New York State Department of Environmental Conservation
Environmental Permits, Region 8
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Joe Martens
Commissioner

Via E-mail and U.S. Mail

December 8, 2011

RECD DEC 12 2011

John Hellert
Continental Placer, Inc.
II Winners Circle
Albany, New York 12205

Dear Mr. Hellert:

Re: **dEIS Review and Comments**
DEC 8-3436-00033/00001 MLR 80823
Frontier Stone LLC, Proposed Shelby Quarry
Shelby (T) Orleans County

Department staff have completed a preliminary review of the draft environmental impact statement (dEIS) and mined land use plan (MLUP) that we received on August 8, 2011. We have determined that the dEIS and MLUP are insufficient, and we offer the following comments on both documents:

1. Future submissions must include five printed copies and a digital version of all documents. You should additionally be preparing to have the documents associated with the dEIS placed on your website for public review when the Department accepts the dEIS and deems the application complete.

2. The Permit Application form, Organizational Report form and Environmental Assessment Form, submitted as a part of the March 1, 2008 Revised Mined Land Use Plan, are not dated and are missing signatures. The Organizational Report form also has not been notarized.

3. Review of the most recent EAF and Page 15 of Volume 1 of the DEIS indicate that the maximum truck trips generated per hour is 30. The SRF Transportation Impact Study, dated June 2007, performed an impact evaluation based on an anticipated traffic level of 8 truck trips per hour. The traffic study must be revised to reflect the 30 trucks per hour maximum.

4. An Article 24, Freshwater Wetlands permit application may be needed to evaluate increases in size and other potential changes to the wetland. More information is needed, in addition to water quality data, which would describe how the wetlands would be expected to increase based on current wetland size, water discharge rates, and capacities or limits of culverts and control structures on the Refuge. See comments below for more detail.

5. Impacts on the Iroquois Nation Wildlife Refuge (INWR) have not been adequately addressed, and additional information/clarification is required. The noise and vibration limit boundaries on Plate #3 of the dEIS, Proposed Quarry Impact, need to be revised. The noise boundary limit does not take into account air blast which could approach 134 dB.

Also, the human perception vibration limit should be assessed at 0.05 in/sec. Applicable narrative discussions should be updated to evaluate these changes.

6. The maximum gpm discharge rate has not been provided. An impact assessment of the maximum gpm rate needs to be discussed. This should include an assessment of the impacts relating to the creation of continual wet conditions within the marshes when they normally experience seasonal dry conditions.

7. Additional information on groundwater quality needs to be provided. Water quality sampling results from multiple locations around the quarry property have raised concerns over groundwater quality. Nearby sampling locations from within the Lockport have shown significantly high levels of sodium, sulfate, iron, and chloride. Only 2 of the 10 monitoring wells at the site were sampled. Groundwater quality in the remaining 8 wells needs to be analyzed. The additional information shall include a description of how the samples were collected, and from what depth the samples were taken.

8. The dEIS does not contain sufficient information to allow the Department to adequately assess the magnitude of impacts to residential water supply wells that will result from drawdown caused by quarry dewatering. Measurable drawdown could extend 7000 ft. from the proposed quarry, and water levels within the Lockport could be drawn down below the top of rock at a distance of up to 4800 ft. from the quarry limit. The dEIS only presents information on four wells within this area of influence, and those wells are located within areas that will likely experience significant drawdown. Limited information suggests that these wells are within the upper bedrock where the water bearing fractures are concentrated, and impacts are most likely to occur. Of the remaining wells, only generalized assumptions are provided for approximately 40+ wells that are located within the potential area of influence.

9. The proposed groundwater monitoring program is insufficient. A plan shall be submitted which includes:

   a. A schedule for increased frequency of monitoring during the first two years of quarry operations;

   b. Submissions of annual summary reports for the first 5 years of quarry operation;

   c. Confirmation that all monitoring data will be retained throughout the life of the project, and made available to the Department upon request; and

   d. Frontier must commit to the installation of perimeter wells once existing wells are destroyed. Locations must be submitted for Department review and approval prior to installation.

10. It has been brought to the Department's attention that a potentially unique geologic feature exists within the INWR that may be negatively impacted by drawdown caused by quarry dewatering. The USGS and Refuge staff have raised concerns over the Oak Orchard Acid Springs. These springs were discovered in the early 1800's, and are the source of a unique bedrock groundwater discharge of water with a pH of approximately 2.0. An analysis must be provided to determine if the drawdown could potentially affect the acid springs and how

they function. Additional information pertaining to these springs, as well as their location can be acquired from Refuge staff.

11. Page 106 of Volume 1 of the DEIS states that the sump located in Phase 2 will pump water to a series of settling ponds or to Phase 1 of the quarry. Indicate if the phase 1 settling ponds are planned to be used for sump water coming from Phase 2. If this is the case, a flow pathway from the sump to the ponds must be clearly shown on the Mine Plan Map. If a series of settling ponds is planned to be constructed in the Phase 2 area in order to service the Phase 2 sump, construction details and the flow pathway to the ditch must be included on the Mine Plan Map.

12. Page 14 of the MLUP states that process water settling ponds will be on a closed-loop system, eliminating the probability of offsite discharge of wash plant water. A schematic and layout of the wash plant and closed loop settling pond system must be provided on the Mining Plan Map.

13. In the absence of oxygen, sulfur-reducing and sulfate reducing bacterial derive energy from oxidizing hydrogen or organic molecules by reducing elemental sulfate to hydrogen sulfide. Sulfate-reducing bacteria will use the sulfates present in the water to oxidize the organic matter, producing hydrogen-sulfide as a waste. Even though it is a natural process under anaerobic wetland conditions, excessive levels of hydrogen sulfide can have a negative impact on wetland systems. Reduced sulfur inhibits enzymes involved in photosynthesis and reduces the capacity of roots to respire both aerobically and anaerobically. Sulfides have a negative effect on the primary productivity of plant communities. Water discharged into the INWR from the quarry sump may have elevated levels of these molecules. Information pertaining to this concern must be addressed and provided in the DEIS.

Vegetation and Wildlife Resources and Impact of Ecological Resources

14. The analysis of projected noise shown on Plate 3 only seems to address the noise generated by mining noises other than blasting. The plate should include the area of influence from blasting noise in addition to the other quarry noise sources. While it may be true that the total impact of blasting will only be 3 minutes per year, an analysis should still be done to determine the area of influence from this activity, and there should be a discussion of the habitat types and species of wildlife that may be affected by the noise generated by the blasting. The impacts to recreation in the area of influence from blasting noise should also be discussed.

15. Further information is needed as it pertains to the conclusion on Page 24 that "noise from the quarry would not affect resident or migrating wildlife on INWR". This statement appears to be based solely on noise other than blasting. This statement also seems to contradict the following:

    a. Page 24 "The timing of overburden removal could affect wildlife. The removal of overburden prior to blasting the rock could take several months".

    b. Page 22 "Noise and vibrations that result from blasting can potentially affect wildlife. Loud abrupt noises can startle animals, causing them to flush from a perch, leave a foraging area, or abandon a nest. This can result in increased energy expenditure, reduced foraging time, and lowered reproductive output".

16. On page 22, the articles cited in the Literature Review have some relevance to the DEIS, however, they do not necessarily fully support the statement that "blasting and firing activities had little effect on abundance, behavior, and nesting success." Please provide further information as to how this conclusion was determined.

17. Also, page 24 states that blasting will occur once per week, whereas page 14 in Volume 1 says that it could occur once or perhaps twice per week. If blasting could occur more than once per week this information should be included throughout the document and the possible impacts of this should be included in the analysis of blasting impacts on wildlife and recreation.

18. Page 11 (also page 134 of Volume 1). In the discussion regarding potential Bald Eagle Habitat, the statements regarding the fact that there is little mature forested habitat in the vicinity of the site do not take into account that many of these trees may become large enough during the life of the mine. Also, the fact that Center Marsh did not have any water in it at the time of the study period is irrelevant considering that these marshes are drawn down periodically to improve habitat conditions. Center Marsh's potential as eagle nesting habitat should be assessed.

19. Page 25. The statement "The threshold for disturbance has been established by the current road traffic and since volumes will not increase significantly, there should be no effect on wildlife" is not necessarily supported. The analysis of the impacts of truck traffic on wildlife should perhaps look at the percent increase in vehicles. Oak Orchard Ridge Road currently has a very low volume of traffic (the traffic study did not even collect data at the Sour Springs Road/Oak Orchard Ridge Road intersection due to "very low volumes"). An increase to 30 vehicles per hour could potentially be significant especially if you are talking about going from a few smaller vehicles to 30 large trucks.

20. In addition, concluding that traffic on route 63 has not had a notable impact on wildlife despite the fact that it bisects the refuge solely based on the information that Route 63 goes by a field in which Henslow's sparrows were noted is not valid. The field where Henslow's nested is a large field, and disturbance from the roadway may impact only a portion of that field. In addition there is no comparison between wildlife use at the site before and after route 63 was constructed. Further assessment is needed regarding mine traffic impacts upon wildlife within the refuge.

21. Page 10. Contrary to the dEIS which states that there are three known bald eagle nests on the complex composed of Iroquois NWR, and Tonawanda and Oak Orchard WMA, there have been four nests in the complex since 2010.

Hydrogeologic Investigation of the Proposed Frontier Stone Quarry, Town of Shelby, New York

22. Discharge rates are still presented only as annualized averages. Seasonal flow rates should be included as well as a discussion of the cumulative impacts that will result from continuous pumping of water onto the refuge during phase 1. At maximum buildout of Phase 1 the annualized average ground water addition is 251 gpm which equates to 1.3 acre feet/day being pumped into School house marsh. What will be the maximum combined flow of water from spring runoff/snowmelt and the additional water from quarry dewatering?

What are the impacts of this constant flow of water into the marsh, and if this water is simply allowed to pass through the marsh, what are the impacts of this additional water to the habitat and infrastructure to the west of School House marsh? Will this result in ponding in the fields east of route 63 and impacts to grassland habitat during the nesting season? Will the culvert(s) under Route 63 be able to handle the increase in water during the spring? What will be the impact of increased flow in School House marsh and the areas to the west of the marsh during the spring when they are already stressed by high water levels?

23. Comment 6 from the 2009 DEC letter states that the analysis of impact should be augmented by a more concise estimate of seasonal highs and a management plan developed jointly by Frontier Stone and the refuge manager. Wording on Page 20 of the hydrogeologic investigation regarding communication between quarry operation and the refuge has been removed, and the only mention of coordination with the refuge is in the conclusion on page 23 which states that "the rate can be changed seasonally in a controlled manner in coordination with the Wildlife refuge." No details on how this rate can be changed are included, and it does not appear that discussions with the refuge staff on this matter have taken place to date.

24. The Iroquois National Wildlife Refuge and the U.S. Geological Survey may also be commenting on this proposal. I will forward their comments when available.

Staff review continues and additional comments will be provided as they become available.

Please contact me at 585-226-5401 or email at dlbimber@gw.dec.state.ny.us if you have any question relating to the status of this application or the information discussed in this letter. You can also contact Steven Army, Division of Minerals, at 585-226-5372. Thank you for your time and assistance in this matter.

Sincerely,

David L. Bimber
Deputy Regional Permit Administrator
Division of Environmental Permits

cc: S. Army, Division of Minerals
S. Jones, Bureau of Habitat
H. Kennedy, Bureau of Wildlife
D. Rollins, Division of Water
S. Metivier, USACE, Buffalo District Office
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