Ralph Silberstein
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Jan 19, 2009

To: Mr. Tom Last,
Planning Director, City of Grass Valley
125 E Main St.
Grass Valley, CA. 95945

Re: Idaho-Maryland Mine Project DEIR

Dear Mr. Last,
Here are my comments to the draft EIR, Idaho-Maryland Mine.
Thank you,
Ralph Silberstein

1.2 Project objectives states the purposes:
"… Processing the precious and industrial mineral deposits to produce gold and manufactured stone and ceramic building products, thereby reducing the environmental impacts of the project and creating marketable building products within California;"
Is the ceramics plant going to be used at any time to process aggregate from other sites? If so, why is that not stated here?

If ceramics are going to be processed at any time from other sites, isn't that a contradiction from the validity of the statement "thereby reducing the environmental impacts of the project."?

There is no mention of aggregate sales in this stated purpose. If it is the intent of the applicant to make offsite aggregate sales, why is that not stated here?

1.4.4 Hazards and Hazardous Materials
"It [the IS] found that the proposed project would not result in a hazard associated with its proximity to the nearby Nevada County Airstrip located approximately 1.5 miles from the project area because the airport is a relatively small airport with infrequent general aviation activity"
This statement is flawed for the following reason: The airstrip is directly in line with the Idaho-Maryland (IM) site such that planes will pass over the site during approach for landing and during takeoff. The IM site will be discharging super heated exhaust from 6 chimneys at a high velocity, forming a significant updraft and condensation clouds in the proximity. This will cause safety hazards to air traffic, including turbulence and obstruction of visibility. See Ceramic Plant Kiln discussion below.
Was the airport, the FAA, or any other qualified body contacted for an evaluation of the impacts of this project on air traffic and safety?
Who made the evaluation of this ruling?
Were they provided with information about the volume, velocity, and temperature of the Ceramics exhaust plumes?
Were they provided with information about the degree of visual obstruction?

2.6 regarding ceramics plant lifespan: "Ceramics production could proceed past 2029 using industrial minerals (e.g., non-gold bearing material) from the mine or imported ceramics feedstock.

Where are the estimates for traffic under the scenario proposed?
In particular, why was inbound traffic not evaluated?
Why is there no economic analysis for continued operation of the ceramics plant which may impede, modify, or delay the reclamation plan? Isn't this required?
If the Ceramics plant operates for any given period after the closure of the mine, how is the reclamation plan going to assure that redevelopment will be completed?

The possible operation of the ceramics plant after the mine has closed raises a lot of issues about the project. Under those operating conditions:
Where will feedstocks be stored?
Where will trucking be loaded?
How are inbound trucks to be off-loaded?
Where is their staging area?
What conveyer systems will be utilized?
Will the main portal be sealed prior to this phase?
Why are no drawings being provided for this operational scenario?
Will separate permits be required for this scenario?
What will happen if the permits are denied?
Please provide drawing showing the site plan under this operational scenario.

2.6.1 " historic Idaho Shaft No. 1 which is located on private property east of Centennial Drive" [is not part of the project]. Is this shaft sealed?
If not, will airflow be managed through this opening and will emissions come from it?
How will this shaft be managed?
How can reclamation be achieved with respect to securing, reclamation and/or sealing of the shafts not included in the project?
Does IMM have easements or access rights to this property?

2.6.1 **Site Access**: applicant will realign Centennial Drive with Spring Hill drive. What happens to the Hap Warnke Mill? Are losses of jobs accounted for? What are the amounts of lost revenues and other economic impacts of the mill closure.
Is there a clean up planned for this site?

2.6.1 Site prep: It is anticipated that a total of approximately 266,600 cubic yards of soil would be cut for the site development and used on-site as fill.
Note that environmental report lists questions about unsuitable fill materials. If fill materials are deemed unsuitable, how will they be removed? Where will they be moved to?
Assuming 20 cubic yards per truck trip, this would amount to up to 13,330 truck trips.
What are the traffic impacts as are they transported?

Note that Figure 2.2 Intersection of Bennett with Centennial Drive extension seems misaligned. Is this drawing correct and is this the proposed alignment?

Pg 2-16 Heliport. Where is the heliport located?
What are listed the heliport dimensions?
Are there access roads to the heliport?
Will more trees be removed to accommodate it?
Does it impinge on biological areas?
Is it in the flight path for the airport?
Will use of the heliport be allowed for anything other than emergencies?

2.6.3 "The New Brunswick site, specifically the existing New Brunswick shaft, would be developed for the purposes of providing mine ventilation, internal mine hoisting, emergency underground access, and a portal for mine dewatering."
An additional ventilation borehole may be located at the site.

What is the size and location of this borehole?
Will it be housed in an existing planned building? Which building?
What is the location and size of the building?
How much material will be excavated during creation of the borehole?
Where (specific location per plans) will the excavation rock/materials be stored?
Will they be hauled offsite?
If the rock materials for the extra borehole are not hauled offsite immediately, what will be the impact due to oxidation and/or leaching of the materials when exposed to rain and air?
How many truck trips will be generated by this excavation project?
What other surface equipment would be used to create the borehole?
Does it generate noise, dust, air pollution, water pollution, or hazardous impacts, and to what level of significance? If so, where are each of these listed in the DEIR?

2.6.3 Fans for this borehole would be located underground to prevent any noise disturbance on surface.
This statement implies zero sound. Is this statement correct?
What is the noise level of the fans at the surface and is it zero?
What is the velocity of the air out of the shaft?
In addition to motor noise and noise generated at the fan, will there be any noise due to air movement at the surface? How much?
Is it going to be on 24 hours a day, 7 days a week?

2.6.3 pg 2-20 "…it may be necessary to hoist some waste materials via the New Brunswick shaft to the surface during the initial mine development period (one to two years)."
What types of waste materials would be present that may need to be removed [i.e. wood, metal, rock, concrete, wiring, plumbing, etc] and how is each is to be disposed?
Where and for how long will materials be stored?
"depending on the operational needs during shaft refurbishment and the exploratory program waste materials hoisted to surface may either be placed in an engineered storage area or transported to the Idaho-Maryland site for processing" Where would this engineered storage area be located, and what size?
If trucked to the IM site, what is the estimate of truck traffic between the two sites for this phase?
What are the operating hours for this traffic?

2.7 Here is mentioned a 1200 STPD crushing/grinding plant. This is not shown on the plans. Where will this plant be located?
How large is it?
Please provide a description of this operation.
What are the impacts and mitigations for this plant with respect to noise, air pollution and dust, energy usage, aesthetics, water pollution.
Where are these impacts listed and assessed?
All of the materials that are crushed and ground should be accounted for. What is done with the excess materials?
If they are trucked offsite, when and how many traffic trips are generated for each given usage scenario?

2.8.1 It is anticipated that aggregate material would be shipped to destinations within a maximum 100 mile radius of the mine to typical markets including but not limited to: Truckee, Auburn, Yuba City, Placerville, Roseville, and Sacramento.
How will the sales of the aggregate be done?
Will sales be refused for any purchaser whose street distance exceeds 100 miles?
How will this be verified?
Will only full loads be shipped, or will partial loads be shipped? I.e. What are the number of tons per load estimated to be?
Will the trucks be provided by the IMM or will independent carriers be allowed?

How will their emissions performance be determined?

2.8.1 Decline tunnel and shaft

With confirmation of mine-able quantities of gold bearing ore, the new Idaho-Maryland shaft would be completed to the existing 2,300 ft level.

This is a conditional statement which could create an undetermined result with respect to the project planning. What is the sequence of steps if the mine-able quantities of gold bearing ore are not confirmed? What would be the phasing of ceramics plant construction/operational cessation?

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Once crushed, development rock would be segregated and deposited into one of two stockpiles (e.g., ore-bearing and industrial minerals) outside the portal. If needed, development rock containing industrial minerals may also be stored on a pad located south of the ceramics plant. A portable crushing and screening plant would be used on surface to process the development rock during the Project

Phase I (refer to Table 2-4).

The temporary crusher would be an electrical motor-driven mobile crushing system capable of operating at 1,200 STPD. This crusher would have a vibrating screen and a jaw that could crush material to less than 12 inches and down to 2 inches in size. The crusher would discharge onto a stacking belt conveyor that would load the haul trucks or feed small stockpiles. It is expected the temporary surface crushing and screening plant would be in place for about 2 years, until the permanent underground primary crusher is operational.

Is the output of the crusher only going to be materials in the range of from 12 inches to 2 inches in size? Given the nature of aggregate usage in the marketplace, a variety of aggregate types are commonly used. Are aggregate piles of more than one size rock/ aggregate composition/size foreseen?
Will more than one pile be developed for retail sales?
If so, where will they be stored, and how many?

During Project Phase II, when sufficient ore resources have been identified and defined from initial exploration work, a new shaft would be sunk from the Idaho-Maryland property, down to about the 2,300 level.

What happens if sufficient ore resources are not identified? Will this new shaft be undertaken on schedule if sufficient ore resources have not been identified in the expected time frame? Will operations continue at a reduced rate?
Does ceramics plant operations cease if the gold operations are not deemed profitable but further operations are expected conditional upon a change of market conditions? Under what conditions would a diminished ore production lead to a modification of the operational permits for ceramics?

The products of the mining activities would be industrial minerals, to produce ceramic building materials, and gold-bearing ore.

Since it is intended to sell aggregate, again, why is it not stated here that the products are ceramics building materials, aggregate, and gold-bearing ore?

Why is the material from the mine called waste rock in some places within the document and called industrial minerals in others? The correct statement would be that the product of the mining activities is gold bearing ore. Waste materials will be used to produce ceramic building materials. If it is not called waste materials, then the process cannot be touted as recycled, since it is being mined intentionally as industrial minerals. However, if it is called waste materials, then how can it be called industrial minerals? Which is the correct identification?

2.8.3 Chemical Usage, Storage, and Handling

The document states that explosives would be stored on surface until isolated and secured underground storage facilities could be constructed; stored in first class explosives magazines. …detonators stored in

separate magazines, and emulsion blasting agents separately. This implies that there are multiple storage magazines, but plans only show 1 location (building T, figure 2.2).
Where are each of the 3+ magazines and what is size of buildings?
Are they fenced?
Will an additional magazine be used on the New Brunswick site if work proceeds from there under some of the options?

2.8.3 "Acids would be stored in a separate lined and bunded area to prevent formation of hydrogen cyanide (HCN) gas. Spillage from the respective storage areas would be directed to separate area sumps isolated and at a distance from each other and evacuated on a regular basis."
The term "would be" is subjective or conditional. This needs specification and location on the plans: Where are these hazardous materials stored, where are the separate area sumps located, and approximately what distances separate them?
How are they evacuated? Are they hauled offsite? How often?

2.8.3 The handling and reagent mixing/makeup area would be well-ventilated and would be fully bermed and sealed.
Needs affirmative specification on plans: Where are these hazardous materials mixing/makeup areas, where are the separate area sumps located, and what distances separate them?

2.8.3 Other hazardous materials expected to be used…
What are the rates of usage for each hazardous material, how much is stored on site, how frequently are the materials shipped, and how are they transported?

2.8.3 List all chemicals used in production and their rate of use, though not listed as hazardous, that could create an impact if spilled during transport or usage [e.g. oils, cement products]

2.8.3 The truck shop/warehouse would serve as a single, dual purpose building for mobile and fixed equipment maintenance facilities and as a primary storage area for all spare parts, consumables, chemicals, fuels, and lubricants.
This seems to contradict other statements. What is the complete list of chemicals, fuels and lubricants that will be stored in the truck shop/warehouse?

2.8.4 Utilities usage
Idaho-Maryland Site
…
Up to 150 gigawatts (GW) hr/yr of electrical power would be solicited from the local area provider, Pacific Gas and Electric Company (PG&E).
This is a significant power load, possibly requiring significant additional service infrastructure by PG&E. What additional power lines and poles will be needed to provide this level of service and where will these lines be located for service to the Idaho Maryland site? For any additional service lines, please provide map showing the locations off-site for purposes of evaluating impact on neighboring properties, including power pole locations, height, and clear space requirements.

Natural gas requirement for the Ceramic plant would be up to 1,100 million cubic feet per year.
This is a significant natural gas load, possibly requiring significant additional service infrastructure by PG&E. It is probable that a new supply line will need to be run from HWY 49 vicinity, or more. What additional gas lines and easements will be needed to provide this level of service, and where will these lines be located? For any additional service lines, please provide map showing the locations off-site for purposes of evaluating impact on neighboring properties. Will there be impacts to traffic? Noise? Air pollution? Aesthetics? Water pollution? Other impacts?

Up to 2 GW hr/yr of electrical power would be solicited from PG&E for the Round Hole site and

up to 20 GW hr/yr for the New Brunswick site.

For the New Brunswick site, this is a significant power load, possibly requiring significant additional service infrastructure by PG&E. What additional power lines and poles will be needed to provide this level of service and where will these lines be located? For any additional service lines, please provide map showing the locations off-site for purposes of evaluating impact on neighboring properties, pole and line heights, and required clear space. Will there be impacts to traffic? Noise? Air pollution? Aesthetics? Water pollution? Other impacts?

Waste disposal: [sewer] in addition to waste disposal requirements for each of the employees, what requirements are there for disposal of approved chemicals and solutions discharge associated with various chemical preparations and processing; I.e. neutralized acid solutions, etc. which may utilize the sewer?

2.8.5 Access to sites

Shift changes for employees are scheduled to avoid 7-9AM, 12-1pm, and 4-6PM. Note that this should be assessed as to the impact during the adjacent times. In particular, look at surge of traffic which coincides with surge in truck trips.
Please consider that the practice of shifting traffic to avoid these hours by many projects is saturating the times between, removing any potential for using this solution in the future as traffic becomes bad continuously.
Has an assessment of cumulative impacts for times adjoining peak times been made? If so, what is the remaining load capacity for those time periods and how is the decimation of those time periods being cost allocated towards infrastructure costs and assessed to the projects?

2.8.6 Workers and Schedule

"The project is expected to have a permanent operational work force of 200 for the gold processing plant and 200 for the ceramics plant (total 400) which would be expected to be employed between 2008 and 2029."

This statement is false and should be removed or reworded for two reasons:
1): the jobs are not permanent. American Heritage Dictionary defines permanent as follows:

1. Lasting or remaining without essential change: *"the universal human yearning for something permanent, enduring, without shadow of change" (Willa Cather).*
2. Not expected to change in status, condition, or place: *a permanent address; permanent secretary to the president.*

Websters defines permanent as follows:
Per"ma*nent\, a. [L. permanens, -entis, p. pr. of permanere to stay or remain to the end, to last; per + manere to remain: cf. F. permanent. See Per-, and Mansion.] Continuing in the same state, or without any change that destroys form or character; remaining unaltered or unremoved; abiding; durable; fixed; stable; lasting; as, a permanent impression.

The jobs listed are projected to end in 2029. Therefore, they are neither lasting nor unchanging nor continuing in the same state, unaltered or unremoved; so they are not permanent.

2) The project statement implies that the jobs last from 2008 to 2029, which is also not true as indicated by table 2-7, which shows that the total of 400 jobs is only sustained between 2015 and 2029.

2.9 Reclamation

2.9.1 1**) The stockpiles would be drawn down**.
What will be time period for stockpile draw down? What will be the maximum stockpile size (in volume) allowed?
If the option of keeping Ceramics plant open is possible, the applicant should provide a definition of reclamation plan in this case, followed by a second reclamation plan when ceramics plant is finally closed.

The applicant should provide a complete operation plan and a complete reclamation plan for each possible alternative, considering the following scenarios:

1) Ceramics plant fails to reach production.
   a) case where gold doesn't reach production but exploration is done
   b) gold starts production and then ceases for various economic reasons (lack of ore, costs of remove go up, etc.
   c) gold reaches 1200 tons per day
   d) gold reaches 2400 tons per day
2) Ceramics plant reaches 600 tons per day
   a) case where gold doesn't reach production but exploration is done
   b) gold starts production and then ceases for various economic reasons (lack of ore, costs of remove go up, etc.
   c) gold reaches 1200 tons per day
   d) gold reaches 2400 tons per day
3) Ceramics plant reaches 1200 tons per day
   a) case where gold doesn't reach production but exploration is done
   b) gold starts production and then ceases for various economic reasons (lack of ore, costs of remove go up, etc.
   c) gold reaches 1200 tons per day
   d) gold reaches 2400 tons per day
4) Ceramics reaches 600 tons per day but then shuts down before gold extraction is complete.
5) Ceramics reaches 1200 tons per day but then shuts down before gold extraction is complete.

2.9.1 2) Paved areas and roads may be retained if
Mentions option to rip up paved areas. A complete restoration plan should be provided, including addressing of the "covered up" toxins that are under the impermeable surfaces.

2.9.1 7) …Building shells would be retained unless dictated otherwise by the future property owners.
This plan is unacceptable because there is no explicit mechanism to guarantee reclamation in the case of subsequent property owner default. A prescriptive plan should be provided with wording to the effect: "Building will be removed unless dictated by the future owners and approved by submission of a revised reclamation plan application." Otherwise, the property can be sold for below market to any corporation which simply fails to "dictate otherwise" and then the new owner could fail, leaving the city to remove the structures and clean up.

2.9.1 9) Again, as in 7), the planned default should be fix it, not avoid it. Lighting shall be dismantled.

2.9.1 10) Again, as in 7), the planned default should be fix it, not avoid it. The fencing should be removed unless a new reclamation plan is approved allowing the modification.

2.9.1 11) The buffer area along Wolf Creek is expected to be made available to the City upon site reclamation for inclusion in the City's plans to develop the Wolf Creek Parkway.
This plan is inconsistent with the General Plan with respect to policies on recreation, alternate transportation, and connectivity. This area must be dedicated to the city as a condition of project approval. Otherwise, the Wolf Creek Parkway will be blocked from development for at least 20 years, and if the Ceramics plant operates after the 20 year period, then the parkway will be blocked longer and even possibly permanently blocked.
In addition, note that the word "expected to" does not bind the applicant in any way to perform any acts to make the property available or to otherwise surrender rights to the property even after 20 years.

2.9.1 12) The Centennial Drive Extension is expected to be made available to the City for public use as a road and/or trail development.

This road should be dedicated to the city and open for public use as a condition of project approval. Otherwise, this vital connecting road would be blocked from usage for at least 20 years, and if the Ceramics plant operates after the 20 year period, then the road could be permanently blocked.
In addition, note that the word "expected to" does not bind the applicant in any way to perform any acts to make the property available or to otherwise surrender rights to the property even after 20 years.

2.9.1 13) The Education Center and Education Center Road would be made available to the City or California State Parks upon conclusion of the mining and mineral processing.
Again, as in 7), this should be demolished and the area restored. Otherwise, if the city doesn't want it they are stuck with it. Then, subject to approval, an application for modification to the reclamation plan can be considered at the time of reclamation.

2.9.1 There is no discussion about how the mines are sealed and then covered over to provide usable surface that is safe. Where and what are the specifications for this process?

2.9.1 Note: Figure 2-11 doesn't show anything with respect to reclamation work.

2.9.1 Water filtering from the IM site for all discharge **should be maintained indefinitely until** it can be proved that there is no potential for future pollution.

2.9.2 Round Hole and New Brunswick Sites
Comments from above, 2.9.1 7) thru 10) apply here also. All plans should be to fix/reclaim the property unless an approved modification is accepted.

2.9.2 Missing the reclamation plan. Figures 2-12, 2-13 doesn't show anything. Sub station should be removed. Building should be removed. Etc. Plantings, etc?

2.10 Applicant Proposed Measures

Dewatering: based upon 95 EIR.

APM 1
It seems obvious that the scope (area) of study is not sufficient. Water removal might impact any users who have wells that are above the elevation of the depth of the deepest point of mine de-watering, perhaps miles away. For example, at some late date in the mining operations a new underground rock removal action may expose a fault or fracture which is connected to an aquifer or water body. The fault could easily run at a shallow angle and conduct water from a great distance. This exposed low point in the aquifer can then drain the entire aquifer contents, causing well failures.

The well assessment methodology is not sufficient. Well level is not an indication of water consumption rate or recharge rate: e.g. water table may recharge to a given level but take longer if a neighboring supporting aquifer is depleted.

APM 4 needs to obtain all necessary easements for connecting the NID water prior to dewatering.
APM 11.5 NID may cost more than a well operation if the well is in good shape. To compensate well owners, all ongoing monthly costs associated with NID connection should be born by the Mine.

Air
Green House Gas emissions (GHG)
Where are the calculations for GHG emissions (Carbon Dioxide) due to cemented backfill?
Cement is a significant source of GHG emissions.
These calculations must be included in the calculations or else the amount of emissions will be severely understated.

A preliminary estimate indicates that the backfill activities proposed by the mine to dispose of tailings will consume over 15 tons of cement per day. This would produce in excess of 13 tons of GHG emissions per day.

Statement on the calculation of GHG emissions from cement backfill:
Cement is a significant contributor to CO2 emissions, utilizing high amounts of heat energy during the firing of the raw materials and in addition releasing CO2 in large amounts due to the freeing of CO2 in the Calcium Carbonate (Limestone) that is used as the raw material. Thus, manufacturing of cement produces about 900 kg of CO_2 for every 1000 kg of cement produced (or 90 tons of CO2 for every 100 tons of cement).
Cement is proposed for use in the "backfill process" in the mine as a means of disposing of tailings. During full production, the project is expected to backfill 1200 tons material per day.
The processes proposed are to use mostly hydraulic backfill and maybe some paste backfill or cemented rock fill, depending upon the composition of the tailings and issues of stability, etc.

Hydraulic backfill, also called "slurry fill", is piped with 50-60-% solids. Water drains out and is removed from bottom via vertical sump shafts. The amount of solids is the measure of the tailings. At approximately every 8-10 feet, a 12" slab is poured over the backfill material. Equipment can then drive over this concrete surface and the process is repeated. Thus, one can estimate that for every 10 units of backfill there would be more than 1 unit of concrete used for cap.
Concrete is composed of about 13% cement by weight. This amounts to 1.3% of backfill by weight since one ft concrete covers 10 ft backfill material.
*.013% * (1200 short tons per day backfill) = 15.6 tons cement/day.*
Paste backfill consumes even more cement. For paste backfill, cement is actually mixed into the slurry, 80% materials, and 6% cement. In this case, 6% of backfill is cement into all backfillk.
*2000 lbs * 0.06 = 120 lbs cement/ton of backfill.*
*Or 0.06 * (1200 tons/day) = 72 tons cement/day.*

2.10.1 Water line project
What are the impacts of the water line project on traffic?
Where is the storm water retention plan? Doesn't this need to be included?
What trees will be cut for installing the water line?
Has a survey of trees, biology, riparian impact/erosion, wildlife, air impacts, GHG, etc been made on this water line project?
Where is this information listed?

CHAPTER 3
3.3.1 Alternatives
This section is inadequate. A feasible alternative which must be considered is the addition of alternative energy solutions. For example, a solar photo-voltaic system for mitigating excess elect consumption is feasible. Sufficiently large scale projects of this sort have been shown to be feasible.

3.2.1 goals and objectives.
Why are there no inclusions of the goals of "selling manufactured tile products and aggregate", which are in fact key goals for the success of all other goals.

3.4.1 Electrification of Mine Operations
"it is not possible at this time to determine specifically which other diesel equipment could be replaced with electrical equipment. Therefore, IMMC would be required to develop an Electrification Plan to be submitted to and approved by the City of Grass Valley before underground production could commence."
This does not actually guarantee that any significant reduction in electricity usage would take place. What is the amount of emissions reduction? Specific measures must be identified which are to be implemented to provide a measurable result.

Variations in the degree of backfill under each the scenarios need to be assessed for the impact on cement usage, which is a GHG contributor. Otherwise the scenario may not achieve the stated results, since an increase in backfill would increase GHG contribution which could counteract the anticipated reduction in GHG due to reduced Ceramics production, rendering the assessment invalid.

3.5 Alternatives eliminated.
The claim that electrification of the ceramics plant is not technically feasible assumes that the electric kiln would not be feasible. This needs demonstrating. Given the statement Electric kilns require a narrow and smaller cross section than natural gas kilns. Therefore, use of an electric kiln for production as proposed by IMMC would not be feasible.
This statement is not sufficient, since it only implies a reduced reduction rate for each kiln, but additional kilns could be built, and furthermore if the alternative of reduced production is viable, why isn't this alternative viable even if it results in reduced output?
In addition, a reduction in quality is not necessarily justification for rejection and needs to be demonstrated as a market impact of sufficient severity to make the plant un-viable.
The applicant has claimed that some differential heating problems in traditional firing methods are supposedly circumvented by the patented process, made true by the fact that the material is fused or melted at the end of the firing. Thus, since a new and improved method is being used, a proven reduction in quality must be established for this particular process when using an electric kiln rather than simply citing reduction in quality used by other processes.

Night-time: What are the economic/financial calculations used to make this assertion.

CH 4 ENVIRONMENTAL ANALYSIS
4.1.1 Setting
To assess the visual impacts of the project, buildings, equipment, and material stockpiles must be represented to the correct size and location in the renderings. Many dimensions are provided in the application documents but some appear to be missing:
What is maximum height of each of the stockpiles?
What is the height of the substation?
Where are the three powder magazines located, and what are their dimensions?

East Bennett Street. The analysis of visual setting fails to assess the IM site from Bennett. Also, from Gold hill. The aesthetics section needs to assess elevations of building tops and evaluate the view lines from more common viewpoints. Include views from Bennett, south fork Wolf Creek at the state park, Eureka st., Gold Hill, etc.

This assessment fails to assess the project from neighborhood views from homes in neighborhoods south of Hughes road such as Cypress Hill Drive area, from the Gold Hill area, Eureka St. properties, and other areas. Areas zoned for residential use but not currently build are also affected. Note that the height and size of the buildings is sufficient to be disruptive of the forested view currently afforded of the area. Note that the exhaust from the 6 ceramics plant chimneys will be visible from all directions producing a constant factory town stigma.
Note that the ridge of the ceramics plant (2595) is above the floor elevation of the education center (2590) by 5 feet and is as much as 45 feet above some portions of the ridge (2550) separating the ceramics plant from the region to the south, interrupting the skyline.

View line sections should be provided for all potentially impacted areas to determine the degree of visibility of the stockpiles, conveyors, chimney tops on the ceramics plant, head-frames, and other structures.

This assessment fails to assess the visual impact of the visitor center, substation, and headframe from the state park lands that adjoin Bennett, and from the trails in the area, which have recreational value.
The wolf creek parkway will be impacted.
People passing on Idaho-Maryland road will be impacted with a distinct "gravel quarry" impression, degrading the near by residential neighborhoods by the psychological proximity. This, combined with fear of chemical spills, will create an aversion for the area.

The visual simulations used to assess the aesthetics of the project are deceptive and fail to provide an accurate representation of the appearance of the project. For example:

Figure 4-1.16b is coincidentally aligned with foliage and screens structures which would be for the most part visible. In addition, apparently there are no aggregate piles or equipment storage areas represented.
Figure 4.1-17a and 4.1-17b present a false representation of the project, failing to include the multiple aggregate feed piles, the equipment storage in the foreground, trucks and equipment, mine waste water pond, settling pond, additional material conveyors, the waste rock (or tile) stored in the storage area, and most significantly, the 6 chimneys which would be continuously exhausting super-heated gas high in water vapor forming persistent steam plumes/clouds above the ceramics factory.
Figure 4.1-18a also fails to show a useful view, again utilizing foliage in the foreground to screen areas that will be commonly visible, omitting the head frame and hoist house for the shaft east of Centennial and the sub-station. Also, the truck staging area and truck waiting area and storage areas are incorrectly painted green, and again, the 6 chimneys which would be continuously exhausting super-heated gas high in water vapor forming persistent steam plumes/clouds above the ceramics factory are missing.
Figure 4.1-19a, 4.1-19 b artfully angles the view of the project and obscures the project with non-existent trees to reduce the impressions of size and barrenness that a normal straight view of the ceramics factory would produce. This scene does not show the large truck staging area, the truck waiting area, and the parking in front of the buildings, the security fencing, and again, most significantly, the 6 chimneys which would be continuously exhausting super-heated gas high in water vapor forming persistent steam plumes/clouds above the ceramics factory. The distances, view angle, and scales of these pictures do not represent a typical view point.
Ref pg 29 of 50 in Section 1 2007 plans. And pg 25 of 428 in ch 4.

Impact 4.1-1: T
the proposed project has the potential to have a substantial adverse effect on a scenic vista. *Less than significant (Class III)*.

The less than significant rating for this impact is invalid because it fails to assess the visual aspects of the project correctly and completely.
1) Figures 4.1-17a, 4.1-17b, 4.1-18, 4.1-19a, and 4.1-19b are inadequate renderings of the property, lacking accuracy and omitting major features of the project, as detailed above. Thus they present a falsely benign representation of the visual impacts of the project.
2) The visual impacts are the 6 plumes of condensate from the ceramics factory are not evaluated. These 6 plumes will be visible from all directions for many miles away, giving Grass Valley a “factory town” appearance.
3) The loss of wooded area is significant, creating a local impression of barren contiguous industrialization in lieu of the current forested natural habitat.
4) The visual impact of frequent trucks motoring through Grass Valley is an aesthetic visual impact that needs to be addressed.
5) Trails in the vicinity and the state park land along Bennett would loose their aesthetic appeal due to the visible structures.
In summary, the project will have a significant impact upon the aesthetics of the community, changing what is now a small historic town nestled in a wooded natural setting into a “factory town”, with a large adjoining and visibly obtuse contiguous industrial area, visible plumes from the factory chimneys, and other negative imageries. The economic and psychological effects will create adverse effects for the region. This impact should be re-classified as significant.

Impact 4.1-4: Operations of the proposed project could substantially degrade the existing visual character or quality of the site and its surroundings. *Less than Significant with Mitigation (Class II)*.
The visual impacts are the 6 plumes of condensate from the ceramics factory are not evaluated. These 6 plumes will be visible from all directions for many miles away, giving Grass Valley a “factory town” appearance.
The visual impact of frequent trucks motoring through Grass Valley is an aesthetic visual impact that needs to be addressed.
Storage on site of aggregate, waste rock, ore, and ceramic tiles, equipment, conveyors, and huge buildings will cover many acres and be visible from many points, surrounded by barbed wire fencing, destroying the natural beauty for people walking, riding, or motoring along Idaho Maryland Rd, or in the vicinity.

Homes in the area that have this region in their view space will be impacted aesthetically.

There will be a negative psychological impact due to fear about possible hazards of cyanide processing and the presence of other hazardous chemicals being transported and used regularly in the proximity of the center of Grass Valley. Add to this air pollution and other impacts, and residents and visitors will have a less positive impression of Grass Valley. The outstanding visual presence of the large industrial site, with plumes from the chimneys, large stockpiles of rock, conveyors, equipment, and constant trucks on the roads will serve as a constant contributors to these concerns.

4.2 Air Quality

4.2.4 -Impact assessment is incomplete because the study failed to include impacts to GHG due to cement usage in backfill. (See discussion of cement backfill above.)
Cement backfill contributions to CO2 emissions are missing.

4.3 Biological

The site plan is not acceptable and needs to be modified. Pg 104 of 428 shows locations of Pine Hill Flannelbush Communities and Elderberry Shrub Locations.
The assumption is that the Pine Hill Flannelbush is present. However, the plans have not been modified to provide for protection of the zone for the flannelbush, as required. (pg 4.3-49) Plans need to reflect the protected zone. Viewing figure 2-2 on pg 9 of 53 in chpt 2: Note that the western most protected zone has a northern boundary that impinges on the gravel road that is adjacent to the decline entrance and the powder magazine T. Also, a considerable cut into the slope will be necessary at this point which would further impinge into the protected zone.
Secondly, shortly east of the water tank X a second area of flannelbush is impinged upon by the paved interior road DD and the storage area P. The locations of these features also need modifying to protect the zone.
Finally, both road DD and road CC impinge on the area protection for Valley Elderberry, which provides habitat for the Valley Elderberry longhorn beetle.
The relocation of the roads and storage area boundaries is feasible and must be done to satisfy the requirements for these protected species.

Creek: note that on pg 120 of 428 the report talks about maintaining water within 5 degrees of creek, but only tested once per week. This testing is not enough. Temperature variations during day may vary widely to critical peak values, etc., while testing at some regular time once per week may provide invalid conclusion.

In addition, long term continuous testing of the creek must be done prior to dewatering at points considerably downstream from the dewatering outlet. Otherwise, the receiving body temperature cannot be determined, since the current stream flow in those downstream areas is largely determined by attrition of flow below the dewatering outlet and would be masked by the substantially larger flow from the dewatering.

4.5 Geology, Soils, and Seismicity
Pg 4.5-20. "The applicant proposes to place concrete and steel supports in the decline portal and tunnel for an adequate distance until the decline reaches a depth where it is surrounded by fresh, unweathered, competent bedrock."
What is the distance that this support system will be used, and how much concrete and steel will be utilized? An estimate of these quantities is necessary for correct calculation of cumulative impacts to GHG.

Pg 4.5-21 "Reclamation of underground shafts and headings would be completed by the use of paste backfill."
Approximately what are the quantities of cement used in these processes? An estimate of these quantities is necessary for correct calculation of cumulative impacts to GHG.

Pg 4.5-22 geotechnical investigation
The document states that the October 2004 study by Holdrege and Kull identified unsuitable soils, particularly in the areas of the ceramics plant, and that they would likely require removal prior to construction. Given the complex history of prior mining activities, there is significant risk that contaminated soils as well as soils unsuitable for supporting structural improvements are prevalent on this site. The potential impacts of possible soil removal activities, including quantification of traffic, air pollution, project schedule, disposal methodologies, etc. are large and need to be assessed. However, the scope of these activities is currently unknown and needs to be provided for the purpose of evaluation and review prior to approval of the EIR.

Subsequent reclamation activities cannot be assumed to require only re-soiling and re-vegetating. For example, a contaminated region may require containment and require capping with impermeable soil layers or liners. Future use of the property may be constrained once the material is exposed. For reclamation, end product should produce usable property.

4.6 Hazards and Hazardous Materials

Brownfield site on IM site
What are the contaminates at the Brownfield site, their respective concentrations as plotted in a complete map of the contaminated area, the planned methods of removal or remediation of the contaminants, and the impact on traffic, air pollution, noise, biological resources, and water?
The EIR should provide location and identity of all contaminates as established in 2007, and provide complete specification of the proposed remediation.

New Brunswick and Round Hole Sites
The EIR should include test results for contaminants.

4.6.3 Impacts and mitigation

Mitigation Measure 4.6-2a This mitigation is inadequate because it does not specify what actions are going to be taken. Hazardous materials must be first identified, and then the mitigation specified.

Pg 192 Standards for transport of hazardous materials do not guarantee that a leak or spill won't happen. Therefore, the existence of standards is not sufficient to eliminate the hazard. Only to reduce it.
There is a hazard, and the impact of an accidental spill is significant. What are the risks? What are the impacts due to a spill?
This information should be provided for all hazardous chemicals and should be stated in the document.

Cyanide processing should not be done on this site. The project success does not depend upon cyanide processing and alternatives should be provided.

Hydrology
Loss of water in wells or to springs could occur at any time in the project operations simply by the further mining of rock. A heretofore undiscovered fault, fracture, or other underground water pathway to a given ground water reserve can be breached by mining excavation, causing drainage to ground water many thousands of feet away from the site. How will the IMM guarantee no loss to those property owners?

4.8 Land Use
Fails to mention state park now adjacent on Bennett Street.

4.13 Traffic
Does traffic report analyze traffic outside of Grass Valley?
Have public notices been given to residents of neighboring jurisdictions regarding this project? If so, which jurisdictions?
Was Auburn notified?

Have truck traffic calculations been given to each of the neighboring jurisdictions for assessment?

Does the applicant have a discharge permit for the current water discharges from the properties? Will these be continued?

Where are the descriptions (including property map, owner's name, size, and current use) of the additional properties slated to be annexed and rezoned along with this project? What is their intended use?

The entire site perimeter would be secured with an eight-foot high chain link fence topped with razor or barbered wire except for the main entrance to the Idaho-Maryland site along Centennial Drive and the Centennial Drive extension, which would have a wrought iron fence along both sides of this roadway. Why do none of the renderings show this fence? Will wildlife access be provided in appropriate places in this fence? If so, where?

The primary drainage onto the Idaho-Maryland site is located east of the site, and is carried through a culvert buried under a berm that runs along the east property boundary. The IMMC proposes to capture this water in a north-running ditch immediately adjacent to the berm and divert the water to Wolf Creek through a diffuser into the streambed.
Has this water been tested? What is flow rate, chemical composition.

Building ridge elevations:

The heights above grade and elevations(above sea-level) of the tops of all structures and large visible items should be provided by the applicant.
What are the heights, footprint dimensions and elevations of:
Each of the stockpiles
Each of the substations
Each of the materials storage piles and stockpiles
Each of the explosives buildings.

Large amounts of materials will be stored on the surface during different phases of this project. For each stored material, it should be characterized as to aggregate size and chemical composition and maximum time present.
The possibilities of ground water pollution and air pollution need to be assessed for each stored material. Weathering factors should be included in this estimate, and means to prevent leaching of pollutants shall be provided.
Possible storm events or flooding should be considered.
Wind should be considered.
Removal processes should be detailed, with estimated time frames.
What seasonal restrictions will apply due to storm runoff issues, etc.?

What visual screening will be provided to the equipment being stored in the equipment storage areas? In particular, the graveled area JJ as shown in Figure 2-2 is close to the Idaho-Maryland Road and the proposed Wolf Creek Parkway. How will the equipment be screened?

From Appendix B, pg 90:

Ceramic Plant Kilns

"Ceramic plant kilns were modeled as 6 point sources spaced evenly along the distance of the low roofed section of the ceramics plant. It was assumed that stacks would extend approximately 5 feet above the roof and 10 inches in diameter. The exit temperature was assumed to be 700 degrees Celsius and the flow rate was assumed to be 4,400 cubic feet per minute per stack."
This means that 700 degree Celsius gas exits pipe at about 136 ft/sec (92 mph). for each of the 6 pipes.
[Math: 4400 cu ft/min equals 73.3 cu ft/ sec. 10in diam equals 78.54 sq in cross section. 1 LF of pipe contains 78.54/144 cu ft. equals .54 cu ft / lin foot , therefore, velocity of gas in pipe is approx 73.3 / .54 LF/sec = 135.74 LF/sec.]

Pg 2-34 Indicates that about 100gpm water used by Ceramics would be lost due to evaporation. Dave Watkinson has stated that most of this water would go out the chimneys. Is all of the 100 gpm of water lost out the 6 pipes, or does it also evaporate off the cooling tiles as they sit outside?
How much water is exhausted in the gas exit pipes? This calculation should also include water from natural gas combustion.

Using 100 gal / 6 = 16.6 gal/min = 2124 oz/min is carried in each of the stacks within 4400 cu ft/min air. This is a water concentration of 0.48 oz/cu.ft. (This does not include H2O from natural gas combustion.) A preliminary estimate suggests that at least 10 to 1 mixing would be required to avoid immediate condensation (rain), and that a plume cloud will form over each of the 6 gas exit pipes.

Estimates of exhaust plume and degree of cloud formation should be provided.
Under what conditions will the gas exit pipes produce a cloud?
Will it be present under all weather conditions?
For how many miles will it be visible?
How does the upward moving mass of air impact airplanes making an approach?
Under what conditions will a cloud block visibility?
Will wildlife be impacted?
Will the gas exhaust make noise as it exits the chimneys? How much?
If there is a steady south wind and on a hot day, will this cloud mix to ground level at residences at higher elevations in the vicinity?
Will this air mass result in increasing ground level air temperatures in these cases?
Do the other exhaust constituents pose a hazard because of insufficient dilution before making contact?
Would these have an impact on foliage?
On humid days, will the cloud contribute to rainfall?
Will the cloud cause shading, thereby depriving people of their right to sunlight?

B. Tile Cooling

Tile production involves cooling of the tiles as they exit the firing process. Much of this heat is captured before the tiles exit the factory. However, the exit temperature of the tiles is estimated to be maybe about 100 degrees according to verbal comments from Dave Watkinson

What is the temperature of the tiles upon exit from the building envelope?
Given that production of tiles is estimated to be up to 1200 tons per day, what is the amount of heat that would be added to the local atmosphere in the storage area due to many pallets of hot tile being cooled?
Given that the area will have no vegetation, what will be the increase in temperature in the vicinity of the tile storage area when allowing for solar gain and heat transfer from the tiles?
This should be assessed for various weather conditions.
How much will the temperatures of adjoining biological sensitive areas be impacted by these temperature changes?
How much will the summer daytime maximum temperatures be increased on properties adjoining this area, and how will that impact be mitigated?

Economic Analysis

City Revenue

A large portion of the revenue to the city is based upon sales tax revenue. The sales-tax revenue is based upon the estimate that 10% of the full production of the ceramic tiles will be sold from within Grass Valley city limits. This amounts to local sales of 16.8 million square feet of tile retail sales per year sold at $2.50 per square foot.
From where will these retail sales be made?
How will sales be physically conducted?
Will there be a separate storage yard for retail sales? Will purchasers haul any of the product?

Will there be a separate retail sales outlet?
What are the projected number of purchases per day, and the number of trips generated for this activity?
Will parking space be needed?
Was any survey of the viability of this plan performed?
Will local businesses participate in retail sales?
Will any sales franchise activities be undertaken?

A large portion of the revenue to the city is also based upon increased property taxes.
Were any estimates made for impacts to neighboring property values?
How much will reduced property values for nearby residences diminish the property taxes from the IM project improvements?
What are the economic impacts of the various possible outcomes for the project such as: full gold production not achieved, full ceramics plant production not achieved, etc.?

High tech industries, and in particularly video broadcast and electronics industry companies, are major contributors to employment in the Grass Valley area. A number of companies have relocated to Grass Valley area or have considered relocating to this area due to the aesthetic appeal of the area and other economic factors.
What will be the deterrent effect of the Idaho-Maryland Mine on the growth of these industries?
How will that effect the numbers of jobs and sales revenues in the future?
A comparison should be made between the benefits of the proposed project and the benefits of following the general plan with attention to the economic development potential of the business park lands and Urban Medium Density lands that are within walking distance to downtown Grass Valley. There are no other properties of similar magnitude (101 acres) that could provide equivalent opportunities within a 2 mile radius of the city center, and in that sense they are irreplaceable.

Please provide an analysis of the employment impacts of the closing of the mine in 20 years.

An economic comparison should be made for a 25 or 30 year period, adequately addressing the long term impacts of the land use changes proposed.