility is regulated as non-major while much smaller operations in other industries are considered major.

The largest source of air emissions from the proposed project is fugitive dust from mining operations and vehicular traffic. The emission calculations assume effective control of fugitive dust consistent with a Fugitive Dust Control Plan, the details of which are not defined. Idaho Department of Environmental Quality (IDEQ) air permit application review indicates at least 93% control of modeled emissions would be required to meet ambient air particulate standards. Project proponents claim 90% controls from chemical application, another 33% control from watering in their emission inventories. Those are very high dust control efficiencies that would require significant ongoing effort to have any chance to meet. IDEQ analyses verified 90% dust control efficiency, a rate rarely achieved and difficult to maintain, would not be sufficient to prevent exceedances of particulate ambient air standards. IDEQ clearly states “it may prove challenging to consistently and continuously achieve targeted levels of fugitive dust control”. Meeting those particulate ambient air quality standards is required to approve this project. That IDEQ analysis includes only some onsite road emissions, no offsite roads.

Most fugitive dust control strategies on road surfaces and exposed ground (application of magnesium chloride, oil, and/or regular applications of water). All have potential to affect water quality and other resources that appears minimally addressed in the DEIS

Blasting emission were modeled as a volume source inside a pit, in year 7 when there was years of mining to deepen the pit(s). Emissions from blasting and associated ore transport and handling would be greater, and have more impact per volume of ore processed in the earlier years when pits were less deep, so predicted ambient air quality impacts may be underestimated by not analyzing the impacts of earlier years when pit depths were lower

### **Impact analyses**

EIS modeling analysis included limited contributions from roads including BurntLog. Modeling analyses were based upon smaller Alternative 1 scenario, scaled up to estimate impacts for larger emitting Alternative 2. Both should be analyzed; if only one then the bigger one should be used.

Near field analyses (of impacts within 10 km of the project site) all assume straight line dispersion in the direction of onsite surface winds, which are only representative of a small area near the monitoring station. Actual dispersion will be terrain driven, up, down and around valleys, sometimes over ridges into the next valley. Actual impacts would be in different locations than the analysis estimates, and could be higher

There seems to be a gap in the analyses between the 10km near field analysis and the 50km far field analysis, leaving impacts in that in between area unanalyzed. There is also a discontinuity in methodology between the near field and far field analyses, linear transport (ignoring terrain forcing) in the near field, and more realistic Lagrangian that allows the emitted pollutants to change direction a winds or terrain dictate for long range transport.

Visibility analyses show perceptible impacts in the FCRNR wilderness 30% of daytime hours and 73% of evening hours (color contrast). Why should that be acceptable in a wilderness area with some of the best background visibility in the country?

Emission points are almost all in one drainage basin. Visual points in the visibility impact analysis should be at or beyond ridges, or looking at where plume would circulate within or exit that basin

The Frank Church (FCRNR) Wilderness, as Class II, has limited protections, no more than any other area in the state including developed areas, due to being designated after 1977. Comparatively, Hells Canyon, Sawtooth, Selway and Craters of the Moon Wilderness areas get Class I protection to keep them pristine. This despite IMPROVE monitoring that verifies central Idaho wildernesses show some of the best visibility and cleanest air in the country. Still, impacts of proposed operational impacts in or near the FCRNR wilderness would exceed the same NAAQS standards applicable in urban areas.



Regulatory and DEIS impact analyses are limited to max emissions scenario in LOM year 7, with a few scenarios for where ore was taken from and delivered to, but impacts could be higher in other years or other scenarios due to spatial distribution and/or varying pit depths. Similarly, the regulatory and DEIS analyses assume concentration in one pit and disposal area, concentration in alternative areas could yield higher impacts

Air quality impact analysis indicates impacts for NO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> above Class II significant impact Levels (SILs), which would mandate further analysis is required for this facility if it was a major source. The vast majority of emissions (>3000 tons/yr of particulates) were excluded from regulatory review as a result of fugitive emissions (blasting, loading, and transportation of ore). Similarly, impacts are > Class I area increments, which would mean this project could not proceed if the FCRNR wilderness had the same protections as the Selway, Sawtooth, Hells Canyon, Craters of the Moon wilderness areas.

Particulate ambient air concentrations exceeded allowable NAAQS limits near Cinnebar Peak 2km NE of the northern areas of operations in the West End Pit in the Sugar Creek drainage with proposed 180000 tons material / day mining rates due to emissions from the West End Pit and associated hauling. Lower mining rates (120000 tons material / day) would be required in winter to barely comply with ambient air quality standards. Excess impacts occurred December 23, DEIS and air permit application argue road dust impacts would be overestimated then so the predicted impacts would not be representative. The roads would be open for mining activity. If modeling shows non-compliance, the project should not be approvable. If project proponents argue that the scenario modeled isn't representative, the onus should be on them to provide a representative modeling analysis. If there is less activity in winter, then there would figure to be more activity in warm weather season when there would be serious potential for dust, and the project's dust control efforts would be challenged to meet the levels modeled and needed to show compliance.

Mercury seems to be the only metal considered in the voluminous fugitive dust and the refining processes. Numerous others, including antimony, selenium, and other heavy metals would be present. No more Hg controls than required are proposed. The analysis does not account for Hg respiration from vegetation after uptake, "this flux being the largest point of entry for atmospheric Hg into terrestrial environments", therefore "total Hg deposition predicted by the model is likely biased low". Predicted impact is 19% of background elevated by long history of mining in the area. No impact analysis or contribution to any other risk pathways is included for any other metal or dust component.

The lime kiln proposed in the preferred alternative and associated mining and material processing, or imported lime, would generate dust. Limited analyses are provided for the ambient air risks associated with those high pH dusts, or their deposition which would raise soil pH, inhibit vegetation, and contribute to risks from associated pathways.

Deposition pathways for N, S, Hg, and other metals and chemicals feed into vegetative uptake, water quality, and animal and human intake pathways. Analysis of any of those pathways and their effects on vegetation, soil stability, or other risk pathways is lacking for anything than mercury. The analysis for mercury is acknowledged to underestimate emissions and risks.

Almost all deposition will be in the Salmon River drainage, mostly EF SF Salmon, Monumental Creek, and Indian Creek. Those impacts will adversely affect water quality and ecological integrity in the most ecologically intact drainage in the lower 48 states.

Nitrogen deposition from this project alone of 4.73% in distant FCRNR wilderness almost reaches the 5% threshold for Class 1 wilderness areas.

Historical data show deposition trends at background stations presented, CRMO and Reynolds Creek, trending up.

Impacts along the BurntLog Route, which runs immediately along FCRNR boundary, are limited. Particulate impacts are analyzed with a straight line model unrepresentative of the dispersion along that road, and lack analysis of Air Quality Related Values (AQRVs) like visibility and deposition

The entire air quality analysis says nothing about post mining conditions other than they will try to revegetate. Because of the climate, metals, and chemicals, there will be limits to the effectiveness of revegetation, and the area will remain a source of dust and erosion with heavy metals



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October 12, 2020

Ms. Whitney Rowley  
Department of Environmental Quality  
1410 N. Hilton  
Boise, ID 83706-1255  
[whitney.rowley@deq.idaho.gov](mailto:whitney.rowley@deq.idaho.gov)

***BY ELECTRONIC MAIL - please confirm receipt***

Re: Comments on Application for a Permit to Construct and Operate an Air  
Pollution-Emitting Source, Docket No. AQ-1667

Dear Ms. Rowley:

Save the South Fork Salmon (SSFS) appreciates the opportunity to comment on the draft permit to construct and operate an air pollution-emitting source submitted by Midas Gold Idaho, Inc.

SSFS is a community-based citizens' organization, headquartered in Valley County, Idaho, dedicated to protecting the South Fork of the Salmon River watershed, its outstanding and remarkable natural values, and the economies that depend on those values. SSFS's members and supporters have a strong interest in protecting natural resources, maintaining recreational opportunities and access, and ensuring future generations can enjoy and benefit from these resources and opportunities in the South Fork of the Salmon River watershed. SSFS's members and supporters have participated in the Stibnite Gold Project environmental review process under the National Environmental Policy Act since the Payette National Forest opened the scoping comment period in 2017, and have made significant investments in time and resources to better understand the project proposed by Midas Gold Corp. and its wholly-owned subsidiaries Midas Gold Idaho, Inc., Stibnite Gold Company, and Idaho Gold Resources (collectively, MGII).

SSFS's comments are as follows:

- 1. The stated dust control efficiencies, which are “critical to NAAQS compliance,” are unrealistic and therefore cannot form a reasonable basis for approval of the air permit.**

Idaho Air Rules section 203.02 prohibits the issuance of a permit for a new or modified stationary source if that source “would cause or significantly contribute to a violation of any ambient air quality standards.” Here, the Idaho Department of Environmental Quality (IDEQ) has not reasonably determined that combined fugitive dust from mining operations and vehicular traffic will be sufficiently controlled so that emissions will not cause or contribute to a violation of ambient air quality standards. IDEQ, therefore, cannot approve MGII’s air permit application.

The Ambient Air Quality Impacts Analysis (Appendix B) states that emissions from unpaved roads were based on a combined control efficiency above 93 percent with combined chemical application and watering, and that “it is critical for NAAQS compliance that this high level of control be achieved.<sup>1</sup>” The Impacts Analysis also recognizes that these fugitive emissions from roadways are the most difficult to control.<sup>2</sup> Just within the mine site itself, there will be 55 miles of unpaved roadways with a fleet of 32 haul trucks weighing between 37 and 357 tons.<sup>3</sup> The Impacts analysis also recognizes that “it may prove challenging to consistently and continuously achieve targeted levels of fugitive dust control.<sup>4</sup>” But consistently achieving at least a 93 percent control efficiency is exactly what is required to comply with particular ambient air quality standards.<sup>5</sup> Neither MGII nor IDEQ has demonstrated that that 93 percent efficiency of fugitive dust control from unpaved roadways using the methods described in the application is reasonable.

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<sup>1</sup> Statement of Basis, Permit to Construct No. P-2019.0047, Project ID 62288 (2020) at PDF p. 96.

<sup>2</sup> *Id.* at PDF p. 97.

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> *Id.* at PDF p. 96.

**2. The Fugitive Dust Control Plan lacks the necessary detail to ensure that the Stibnite Gold Project will comply with NAAQS standards.**

In order to justify its unreasonable assumption that MGII can effectively control fugitive dust from unpaved roads and vehicular traffic, the draft permit requires MGII to have a Fugitive Dust Control Plan (FDCP) in place at the time the final permit is issued.<sup>6</sup> The details of this plan at this time is trivial both in content and detail. The permit should not be issued without a FDCP that is open to public review and verifies methods to achieve and verify the dust control effectiveness proposed.

Ensuring compliance with NAAQS for particulate matter may require additional measures beyond chemical application and watering, particularly during the warm weather season. These additional measures may include lowering vehicle speeds, road treatments with crushed rock, and grading or scarifying, as needed. More monitoring may be proposed, such as performing daily visible emissions checks during daylight hours, monitoring weather conditions, including wind speed and direction, and keeping daily records on watering or chemical application. Considering the unusually high effectiveness of dust control required to meet NAAQS and the difficulty in meeting those efficacy requirements due to the nature of dust creation, there should be requirements for extensive, detailed, and continuous monitoring and recordkeeping to verify the efficacy of emissions controls, regular inspections, and additional measures, including enforceable limits on traffic volume or vehicle speed, to ensure that dust is controlled during the warmer weather season.

Because an effective FDCP is required to potentially reach control efficacy rates required to meet NAAQS, the FDCP should be available for public comment prior to approval of this permit. Without this FDCP and an explanation of how MGII can reasonably meet the required 93% dust control efficacy, IDEQ failed to explain how MGII will meet NAAQS and thus approve the permit.

**3. The impact analysis underestimates potential emissions by assuming the emissions scenario will be the same throughout the entire life of mining.**

Emissions from blasting, mining, and materials management were modeled as a volume source inside a pit at year seven, after several years of mining will have deepened the pits. Emissions escaping from the pits from blasting and associated ore transport and handling

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<sup>6</sup> *Id.* at PDF p. 97; *see also* Permit to Construct, P-2019.0047, Project ID 62288 at PDF p. 9 (provision 2.6).

would be greater and have more impact per volume of ore processed in the earlier years when pits are less deep. Emissions may also vary due to spatial distribution over the different years the mine is in operation. Thus, the predicted ambient air quality impacts may be underestimated by not analyzing the maximum potential daily emissions during earlier years when the pits are less deep or not analyzing the different spatial distribution or potentially different concentrations from one pit and disposal area to the next.

**4. The impacts analysis failed to consider particulate ambient air concentrations at the Cinnabar site.**

The permit application proposes mining rates of 180,000 tons material per day from the West End pit. The West End pit is located in the Sugar Creek drainage about two kilometers northeast of Cinnabar Peak. Modeling shows that particulate ambient air concentrations at Cinnabar Peak would exceed NAAQS limits and qualitatively show that lower mining rates at the West End pit of about 120,000 tons per day would be required in winter to barely comply with ambient air quality standards.<sup>7</sup> There is no demonstration of NAAQS compliance for winter conditions. Therefore, a permit that allows operations during winter conditions cannot be issued.<sup>8</sup>

**5. The analysis of hazardous air pollutants failed to consider all potential sources and therefore underestimates emissions.**

IDEQ failed to consider all sources of hazardous air pollutants (HAPs), and thus HAPs emissions are underestimated. While IDEQ did consider emissions from diesel and propane combustion from stationary sources and from cement production, emissions from several other potential sources were omitted:

- the autoclave;
- the proposed on-site lime kiln;

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<sup>7</sup> See Attachment, Memorandum from P. Baylon to M. Lewis, *Demonstration of compliance with IDAPA 58.01.01.203.02 (NAAQS) and 203.03 (TAPS) as it relates to air quality impacts analyses (draft)* (July 31, 2020).

<sup>8</sup> If the permit applicant argues that the scenario modeled isn't representative, the burden is on the applicant to provide a representative modeling analysis. If there is less activity in the winter, then there would be more activity in the warmer seasons where there would be a serious potential for dust to reach the annual levels throughout. The draft permit's dust control efforts would be challenged to meet the levels modeled (93% control efficiency) and needed to show compliance.

- antimony, selenium, and other heavy metals and HAPs from the large number of stationary and mobile source dust emissions.

The feed for both the autoclave and lime kiln contain considerable metals and HAPs. The concentrations of HAPs and metals in the feed of ore is inexplicably lower than the concentrations documented in the 2017 Stibnite Gold Project Baseline Geochemical Characterization Report. Similarly, the concentration of metals and HAPs in the material to be processed for lime in the permit application were based on generic offsite data, and are inconsistent with the concentrations expected in the onsite feed in this area specifically chosen for significant heavy metal concentrations in the ground. Failure to appropriately represent HAP and metal concentrations in these feed materials is a significant oversight and needs to be addressed.

HAPs, including mercury, are not considered in any of the voluminous fugitive dust generated by both stationary and mobile sources for the proposed action. Any assessment of metals and HAPs in dust or emissions generated anywhere in the project area should be based on the ore concentrations documented by MGII in the Stibnite Gold Project Baseline Geochemical Characterization Report.

**6. Modeling using straight line dispersion of emissions fails to take into account the topography of the area, and results in an underestimation of the impacts.**

The near field analyses of impacts within 10 kilometers of the project site all assume straight line dispersion based upon onsite surface winds measured in a central location within the project area, and are only representative of a small area near the monitoring station. Actual dispersion in this area is terrain driven, flowing up, down, and around valleys, and over ridges to the next valley. Assessing impacts using straight line dispersion therefore may not reflect impacts at all locations and actually underestimate impacts of emissions.

**7. The impact analysis fails to account for release of mercury from terrestrial sources.**

The impacts analysis does not account for mercury respiration from vegetation after uptake. Uptake of mercury by vegetation is the largest point of entry for atmospheric mercury into terrestrial environments. Due to the long history of mining in the area, the predicted impact from respiration is 19 percent above background levels. The impact analysis did not account for this potential release of mercury.

**8. There are no air impact analyses regarding post mining conditions.**

The entire air quality analysis says nothing about post-mining conditions, other than the applicant will attempt to revegetate. Because of the climate, metals, and chemicals in the area, there will be limits to the effectiveness of revegetation. The area will remain a source of dust and erosion contaminated with heavy metals. The permit should take into account this source of emissions.

In conclusion, SSFS believes that based on the Statement of Basis provided by IDEQ, there is insufficient evidence to demonstrate that the proposed activities, as described, can meet Idaho Air Quality justifying issuance of this permit to construct. If you have any questions about these comments, or wish to discuss them, please contact us. We look forward to your response.

Sincerely,

Julia Thrower  
Secretary  
SSFS Board of Directors  
[www.savethesouthforksalmon.com](http://www.savethesouthforksalmon.com)