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January 20, 2009

Ms. Marina Bernheimer
Save the Air in Nevada County
Post Office Box 441
Grass Valley, CA 95945

Re: Comments on Draft EIR for Proposed Idaho Maryland Mine Project

Dear Ms. Bernheimer:

Per your request, Tamura Environmental, Inc. has reviewed the air quality-related portion of the October 2008 Draft Environmental Impact Report (DEIR) for the proposed Idaho Maryland Mine Project. There are numerous serious deficiencies in this portion of the DEIR. To the extent that a description of the project has been provided, the EIR fails to identify (or incorrectly quantifies) important emissions from the project, has deficient analyses of the emissions impacts, fails to identify significant applicable air regulations, and fails to identify mitigation measures that will comply with those regulations. We also find that the DEIR is inadequate with regard to providing a complete project description. Our detailed comments are as follows:

1. Table 4.2-6 is the only summary of air emissions provided, and does not identify emissions of Hazardous Air Pollutants (HAPs)¹ and California Toxic Air Contaminants (TACs).² For example,
 - a. It is known that hydrofluoric acid (HF) and hydrochloric acid (HCl) can be emitted in substantial quantities from ceramic clay products manufacturing³ and are regulated by the U.S. Environmental Protection Agency (EPA). Using EPA's default HF emission factor for ceramics products manufacturing, potential emissions of HF are over 100 tons per year (TPY),⁴ which would be very substantial (over ten times the Federal major source threshold for HF). In Appendix B.6, the DEIR cites a much lower HF emission factor from a three-page trade magazine article—which would result in a calculation of 3.5 TPY of HF

¹ This term is defined in Section 112(b) of the Clean Air Act (with modifications in 40 CFR 63.60).

² This term is defined in Title 17 of the California Code of Regulations, Section 93000.

³ See, for example, US EPA, "Ceramic Products Manufacturing," Section 11.7 of the "Compilation of Air Pollutant Emission Factors, Volume I: Stationary Point and Area Sources," AP-42, July 1996, available on the Internet at <http://www.epa.gov/ttn/chief/ap42/ch11/final/c11s07.pdf>.

⁴ EPA's emission factor is 0.46 pounds HF per ton of ceramic product produced, and Appendix B.4 of the DEIR identifies the maximum ceramic products throughput as 1200 tons/day: $(0.46 \text{ lb HF/ton cer.}) \times (1,200 \text{ tons/day}) \times (365 \text{ days/yr}) / (2000 \text{ lb/ton}) = 101 \text{ tons HF/yr}$.

emissions—and then miscalculates HF emissions as being only 0.00018 TPY.⁵ HCl emissions are excluded entirely. The DEIR therefore fails to adequately quantify emissions of HF and HCl, and assess the associated risks.

- b. In Appendix B.4, Section 4.2.3 mentions “a standard solvent solution” being stored for which emissions “are considered HAPs due to the emission from a solvent that could potentially be cancer causing”. The last page of Appendix B.4 identifies this solvent as methylene chloride, a volatile substance (boiling point = 104 °F at sea level) with an annual throughput of 26,000 gallons (approximately 145 tons) per year. Methylene chloride is classified as a “Confirmed Animal Carcinogen with Unknown Relevance to Humans” by the American Conference of Governmental Industrial Hygienists (ACGIH)⁶ and is both a HAP and TAC. Section 2.8.3 of the DEIR does not identify methylene chloride as a hazardous material expected to be used onsite, and its use is not described in Sections 2 or 4.2 of the DEIR. The DEIR also fails to assess risks from or identify mitigation for these emissions.
- c. Section 2.8.3 of the DEIR mentions that substantial amounts of sodium cyanide (NaCN) will be used (one to two-ton sacks transported to the site every three weeks). The DEIR notes that acids would be stored separately to prevent the formation of HCN gas; however, the DEIR states that personnel handling the materials would be equipped with respirators and that the handling and reagent mixing area would be well-ventilated, yet does not identify any associated emissions. Cyanide compounds are also listed as being HAPs and TACs. The DEIR does not quantify emissions of HCN or assess associated risks.
- d. The risk analysis in Appendix B.6 of the DEIR includes diesel particulate matter (PM) from haul trucks, but these emissions are not specifically quantified in Section 4.2. More importantly, the emissions calculations in Appendix B.2 are shown as being based on speeds of 35-55 mph, whereas haul trucks will likely be traveling at lower speeds (and idling) when on site; these emissions need to be taken into account also.
- e. HAP emissions associated with natural gas combustion, crystalline silica in fugitive dust, and diesel fuel evaporation are quantified in the health risk assessment (Appendix B.6 of the DEIR) but are not quantified in the body of the DEIR.

⁵ Appendix B.6 identifies a daily throughput of 1200 tons per day and an emission factor of 0.008 g/kg: $(1200 \text{ tons/day})(2000 \text{ lb/ton})(\text{kg}/2.205 \text{ lb})(0.008 \text{ g/kg})(1 \text{ lb}/453.6 \text{ g}) = 19.2 \text{ lb/day}$, whereas Appendix B.6 calculates 0.00105 lb/day.

⁶ ACGIH, “2005 TLVs® and BEIs® Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices,” Cincinnati: ACGIH, 2005.

2. Table 4.2-6 also does not include all of the criteria pollutant emissions from the facilities.
 - a. Although EPA has identified that glaze spray booths are also significant sources of particulate matter (PM) emissions,³ the DEIR does not identify how glaze will be applied or include any emissions associated with glaze application.
 - b. Table 4.2-6 references Appendices B.4 and B.5, where the only emissions associated with stationary fuel combustion equipment appear to be those for the ceramics plant burners and rotary dryers. Page 2-32 states that at the gold plant, “the heating and ventilation equipment, as well as the ovens and furnaces could be fueled by natural gas”; these emissions are also not included, nor are any emissions associated with any stationary diesel engines that may be needed at the sites.
 - c. Emissions associated with using SO₂ gas to detoxify the tailings from the leach process are also not identified or addressed in Appendix B.4.
 - d. Although reactive organic gas (ROG) emissions are identified on page 4.2-19, they were not included in emissions estimates shown in Appendix B.4.
3. The DEIR notes that the project is located in an area that is an ozone nonattainment area, and that NO_x is a precursor to ozone. It is therefore important that Best Available Control Technology (BACT) be implemented for NO_x, as required by NSAQMD regulations. The DEIR states that NO_x emissions from the ceramics plant will be controlled using “low NO_x burners,” but identifies an EPA emissions factor of 140 pounds per million standard cubic feet of natural gas burned (lb/MMscf) as being representative of a sufficiently low-NO_x burner. This is EPA’s emission factor for large (> 100 MMBtu/hr) wall-fired boilers, which have not been identified as being part of this project; NO_x burners that are representative of BACT from sources such as the kilns are typically guaranteed by vendors to emit substantially lower levels. The DEIR needs to specifically identify all of the sources of NO_x, and thoroughly evaluate the availability of burners that emit less than 140 lb/MMscf of NO_x.
4. “Hot spot” impacts of carbon monoxide (CO) emissions from vehicles typically need to incorporate intersections, and the associated stops and vehicle queuing. The CAL3QHC2 model incorporates vehicle queuing algorithms but was not used. Instead, Appendix B.3 of the DEIR shows that the CALINE line-source model was used. Although the DEIR does not include a description of how input parameters were chosen, it does not appear that vehicle queuing was taken into account.
5. The health risk analysis provided in Appendix B.6 states that it includes exhaust from the six ceramic plant kilns, but the “exhaust from the ceramic plant kilns” was estimated as being only exhaust that would be anticipated from natural gas combustion, plus the underestimated HF emissions identified in comment #1 above. Ceramext’s website⁷ identifies that Golden Bear Ceramics has constructed a pilot plant in Grass Valley;

⁷ <http://www.ceramext.com/process/>

emissions that have been measured from this pilot plant should be identified and used to better estimate all emissions from the kilns, not just HF and those associated with the combustion of the natural gas. In addition, the health risk analysis does not include a map showing the nearest sensitive receptors to both the project sites and the nearby intersections affected by increased truck traffic.

6. Equipment associated with obtaining the gold from ore-containing mined materials would be subject to Subpart LL of the Federal New Source Performance Standards (40 CFR 60), “Standards of Performance for Metallic Mineral Processing Plants”. The DEIR does not identify this as an applicable regulation in Section 4.2.2, and needs to describe how the proposed project would comply with this regulation.
7. The DEIR should identify the applicability of Subpart OOO of the Federal New Source Performance Standards (40 CFR 60), “Standards of Performance for Nonmetallic Mineral Processing Plants” to the crushers and other processing equipment for the (non-ore-containing) development rock. The DEIR needs to clearly identify whether this regulation applies; if not, why not; and if so, how the project would comply.
8. The DEIR should identify that Northern Sierra Air Quality Management District (NSAQMD) Rule 226 (“Dust Control”) applies and identify how the proposed dust mitigation measures demonstrate compliance with this regulation.
9. Table 4.2-6 of the DEIR identifies “Project Construction and Operation Emissions” (which appears to include stationary sources and vehicular sources) in units of pounds per day, whereas the applicability of several regulatory requirements (including those listed in my comments below) are dependent on annual potential emissions (expressed in tons per year) from the stationary sources at the site only. Section 4.2 should be revised to show annual potential emissions from the stationary sources at the site. Section 4.2 should also identify that portable equipment is subject to the registration requirements of NSAQMD Rule 523 and identify how this equipment will comply with that rule.
10. If annual potential emissions of NO_x or VOC from the stationary facilities in the ozone nonattainment area exceed 100 tons per year (equivalent to 548 pounds/day, 365 days/year), the project is subject to Federal Nonattainment New Source Review (NNSR) regulations, which require the project to implement controls representative of the Lowest Achievable Emissions Rate (LAER) and purchase offsets for those emissions.
11. The applicability of and compliance with Federal General Conformity regulations (40 CFR 93, Subpart B) needs to be identified in the DEIR. If NO_x or VOC emissions (including those from construction and mobile sources used during the project’s operation, but excluding any covered by an NNSR permit) in the ozone nonattainment area exceed 100 tons per year (TPY), General Conformity regulations prohibit any Federal agency from licensing or permitting the project unless it can demonstrate conformity with the area’s implementation plan for obtaining the National Ambient Air Quality Standard (NAAQS) for ozone. (The regulations include more specific information with respect to how such a demonstration needs to be made.)

12. Federal regulations for HAP emissions control include “National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing” (40 CFR 63, Subpart KKKKK) for major sources of HAP and “National Emission Standards for Hazardous Air Pollutants for Clay Ceramics Manufacturing for Area Sources” (40 CFR 63, Subpart RRRRRR) for nonmajor (area) sources of HAP. The DEIR needs to clearly identify whether these regulations would apply; if not, why not; and if so, how the project would comply.
13. If the facility is a major source of Hazardous Air Pollutants (HAPs)—i.e., having the potential to emit 25 tons per year (TPY) or more of all HAPs combined, or 10 TPY of any individual HAP—boilers and process heaters will be subject to Subpart DDDDD of the Federal 40 CFR 63 standards, “National Emission Standards for Hazardous Air Pollutants from Industrial, Commercial, and Institutional Boilers and Process Heaters”. The DEIR needs to clearly identify whether this regulation would apply; if not, why not; and if so, how the project would comply.
14. The DEIR refers to electrowinning, and page 2-37 states that lead nitrate is expected to be used to enhance gold leaching kinetics. The DEIR should therefore identify the applicability of Subpart WWWWWW of the Federal 40 CFR 63 standards, “National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations”. The DEIR needs to clearly identify whether this regulation applies; if not, why not; and if so, how the project would comply.
15. Appendix B.5 of the DEIR incorrectly implies that the use of ultra-low sulfur diesel fuel (15 ppm sulfur content) was a voluntary mitigation measure for emissions from diesel equipment. Ultra-low sulfur diesel fuel is already required nationwide in all on-road diesel vehicles (per 40 CFR 80, Subpart I) and is required statewide for construction equipment and other non-road vehicles in California (per Title 13, California Code of Regulations, Section 2281(a)(5)). (Many of the other mitigation measures in this DEIR are also ones that would be required by regulation, and are not voluntary.)
16. The DEIR’s reference to emission controls for diesel particulate matter (DPM) are not entirely clear, nor does the DEIR address cases where DPM filters may not be available. The engine standards identified on page 4.2-11 apply to new engines, not existing ones. Page 4.2-18 states that “all mobile source equipment” will meet CARB Tier 3 emission standards, but it is not clear whether this is referring to construction equipment, on-site operational equipment, on-road vehicles and/or truck traffic associated with the site, or some subset of these three. Emissions calculations should also only take into account DPM retrofit controls for those equipment where DPM retrofit controls are confirmed to be commercially available.

In summary, the DEIR is incomplete and therefore inadequate with respect to air quality issues. The regulatory requirements listed above are not exhaustive; they merely include some of the more important requirements that either apply or are likely to apply based on the information that was provided in the DEIR.

If you have any questions or comments regarding this letter, please do not hesitate to contact me.

Sincerely,

TAMURA ENVIRONMENTAL, INC.

A handwritten signature in black ink, appearing to read "Todd Tamura", with a long horizontal flourish extending to the right.

Todd Tamura, QEP
Principal