VOLUME 3

FRONTIER STONE, LLC
PROPOSED FRONTIER STONE QUARRY

APPENDIX 2

DEC CORRESPONDENCE

- **Proof of Publication**
- **Scoping Documents**
- **Public Scoping Transcript**
- **Comment Letters**
- **Responses to Comments**

January 29, 2014

APPENDIX 2

DEC CORRESPONDENCE

- Proof of Publication
- Scoping Documents
- Public Scoping Transcript
- Comment Letters
- Responses to Comments

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 8
6274 East Avon-Lima Road, Avon, New York 14414-9519
Phone: (585) 226-5400 • **FAX:** (585) 226-2830
Website: www.dec.state.ny.us

Denise M. Sheehan
Commissioner

28 March 2006

Mr. Merle Draper, Supervisor
Town of Shelby
4062 Salt Works Road
Medina, New York 14103

Dear Supervisor Draper:

Re: **Lead Agency Determination**
DEC 8-3436-00033/00001 MLR 800823
Frontier Stone LLC - New Shelby Quarry
Shelby (T), Orleans County

The Department has received a permit application from Frontier Stone, LLC for the development and operation of a 215.5 acre dolomite/limestone quarry on property owned by Chester and Dorothy Zelazny. The proposed mine is located south of Fletcher Chapel Road and bounded generally by Sour Spring Road on the west and South Wood Road on the east. I have enclosed a copy of the application form, full environmental assessment form, and map for your review. The entire application package will be forwarded to the Town for a 30 day public review and comment period when this application is deemed complete by DEC.

I have tentatively identified this proposal as a Type 1 action pursuant to State Environmental Quality Review Act (SEQRA) regulations and I have chosen to coordinate the review of the project and seek Lead Agency. A lead agency must be selected from among agencies and local governments who may have a permit decision and/or other local approvals over the project.

Since the DEC has primary, statewide responsibility for the regulation of mining, it is the Department's policy to seek lead agency for purposes of the SEQRA review for all mining projects. I would request the Town of Shelby consider the selection of a lead agency for this review, and agree that the Department should serve in this capacity. If I do not receive specific objection from the Town within 30 days of the postmark date of this letter, I will assume SEQRA Lead Agency for the Department and proceed with the environmental impact review of this application. Your participation as an involved agency is acknowledged and supported. Please advise me of any issues that should be incorporated in our review, particularly those that might affect our determination of significance (positive or negative declaration of environmental impact).

By copy to the applicant, this letter will also serve as a *Notice of Incomplete Application*, pending the selection of a Lead Agency. Other additional information concerning the mining and reclamation plans and maps will likely be requested as this review continues.

Mr. Merle Draper, Supervisor
DEC 8-3436-00033/00001 MLR 800823

28 March 2006

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. Thank you for your time and assistance in this matter.

Sincerely,

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

enc.
cc w/o enc: Steven Army, Division of Minerals
Scott Jones, Bureau of Habitat
Heidi Kennedy, Bureau of Wildlife
Tom Roster, Iroquois National Wildlife Refuge
Charles Loiacano, Frontier LLC
John Hellert, Continental Placer

New York State Department of Environmental Conservation
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Denise M. Sheehan
Commissioner

27 April 2006

John Hellert
Continental Placer, Inc.
26 Computer Drive West
Albany, New York 12205

Dear Mr. Hellert:

Re: **Notice of Incomplete Application**
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 application materials that you provided for the above noted new mine and we offer the following comments:

Mined Land Use Plan (MLUP):

1. The MLUP lacks useful groundwater information. The well readings include only data from one particular date, with no representation of verified seasonal fluctuations. A complete hydrogeologic assessment is required. The assessment must address how the final lake elevation was determined and the impacts to residential wells, wetlands, wildlife and vegetation. The information should include core logs for the three monitoring wells and any related data.

2. Section 2.4.2 of the MLUP Narrative indicates a 174.1 acre excavation area. The Mine Plan Map indicates a 174.2 acre excavation area. Acreage numbers must be consistent throughout all application materials.

3. The MLUP does not include a Blasting Plan. A comprehensive plan and assessment must be completed in order for blasting to be a permitted method of mining.

4. Additional information must be provided regarding the proposed processing equipment. The maximum processing rate for the crusher and screener must be provided in tons/hour. The necessary air registrations or Air State Facility permit applications should also be included in your resubmittal. In addition to Department staff, help in completing air applications can be obtained from the NYS EFC Small Business Assistance Program at 800-780-7227 or on their website.

   The specific water source(s) for the wash plant must be identified. Also, the maximum pumping rate in gallons/minute must be calculated. A schematic must be provided giving detail on the layout of the wash plant's closed circuit system.

5. The Mining Plan Narrative does not provide sufficient information about the berms. Specific berm locations and design details must be provided. This detail must also be provided on the Mining Plan Map.

6. The MLUP does not include a sufficient amount of information regarding dust, noise and visual impacts. A comprehensive assessment of impacts (including a noise study) and control measures must be provided.

7. The MLUP must identify the specific days and hours of operation.

8. A discussion of the feasibility of concurrent reclamation must be provided.

9. Information must be provided on how the final lake elevation was ascertained, and what data were used to make that determination.

10. The reclamation narrative section of the MLUP must include a section explaining that topsoil and overburden will be stripped, stockpiled and replaced separately.

Environmental Assessment

11. The wildlife assessment needs to be significantly expanded and must clearly identify impacts to the nearby Iroquois National Wildlife Refuge. The assessment must include habitat impacts related to blasting, hydrology, noise, dust and any other potential environmental issues.

12. The presence of poorly drained soils and proximity of nearby wetlands suggest the potential for the occurrence of Federal or unmapped State wetlands at this site, and we recommend that a Federal wetland delineation be performed as a part of your analysis. You should contact the US Army Corps of Engineers, Buffalo District Office, 1776 Niagara Street, Buffalo, New York 14207-3199 to identify their jurisdictional interests regarding your project and obtain guidelines for the delineation.

13. The Environmental Assessment Form indicates that the project site does not contain threatened or endangered plants or animals. A cursory review of the Department's database suggests that the endangered (NYS) short-eared owl (*Asio flammeus*) uses the agricultural fields and hedgerows generally north of the Iroquois NWL Refuge for breeding and nesting habitat (2000 report). A more thorough analysis must be provided regarding this species as well as any others that may use this or nearby areas, and that may be impacted by activities occurring at the proposed mining site. Additional information on endangered species can be found at the websites of the NYS Natural Heritage Program and NatureServe Explorer.

14. This site is within an area that may have archaeological significance and the Department will have to make a determination as to whether the project will have a significant impact on historic, pre-historic, or paleontological resources. A Phase 1 Cultural Resources Survey will be needed. When complete, we will consult with the NYS Historic Preservation Office to determine if additional work or mitigation is needed to ensure protection of cultural resources.

15. Section A.4.a of the EAF indicates that the depth to bedrock is 18 ft. to 38 ft. The cross section on the Reclamation Map shows the depth to bedrock to be 10 ft. to 38 ft. This discrepancy must be corrected.

16. Section A.8 of the EAF shows the depth to groundwater as 4 ft. to 20 ft. This needs to be supported by a hydrogeologic assessment.

17. Section A.16 should specifically reference the Iroquois National Wildlife Refuge.

18. Section B.1.c of the EAF is incorrect. The balance of the project acreage to remain undeveloped should be 53.95 acres, not zero acres.

19. Section B.1.g of the EAF indicates a range of 8-10 vehicle trips per hour. A note is also included stating that it is also dependent on market demand. An estimate of the maximum anticipated number of vehicle trips per hour and the impact to local traffic must be provided for this section. This includes estimates of traffic levels associated with ancillary processing facilities (concrete batch plant, etc).

20. Section B.20 of the EAF must be supported by a noise study.

21. The test included in section B.24 of the EAF must include specific information and design related to the wash plant and the pond(s). The maximum gpm for the plant must be included. The make-up water source must also be clearly identified. Construction details must also be included as it relates to dewatering. If dewatering includes an off site discharge, a more thorough analysis of seasonal discharge volumes and impacts must be provided.

22. The mine plan map shows an easement crossing over the Niagara Mohawk right-of-way. A letter from Niagara Mohawk must be submitted indicating that permission was given to Frontier Stone to use the easement.

23. When calculating the permit term area, it is required that berms be considered affected acreage. According to the Mine Plan Map, it appears that the bermed areas were not included in the proposed 2006-2011 permit term area.

24. The Mine Plan Map should include a color coded key for the total LOM acreage.

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 Joe Bucci, Division of Minerals, at 585-226-5471. Thank you for your time and assistance in this matter.

Sincerely,

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

cc: Joe Bucci, Division of Minerals
Steve Army, Division of Minerals
Scott Jones, Bureau of Habitat
Heidi Kennedy, Bureau of Wildlife
Diane Kozlowski, USACE, Buffalo District Office
Tom Roster, Iroquois National Wildlife Refuge
Charles Loiacano, Frontier LLC
David Schubel, Town Attorney, Town of Shelby

State Environmental Quality Review

POSITIVE DECLARATION

Determination of Significance
Notice of Intent to Prepare A Draft EIS
and Availability of Scoping Outline for Public Comment

Project Number: DEC 8-3436-00033/00001
MLR 80823

Date: 5 June 2006

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The New York State Department of Environmental Conservation, as Lead Agency, has determined that the proposed action described below may have a significant effect on the environment and that a Draft Environmental Impact Statement (dEIS) will be prepared. In addition, a draft scoping outline for the dEIS is available for public review and comment. The comment period will extend for thirty days following the publication of this Notice in the official newspaper for the Town of Shelby. Copies of the scoping document are available at the Shelby Town Hall and from the Contact Person listed at the end of this Notice. A public scoping meeting will be held on Tuesday, the 27th of June at 7:00 PM, in the Shelby Town Hall on 4062 Salt Works Road in Medina, New York. Written comments on the scope will be accepted until 14 July 2006.

Name of Action: Frontier Stone, LLC, Shelby Quarry

SEQR Status: Type I

Description of Action: Frontier Stone LLC, proposes to develop and operate a 215.5 acre dolomite/limestone quarry on a 269.45 acre parcel. The excavation area totals 174.1 acres and mining is divided into four phases over the estimated 75 year operational life of the facility. Quarrying will be conducted by standard drill and blast technology with front end loaders feeding an in-pit primary crusher with shot rock from the muck pile. The primary crusher will follow the advancing face. Rock will be conveyed to the processing plant at the land surface by conveyor for further processing. Mining will occur below the water table and the project includes dewatering. Wash water used in the processing facility will be drawn from groundwater and surface water accumulating in the pit and recirculated for reuse. Settling ponds will be located in the plant area; no offsite discharge will occur from these ponds. The site will be reclaimed by grading, replacement of topsoil, revegetating upland areas with an approved seed mix, and the creation of two lakes. The lakes, separated by the existing utility line, are approximately 38.9 and 161.2 acres. The first 50 feet of shore below the water surface will be less than 5 feet deep. The reclamation objective will be to create recreational lakes/wildlife habitat.

Location: The proposed mining site is approximately 3.7 miles south of Medina, and is located south of Fletcher Chapel Road and bounded generally by Sour Spring Road on the west and South Wood Road on the east. The facility is located in the Town of Shelby, Orleans County.

Reasons Supporting This Determination:

Issues have been raised regarding the project's potential for adverse impacts to wildlife, increased noise and dust, traffic, ground water/surface water quantity and quality within the project area, and impact to wildlife and wildlife habitats found in and adjacent to the Iroquois National Wildlife Refuge.

For Further Information:

Contact Person: David L. Bimber
Address: NYSDEC, 6274 East Avon-Lima Road, Avon, New York 14414
Telephone Number: 585-226-5401
E-Mail Address: dlbimber@gw.dec.state.ny.us

A Copy of this Notice Sent to:

Commissioner, Department of Environmental Conservation, 625 Broadway, Albany, New York 12233

Regional Office of NYS DEC

Supervisor, Town of Shelby

Applicant

Other Involved Agencies and interested parties

New York State Department of Environmental Conservation

Division of Environmental Permits, Region 8

6274 East Avon-Lima Road, Avon, New York 14414-9519
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Website: www.dec.state.ny.us

7 June 2006

John Hellert
Continental Placer, Inc.
26 Computer Drive West
Albany, New York 12205

Dear Mr. Hellert:

Re: **Positive Declaration and Publication Instructions**
DEC 8-3436-00033/00001 MLR 80823
Frontier Stone LLC, Proposed Shelby Quarry
Shelby (T) Orleans County

1. The New York State Department of Environmental Conservation, as Lead Agency, has issued a Positive Declaration of Environmental Significance and will require that a draft environmental impact statement (dEIS) be prepared for the above-noted mining application. A draft scoping outline has been prepared and will be available for public review and comment for a period of thirty days from the date of publication of the Positive Declaration in the official newspaper for the Town of Shelby.

2. Enclosed is a Positive Declaration and a Notice of Availability of a Draft Scoping Outline which you are to have published in the:

Journal-Register
413 Main Street
Medina, New York 14103
(585) 798-1400
FAX (585) 789-0290

once during the week of **12 June 2006** on any day Monday through Friday.

3. Please request that the newspaper publisher provide you with a Proof of Publication for the Notice. Upon receipt of the Proof of Publication, forward it to this office. This Proof of Publication is necessary before we can continue the review of your application.

4. You are responsible for paying the cost of publishing this Notice.

If you have any questions concerning this letter or about this process, please do not hesitate to contact me at 585-226-5401 or e-mail (dlbimber@gw.dec.state.ny.us).

Sincerely,

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

cc: Joe Bucci, Division of Minerals
Steve Army, Division of Minerals
Scott Jones, Bureau of Habitat

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 8
6274 East Avon-Lima Road, Avon, New York 14414-9519
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Website: www.dec.state.ny.us

Denise M. Sheehan
Commissioner

7 June 2006

Merle Draper, Supervisor
Town of Shelby
4062 Salt Works Road
Medina, New York 14103

Dear Supervisor Draper:

Re: Notice of Determination of Significant Adverse Environmental Impact
DEC 8-3436-00033/00001 MLR 800823
Frontier Stone LLC - New Shelby Quarry
Shelby (T), Orleans County

The New York State Department of Environmental Conservation, as Lead Agency, has issued a Positive Declaration of Environmental Significance and will require that a draft environmental impact statement (dEIS) be prepared for the above-noted mining application. A draft scoping outline has been prepared and will be available for public review and comment for a period of thirty days from the date of publication of the Positive Declaration in the Journal-Register, official newspaper for the Town of Shelby. A public scoping meeting will be held on Tuesday, the 27th of June at 7:00 PM, in the Shelby Town Hall on 4062 Salt Works Road in Medina, New York. Written comments on the scope will be accepted until 14 July 2006.

Enclosed is the Positive Declaration and a Notice of Availability of a Draft Scoping Outline and several copies of the draft Scoping Outline for your review and comment. I would also appreciate if you could make some of these copies available to local citizens who may have an interest in this proposal. Please let me know if you need any additional copies.

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 Joe Bucci, Division of Minerals, at 585-226-5471. Thank you for your time and assistance in this matter.

Sincerely,

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

enc.
cc w/o enc: Joe Bucci, Division of Minerals
Steve Army, Division of Minerals
Scott Jones, Bureau of Habitat
Heidi Kennedy, Bureau of Wildlife
Steve Metivier, USACE, Buffalo District Office
Tom Roster, Iroquois National Wildlife Refuge
John Hellert, Continental Placer, Inc.
Charles Loiacano, Frontier Stone LLC
David Schubel, Town Attorney, Town of Shelby

New York State Department of Environmental Conservation
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Website: www.dec.state.ny.us

Denise M. Sheehan
Commissioner

13 July 2006

John Hellert
Continental Placer, Inc.
26 Computer Drive West
Albany, New York 12205

RECEIVED
JUL 17 2006

Dear Mr. Hellert:

Re: **Extension of the Public Comment Period for Scoping**
DEC 8-3436-00033/00001 MLR 80823
Frontier Stone LLC, Proposed Shelby Quarry
Shelby (T) Orleans County

I have received several requests to extend the comment period for scoping on this proposal and have, with your agreement, extended the timeframe for comment until 14 August 2006. I appreciate the applicant's and your cooperation on this issue.

If you have any questions concerning this letter or about this timeframe extension, please do not hesitate to contact me at 585-226-5401 or e-mail (dlbimber@gw.dec.state.ny.us).

Sincerely,

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

cc: Joe Bucci, Division of Minerals
Steve Army, Division of Minerals
Scott Jones, Bureau of Habitat
Heidi Kennedy, Bureau of Wildlife
Steve Metivier, USACE, Buffalo District Office
Tom Roster, Iroquois National Wildlife Refuge
John Hellert, Continental Placer, Inc.
Charles Loiacano, Frontier Stone LLC
David Schubel, Town Attorney, Town of Shelby

New York State Department of Environmental Conservation

Division of Environmental Permits, Region 8

6274 East Avon-Lima Road, Avon, New York 14414-9519
Phone: (585) 226-2466 · **FAX:** (585) 226-2830

Website: www.dec.state.ny.us

24 January 2007

John Hellert
Continental Placer, Inc.
26 Computer Drive West
Albany, New York 12205

Dear Mr. Hellert:

Re: **Final Scoping Outline**
DEC 8-3436-00033/00001 MLR 80823
Frontier Stone LLC, Proposed Shelby Quarry
Shelby (T) Orleans County

1. I have attached a copy of the Final Scoping Outline for your review and use in preparation of the dEIS for this project. It contains several modifications (noted in italic type in the outline) and additions to the following sections:

   a. Water Resources, items A, and B (pgs 4 & 5);
   b. Surface Water, item B (pg 5);
   c. Air Resources, Noise and Dust, item B (pg 6);
   d. Blasting. This section has been added to the outline (pg 6).

2. Please review all comments received on the draft scope to ensure that they are addressed in the appropriate section of the dEIS. The dEIS should also include a table that summarizes public and agency comments and where they were addressed in the document. Comments include:

   a. Those obtained at the Public Scoping Meeting on 27 June 2006 (18 speakers with comments) and letters received at the meeting from David Ashton, Wayne Dickenson, Euguene Outterson, Nick Outterson, Wendi Pencille, and Jerry Velesko;
   b. Written comments received during the public comment period including:

   Letters:
   1. 6 July 2006. Joseph A. Grabowski.
   2. 10 July 2006. Kenneth L. Printup, Sr. (Letter as an email attachment).
   3. 10 July 2006. Tom and Nancy Watson.
   4. 11 July 2006. Merle Draper, Supervisor, Town of Shelby.
   5. 11 July 2006. Lavern O. Fuller.
   6. 11 July 2006. Meaghan Green.

7. 25 July 2006. Steven G. Belk, Director, Iroquois Job Corps Center.
8. 29 July 2006. Celeste and Thomas Morien.
9. 7 August 2006. June Summers, President, Genesee Valley Audubon Society (letter as an email attachment).
10. 10 August 2006. Thomas P. Roster. US Fish & Wildlife, Iroquois National Wildlife Refuge.

Emails:

11. 11 July 2006. Timothy Davis, Job Corps. Request for additional 30 days extension for public comment
12. 8 August 2006. Gerry Rising w/email forwarded from Jean Takekawa, Nisqually WLR, Olympia, WA.
13. 14 August 2006. Wendi Pencille. Flow modeling request; and
14. 22 August 2006. Wendi Pencille. Follow-up to 14 Aug 06 email.

3. The application remains incomplete pending the submission of the information requested in my 27 April 2006 Notice of Incomplete Application and a determination that the dEIS is adequate.

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, the information discussed in this letter, or the environmental review process. You can also contact Joe Bucci, Division of Minerals, at 585-226-5471. Thank you for your time and assistance in this matter.

Sincerely,

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

cc: Joe Bucci, Division of Minerals
Steve Army, Division of Minerals
Scott Jones, Bureau of Habitat
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Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

Received
JUN 18 2008

13 June 2008

John Hellert
Continental Placer, Inc.
26 Computer Drive West
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 29 April 2008. We have determined that the dEIS is insufficient and we offer the following comments on both documents:

1. The influence of quarry activities on the Iroquois National Wildlife Refuge (INWR) and the NYS Wildlife Management Areas (WMA), located immediately south and contiguous to the proposed quarry, is the most significant potential impact associated with this proposal. In general terms, the dEIS does not adequately analyze those impacts. Statements in the dEIS such as "the proposed site totally avoids the Iroquois Wildlife Refuge and will have no impacts to the vegetation and wildlife there" (4.4.4.1, pg 106) are not adequately supported.

2. The conclusion that ongoing mining and blasting activities will have no impact to wildlife in the INWR is unsupported. The assessment of blasting focuses primarily on structural impacts to nearby buildings. A discussion regarding the impacts of noise and vibration on wildlife and wildlife recreation is needed. Please include information on the frequency of blasting and an analysis of the impact of blasting and mining activities on the Refuge. Table 13 should include ambient sound levels at nearby overlooks on the INWR and a discussion of potential impacts should be included for those locations.

   Ground nesting birds which may be affected by vibrations, in addition to noise, should also be discussed. There is a large grassland area on the INWR which is in close proximity to the southwest boundary of the proposed quarry site. In the past, this grassland area has been extensively used during the nesting season by a variety of grassland bird species including the state threatened Henslow's sparrow.

   There are also possible issues related to disturbance of migratory birds using INWR, the State WMAs, and the surrounding area; for example waterfowl often feed on waste grains in farm fields during migration. Loud noises and vibrations could potentially decrease the value of the stopover habitat by disturbing resting and feeding activities.

   In addition, the discussion should include an assessment of blasting and other quarry related noise on wildlife recreation in the area including hunting, bird watching etc. Any

increase in noise on the area will detract from the peaceful atmosphere which many visitors enjoy when visiting INWR and the State WMAs.

A tabular and narrative summary of potential worst case scenario noise impacts on nearby receptors; S-1, S-2, S-3, and including the INWR and the Iroquois Job Corps Center is needed. The summary should describe impacts occurring during land clearing activities, operations behind the proposed berms, and noise generated from a developed mining operation (1 lift and berms).

3. Ground water and surface water that accumulates in the quarry will be pumped into existing drainage ditches running to the south. The dEIS states that "how this pump-out will affect habitats down-drainage from the quarry will depend upon the volume of pump-out water. It is anticipated that it potentially will add water to the system and may result in more wetland areas". Part 4.1.4.2 also states that "Seasonally there may be increased drainage due to the quarry pump out but this should be no different from current heavy precipitation events".

   Despite the fact that flow will be in existing drainage patterns, the timing and amount of the flow may have negative impacts on existing habitat. Water from the drainage ditch will flow into School House Marsh on INWR (State Regulated Wetland MD-3), and if water is sent in heavy pulses it may cause fluctuations in the water levels in the wetland that could impact wildlife species (herps, nesting birds, etc.) and adversely affect the management plans for the wetland. Additionally, any alteration of water levels in a NYS Regulated Wetland would require an Article 24 Freshwater Wetlands permit. The dEIS should provide more information on anticipated flow levels and timing of flows entering into the wetlands south of the proposed site. Another concern is with the quality of water being pumped into the wetlands from the quarry. It is likely that water quality decreases with increasing mining depth, and an analysis of quality issues should be provided. Finally, as mining expands, and discharge continues, the nuisance effects of H_2S should be considered.

   Your consultant has concluded that there is no Corps jurisdiction on this site by virtue of the Carabell and Rappanos decisions. Has the Corps provided a concurrent opinion or issued a jurisdictional determination regarding this proposal?

4. Significant wetland and habitat areas exist surrounding the property and additional hydrological analysis is required. Groundwater impacts are projected to extend thousands of feet from the proposed quarry, yet a "no impact" conclusion is reached, but is not supported. Groundwater discharge conditions exist in certain areas surrounding the proposed quarry. An evaluation of discharge conditions in wetlands, streams, springs, etc. must be evaluated, and the impacts from dewatering assessed. Worst case conditions need to be examined in light of documented draw down at distance during the pump test.

5. A narrative and graphic description of the quarry's draw down at full buildout must be provided. Extrapolated drawdown contours on Figure 11 show a groundwater depression at approximately 9000 ft. from the pumping source. Drawdown contours need to be provided for the mine at full buildout, and in a dewatered state (drawdown of 120 + feet).

Figure 11 projects a measurable impact at approximately 9,000 ft. from the pumping well, while Figure 12 only shows an impact area of 4,000 ft. Figure 12 should be expanded to show all wells within the projected draw down area of the mine at the final depth and full buildout.

6. All drill logs, notes, data, and information used as a basis to form conclusions on the geology and hydrogeology of the site, and surrounding areas, must be submitted. If groundwater monitoring has continued since 7 July 2007, the data should be included.

7. The residential well mitigation plan is unacceptable. The one-half mile radius needs to be expanded based on data provided in the dEIS. Monitoring well data during the pump test, as well as Figure 11, indicate that there is a potential for impact beyond the one-half mile radius. Furthermore, data has confirmed drawdown of 3 to 7 feet at distances approaching 2000 ft. with minimal drawdown in the pumping well.

8. The route that the trucks will take to access Route 63 goes right through a portion of the INWR. No mention is made of the impacts of truck traffic to the recreational use of these roads by visitors to the INWR (including birders, hunters, students from the Job Corps, etc.). Dust, noise, and safety issues related to this heavy truck traffic will have definite impacts to the public use of this portion of the wildlife refuge (there are two overlooks/parking areas located on this truck route). There should also be a discussion of impacts to wildlife use of the habitat immediately adjacent to the roads and to wildlife crossing the road from one portion of the refuge to another.

   Does the traffic survey and levels of traffic generated by the facility include estimates of traffic levels associated with ancillary processing facilities (concrete batch plants, etc.)?

   The Department has requested that the Town of Shelby Highway Department, the Orleans County Highway Department, and the NYS Department of Transportation review the Traffic Study (Appendix 8). Additional comments on this topic may be forthcoming from those agencies.

9. Page 70 Corrections: The dEIS states that the Tonawanda area includes the headquarters and visitors center, but there are no headquarters or visitors center on state land; these are part of INWR. The list of recreational opportunities on the refuge mentions hiking and wildlife viewing, but does not mention other activities such as hunting, fishing, trapping, canoeing, etc.

10. Discussion is needed regarding the use of the area by wildlife. For example, will it make the general landscape in the area less attractive to the short-eared owl that winter in close proximity to the site? Also the cumulative affect of development and other land use changes in the area should be discussed. Due to the ethanol plant located nearby in Medina there is an increased demand for land that is suitable for farming. This increased demand will likely result in corn being planted in areas that are currently pasture, hay, and fallow fields which provide some habitat for grassland nesting birds, many of which are in

decline. The quarry will eventually remove 175 acres of farmland which will put additional pressure on farm land and grassland habitat in the area.

11. In my 24 January 2007 transmittal of the final scoping outline, I requested that the dEIS include a table that summarizes public and agency comments and where they were addressed in the document. I was unable to find that table in the dEIS.

12. The Division of Minerals has also provided detailed technical comments on the MLUP and the dEIS. I have included them as Attachment 1 to this letter.

13. 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.

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 Joe Bucci, Division of Minerals, at 585-226-5471. Thank you for your time and assistance in this matter.

Sincerely,

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

cc: Joe Bucci, Division of Minerals
Steve Army, Division of Minerals
Scott Jones, Bureau of Habitat
Heidi Kennedy, Bureau of Wildlife
Diane Kozlowski, USACE, Buffalo District Office
Tom Roster, Iroquois National Wildlife Refuge
Charles Loiacano, Frontier Stone LLC
David Schubel, Town Attorney, Town of Shelby

Attachment 1 DEC 8-3436-00033/00001 MLR 80823

dEIS Vol 1

1. 1.2.3 - As in other sections of the dEIS, topsoil separation from overburden should be described. Where will the 6" of topsoil stripped from the mining areas be stockpiled. Separate stockpiles of topsoil and overburden should be identified.

2. 1.2.3 - The permittee shall notify the Department's Mined Land Reclamation Specialist, in writing, at least 24 hours in advance of operating outside the currently identified hours of operation. This notice shall include the reasons for the request, relevant contract information, specific activity, and the dates and hours during which the hours of operation restriction would be temporarily suspended. Operations that are limited to these restrictions do not include, maintenance activity or other operations associated with industrial activity at the site (ex. HMA production or RMC production). If an emergency situation occurs outside the Department's normal working hours, the permittee shall notify the Department the next business day.

   Please indicate the days and hours when blasting will take place.

3. 1.2.3 - Provide additional information and an impact assessment on the quarry discharge to the agricultural drainage ditches. Where does this water go? Is there a potential for off site impacts from the quantity of water to be discharged? In addition, water quality decreases with increasing mining depth, and an analysis of quality issues should be provided. Finally, as mining expands, and discharge continues, the nuisance effects of H2S should be considered.

4. 1.2.4.2 - Topsoil segregation is mentioned, however, where will it be stored.

5. 1.2.4.4 - A concurrent reclamation schedule should be developed. At a minimum, once an area has been mined out, the quarry face can be backfilled and seeded, while maintaining the quarry floor for operations.

6. 1.3.2.5. / Page 5, B1(g) of the EAF - A maximum truck limit of 8-10 trips per hour is referenced. However, it also states that it is dependant on market demand, suggesting that levels could be higher. The maximum number of truck trips per hour that will not be exceeded must be stated definitively. This should also be considered in the traffic study.

7. 1.5.2.2 - Consideration needs to be given to residents connected to municipal water, but still utilize their wells for other purposes.

   The residential well mitigation plan is unacceptable. The one-half mile radius needs to be expanded based on data provided in the dEIS. Monitoring well data during the pump test, as well as Figure 11, indicate that there is a potential for impact beyond the one-half mile radius. Furthermore, data has confirmed drawdown of 3 to 7 feet at distances approaching 2000' with minimal drawdown in the pumping well.

   Extrapolated drawdown contours in Figure 11 are showing a groundwater depression at approximately 9000' from the pumping source. Drawdown contours need to be provided for the mine at full buildout and in a dewatered state (drawdown of 120 + feet).

Finally, the your responsibility to mitigate any impact which has resulted from the mining operation can not be limited to only those residents who participated in the well survey.

8. 3.1.1.3 - All drill logs, notes, data, and information used as a basis to form conclusions on the geology and hydrogeology of the site, and surrounding areas, must be submitted.

9. 3.1.2.2 - The quality of the groundwater discharge needs to be considered, and potential impacts evaluated. H_2S odor should be considered from a nuisance perspective.

10. 3.1.4 - The characterization and impact assessment of off site resources is inadequate. The dEIS only details resources within the project boundary, and has not adequately characterized the surrounding environs with respect to vegetation and wildlife, endangered and threatened species, and wetlands and streams.

11. Identify the proposed site location on Map 2-8.

12. 4.1.2.1 - Surface water drainage courses will be altered. As mining progresses, the man made ditch section located in Phase 2 will be removed. Where will the drainage flow when the ditch is cut off. Will a structure be built to allow drainage into the quarry. If so, design details need to be provided, and erosion and sedimentation need to be addressed. If not, what will happen to ditch drainage, and how will the backup of water be controlled.

13. 4.1.2.2 - Hydraulic connection appears to exist between the upper bedrock layers and the deeper zones. This is shown by the 2.9' of drawdown in the shallow barn well at approximately 1700' from the pumping well. Potentially significant impacts exist taking into account that the pumping well was only drawn down 11.7' over 72 hours. Also, the drawdown plots in the groundwater study indicate that the shallow barn well responded quickly to the pumping well. Furthermore, statements on minimal vertical connection within the Lockport are not supported by the pump test results.

14. 4.1.2.2. - Figure 11 projects a measurable impact at approximately 9,000' from the pumping well, while Figure 12 only shows an impact area of 4,000'. Figure 12 should be expanded to show all wells within the projected draw down area of the mine at the final depth and full buildout.

    Whether or not local wells are drawing water from the water bearing zone at depth is irrelevant. The pump test has confirmed impact at distance in the shallow aquifer.

    A narrative and graphic description of the quarry's draw down at full buildout must be provided.

    As stated, varied hydrologic conditions exist within the Lockport. Despite the data supplied in the dEIS, other quarries within this formation do not typically exhibit draw down less than 50' from the quarry face. In fact, draw down at distance and residential well impacts have been documented. Worst case conditions need to be examined in light of documented draw down at distance during the pump test.

15. 4.1.2.2.3 - Additional analysis is required. Significant wetland and habitat areas exist surrounding the property. Groundwater impacts are projected to extend thousands of feet from the proposed quarry, yet a "no impact" conclusion is reached, but is not supported. Groundwater

discharge conditions exist in certain areas surrounding the proposed quarry. An evaluation of discharge conditions in wetlands, streams, springs, etc. must be evaluated, and the impacts from dewatering assessed.

16. 4.1.3. - Please confirm that processing equipment will be run by line power.

17. 4.1.4.1 - The conclusion that ongoing mining and blasting activities will have no impact to wildlife in the Iroquois Wildlife Refuge is unsupported.

18. 4.2.3. - The applicant must commit to the recommendations/improvements outlined in the traffic report.

19. 4.2.5.1 - Why is there a break in the berm along Fletcher Chapel Road. Provide the timing of berm construction. Will all berms remain in place until mining is complete.

20. 5.1.2. - Again, what will be done when the ditch crossing the site is removed? Will water be allowed to enter the quarry? If yes, how will the water be accepted, and what structures will be put in place. If no, how will water backup in the ditch be prevented.

    Where will the water pumped from the quarry go? Need to address ditch, wetland, wildlife, habitat, and adjacent property owner impacts.

21. 5.1.2.3. - The well mitigation plan is unacceptable. A half mile radius around the quarry may not be adequate based on the projected broad cone of depression. The mitigation plan can not only be limited to those impacted who have participated in the well survey. An individuals right to decline participation does not alleviate the permittee's responsibility to mitigate an impact if one exists.

    Applicant must commit to installing monitoring wells and take baseline samples prior to the commencement of mining activities.

22. Page 2 of DEIS (Vol 3) provides information regarding a barn well. By looking at the elevations, it appears this well is in a pit. Drilled wells in a pit below grade tend to flood if not properly maintained. Please indicate if this pit is ever flooded, therefore introducing surface water into the groundwater. This could have an effect on well monitoring data accuracy. Provide design detail and current condition of this well in order to determine if it is a effective monitoring point.

<u>Mined Land Use Plan Volume 2</u>

23. All dEIS changes based on comments shall be incorporated into the MLUP where applicable.

<u>Maps</u>

24. Why is there a break in the berm along Fletcher Chapel Road on Map 1?

    There are acreage and detail discrepancies between Maps 1 and 2. Map 1 shows an excavation area of 28.4 acres for phases 1 and 4, yet Map 2 shows 38 acres of lake area. Similarly, Map 1

shows an excavation area of 143.8 acres for phases 2 and 3, yet Map 2 shows 161.2 acres of lake area. The cross section on Map 2 verifies this.

Map 2 show that excavation will take place under the berms identified on Map 1, outside the excavation area.

The cross section on Map 2 does not show overburden replacement on the western side of A-A' at the top of rock. All other slopes show replacement.

Surface contours do not extend into the phase 1 area. The last contour is 626', while DH S-05 shows a surface elevation of 619'. With the contour interval at 2', this area should show 3 to 4 additional contours.

The Mine Plan Map shows a cross section identifying 2 lifts. The narrative in section 1.2.3. states that there will be 3 lifts. This discrepancy should be corrected, and either the narrative of map must be revised.

General

25. Need to provide a map identifying the boundaries of the Iroquois Wildlife Refuge, the Oak Orchard and Tonawanda Wildlife Management Areas in relation to the proposed quarry.

26. Identify and describe multiple sump locations that will be needed during phase progression.

27. If groundwater monitoring has continued since July 7, 2007, the data should be provided.

28. All boring information should be provided.

29. Reference was made to the possibility of using a well to supply water to the primary crusher. Information, details, and impact assessment should be provided.

30. Provide ROW crossing construction details, and/or restrictions. A letter from Niagara Mohawk should be submitted granting approval of the crossing.

New York State Department of Environmental Conservation
Division of Environmental Permits, Region 8
6274 East Avon-Lima Road, Avon, New York 14414-9519
Phone: (585) 226-2466 • **FAX:** (585) 226-2830
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

Received
JUL 17 2008

8 July 2008

John Hellert
Continental Placer, Inc.
26 Computer Drive West
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

Enclosed for your review and inclusion in the dEIS revisions are additional comment letters from Mr. Thomas Roster, Iroquois National Wildlife Refuge Manager, and Mr. David Goehring, NYS DOT Regional Traffic Engineer. As you will recall, I noted in my 13 June 2008 letter that I had requested comment on the dEIS from those agencies. I have not received comments from the USGS, the Orleans County Highway Department, nor the Town of Shelby Highway Department regarding the dEIS. I will forward those comments when 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 attached letters. You can also contact Joe Bucci, Division of Minerals, at 585-226-5471. Thank you for your time and assistance in this matter.

Sincerely,

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

cc: Joe Bucci, NYS DEC, Division of Minerals
Steve Army, NYS DEC, Division of Minerals
Scott Jones, NYS DEC, Bureau of Habitat
Heidi Kennedy, NYS DEC, Bureau of Wildlife
Diane Kozlowski, USACE, Buffalo District Office
Steven Metivier, USACE, Buffalo District Office
Tom Roster, Iroquois National Wildlife Refuge
Charles Loiacano, Frontier Stone LLC
David Schubel, Town Attorney, Town of Shelby
Edward Houseknecht, Orleans County Highway Department
Michael Fuller, Town of Shelby Highway Superintendent

DLB

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Iroquois National Wildlife Refuge
1101 Casey Road
Basom, NY 14013

June 26, 2008

RECEIVED
JUN 27 2008
DEP-REGION 8

David L. Bimber
Deputy Regional Permit Administrator
NYSDEC – Region 8
6274 East Avon-Lima Road
Avon, New York 14414 - 9519

RE: Draft Environmental Impact Statement
Frontier Stone, LLC, Shelby Quarry
DEC 8-3436-00033/00001 MLR 80823

Dear Mr. Bimber;

The Iroquois National Wildlife Refuge is in receipt of Draft Environmental Impact Statement (EIS) for a Mined Land Use Plan Mining Permit, Volumes 1, 2, and 3 for Frontier Stone, LLC Proposed Frontier Stone Quarry, Town of Shelby. You have requested that we review to determine whether or not the concerns of the Iroquois NWR have been addressed in the dEIS.

In an April 27, 2006 letter from you to John Hellert, Continental Placer, Inc., item #11 indicated that "The wildlife assessment needs to be significantly expanded and must clearly identify impacts to the nearby Iroquois National Wildlife Refuge. The assessment must include habitat impacts related to blasting, hydrology, noise, dust, and other potential environmental issues."

We feel the applicant has fallen short on meeting this requirement requested by the Department of Environmental Conservation. We believe this because the applicant states in several areas that there will be no impact on Iroquois NWR refuge resources, yet they offer no supporting evidence to back up these statements. They conducted no studies in the area of the proposed quarry to determine impacts to adjacent habitats and wildlife and it appears that they did not do a review of the literature regarding potential impacts of mining and truck traffic on wildlife and wildlife habitat. The potential impacts to wildlife and Iroquois NWR habitats as well as public recreation are either not mentioned or quickly dismissed with regard to blasting, other mine noise, dust, and road traffic.

There is little or no mention of the potential impacts of water, sediment, and pollutant discharge on Iroquois NWR wetlands and wildlife. Water discharge discussion focuses on storm events and doesn't discuss the constant pumping of groundwater seeping into the quarry and what pollutants may be contained in that pumped water.

- Several areas of the document state that wildlife on Iroquois NWR will not be impacted by the quarrying operation; Page 106 – "The proposed site totally avoids the Iroquois National Wildlife Refuge and will have no impacts to the vegetation and wildlife there"; Page 163 – "… no significant impacts will occur to wildlife outside the project area"; Volume 3 Section 7A Page 4 – "Mining operations on the site are not expected to affect the wildlife use of adjacent habitats, including those on the Iroquois National Wildlife Refuge". However, the applicant offers no data to support these claims. Several studies have shown that blasting and traffic can have a significant affect on wildlife populations.

- Page 154 states that "If the project site was not farmed, the only alternative would be residential development…". This site could also be used as open space and in fact Iroquois NWR has asked the landowner if he would be willing to sell the land to be incorporated into the refuge. The landowner declined.

- Page 139 states that "Where serenity and quiet are especially important, an exterior design level of 57 dBA (L_{eq}) is recommended". Serenity and quiet are especially important to many refuge visitors. However, the blast guidelines at the top of page 169 that the applicant says it will conform to appear to be well above the 57 dBA level.

Volume 2:

- Page 9, Question 8 of the Environmental Assessment Form asks "Is the proposed action compatible with adjoining/surrounding land uses within ¼ mile?" The applicant selected the answer Yes. We feel that this proposed action could be in conflict with refuge uses and these conflicts have not been adequately addressed in the dEIS.

Volume 3:

Section 6 Vegetation and Wildlife Resources of the Shelby Quarry Site

- The contractor visited the site only two days in winter and two days in summer. We feel this level of survey may be inadequate to accurately determine use by Threatened and Endangered Species, particularly short-eared owls which have been previously seen in the area.

- Vegetation surveys were conducted on November 9, well after the growing season and likely too late in the year to detect all vegetation species.

- The number of species detected during wildlife surveys was relatively low. However, both northern harrier (state threatened) and horned lark (state special concerned) were seen using the project site during wildlife surveys. Therefore, the applicants statement on page 106 of volume 1 that "Field studies confirmed that wildlife of special concern such as the endangered short-eared owl are not found on site, nor was there suitable breeding habitat" is inaccurate. Not only were listed species found, but the level of survey effort was likely inadequate to confirm or deny if any particular species is regularly found at that site.

Section 7 Wetland Delineation Report

STATE OF NEW YORK
DEPARTMENT OF TRANSPORTATION
REGION FOUR
1530 JEFFERSON ROAD
ROCHESTER, NEW YORK 14623
www.nysdot.gov

KEVIN B. O'BUCKLEY, P.E.
REGIONAL DIRECTOR

ASTRID C. GLYNN
COMMISSIONER

July 3, 2008

Mr. David Bimber
New York State Department
of Environmental Conservation
6274 East Avon-Lima Road
Avon, NY 14414-9519

Re: Proposed Shelby Quarry
Town of Shelby, Orleans County

Dear Mr. Bimber:

We have completed our review of the June, 2007 Transportation Impact Study for the proposed 215.5 acre dolomite/limestone quarry on Sour Springs Road in the Town of Shelby. Our review concentrated on the Route 63 and Oak Orchard Road intersection.

The existing pavement on Oak Orchard Road approaching Route 63 is in poor condition and the intersection geometry is not adequate to accommodate the design vehicle. Therefore the Oak Orchard Road approach to Route 63 should be reconstructed with a full depth pavement section for a distance of at least 100 feet from the Route 63 lane edgeline. Oak Orchard Road should have one 12 foot lane entering and one 12 foot lane exiting Route 63, with radii based on the design vehicle. Also an eight foot wide full depth shoulder should be included on the east side of Route 63 and begin 50 feet south of the entering radii where it meets the northbound lane edgeline and end 50 feet north of the exiting radii where it meets the northbound lane edgeline.

With the above improvements in place, we agree that this project should not significantly impact Route 63 or its approaches.

A Highway Work Permit is required for all work within State right-of-way, which includes the required work on and approaching Route 63. Please submit detailed plans prepared in accordance with the Region 4 Checklist for Major Highway Work Permits to Mr. Rich Lovelace, Assistant Resident Engineer, at the following address:

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Iroquois National Wildlife Refuge
1101 Casey Road
Basom, NY 14013

August 12, 2008

RECEIVED
AUG 13 2008
DEP-REGION 8

David L. Bimber
Deputy Regional Permit Administrator
NYSDEC – Region 8
6274 East Avon-Lima Road
Avon, New York 14414 - 9519

RE: Draft Environmental Impact Statement
Frontier Stone, LLC, Shelby Quarry
DEC 8-3436-00033/00001 MLR 80823

Dear Mr. Bimber;

Attached please find informal comments from U.S. Geological Survey after reviewing the hydrology section of the dEIS for Frontier Stone, LLC, Shelby Quarry.

If you need anything further I can be reached at 585.948.5445 ext 202.

Sincerely,

Thomas P. Roster
Refuge Manager

Attachment
USGS Informal Comments

TAKE PRIDE IN AMERICA

Informal review of the Proposed Frontier Stone - Lockport Dolomite Quarry near the Iroquois National Wildlife Refuge (*Notes in italics are question/comments that came to mind during this review.*)

by

Bill Kappel

June 16, 2008

1. Page 16 - 1.5.2.1 Surface Water drainage – they indicate that surface water drainage will remain the same (pattern), but no indication of what those directions are– toward the Refuge or away from it?. What is the drainage pattern and what is the current flow and water quality of these flows?
2. Page 16 - 1.5.2.2. Ground water influences – The EIS indicates no wells south of the proposed quarry will be affected. Where are wells located around the quarry, and what are their distances from the quarry (nearest quarry wall to each well)? *The figure supplied later in the text is in black and white and the wells cannot be discerned from the B&W copy.*
3. Page 17 – Well replacement paragraph - Possible impacts to water levels and quality need to be added. The mitigation plan appears to be reasonable but there is also some boilerplate language that needs to be clarified – Terms like "half-mile distance" (could be further); "potable water of quantity and quality at time of their well survey"; etc., need to be modified to the actual hydrogeology of the area around the quarry. *Are they focusing on drilling new wells and(or) hooking-up homeowners to public water as the alternative(s)?*
4. Page 36 – 3.1.2.1 - Surface water – does the drainage that moves to the south reach the Refuge? *If so, to where, and does the Refuge have any idea of the current quantity and quality of this 'source' of water and to what pool(s) it drains to?*
5. Well log – no indication of any bedding planes or any influx of water at the 75-foot zone. What is the basis for the importance of this bedding plane in the text, as without backup data/information, it's hard to understand.
6. Page 42 – 3.1.2.2 – *Are they continuing to collect water-level information from the monitoring wells – having at least one year or more of water-level data is critical to understanding the flow system at the proposed mining area.*
7. Table 4, page 42 – The fact that well 5-05 "flows" at certain times of the year may play an important role in helping decipher the ground-water-flow system in the area and needs further clarification. The casing appears to have been lengthened between 2005 and 2007.
8. Page 42 – At certain times of the year the water table appears to flow westward and the chevron appearance is unusual and needs to be clarified; a quick scan of water levels at other times of the year indicates changes in the ground-water flow pattern.
9. Page 43 – While information on other quarries is useful, each quarry will have its own flow characteristics, which means that the proposed quarry may or may not act similarly to others and will need to determined and quantified in the future. The concept that water movement in Lockport Dolomite quarries is much less than that seen in Onondaga Limestone quarries is generally true.
10. Page 43 – The presence of poor-quality water in the Lockport Dolomite is well known, since poor quality water was discharged from pumping well during the aquifer (pump) test. What might be the long-term impact on the quality of the receiving water bodies from quarry water being discharged to surface water bodies during the life of the mine?
11. Page 88 – 4.1.1.2 – Soils - What will happen to all the 'excess' soils -- over 8.4 million cubic yards of it?
12. Page 89 – 4.1.2.2 Groundwater – Characterization of the ground-water resource is contradictory between the descriptions cited on pages 92, 94-95 (Johnston) and what is written in the text.

Johnston indicates that there are vertical connections between the weathered bedrock surface and deeper bedding planes – the text in the EIS indicates limited connection.

13. Drawdown at the "barn well", (about 50 ft deep) was reported at about 3 feet in the text, but according to the drawdown curve numbers it was more like 5.5 feet. It appears that the barn well was being used during the test which somewhat confuses the results. General trends indicate the 3 foot drawdown, but it still remains unclear what the drawdown actually was at this well. The fact that the well reacted when the pumping well was discharging indicates a hydraulic connection between the shallow bedrock and what the EIS terms as the "deeper (75ft) zone".
14. *When the quarry is being developed, the drawdown will be dependant on how deep the quarry is being mined and how much water they have to remove to mine the bed rock, until the quarry is abandoned (~75 years) and allowed to fill with water to the current water-table (about10-15 feet below land surface). This semi-permanent drawdown may adversely affect wells, but to determine how far out and to what degree is difficult with the limited scope of data that has been collected. The limitation of a half-mile from the mine for 'restoring well water' should be dropped, and allow the data to guide where and when home-owner wells are affected.*
15. Page 97 – Not clear where did the characterization that the only water-bearing zone was found at ~ 75 feet? It is not indicated on the geologic log or elsewhere in the report – no bedding planes are located. As the pumping took place in an open hole – the source of water could come from multiple zones (as USGS has seen in the Lockport Dolomite bedrock unit in western NY). Characterization of the permeability of the entire bedrock section (for instance by using borehole geophysics) would be needed to strengthen the contention that the majority of water came from that one bedding-plane structure. *Also, if the water is not coming from a local, shallow source, this increases the possibility that the water that will be pumped from the mine will be of the" black-water" type (large concentrations of sulfur and manganese) compounds and will probably require some treatment prior to surface-water discharge as to not reduce the existing water quality of the surface water receiving bodies.*
16. Figure 11 - The recorded drawdown cone-of-depression collected during the aquifer test is elliptical (solid lines) yet the estimated cone of depression (dotted line) appears circular as if the bedrock were a homogenous material. The circular dashed lines are misleading as shown, since if the data indicted an elliptical drawdown cone, the estimated contours should be too (unless there was evidence that they wouldn't be elliptical.....*and difficult to determine without further study. The elliptical nature of the measured drawdown indicates hat there is a preferential pathway (regional vertical fracture zone similar to what Johnston described in his report p. 31 in the appendix) for water to flow in this fashion within the bedrock.*
17. Figure 12 is black and white (*version we have*), and it is unclear where the drinking-water wells are located within the proposed 4,000 ft radius of the quarry. *Because of the likely fracturing and interconnection of the bedding planes with vertical fractures, once bedrock dewatering begins, it will affect the shallow wells first as the upper, fractured and weathered bedrock will drain prior to hitting the 75-foot zone they reference.*
18. Pages 97-98 – The large database of Lockport quarries and nearby private wells only offers off-hand comments with no factual data to back up the statement of "no or minor effect" from quarrying. The statements offered for the nearby Shelby mine are backed-up with some data, but from our past experience in working in the Lockport Dolomite – fracture permeability varies and depends on the fracture framework of the local area. Limited effects might be true at Shelby but if dewatering would occur along a regional structure (see Johnston's explanation of zones of high-yield wells p. 31 of his report), the influence of that zone could be large but limited to the area near to the structure. Also see (Miller and Kappel, 1987, Effect of Niagara Power Project

on ground-water flow in the upper part of the Lockport Dolomite, Niagara Falls area, New York, WRI 86-4130).

19. Figure 13 shows no pre-mining water levels. While the wells are several hundred feet from the quarry face there is no indication of where regional bedding-plane structures are in relation to the wells and the quarry itself, nor potential zones of seepage along these structures that would flow into the quarry. There is also no indication of the regional ground-water table in and around the mine. *Usually seepage can be found along many quarry faces on its upgradient (groundwater) side, but if a regional joint structure is intercepted, it can lead to a larger quantity of water entering the quarry.*
20. Page 100 – The characterization at the bottom of the second paragraph is misleading – while the Lockport is much more competent and less karstic than the Onondaga, solutioning of the dolomite has been reported in the past, and numerous bedding-plane structures are strongly documented in the Lockport, one of which might be the 75-ft zone mentioned here.
21. Page 102 – 4.1.2.2.3 Dewatering Impacts on wetlands - Dewatering from below (from the bedrock) might be minimal, if it is established that Glacial Lake Tonawanda sediments underlie the entire Refuge, but surface water that feeds Refuge pools comes from several directions including the north. *(Are there documented springs on the Refuge, and are the source(s) of these springs known? (See comment #22)* If surface water runoff is reduced (or increased) from the north, both the quantity and quality of this water should be characterized to determine possible impacts to the Refuge.
22. *Page 103 – Last paragraph – the road name "Sour Springs Road" appears to indicate that water from springs in this area are discharging from the Lockport Dolomite, (directly or indirectly). There should be a spring inventory made to determine whether there are some 'windows' of permeability between the bedrock and land surface through the Lake Tonawanda clays. This information could be critical in determining if lowering the head in the Lockport Dolomite might affect the natural water supply to the Refuge ponds.*
23. Appendix 4 – Groundwater Assessment
    a. Table 4-2 – information on these wells show some inconsistencies (numbers transposed) but more importantly well 5-05 appears to have a 7-ft stickup pipe to limit overflow from the well. (May and November, 2005 indicate flowing conditions and most of the time the water levels are above land surface – apparently the height of the casing was changed between 2005 and 2007).*While this is due to the wells position in the landscape, it also indicates that the quarry will be pumping water at elevations close to 620 feet, and therefore will be doing considerable pumping as soon as the quarry opens, or as soon as the overburden is removed or thinned to this elevation. How might this effect the development of the quarry and the resultant effect on the water resources of the Refuge?*
    b. Where will the water be pumped to from the dewatering wells – which way will it flow, will ditches be expanded to carry this water and what will be the receiving water body?
    c. What is the expected quality of this water – it was noted in the text that "*with depth, the quality of water diminishes*" – what is the fate of this "water" If 'black water' (highly mineralized water with abundant sulfur content) from the Lockport is encountered, will treatment be required for discharge no matter what the receiving water body is? How will both the basic water quality and degassing of this sulfur water affect the local environment?
24. *The recharge boundary found during the aquifer test is significant as it limits the drawdown to about 12 to 13 feet below land surface. This would appear to indicate that large volumes of water (much greater than the 125 gallons per minute during the aquifer test) will have to be*

removed to allow mining, and if so, the effect on water levels in wells surrounding the mine would be much greater than what is currently stipulated in the assessment.

New York State Department of Environmental Conservation
Environmental Permits, Region 8
6274 East Avon-Lima Rd, Avon NY 14414-9516
Phone: (585) 226-5400 • **Fax:** (585) 226-2830
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

Received

DEC 24 2009

22 December 2009

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 November 23, 2009. We have determined that the dEIS is insufficient and we offer the following comments on both documents:

1. Several factors significantly constrained our review of the resubmitted dEIS and mining application for this proposal. Three copies were not adequate for review by five of the Department's Divisions and at two locations. I acknowledge the receipt of the dEIS (Vol. 1) in a digital format. I requested (via email November 25, 2009) but did not receive additional copies of the MLUP (Vol. 2) and the Appendices (Vol. 3). Future submissions must include five printed copies (see below) and a digital version of all documents.

   We recommend that your next submittal include three copies of the amended maps and revisions of specific narrative/text pages as needed and two additional complete copies. We will replace those pages and maps in our three copies of the dEIS or MLUP received on November 23, 2009. Please include an index of the pages/maps etc. to be replaced. 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 influence of quarry activities on the Iroquois National Wildlife Refuge (Refuge) and the NYS Wildlife Management Areas (WMA), located immediately south and contiguous to the proposed quarry, is the most significant potential impact associated with this proposal. In general terms, the dEIS does not adequately analyze those impacts. Staff suggest that you create a map depicting the limits of disturbance, for example, noise and vibration overlaying habitat cover types. This map would be used to facilitate a discussion of a variety of issues including impacts to wildlife and to recreational users of the affected area. The discussion based on the map and overlays should address potential impacts to wildlife within the affected habitat types, possibly including forest, shrub-scrub, marsh, grassland and agricultural land. Impacts to nesting and migrating birds (raptors, songbirds, waterfowl, etc,) in these habitats should be included.

3. 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.

4. An Article 11, Rare and Endangered Species permit application may be needed to address issues related to the potential take of threatened or endangered species or their habitat (related to Northern Harriers and Short-eared Owls). Staff will need additional information (below) prior to making a final determination on this issue.

5. It was difficult to verify that some of our comments provided in our June 13, 2008 and July 8, 2008 letters were addressed in your recent resubmission. Please provide an itemized response to those letters, the location of where they were addressed in the dEIS, and a brief summary of the rationale behind your response. I have examples that I can provide of similar response letters.

6. Item 3 of our June 13, 2008 letter was not adequately addressed. The estimates of impact were based on an annualized average of 1,142 gpm flow to the Refuge. This analysis doesn't account for the impact of seasonal flow rates on the downstream water impoundments in the Refuge and on Oak Orchard Creek at a time when they may be stressed by increased seasonal runoff rates. The analysis of impact should be augmented by a more concise estimate of those seasonal highs and a management plan developed jointly by Frontier Stone and the Refuge Manager. See comments below for more detail.

7. Item 3 also requested groundwater quality data. Other than the Johnston (1964) information provided, I was unable to find recent groundwater quality data. The data provided by Johnston (1964) suggests that groundwater from this geologic unit may not meet the discharge requirements of the Multi-Sector SPDES Permit. A comparison with surface water characteristics is also necessary. This information is critical to our determination regarding the need for a site-specific Industrial SPDES permit. See comments below for more detail.

8. The dEIS (Vol. 1) should include more summary information on impacts and analysis from the Appendices. In some instances, the statements in Vol. 1 did not support the analyses in the Appendices. Additionally, the possible impacts discussed in the Appendices should be summarized and discussed as necessary in the dEIS (Vol. 1). For example:

   a. "Noise and vibrations that result from blasting can potentially affect wildlife. Loud abrupt can startle animals, causing them to flush from a perch, leave a foraging area of abandon a nest. This can result in increased energy expenditure, reduced foraging time, and lowered reproductive output." This statement does a good job at summarizing some of the potential impacts to offsite wildlife, but none of these issues made it to Vol. 1 of the document.

   b. The projected drawdown out to 7,000 ft. (page 14, Alpha Report) from the Frontier Stone quarry dewatering operation could affect private bedrock wells along Fletcher-Chapel Road, Sour Spring Road and Southwood Road. The water level analysis shows that water levels in the Lockport could be drawn down below the top of the rock at distances of between 2100

and 4800 ft. from the quarry limit when the quarry has reached its maximum extent (Plate 2). This impact is not discussed or analyzed in Section 4.1.2.2, page 92, of the dEIS section entitled Potentially Significant Environmental Impacts.

c. The statement (Vol. 3, Appendix 7A, page 5, Impact Analysis of Ecological Resources) "How this pump out will affect habitats down drainage from the quarry will depend upon the volume of pump-out water. It is anticipated that it potentially will add water to the system and may result in more wetland areas" is a key issue that needs a better analysis and discussion throughout this review.

Following are detailed comments on the dEIS, Volumes 1-3. In some instances, the comments may be duplicative because of the reoccurrence of the deficiency in each document.

dEIS Volume I

1.2.2 **Page 5:** Please provide confirmation from National Grid (Niagara Mohawk) that the proposed crossing construction details, and setbacks are adequate and acceptable to maintain transmission line and substation integrity as it relates to blasting and mining activities.

1.2.3 **Page 6:** The Mining Plan Map referenced, included in Appendix I, requires updating. The Acreage Summary references a 2006-2011 permit term. A 2010-2015 reference would be more applicable.

1.2.3 **Page 7, 8:** The mining hours and days are given in general terms, and there is a reference to operation outside these hours. The MLUP states that "The permittee shall notify the Department's Mined Land Reclamation Specialist, in writing, at least 24 hours in advance of operating outside the currently identified hours of operation." Language must also be included that states Department authorization must be obtained prior to operating outside the approved hours of operation.

1.2.4.1 **Page 10:** Perimeter shallow sloping is only designed for 5 ft. of water depth. Seasonal fluctuations should be considered when determining this depth. What is the maximum anticipated seasonal lake level fluctuation?

1.2.4.2 **Page 10:** Mulching specifications should be included along with the seed and fertilizer.

1.2.4.5 **Page 11:** If concurrent reclamation is to occur, how will the berms remain in place to limit dust, noise, and visual impacts throughout the life of the project?

1.3.2 **Page 12:** Potential impacts to wildlife and recreation should be added to this section.

1.3.2.2 **Page 13:** Potential impacts to the Refuge from dewatering should be analyzed and discussed.

1.3.2.5 Page 14: The maximum or peak number of truck per hour should be specified, not the average.

1.5.2.2 Page 18, 19: The potential impact to residential water supply wells has been identified, and a mitigation plan has been proposed. This plan is unacceptable, and would eliminate an individual's ability to seek restitution in the event of an impact, if that individual decides not to consent to the permittee's arbitration agreement. This well arbitration agreement should be eliminated from the dEIS. Also, the proposal to deepen wells where public water is unavailable, does not take into water quality issues, which tend to decline with depth.

1.5.2.2 Page 19: Spill prevention measures are mentioned, but not specified. A plan containing specific details, should be included in the dEIS. Additional information must be provided regarding fuel storage, fueling of equipment and what precautionary procedures are to be incorporated to insure spill prevention and leakage minimization. Where will the fuel tanks be located and what is their maximum capacity? Is adequate secondary containment to be provided? Will there be an area designated for equipment re-fueling and maintenance? Will this area be constructed in such a manner (compacted clay surface, concrete pad, etc.) as to minimize potential leakage of fuels/lubricants or other contamination? Indicate in the plan that a portable storage unit that contains a spill kit including an adequate supply of absorbent material (diatomaceous earth and textile absorbent fabric and pads), a shovel and an impermeable container with a tight-fitting lid. In addition, indicate that the NYSDEC Spills Hotline number will posted in a weatherproof manner on the storage unit and all spills will be treated as emergencies, cleaned up immediately and appropriate notifications made within required time frames.

3.0 Page 32: This section should include a description of the adjacent Iroquois National Wildlife Refuge.

3.1.2.2 Page 45: Inadequate data and information is provided for the assessment of groundwater quality impacts offsite. The dEIS does not contain site specific water quality testing, and there appears to be quality issues in the monitoring wells on the property, as well as nearby residential sources, and offsite springs. Impacts from quarry dewatering to the Wildlife Refuge, as well as Oak Orchard Creek are a concern. Poor groundwater quality and a large discharge volume may have significant impacts on wetland vegetation, wildlife, and habitat areas. Without specific information and data, an appropriate review cannot be completed. The assessment in Appendix 7 does not rely on site specific data, and cannot provide an adequate assessment of quality (components, levels, etc.), and potential impacts. The updated analysis should include testing results which include: sulfates, chlorides, hardness, TDS, TSS, DO, pH, iron, manganese, barium, and H_2S

3.1.4 Page 55: There is no mention of offsite surveys for Short-eared Owls or the presence of a known wintering area in the vicinity of the proposed site (it is briefly mentioned in the Appendices).

3.1.4 Page 55: The report indicates that no potential bald eagle habitat exists on site, however, eagles could potentially use habitat on the refuge just to the south of the proposed site. Due to this species' need for "quiet solitude" as mentioned in this report, the quarry could make a section of the refuge unusable for bald eagles in the future, both for nesting and other activities.

4.1.1.2 Page 91: The soil balance shows that there will be adequate amounts of material on site for reclamation. However, as stated in the question from 1.2.4.5 Page 11, how will concurrent reclamation occur if the berms remain in place to limit dust, noise, and visual impacts throughout the life of the project?

4.1.2.1 Page 92: Additional clarification and detail relating to erosion and sedimentation control is required. There is a concern that there is a significant potential for the discharge of sediment laden water from the site. How will a sediment laden discharge be avoided during quarry construction? During this phase there are no retention areas, and sediment load from stripped soils is high. Additionally, there are no discussion or design details of the inflow and discharge location of the agricultural ditch once bisected by the excavation. Will these areas be rock lined, or will other structures be used to prevent erosion and sedimentation. There is a concern that free flowing water out of a bare soil cutoff ditch or pumping of water to the receiving ditch will cause significant erosion and sedimentation.

4.1.2.1 Page 93: No mention is given to what will be done with the agricultural drainage ditch (that will be cut off by the quarry) at the time of final reclamation. It is anticipated that the drainage ditch will be allowed to continue to flow into the reclaimed quarry lake. Based on the ground surface elevations, compared to the reclaimed lake level elevation, the flow that originally continued on to the Refuge will be permanently cut off. An assessment of the quantity of water that will no longer flow to the Refuge, or an alternative to rerouting the ditch around the lake at final reclamation should be provided.

4.1.2.2 Page 93: The statement that there appears to be little connection between the upper layers of bedrock and the deeper water bearing zone requires further clarification. It is apparent that there is some hydraulic connection between PW-1 and the barn well. The barn well is located approximately 1700 ft. from PW-1, and shows drawdown within hours after the start of the test.

4.1.2.2 Page 99: Provide further explanation as to why drawdown away from the quarry will diminish when the confining layer of the aquifer is relieved.

4.1.2.2 Page 99: The narrative indicates that the homeowner wells shown in Figure 12 are shallow wells and are not drawing from the same water bearing zone intercepted during the pump test. Approximately 42 wells are identified on Figure 12, seventeen water well surveys were distributed, and only three returned with well information. How was it determined that the wells on Figure 12 are shallow? The additional well information used to determine residential well depth should be provided.

4.1.2.2 Pages 99-102: Impacts associated with dewatering adjacent to quarries is dependent on site specific hydrologic conditions. While general conclusions can be drawn relating to a particular formation, they should not be relied upon as accepted site specific characteristics. Department files document a range of measurable drawdown from 50 to over 1200 ft. This section should be revised as to not leave the reader with the impression that there is no measurable impacts adjacent to other quarries, and that a cone of depression only extends 50 ft. from a highwall. Finally, data and information contained in the applicant's dEIS specifically show a significant area of influence surrounding the proposed quarry.

4.1.2.2 Page 102: Reference is made to monitoring wells, both existing and planned, to be checked on a regular basis. A monitoring plan should be included which outlines wells to be monitored, and frequency. Construction details for newly installed wells should be included.

4.1.2.2.3 Pages 104-106: The flow through basin 1 is characterized as increasing from 169.91 gpm to 1092.06 gpm. This estimate is an annualized average, and does not accurately portray the maximum flow through increase at a given time. The maximum flow through increase should be provided (for a given period of time, presumably spring) to allow for an adequate impact assessment to the Refuge. It is unclear if the marsh design, and outfall structures would be adequate to handle the maximum increase in flow, especially during the spring. Also, it is unclear if the maximum increase in flow to the refuge would potentially impact the wetlands, wildlife, and habitat areas. Finally, there is mention that water could be pumped at a desirable level to benefit the Refuge, but no specifics are offered. There is no plan which outlines what this would be, no evaluation of maximum flow impacts, or its acceptability to the Refuge.

4.1.2.2.3 Pages 104-106: Inadequate data and information is provided for the assessment of groundwater quality impacts. The dEIS does not contain water quality testing. Quality issues are apparent in the monitoring wells on the property, as well as nearby residential sources. Quality issues are anticipated to be worst with depth. Impacts to the Wildlife Refuge, as well as Oak Orchard Creek are a concern. Poor groundwater quality and a large discharge volume may have significant impacts on wetland vegetation, wildlife, and habitat areas. Without specific information and data, an appropriate review cannot be completed. The assessment in Appendix 7 does not rely on site specific data, and cannot provide an adequate assessment of quality (constituents, levels, etc.) and potential impacts.

4.1.4.1 Pages 109, 110: Please provide detailed methods from field surveys. In particular, include the methods used for bird surveys including both on and offsite Short-eared Owl surveys (time periods surveyed, survey methods, survey locations etc.). Also provide details from the walking survey of the Refuge. Spring bird surveys should be completed in the area of the refuge adjacent to the proposed quarry.

4.1.4.1 Pages 109: The report states that "Field studies confirmed that wildlife of special concern such as the endangered Short-eared Owl are not found on site, nor was there suitable breeding habitat." Please provide the details regarding the methods

used for the field studies. This statement also appears to contradict the earlier section where use of the site by Northern Harrier (state threatened) and Horned Lark (state special concern) are discussed.

4.1.4.1 Pages 109, 110: A discussion and analysis of impacts to recreational users on the wildlife areas is needed. Include hunting, trapping, fishing, hiking, bird watching, canoeing etc.

4.1.4.1 Pages 109, 110: It is evident that human activity and wildlife can coexist to some degree, however: the article discussed from the Journal Register regarding use of a Quarry's crusher as a nesting site is a popular account that lacks widespread validity that can apply to this mining operation. It should be deleted. Similarly the comments relating to the NYS Thruway and the Montezuma National Wildlife Refuge did not include a valid scientific approach to analyzing the conclusion offered and should not be included in the dEIS.

5.1.2.3 Page 167: The mitigation plan (Arbitration Agreement) is unacceptable, and should be removed as part of the proposed mitigation. As is the case with other quarries, the Department's special condition contains acceptable language for potential impact mitigation. Also, the company's proposal to deepen wells where public water is unavailable, does not take into water quality issues, which tend to decline with depth.

5.1.2.3 Page 168: Spill prevention measures are mentioned, but not specified. A plan containing specific details, should be included in the dEIS. Additional information must be provided regarding fuel storage, fueling of equipment and what precautionary procedures are to be incorporated to insure spill prevention and leakage minimization? Where will the fuel tanks be located and what is their maximum capacity? Is adequate secondary containment to be provided? Will there be an area designated for equipment re-fueling and maintenance? Will this area be constructed in such a manner (compacted clay surface, concrete pad, etc.) as to minimize potential leakage of fuels/lubricants or other contamination? Indicate in the plan that a portable storage unit that contains a spill kit including an adequate supply of absorbent material (diatomaceous earth and textile absorbent fabric and pads), a shovel and an impermeable container with a tight-fitting lid. In addition, indicate that the NYSDEC Spills Hotline number will posted in a weatherproof manner on the storage unit and all spills will be treated as emergencies, cleaned up immediately and appropriate notifications made within required time frames.

5.1.4.2 Page 170: Please provide a reference for the statement: "For example, as Dupont's attenuation curves have demonstrated, there is effectively **no** vibration caused by blasting beyond 1600± feet." Additionally, a conservative worst case scenario should be provided for incorporation into the mapping, analysis, and discussion related to item #2, above.

5.1.4.2 Page 170: The statement: "no significant adverse impacts will occur to wildlife outside the project area" is not supported by the document and the materials provided in the Appendices (Vol. 3).

5.1.4.2 Page 171: The articles cited here do 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 nestling success."

5.1.4.3 Page 171: The statement "No significant impacts to the wetlands have been identified" is not supported by the data in the Appendices (Vol. 3).

5.2.3 Page 175: A plan for implementing the traffic engineer's report recommendations is not provided.

5.2.6.1 Page 177: A Pre-Blast Survey will be required for all structures within 1000 ft. of the Life of Mine boundary. Please an outline for the survey, and indicate how it will be implemented.

dEIS Volume 2 – Mine Land Use Plan (MLUP)

Note: All dEIS changes shall be incorporated into the MLUP where applicable.

Note: Surface water and the agricultural drainage ditch are not adequately addressed, or included in the MLUP.

Note: Blasting is not adequately addressed, or included in the MLUP.

Note: Additional information must be provided regarding fuel storage, fueling of equipment and what precautionary procedures are to be incorporated to insure spill prevention and leakage minimization? Where will the fuel tanks be located and what is their maximum capacity? Is adequate secondary containment to be provided? Will there be an area designated for equipment re-fueling and maintenance? Will this area be constructed in such a manner (compacted clay surface, concrete pad, etc.) as to minimize potential leakage of fuels/lubricants or other contamination? Indicate in the plan that a portable storage unit that contains a spill kit including an adequate supply of absorbent material (diatomaceous earth and textile absorbent fabric and pads), a shovel and an impermeable container with a tight-fitting lid. In addition, indicate that the NYSDEC Spills Hotline number will posted in a weatherproof manner on the storage unit and all spills will be treated as emergencies, cleaned up immediately and appropriate notifications made within required time frames.

2.4.2 Page 12: The MLUP states "The permittee shall notify the Department's Mined Land Reclamation Specialist, in writing, at least 24 hours in advance of operating outside the currently identified hours of operation." Language must be included that states Department authorization must be obtained prior to operating outside the approved hours of operation.

3.0 Page 19: No mention is given to what will be done with the agricultural drainage ditch (that will be cut off by the quarry) at the time of final reclamation. It is anticipated that the drainage ditch will be allowed to continue to flow into the reclaimed quarry lake. Based on the ground surface elevations, compared to the reclaimed lake level elevation, the flow that originally continued on to the Refuge will be permanently cut

off. An assessment of the quantity of water that will no longer flow to the Refuge, or an alternative to rerouting the ditch around the lake at final reclamation should be provided.

dEIS Volume 3 Appendices

Appendix 4 – CPI Report

6.0 **Page 10:** The statement that there appears to be little connection between the upper layers of bedrock and the deeper water bearing zone requires further clarification. It is apparent that there is some hydraulic connection between PW-1 and the barn well. The barn well is located approximately 1700 ft. from PW-1, and shows drawdown within hours after the start of the test. Also, provide further explanation as to why drawdown away from the quarry will diminish when the confining layer of the aquifer is relieved. This request was made in the June 13, 2008, dEIS Review and Comment letter, and has not been adequately addressed.

Alpha Report

3.3.2 **Page 11, 12:** How will the water pumped back to basin 1 be controlled and monitored? A plan needs to be included in the dEIS, and developed with the refuge which outlines what will be done.

3.3.3 **Page 14:** Only the annualized average rate is given. The flow through basin 1 is characterized as increasing from 169.91 gpm to 1092.06 gpm. This estimate is an annualized average, and does not accurately portray the maximum flow through increase at a given time. The maximum flow through increase should be provided (for a given period of time, presumably spring) to allow for an adequate impact assessment.

4.0 **Page 16:** The flow through basin 1 is characterized as increasing from 169.91 gpm to 1092.06 gpm. This estimate is an annualized average, and does not accurately portray the maximum flow through increase at a given time. The maximum flow through increase should be provided (for a given period of time, presumably spring) to allow for an adequate impact assessment to the Refuge. It is unclear if the marsh design and outfall box structures would be adequate to handle the maximum increase in flow. Finally, there is mention that water could be pumped a desirable level to benefit the Refuge, but no specifics are offered. There is no plan which outlines what this would be, or it's acceptability to the Refuge.

4.0 **Page 16:** Retaining water in the western quarry is offered as a potential mitigation technique. However, what will be done during the development of the western quarry when a reservoir isn't available? When the western quarry is developed, discuss the feasibility of using this as a retention area due to the existence of the horizontal fractures at the base of the aquifer (between 56 and 89 ft.) which appear to be the main water bearing feature at this location. Please evaluate the volume of water would be reintroduced back to the eastern quarry through this feature with only an approximate 600 ft. separation between the excavations.

4.0 **Page 17:** No mention is given to what will be done with the agricultural drainage ditch (that will be cut off by the quarry) at the time of final reclamation. It is anticipated that the drainage ditch will be allowed to continue to flow into the reclaimed quarry lake. Based on the ground surface elevations, compared to the reclaimed lake level elevation, the flow that originally continued on to the Refuge will be permanently cut off. An assessment of the quantity of water that will no longer flow to the Refuge, or an alternative to rerouting the ditch around the lake at final reclamation should be provided.

Appendix 9 – Transportation Impact Study

V.B. **Page 3:** We were unable to find a response to Item 8 of our June 13, 2008 letter: Does the traffic survey and levels of traffic generated by the facility include estimates of traffic levels associated with ancillary processing facilities (concrete batch plants, etc.)? Also, please specify the maximum or peak number of trucks per hour.

VII. **Page 6:** The traffic study includes recommendations to reduce traffic impacts. What time frames and mechanism do you propose to complete those recommendations?

Appendix 10 – Phase 1 Archaeological Report

OPRHP letter dated March 5, 2007 covers mining phases 1 and 4. What are your plans to complete the surveys for the entire site?

Appendix 14 – Stormwater Pollution Control Plan

Page i: The Stormwater Pollution Control Plan must be authorized and certified.

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 Joe Bucci, Division of Minerals, at 585-226-5471. Thank you for your time and assistance in this matter.

Sincerely,

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

cc: Joe Bucci, Division of Minerals
Steve Army, Division of Minerals
Scott Jones, Bureau of Habitat
Heidi Kennedy, Bureau of Wildlife

Dixon Rollins, Division of Water
Diane Kozlowski, USACE, Buffalo District Office
Tom Roster, Iroquois National Wildlife Refuge
David Mahar, Frontier Stone LLC
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Joe Martens
Commissioner

Via E-mail and U.S. Mail

December 8, 2011

REC'D 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
T. Roster, Iroquois National Wildlife Refuge
D. Mahar, Frontier Stone LLC
D. Schubel, Town Attorney, Town of Shelby
D. Spitzer, Hodgson Russ Attorneys LLP

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Iroquois National Wildlife Refuge
1101 Casey Road
Basom, NY 14013

March 1, 2012

David L. Bimber
Deputy Regional Permit Administrator
NYSDEC – Region 8
6274 East Avon-Lima Road
Avon, New York 14414 - 9519

RE: dEIS Review and Comments
DEC 8-3436-00033/00001 MLR 80823
Frontier Stone, LLC, Proposed Shelby Quarry

Dear Mr. Bimber;

The Iroquois National Wildlife Refuge is in receipt of Draft Environmental Impact Statement (EIS) and Mined Land Use Plan for Frontier Stone's proposed Shelby Quarry, Town of Shelby. You have requested that we review to determine whether or not the concerns of the Iroquois NWR have been addressed in the dEIS. We offer the following for your consideration.

Volume 1

Page 14. 1.3.2.2: In this section as well as others throughout the dEIS and related documents the applicant states that the quarry will pump 251 gpm of water into the agriculture ditch that flows onto the Refuge. This appears to be an average gpm measured over a year or many years. In order to properly review the proposal it is necessary that the applicant provide additional data on the maximum and minimum estimated gpm of water that will be pumped onto the Refuge and the duration that these pumping rates may be maintained. Additionally, any expected change in the maximum or minimum pumping rate during the life of the quarry should be identified.

Page 16. 1.3.2.7: The applicant acknowledges a potential annoyance to wildlife watchers at Schoolhouse Marsh overlook, but then states that "...truck traffic volumes will be minimal when compared to nearby traffic on Route 63...". While this may be true, the Refuge does not have any overlooks on Route 63, so this information is irrelevant to a discussion of potential traffic effects on Refuge visitors at overlooks.

Page 16. 1.3.3.2: The applicant references the map outlining an Area of Influence (AOI) around the quarry for noise and vibration. This map appears to include a noise area for regular quarry sounds excluding blasting. We would like to see the noise AOI include blasting. Additionally, this map and associated analysis and discussion should include an AOI along Sour Springs and Oak Orchard Ridge Roads to identify potential disturbance from the increased truck traffic, which the applicant says could be as high as 30 trucks per hour. Also, we it should be clarified if this is 30 trucks driving down the road per hour or if it is 30 trucks driving in and out of the quarry per hour, effectively resulting in 60 truck trips down the road per hour.

Page 17. 1.3.3.2. In the hiking section, the applicant states that there are no hiking trails within the AOI. While this statement is true, during periods of time when the Refuge is open to off-trail hiking, visitors are allowed to hike in areas without designated trails.

In the bird watching section, the applicant states that bird watching activity focuses on migratory waterfowl at the two refuge overlooks on Oak Orchard Ridge Road and then concludes that even though there will be an increase in truck traffic by these two overlooks, "...the potential for disturbance to bird watchers is minimal." Given the fact that two of the four overlooks on the Refuge are located on this truck route and also that the applicant has not evaluated the potential noise and disturbance associated with this increase in truck traffic, it is unclear to us how their conclusion of minimal disturbance can be drawn.

In the hunting section, the applicant states that "deer hunting season does not coincide with the quarry's normal operations season". According to the applicant on page 6, the quarry's normal operations season will be from April to November. It is unclear if this means November 1 or November 30. Regardless, the archery deer season on the Refuge currently begins on or about October 15 and the Deer Management Plan recently adopted by NYSDEC proposes moving opening day of the deer season to October 1, beginning in 2012. There will be overlap between the quarry operation season and the deer hunting season.

Additionally, the applicant only mentions deer and upland game bird hunting in the hunting section. Other types of hunting occur on the Refuge in the area adjacent to the quarry.

The applicant states that "hunting has not been impacted by numerous quarry settings elsewhere in the region", but offers no basis for this statement. Many hunters, particularly bow hunters, prefer to hunt in a setting with minimal noise and disturbance. It seems unlikely that an area near an active quarry would provide the kind of solitude required for this kind of hunting experience.

Page 36. 3.1. Nearly all of this text appears to be copied from the Refuge's Draft Comprehensive Conservation Plan (CCP). We request this section be changed in the following ways. First, the applicant should put quotation marks around text that has been copied verbatim from another document and provide a citation for these quotes and also for information paraphrased from another document. Secondly, the Refuge CCP states that there are 19 managed freshwater impoundments, not 10.

Page 50. 3.1.2.2. Table 4 should include the overall depth of the wells.

Page 53. 3.1.2.2. The water quality assessment seems to be based on two water samples taken from unknown depths. A more thorough water sampling study should be conducted.

Page 63. 3.1.4.1. The applicant states "no state-regulated wetlands are mapped on or near the site" While it may be accurate that there are no state-regulated wetlands on the site, there are state-regulated wetlands on the Refuge within a few hundred feet of the site and potential secondary impacts to these wetlands should be evaluated.

Page 65. 3.1.4.2. The applicant suggests that Center Marsh being periodically dewatered somehow makes it less attractive to bald eagles. All four eagle nests that are currently located within the wetland complex are located on impoundments that are periodically dewatered and they continue to nest successfully nearly every year. Dewatering an impoundment helps to regenerate the marsh and it in fact concentrates fish making it easier for eagles to catch prey. In impoundments where there is no active nest, many eagles (10+) have been seen foraging at one time. Additionally, Center Marsh contains a large and deep borrow ditch adjacent to the dike that nearly always contains open water, even when the rest of the pool is dewatered.

Page 66. 3.1.4.2. We were unable to find a Holt and Leasure (2008) reference in the Birds of North America (BNA). However, the Short-eared Owl section of the Birds of North America (No. 62) (2006) is available online and it appears that this is the reference that the applicant used. The applicant suggests that based on BNA No. 62 "short-eared owls are also known to frequent mines and quarries." In fact, BNA 62 states that short-eared owls "may use" gravel pits and rock quarries. This information is cited from an earlier paper written by R.J. Clark (1975) in which he lists "abandoned limestone quarry partially filled with stumps" and "abandoned gravel pit" as places where he found short-eared owl winter assemblages. Both of these areas are far different than the active stone quarry being proposed and to suggest that this area will somehow be attractive to short-eared owls once quarrying operations commence is misleading.

Page 96. 3.2.6. The applicant states that "sound levels at the overlooks will be mainly generated by traffic on Oak Orchard Ridge Road and background sounds from Route 63…sound levels are anticipated to be similar to…S-1…located on Sour Springs Road." Both overlooks are located much farther away from farm machinery than is site S-1 and we believe they may have significantly lower ambient noise levels. We suggest additional ambient noise readings be collected at both Schoolhouse and Ringneck Overlooks.

Page 126. 4.1.2.2.4. The analysis in item 2 assumes that the water level in Schoolhouse Marsh is 6 inches below the top of the "weir", allowing 6 inches of storage capacity in the marsh during a storm event. This is inaccurate since the water level in the marsh is often at or above the "weir" level. Ultimately, there is no way to know what the water level will be prior to a storm event. This analysis should be recalculated with the assumption that there is no water storage capacity available in the marsh at the start of a storm event.

Page 128. 4.1.2.2.4. The applicant states that "calculations indicate that the existing system has sufficient design capacity to transmit drainage, including storm events, without adverse structural issues." This statement seems to be based solely on analysis from Schoolhouse Marsh.

However, the flow of water from the quarry site travels through Schoolhouse Marsh, immediately to another, smaller wetland, then through a series of ditches within a managed grassland, then under State Route 77, then either into another managed wetland or through a 24" culvert, then into a large managed impoundment where it mixes with water from Oak Orchard Creek and eventually passes through a large water control structure and off the north boundary of the Refuge. We suggest the applicant provide detailed analysis of the potential hydrological impact to this entire wetland system, as it will all be affected by any change in water quantity or quality.

Page 129. 4.1.2.2.4. We find the applicants statement that " ...the quarry's impact beyond natural seasonal variations and storm events is insignificant" to be misleading. We feel that the continuous pumping of 251 gpm (or other volumes) of water into Refuge wetlands could be very significant. Natural seasonal variations in water levels will certainly be altered as will the ability of the wetlands to absorb storm events. Additionally, we are unable to fully understand the maximum amount of water that may be pumped onto the Refuge from the quarry as the applicant has not thus far provided those data.

Pages 185-186. 4.2.7.1 The applicant states that "impacts to hunting on the nearby Refuge are projected to be non-significant", that "the AOI extends into only a small fraction of the adjoining environment", and that "neither the woods, marshes or fields *(on the Refuge in the AOI)* are conducive to hikers." We do not concur. First, the applicant has not included blasting or truck traffic as part of their AOI noise zone determination and disturbance analysis. Second, the applicant has provided no data to quantify the level of recreational activity occurring in the area near the quarry site. Lastly, the statement that an area is not conducive to hikers is a values judgment. Different people have different perceptions regarding what is a quality recreation area.

Page 189. 4.2.7.1. The applicant states that "the Refuge receives nearly half its annual visitation during the months of March and April, which *(is)* outside the normal operating season of the project area." However on page 6 the applicant states that "mining and processing will normally occur from April to November...", showing that in fact the month of April is within the normal operating season.

Page 210. 5.2.7.1. We feel that the impacts to recreation on the Refuge have not been adequately addressed. The applicant has not included blasting and increased truck traffic noise in its analysis of disturbance to recreational users of the Refuge.

Page 212. 6.0 The applicant states that impacts of increased traffic on Sour Springs Road and Oak Orchard Ridge Road "will be satisfactorily mitigated." We are unclear how this is possible since the applicant has not provided a thorough analysis of the actual impacts.

Mined Land Use Plan

Page 13. 2.4.2. In this section and other areas throughout their documentation, the applicant states that the existing agricultural ditch on the site "is not a flowing feature" and that most of the time the ditch does not drain to the Refuge. They also often state that water will be pumped into

this ditch from the active quarry "to resume the pre-existing condition drainage pattern." We can find no data to support the first statement or any data that identifies the "pre-existing condition drainage pattern." We feel the applicant should provide daily water flow data for at least one full year for this ditch to allow a thorough analysis of the proposed quarry's impact to the hydrology of the Refuge. Additionally, we are unclear how the continuous pumping of 251 gpm of water through the ditch and onto the Refuge can be considered resuming the "pre-existing condition drainage pattern" of a ditch that is currently "not a flowing feature."

Vegetation and Wildlife Study and Ecological Resources Impacts Analysis

Page 4. 1.2.3. The applicant conducted two breeding bird surveys on the Refuge. While the timing of the June survey was appropriate, the July survey was too late to adequately assess use by breeding birds.

Page 9. 1.3.4.3. While the applicant conducted bird surveys adjacent to the quarry site, they did not conduct surveys adjacent to Sour Springs and Oak Orchard Ridge Roads. These areas will be affected by the quarry generated truck traffic and need to be surveyed to properly assess the potential impacts of this traffic.

Some of the species identified during the applicant's bird surveys (e.g., wood thrush, blue-winged warbler, hooded warbler) are on the Partners in Flight (PIF) Species of Continental Importance list. This list includes species that the PIF identified as having "the greatest range-wide concern, and which are in most need of conservation attention."

Additionally, the area of the Refuge adjacent to the quarry contains habitat types in which other species of concern (e.g. cerulean warbler, golden-winged warbler) breed, on other parts of the Refuge. These habitats may support these species adjacent to the quarry, even if they were not detected on the applicant's surveys.

Page 11. 1.3.5.2. The applicant states that "there is little mature forest habitat in the immediate vicinity of the site" as support for their suggestion that bald eagles are likely to not use the area of the Refuge adjacent to the quarry. However, their own bird surveys detected both scarlet tanager and ovenbird, two forest interior species known to prefer mature forests. Additionally, while eagles prefer to nest in large super canopy trees they are known to also nest in smaller trees, some as small as 18 inches in diameter. This area of the Refuge contains open water foraging areas and forested habitat, making it suitable for bald eagle nesting and foraging. While it may not be optimum habitat, it is certainly adequate. Also, over the life of the quarry (75+ years), the forest in this area will continue to mature, making it even more attractive eagle nesting habitat.

We were unable to find a Holt and Leasure (2008) reference in the Birds of North America (BNA). However, the Short-eared Owl section of the Birds of North America (No. 62) (2006) is available online and it appears that this is the reference that the applicant used. The applicant suggests that based on BNA No. 62 "short-eared owls are also known to frequent mines and quarries." In fact, BNA 62 states that short-eared owls "may use" gravel pits and rock quarries. This information is in fact attributed to an earlier paper written by R.J. Clark (1975) in which he

lists "abandoned limestone quarry partially filled with stumps" and "abandoned gravel pit" as places where he found short-eared owl winter assemblages. Both of these areas are far different than the active stone quarry being proposed and to suggest that this area will somehow be attractive to short-eared owls after quarrying operations commence is very misleading. If this is not the correct reference the applicant needs to provide us with additional reference information.

Page 12. 1.3.5.2. The applicant states that "the closest nesting area for *(Henslow's sparrow)* is ¾ mile west from the site", suggesting that these birds are nesting too far away from the site to be affected by quarry operations. However, this nesting area is bisected by a small ditch that will transfer any water pumped from the quarry onto the Refuge, making it vulnerable to any water quantity or quality impacts that may occur.

Page 19. 2.3.4. The statement that "no adverse modification of bald eagle habitat will occur from the quarry development" is misleading in that the applicant has not adequately addressed the potential disturbance to adjacent Refuge areas.

Pages 22-23. 2.7.2 There are several literature citations that we draw a different interpretation from the authors information. We provide the following analysis for your consideration.

Schueck *et al.* (2001) provides inconclusive information at best. The authors clearly state "during one period of intensive military training in one breeding season, raptor counts were lower during training than on non-training days." Also, "we observed fewer prey capture attempts on ranges on days with training than on days without training." While some response may vary based on species, training activity type and prey abundance, it is clear that, based on the results of this study, there is a level of bird disturbance associated with military training activities.

The statement that "northern harriers are thought to benefit from military training" based on Jackson et al. (1977) is not appropriate. This "study" was simply the observations of two people visiting a bombing range for one hour on one day and observing one bird.

Similar to Schueck *et al.* (2001), the results from Holthuijzen *et al.* (1990) are at best inconclusive. The applicant states that "behavior of incubating and brood rearing prairie falcons was not significantly altered." However, the paper's authors state "the overall response rate (i.e., the number of instances in which a change of behavior was observed)..." to blasting "was 54%." It is believed that incubating and brood rearing birds are much less likely to abandon a nesting area than a bird that has not yet laid eggs. The area of the Refuge adjacent to the quarry provides habitat for breeding as well as foraging migratory birds and resident wildlife. A disturbance during any time of year could have a significant negative effect on Refuge wildlife.

The study of red-cockaded woodpeckers by Doresky *et al.* (2001) is inappropriate for this evaluation because the authors admit that there was no difference in noise levels between their treatment and control areas. Therefore, they were measuring effects of noise disturbance in an area where there was no increased noise disturbance.

The applicant states that "Stalmaster and Kaiser (1997) showed that wintering bald eagles became habituated to helicopters..." However, the last sentence of these author's abstract states "our data suggest that ordinance explosions, low-level helicopter overflights, and boating should be restricted near eagle foraging areas."

The scientific literature contains many references supporting the notion that loud noises and human disturbance have a negative effect on wildlife. A balanced review of the literature in this area is necessary for a proper review of this proposal.

Page 24. 2.7.3. The applicant cites Allaire (1978) regarding minimum mining buffer distances. This citation is not listed in the References section and therefore can not be evaluated.

The statement that "mining operations will not occur closer than 600 feet from the INWR" is misleading. According to the Mining Plan Map, the constructed overburden berm on the south of the quarry will be less than 400' from the Refuge boundary. Since this berm will be constructed as part of the mining activities, we consider it to be part of the "mining operations."

The applicant provides no basis for the statement that blasting vibrations will be "an insignificant impact" to the Refuge.

Page 25. 2.7.3. The truck traffic volumes that TES is basing its analysis on (65 trips per day) does not match the 30 trucks per hour figure elsewhere in the documentation.

The Reijnen *et al.* (1995) study that the applicant uses to base their assertion that "there should be no effect on wildlife" is not supported by the reference. This study was conducted in deciduous and coniferous forests only. More than half of the area immediately adjacent to Sour Springs and Oak Orchard Ridge Roads is shrubland and grassland, with the remainder in forest cover, so the habitat types are not necessarily comparable. The cited study only looked at roads with between 10,000 and 60,000 vehicles per day. The applicant states that "based on this study, the proposed increase in traffic volumes would not cause significant noise disturbance to breeding birds." However, the authors of the cited study make no inferences about the affects of traffic on breeding birds along roads with lower traffic volumes. The applicant simply makes this assumption. In fact, based on the information in the applicant's documentation, they are unclear as to how much traffic might increase on this road (see Page 25. 2.7.3 comment above). It seems to us that the overall traffic volume is less relevant than what the increase in volume and noise level will be. The applicant has stated that these roads currently receive very low traffic volume. An increase in volume, especially by large trucks, may very well have a significant effect on area wildlife.

The applicant provides a comparison in the traffic volume on Sour Springs and Oak Orchard Ridge Roads to the volume on Route 63, to suggest that effects of traffic on wildlife will be minimal. However, the level of traffic on Route 63 is irrelevant to this analysis except to note that the Refuge is already negatively impacted by traffic and any increase in traffic, no matter how small, will likely compound the problem.

The applicants statement that "it appears that traffic has had no notable impact despite the fact that Route 63 bisects the Refuge" has no basis in fact. To our knowledge, there have been no studies to determine this impact.

Wetland Impact Assessment

The flow analysis conducted by the applicant seems to assume no obstruction to the flow of water through the wetland areas. In fact most of the flow areas are vegetated and this vegetation is dependent on historical flow regimes. Any change to these regimes may have negative impacts to the vegetative community. Additionally, flow analysis that doesn't take into consideration the existing vegetative obstructions will likely overestimate the ability of the system to pass increased water flows.

We can find no discussion regarding the water temperature of water pumped from the quarry onto the Refuge and how that temperature may affect Refuge vegetation, fish, wildlife, invertebrates, etc.

Groundwater Assessment

The applicant's analysis shows that in Phase 1 the water flow onto the Refuge will increase from 185 to 445 gpm or 241%. For phase 4 the increase is from 185 to 1084 gpm or 482%. This is a significant increase in flow, but the applicant insists throughout the document that there will be no effect on Refuge habitats and original drainage patterns will be maintained. The presented data do not seem to support these statements.

The applicant only provides average flow rates and no maximum or minimum flow rates.

Many references are made to the idea that previously mined areas (e.g., Phase 1) "can" be used to store water before discharging onto the Refuge, but there is no plan outlined for this strategy. Additionally, the water stored in these area will eventually have to be discharged, which will eventually result in an increased average flow (>251 gpm) during later phases of the mining operation. Also, the notion of pumping 251 gpm continuously is also just a statement that is not part of any outlined plan.

Thanks for the opportunity to review the document. As you are aware, we have been working with U.S. Geological Survey to conduct a water resources study in and around the Refuge. We have not received a final report on this study yet, but it will help enhance our knowledge of ground and surface water actions in this area.

Sincerely,

Thomas P. Roster
Refuge Manager

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

September 27, 2012

Via e-mail (hellert@continentalplacer.com) and U.S. Mail

John R. Hellert, Senior Geologist
Continental Placer Inc.
11 Winner's Circle
Albany, New York 12205

Re: Frontier Stone LLC, Proposed Shelby Quarry
Town of Shelby, Orleans County
DEC Application No. 8-3436-00033/00001

NOTICE OF INCOMPLETE APPLICATION

Dear Mr. Hellert:

The New York State Department of Environmental Conservation (DEC) has reviewed the additional information you provided with your letter of September 11, 2012 in support of the above-referenced application for an Article 23, Mined Land Reclamation permit. We received the additional information on September 12, 2012, which was sent in response to the Department's prior correspondence dated December 8, 2011.

The project involves the proposed construction of a 215.5± acre stone and agricultural lime quarry on approximately 269.45± acre parcel of land. The proposed site is located off Fletcher Chapel Road in the Town of Shelby, Orleans County, about 3.7 miles south of the Village of Medina. As proposed, the excavation area would total approximately 172 acres and mining operations would include blasting, crushing, and washing. In addition, the site would require dewatering during mining. The final reclamation would be a combination of wildlife open space and two lakes approximately 35 and 156 acres in size.

Based on our review we have determined that the application remains incomplete. The following additional information and items must still be addressed:

State Environmental Quality Review Act

1. As the lead agency pursuant to the New York State Environmental Quality Review Act (SEQRA), the Department has issued a positive declaration for this action. Before the application can be considered complete, the Department must accept a Draft Environmental Impact Statement (Draft EIS). The information provided in your letter response was submitted for the purpose of addressing technical questions/issues raised in our December 8, 2011 comment letter, but does not purport to be a revised Draft EIS for acceptance. We appreciate the opportunity to review the technical information in a non Draft EIS format, which helps facilitate our review. Prior to accepting the application as complete, a revised Draft EIS will need to be provided that incorporates the responses you have provided with the recent re-submission, subject to further revision in accordance with the additional comments that are being provided below in response to your September 11, 2012 package.

Application Documents

2. As noted in your response (page 1), all necessary permit application forms will be properly completed and submitted with your final Draft EIS submission. The application will remain incomplete until the Department's receipt of properly completed application forms. In addition to forms necessary for the Article 23, Mined Land Reclamation Permit, please also provide updated and properly completed forms for all other necessary DEC permits for this proposal (See 6 NYCRR Part 621.3 (a) (4)) with your submission of the final Draft EIS submission. According to the Draft EIS version submitted in August, 2011 (p. 34) the proposal also requires SPDES and Air permits from the Department. Therefore, please also address the following:
   a. As currently proposed, the mine would require coverage under the SPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Actvities and would need to meet the requirements identified in Part VIII. Sector J of that permit (information available on-line at: http://www.dec.ny.gov/chemical/9009.html). Please discuss the specific stormwater pollution prevention plan and effluent limitations required by this permit in the revised Draft EIS and provide a completed SPDES Multi-Sector General permit Notice of Intent form.
   b. Section 4.1.3 of the Draft EIS (revised August, 2011) indicates that the processing equipment will operate under a DEC-issued air permit. However, we were unable to locate information in the Draft EIS or Mined Land Use Plan that indicates the specific capacities of the proposed processing equipment. Please provide the maximum capacities of the processing equipment in tons per hour, and any other information relevant to determining potential emissions of regulated contaminants, so that an accurate determination regarding the applicable air permitting (or registration) requirements can be made. If an air state facility is required for this facility, the necessary application form(s) must be submitted.

Draft EIS Response Comments

3. Traffic – The Department has evaluated the additional information and responses provided regarding potential traffic impacts. Please address the following in the revised Draft EIS:
   a. The applicant appears to have addressed the feasibility of the different scenarios for truck traffic distribution, however, it is unclear as to what is being proposed. Based on the June, 2012 traffic study, it would appear that a mine entrance from Sour Springs Road is not viable given the intersection geometry at Sour Springs Road and Fletcher Chapel Road, and that the mine entrance will be located off Fletcher Chapel Road. However this is not clearly presented as the preferred alternative and the Draft EIS should clearly indicate the proposed traffic routing and mine entrance alternative in all sections of the document where such information is presented and discussed, including the supporting Mined Land Use Plan.
   b. While the June, 2012 Traffic Study indicates the peak truck traffic volume would be 240 trips per day, several of the comment responses provided (e.g., pp. 36 and 48) indicate that the maximum truck trips would be 480. This discrepancy should be clarified and, if necessary, the Traffic Study revised accordingly. In addition the revised Draft EIS should provide an analysis based on accurate and consistent traffic estimates.

4. Blasting/Noise – Based on the response provided to Comment No. 5, it is unclear how was it determined what portion of the airblast was to be removed. Specifically, how was the inaudible portion calculated/determined which resulted in the 70.42 decibel reduction depicted on Table 2? Also, that portion or percent of the airblast that falls above and below 20 Hz should be identified.

5. Hydrology and Dewatering – The Department has evaluated the additional information and responses provided regarding potential hydrology and mine dewatering impacts. Please address the following in the revised Draft EIS:
   a. The maximum gallons per minute (gpm) discharge rate needs clarification. The re-submission indicates that the monthly average discharge rate for March will be 385.6 gpm, Alpha indicates that the annualized average will be 259.67, and the Continental report provides a range of 104 to 694 gpm. To allow the Department to fully address surge pumping and the maximum gpm rating that will occur in its evaluation of impacts and permit decision, please clearly identify the maximum rate of pumping that will not be exceeded at any time through the life of the operation and its estimated duration. Please note that this information will also be further evaluated to determine whether the anticipated alteration of water levels in State-regulated freshwater wetland A-5 (Class I), the receiving wetland, will require an Article 24, Freshwater Wetland permit pursuant to 6 NYCRR Part 663. If an Article 24, Freshwater Wetland permit is required, a Joint Application Form and supporting documents will be required.
   b. The response includes a brief discussion on an alternative discharge to Fish Creek. If this will be used as an alternative, a specific proposal, triggers, and evaluation will be required to be presented in the revised Draft EIS. Any plan developed for alternative discharges should also address comments and concerns that may be raised by the US Fish & Wildlife Service, and further coordination with that agency regarding water discharges is encouraged.
   c. With respect to the response for Comment No. 8, the Alpha report indicates that the area of influence (AOI) will extend from the face of the quarry, however, Figure 12 of the last revised Draft EIS shows the AOI originating from the center of the project area. This should be depicted from the quarry perimeter in the next revised Draft EIS.
   d. With respect to the response provided for Comment No. 9, the new monitoring well locations will need to be identified on the Mining Plan Map. In addition, the residential well survey identified one shallow overburden well adjacent to the proposed quarry, and specific details for the majority of the wells within the area of influence has not been obtained. Therefore, overburden monitoring also needs to be added to the plan. Finally, if a permit is issued for this site, well monitoring would be required (from the initiation of pumping) weekly for the first six months, monthly for the first two years, and every two months thereafter.

6. Fish and Wildlife – The response letter indicates that the cerulean warbler is not listed in New York State as threatened, endangered, or special concern. This is incorrect. This species is listed in New York State as a species of special concern.

7. Cultural Resources – The only determination from the New York State Office of Parks, Recreation, and Historic Preservation (OPRHP) regarding cultural resources to date is their March 5, 2007 letter that pertains only to the proposed mining phases 1 and 4. The revised Draft EIS must reflect the limited nature of the Phase 1B testing performed, and the need for additional Phase 1B archaeological testing and OPRHP review for proposed mine phases 2 and 3 prior to any mining activities being conducted in those phases. Depending on the results of any additional phase 1B testing, further avoidance or archaeological investigations may also be required for proposed mining phases 2 and 3.

8. Please revise the DEC contact person on the cover page of the Draft EIS to indicate the following: Scott E. Sheeley, Regional Permit Administrator, NYSDEC Region 8, 6274 E. Avon-Lima Rd., ph. 585-226-5382, fax 585-226-2830, e-mail: sesheele@gw.dec.state.ny.us.

9. Section 4.1.4.3 of the Draft EIS (August, 2011) references State-regulated freshwater wetlands MD-3 and OK-1. However, freshwater wetland A-5 is nearer to the southern boundary of the mine site than either freshwater wetland MD-3 or OK-1. Either the reference to freshwater wetland OK-1 should be revised to read A-5, or freshwater wetland A-5 should be added to the list of wetlands identified.

The Department has determined that a revised Draft EIS that incorporates the responses provided in your September 11, 2012 comment response package, and satisfactorily addresses the additional comments provided by the Department above, would likely be adequate for formal public distribution and review. As a result, with your next submission please provide five electronic copies of the fully revised Draft EIS on DVD or CD-ROM for our review. Upon our determination that the revised Draft EIS is adequate, we will request a sufficient number of hard copies for formal acceptance and public distribution. Please also note that once formally accepted, the Draft EIS will also have to be made available to the public on-line. To facilitate on-line posting, we recommend that you or your client establish a website location/address where the documents would be posted and also provide the Department with the address. The website address will be needed for the purposes of noticing the Department's acceptance of the Draft EIS.

This letter is designed to address items necessary to complete the application. It is not a permit decision or an endorsement of any alternatives or mitigation scenarios which have been included in your submissions.

We remain available to meet and discuss any of the above items, should you or your client feel that it would be helpful. If you have any questions about this notice, or would like to schedule a meeting to discuss this application, please call me at (585) 226-5382. Thank you.

Sincerely,

Scott E. Sheeley

Scott E. Sheeley
Regional Permit Administrator

Cc: Steve Army, DEC Region 8
Heidi Kennedy, DEC Region 8
Dixon Rollins, DEC Region 8
Leo Bracci, DEC Region 8
Frontier Stone, LLC
Kevin Brown, Esq.
Supervisor, Town of Shelby
US Fish & Wildlife Service, Iroquois National Wildlife Refuge

New York State Department of Environmental Conservation
Environmental Permits, Region 8
6274 East Avon-Lima Rd, Avon NY 14414-9516
Phone: (585) 226-5400 • **Fax:** (585) 226-2830
Website: www.dec.ny.gov

Joe Martens
Commissioner

February 15, 2013

Via e-mail (hellert@continentalplacer.com) and U.S. Mail

RECD FEB 21 2013

John R. Hellert, Senior Geologist
Continental Placer Inc.
11 Winner's Circle
Albany, New York 12205

Re: Frontier Stone LLC, Proposed Shelby Quarry – DEIS Information Request
Town of Shelby, Orleans County
DEC Application No. 8-3436-00033/00001

Dear Mr. Hellert:

The New York State Department of Environmental Conservation (DEC) has reviewed the revised, preliminary Draft Environmental Impact Statement (Draft EIS), which we received on CD-Rom on January 17, 2013.

Based on our review of the revised, preliminary DEIS we have determined that additional revisions are necessary before the document can be accepted for public review and comment. Please address the following items:

1. Air Quality:
   a. Section 4.1.3 of the revised Draft EIS indicates that the processing equipment will operate under a DEC-issued air permit. However, we were still unable to locate information in the Draft EIS or Mined Land Use Plan that indicates the specific capacities of the proposed processing equipment. Please provide the maximum anticipated capacities of the processing equipment in tons per hour, and any other information relevant to determining potential emissions of regulated contaminants.
   b. The Draft EIS contains a summary of potential fine particulate matter emissions for purposes of addressing DEC's policy on fine particulate matter (CP-33). However, the potential emissions inventory provided in Section 4.1.3 (Table 14) of the Draft EIS only includes sources from processing equipment. To adequately address the DEC's policy, the particulate matter emissions inventory must also estimate emissions from non-process, fugitive sources (e.g., traffic on unpaved roads, material stockpiles, other areas of exposed soils, etc.). Please revise Section 4.1.3 to add non-process, fugitive particulate matter sources to the emissions inventory. The methods, calculations, and assumptions for emission estimates should also be provided in the appendix of the Draft EIS. If the potential fine particulate matter emissions would exceed the 15 tons/year threshold contained in DEC Policy CP-33, the additional modeling required by the policy would also need to be included in the revised Draft EIS.

2. Traffic: The revised Draft EIS now contains two reports in Appendix 8 related to traffic: one report dated June, 2012, and another report last revised January 2013. These traffic studies provide differing daily and hourly truck volume estimates. In addition, Section 4.2.3 of the Draft EIS discusses a maximum, "worst case" truck traffic volume of 30 trucks per hour. However, the January, 2013 Traffic Study indicates the peak truck traffic volume would be up to 60 trucks per

hour (entering and exiting combined). The revised Draft EIS should provide an analysis based on accurate and consistent traffic estimates. Accordingly, a maximum of 60 trucks per hour should be reflected in the Draft EIS discussion contained in Sections 1.2.3.5 and 4.2.3, and the conflicting information contained in the June 2012 and January 2013 traffic analyses should be reconciled or combined into a single traffic study for the proposal.

3. Noise: Based on a review of the noise analysis provided in Section 4.2.6 of the Draft EIS, the following items should be addressed:
   a. Based on the locations of noise receptors provided Figure 11, Tables 13 and 16 appear to have receptor locations S-4 and S-5 switched.
   b. A figure showing the locations of mine operating scenarios described on page 159 would be helpful.
   c. The noise source in Table 21 is unclear, and does not appear to reflect the addition of sources under scenarios 1-3, which would appear to be approximately 76 dBA.
   d. Some of the distances provided in Level 1 calculations in Appendix 9, do not match the distances between receptors and excavation phases provided in Table 16. It is unclear why there is a difference in the distances used. Please clarify.
   e. It is unclear why an additive source noise level of 75 dBA is used for evaluating potential impacts on the Job Corps Center. This is not consistent with the calculations in Appendix for Scenarios 1-3. In addition, we note that the source noise value for the loader/crusher in evaluating the Job Corps Center (p. 160) is 71 dBA, whereas it is shown as 72 dBA elsewhere in the anlaysis.
   f. A figure should be added to the Draft EIS to show the locations, and distances from the mine, of the other receptors discussed on page 161: Job Corps Center, Schoolhouse Marsh, and Ringneck Marsh.
   g. No data is provided in the Draft EIS or Appendix 9 for ambient noise measurements presented in Table 22. The data records must be provided in Appendix 9 or in the Draft EIS.
   h. There appears to be an incorrect reference to Table 23 on page 161 of the Draft EIS. It appears that it should reference Table 24 instead.

4. Cultural Resources: The Department supports the discussion in the revised Draft EIS that reflects the limited nature of the Phase 1B testing performed, and the need for additional Phase 1B archaeological testing and Office of Parks Recreation and Historic Preservation (OPRHP) review for proposed mine phases 2 and 3 prior to any mining activities being conducted in those phases. In addition, the Draft EIS acknowledges that the results of any additional phase 1B testing and review by OPRHP will determine the need for further archaeological investigations for proposed mining phases 2 and 3. However, Section 5.2.7 of the Draft EIS should indicate that, upon consultation with OPRHP and DEC, mitigation measures will be implemented to avoid or mitigate impacts to any sites identified during further archaeological investigations conducted in mining Phases 2 and 3.

5. Fish and Wildlife: In addition to the above a few miscellaneous, minor corrections and comments regarding fish and wildlife should be addressed at the same time:
   a. Page 15 of the Draft EIS indicates that operation of the mine would not coincide with deer hunting season. However, early bow season now begins on October 1st in the southern zone, with the regular season beginning the third Saturday of November. If the quarry operates April to November deer hunting will coincide with the quarry operation.
   b. The September 2012 response letter stated that a typical blast will attenuate to ambient dBA levels at a distance of about 500 feet into the INWR. This information should be included in the discussion on Page 27 and in the summary on page 29 of Appendix 6.

c. Osprey is listed in Table 3 of Appendix 6, "Wildlife Observations on the Proposed Shelby Quarry Site 2006 – 2010" and in table 5B, "Birds Recorded Per 10-Minute Point Count Adjacent to Oak Orchard Ridge Road and Sour Springs Road". Because Osprey is a state species of special concern, some discussion should be included regarding this species since it was observed on the site (for instance it should be included when species of special concern are mentioned and discussed). There are currently two active osprey nests on the nearby Ring Neck Marsh.

d. On page 11 of Appendix 6 it states "there are a total of four known bald eagle nest sites within the INWR and the adjoining Tonawanda Wildlife Management Area." This should be corrected to state that there are four known bald eagle nests within the INWR and adjoining Tonawanda and Oak Orchard Wildlife Management Areas

The Department has determined that a revised Draft EIS that addresses the above comments is required.. When available, please provide five electronic copies of the revised Draft EIS on DVD or CD-ROM for our review.

We remain available to meet and discuss any of the above items, should you or your client feel that it would be helpful. If you have any questions about this notice, or would like to schedule a meeting to discuss the Draft EIS, please call me at (585) 256-5382. Thank you.

Sincerely,

Scott E. Sheeley

Scott E. Sheeley
Regional Permit Administrator

Cc: Steve Army, DEC Region 8
Heidi Kennedy, DEC Region 8
Dixon Rollins, DEC Region 8
Tom Marriott, DEC Region 8
Frontier Stone, LLC

New York State Department of Environmental Conservation
Environmental Permits, Region 8
6274 East Avon-Lima Rd, Avon NY 14414-9516
Phone: (585) 226-5400 • **Fax:** (585) 226-2830
Website: www.dec.ny.gov

Joe Martens
Commissioner

May 3, 2013

Via e-mail (hellert@continentalplacer.com) and U.S. Mail

John R. Hellert, Senior Geologist
Continental Placer Inc.
11 Winner's Circle
Albany, New York 12205

REC'D MAY 08 2013

Re: Frontier Stone LLC, Proposed Shelby Quarry
Town of Shelby, Orleans County
DEC Application No. 8-3436-00033/00001

NOTICE OF INCOMPLETE APPLICATION

Dear Mr. Hellert:

The New York State Department of Environmental Conservation (DEC) has reviewed the additional information you provided with your letter of March 21, 2013 regarding the preliminary Draft Environmental Impact Statement (DEIS) for the above-referenced permit application.

Based on our review we have determined that DEIS is not yet adequate for acceptance and the application remains incomplete. The following additional information and items must still be addressed:

State Environmental Quality Review Act

1. As the lead agency pursuant to the New York State Environmental Quality Review Act (SEQRA), the Department has issued a positive declaration for this action. Before the application can be considered complete, the Department must accept a Draft Environmental Impact Statement (Draft EIS). The information provided in your letter response was submitted for the purpose of addressing technical questions/issues raised in our February 15, 2013 comment letter, but does not purport to be a revised Draft EIS for acceptance. We appreciate the opportunity to review the technical information in a non Draft EIS format, which helps facilitate our review. Prior to accepting the application as complete, a revised Draft EIS will need to be provided that incorporates the revisions noted below.

Application Documents

2. As noted in your letter dated September 11, 2012, all necessary permit application forms will be properly completed and submitted with the final Draft EIS submission. The application will remain incomplete until the Department's receipt of properly completed application forms. In addition to forms necessary for the Article 23, Mined Land Reclamation Permit, please also provide updated and properly completed forms for all other necessary DEC permits for this proposal (See 6 NYCRR 621.3 (a) (4)) with your submission of the final Draft EIS submission.

   In this regard, revised regulations became effective April 1, 2013 for the withdrawal of water in New York State (6 NYCRR Part 601). These regulations require a water withdrawal permit for the withdrawal of water over 100,000 gallons per day, which includes systems designed to dewater mining operations. Since the proposed operation would exceed this threshold, a water withdrawal

permit will be required and a permit application must be provided. Application materials and instructions for water withdrawal permit applications are available on the DEC website at: http://www.dec.ny.gov/permits/6377.html .

Draft EIS Response Comments

3. Traffic – The Department has evaluated the additional information and responses provided regarding potential traffic impacts. Based on information provided in your letter, the DEIS, including the June 2012 and January 2013 studies, still contains inconsistent references to the volume of traffic estimated. All DEIS references to traffic volumes should clearly indicate whether the data being provided for a truck "trip" is a one-way figure or two-way figure. Please address the following in the revised Draft EIS:

   a. Average Truck Volume Estimate: Using the assumptions provided in Section V.B of the January 2013 traffic study, which are noted below, the average volume of truck traffic would be approximately 128 trips (one-way) per day. However, the text of the DEIS (Section 4.2.3) indicate that the average will be 8-10 trucks per hour, and the 2013 traffic study indicates 65 "trips" per day. Further, page 6 of your March 21 letter indicates in the DEIS "the same numbers of truck trips are consistently used, 8 to 10 (one-way) for the average and 30 truck trips (one-way) for a worst case."

      350,000 tons per year ÷ 220 working days per year ÷ 8 hours per day ÷ 25 tons per truck ≈ 8 ***full*** trucks per hour.

      Therefore, this would equal 16 truck "trips" per hour, with one empty truck arriving and one full truck departing the site.

      16 "trips" × 8 hours/day* = **128 "trips" per day average.**
      (* we note that the proposed hours of operation in the Mined Land Use Plan are actually 12 hours per day M-F).

   b. Peak Truck Volume Estimate: As noted above, your letter response dated March 21 (p. 6) indicates that the worst-case truck volume would be 30 "one-way" trips per hour. However, a reference to the January 2013 report appearing just above this statement in the same letter indicates that the peak hours would generate 60 total truck trips during the AM and PM peak hours. If the reference to 8-10 trucks per hour is a one-way reference pertaining to *full* trucks, as noted above, then it would appear that a one-way 30 truck per hour peak would equate to up to 60 truck ***trips*** per hour (both full and empty). Therefore, contrary to the 240 "trips per day" peak referenced in your letter (p. 6), this would result in a peak of approximately 480 truck trips for an 8-hour day*.

4. The DEIS will need to be revised to indicate that a Part 601 Water Withdrawal permit is required for the proposed project.

5. Air Quality: It would appear that the revised emissions inventory shows that further air modeling under the DEC Commissioner's Policy on Fine Particulate Matter (CP-33) will not be needed since the potential emissions will be below the applicable 15 ton per year threshold. However, staff is not familiar with the "AIRS uncontrolled factor" used to estimate the emissions from the primary and secondary crushers, and cannot verify that the estimated emissions are accurate. The use of the "AIRS uncontrolled factor" will need to be explained in more detail in the emissions inventory provided in the DEIS and other relevant documents.

6. Wildlife: Please note that since our February 15, 2013 letter, DEC staff have observed an active osprey nest on the site on the existing powerline right-of-way. Ospreys are listed in New York State as a "special concern" species. This information should be included and discussed in the DEIS.

In addition to the above, it is our understanding that revisions to the DEIS will be made concerning potential groundwater impacts and expanded mitigation measures. Prior to the submission of a response to this letter, we anticipate discussing potential groundwater impacts and alternatives to the currently proposed mitigation measures with you and your client at a meeting in the near future.

This letter is designed to address items necessary to complete the application and address additional information that will be need to be included in the DEIS. It is not a permit decision or an endorsement of any alternatives or mitigation scenarios which have been included in your submissions.

We remain available to meet and discuss any of the above items, should you or your client feel that it would be helpful. If you have any questions about this notice, or would like to schedule a meeting to discuss this application, please call me at (585) 256-5382. Thank you.

Sincerely,

Scott E. Sheeley

Scott E. Sheeley
Regional Permit Administrator

Cc: Steve Army, DEC Region 8
Heidi Kennedy, DEC Region 8
Dixon Rollins, DEC Region 8
Tom Marriott, DEC Region 8
Leo Bracci, DEC Region 8
Frontier Stone, LLC
Kevin Brown, Esq.

New York State Department of Environmental Conservation
Environmental Permits, Region 8
6274 East Avon-Lima Rd, Avon NY 14414-9516
Phone: (585) 226-5400 • **Fax:** (585) 226-2830
Website: www.dec.ny.gov

Joe Martens
Commissioner

September 12, 2013

Via e-mail (hellert@continentalplacer.com) and U.S. Mail

REC'D SEP 16 2013

John R. Hellert, Senior Geologist
Continental Placer Inc.
11 Winner's Circle
Albany, New York 12205

Re: Frontier Stone LLC, Proposed Shelby Quarry
Town of Shelby, Orleans County
DEC Application No. 8-3436-00033/00001

Dear Mr. Hellert:

The New York State Department of Environmental Conservation (DEC) has reviewed the additional information you provided with the draft application materials and additional technical information we received on June 14, 2013 regarding the above-referenced permit application. These materials included draft responses to the items listed in our prior letter dated May 3, 2013 regarding the preliminary Draft Environmental Impact Statement (DEIS), and information discussed at our meeting with you and other project representatives on May 15, 2013.

Based on our review of the information submitted we are providing the following comments:

Hydrology and Groundwater Impacts
Comments 1-7 below have been provided by Steve Army, Division of Mineral Resources, concerning the additional information provided to address potential hydrology and groundwater impacts.

1. A tax map should be submitted which identifies all parcels and current owners that will be impacted by dewatering along Sour Springs Road, and may be impacted along South Wood Road in the vicinity of the proposed quarry. Also, please provide complete copies of all documents evidencing legal commitments Frontier Stone has made to address those impacts and plans to make those arrangements for properties where no commitments are presently in place.

2. The slot cut should be extended the entire length of the northern mine limits adjacent to Fletcher Chapel Rd. A second slot cut should also be identified along the eastern boundary to mitigate potential impacts along South Wood Rd. If the second slot cut is not proposed, alternative mitigation / landowner agreements will be necessary.

3. How will the slot cut be excavated/constructed? Will the 2:1 side sloped be vegetated, or will riprap extend from the rock bench to the water line? The narrative indicates that the water elevation in the slot cut will be maintained at an elevation of approximately 624 feet. How will this be accomplished? Will a control structure be utilized?

4. Describe the timing of construction of the slot cut as it relates to impacts, drawdown, and monitoring well data. What will trigger the installation?

5. The plan view shows the cut to be approximately 75 feet in width, however, this does not account for the side slopes and overall footprint of the structure on the map. The cross section shows the width of the top of the cut and slopes to be approximately 190 feet.

6. A narrative discussion/description needs to explain how the slot cut will function, how recharge will be achieved, pumping rates, hydrogeologic support, etc. More information is needed on how and why this will work, along with how this will address/mitigate impacts caused by dewatering.

7. The potential for groundwater quality impacts caused by pump induced recharge needs to be discussed.

Additional Comments

8. Traffic - The revised text provided is sufficiently clear to explain the traffic volumes expected from the project. Please ensure that the relevant sections of the DEIS are revised to include the same information.

9. Wildlife - The proposed revision sufficiently discloses current information concerning the observation of an osprey nest on the power line corridor that intersects the site.

10. Water Withdrawal Application – The water withdrawal application will have to be revised as follows:
    a. Section II of the Water Conservation Program Form will require each "source" to be identified, along with its type, status, capacity etc. For purposes of this type of operation, a source would include an individual pump or well.
    b. Information is needed in Section III of the Water Conservation Program Form to identify how the volume of dewatering discharges will be measured and recorded. This information will also be needed by the Department for purposes beyond water withdrawal permitting requirements.
    c. When items concerning the technical issues identified above are addressed, the application forms would need to be signed by the applicant.
    d. Division of Water staff is continuing a technical review of the draft water withdrawal application materials. If there is technical information identified that would be needed to determine that the water withdrawal application is complete, you will be advised as soon as such information is identified.

12. Freshwater wetlands - Based on the facts, assumptions, analysis and conclusions stated in the Terrestrial Environmental Specialists, Inc. report dated January, 2013, and because the off-site wetland, state-designated Freshwater Wetland MD-3, appears to have the capacity to accept the dewatering discharge within the United State Fish and Wildlife Service's management regime, we are not requiring an Article 24 permit at this time. We reserve the right to do so at a later date during the course of the review of the pending applications or otherwise. We retain the ability to evaluate off-site wetland impacts within the scope of our authority under the other regulatory programs administered by the Department. This includes SEQRA, the MLRL, the SPDES program and the water withdrawal program under ECL Article 15. This position should not be interpreted to mean that we have accepted or agree with your contention that the Department lacks jurisdiction to regulate activities, occurring more than 100 feet from regulated wetlands, that may impact regulated wetlands and adjacent areas.

This letter is designed to address items necessary to complete the DEC applications and address additional information that will be need to be included in the DEIS. It is not a permit decision or an endorsement of any alternatives or mitigation scenarios which have been included in your submissions.

We remain available to meet and discuss any of the above items, should you or your client feel that it would be helpful. If you have any questions about this notice, or would like to schedule a meeting to discuss this application, please call me at (585) 256-5382. Thank you.

Sincerely,

Scott E. Sheeley

Scott E. Sheeley
Regional Permit Administrator

Cc: Frontier Stone, LLC
Kevin Brown, Esq.
Greg Brown, Esq

Ecc: Leo Bracci, DEC Region 8
Tom Marriott, DEC Region 8
Steve Army, DEC Region 8
Scott Jones, DEC Region 8
Heidi Kennedy, DEC Region 8
Scott Rodabaugh/Dave Pratt, DEC Region 8

New York State Department of Environmental Conservation
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6274 East Avon-Lima Rd, Avon NY 14414-9516
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Website: www.dec.ny.gov

Joe Martens
Commissioner

December 23, 2013

Via e-mail (hellert@continentalplacer.com) and U.S. Mail

REC'D DEC 27 2013

John R. Hellert, Senior Geologist
Continental Placer Inc.
11 Winner's Circle
Albany, New York 12205

Re: Frontier Stone LLC, Proposed Shelby Quarry
Town of Shelby, Orleans County
DEC Application No. 8-3436-00033/00001

Dear Mr. Hellert:

The New York State Department of Environmental Conservation (DEC) has reviewed the revised Draft Environmental Impact Statement (Draft EIS) dated October 15, 2013 for the above referenced project, which we received on October 22, 2013. Included with this information was an electronic copy of the Draft EIS text in Word. This version of the Draft EIS incorporated many of the Department's prior comments.

Based on our review of the revised Draft EIS, the Department believes that it satisfactorily addresses most of our prior comments and with the revisions noted below incorporated, would be adequate to accept for public review and comment:

Wildlife

1. Several corrections and revisions have been made in the Word version of the document related to hunting seasons and short-eared owls. A copy of the Word file with the proposed changes in "tracked changes" is attached to the e-mail copy of this letter. With the acceptance of the revisions to the wildlife information proposed by Department staff, we believe the Draft EIS would be adequate for public review.

Traffic

2. Several minor corrections and revision have been made in the Word version of the document related to traffic to ensure that the traffic information is presented consistently throughout. A copy of the Word file with the proposed changes in "tracked changes" is attached to the e-mail copy of this letter. With the acceptance of the revisions to the traffic information proposed by Department staff, we believe the Draft EIS would be adequate for public review.

Noise Impact Assessment

3. There were numerous revisions that you incorporated into the October 15, 2013 version of Draft EIS related to the assessment of noise impacts. Based on our review of the revised information you provided, the next version of the Draft EIS should address the following:
   a. Tables 19-22 are all provided purportedly to indicate noise levels that are expected to be generated by the proposed operations. However, these tables contain differing sound levels for similar equipment and it is unclear how the projected noise level scenarios presented in Section 4.2.6 were developed. In an e-mail dated December 13, 2013 you provided revised calculations for projected noise levels. As discussed previously, these values need to be used

to revise the noise analysis and the Draft EIS accordingly. It may be beneficial to forward the revised noise information to us separately, in electronic format, prior to sending the hard copies of the Draft EIS noted below. This would allow us an opportunity to quickly confirm that the noise evaluation has been satisfactorily revised prior to your client incurring the expense of copying and assembling the hard copies.

b. The "Noise Receptor Diagram" should be provided with a Figure Number for reference, and then added to the Draft EIS table of contents. In addition, the figure should include labels for noise receptors as described and discussed in the text of the Draft EIS and Appendix 9 (e.g., as "S-1", "S-2", "S-3" in Appendix 9 and Table 18, and "Receptor Stations #1, #2, #3" in Table 23).

This letter is designed to address items necessary to complete the DEC applications and address additional information that will be need to be included in the DEIS. It is not a permit decision or an endorsement of any alternatives or mitigation scenarios which have been included in your submissions.

As discussed previously, eight hard copies of the Draft EIS should be provided to the Department for distribution and public review, along with a full electronic copy. The electronic copy should include a revised versions of the Draft EIS text in Word and Adobe *.pdf. In addition, you should begin making arrangements to have a complete copy of the Draft EIS in an electronic form that can be posted on-line. We expect that Frontier Stone will set up a website for that purpose, and be able to provide the Department with the website address. The website address will be incorporated into the Department's notices concerning the project.

In addition, during the public comment period on the Draft EIS, the Department will conduct a legislative public SEQR hearing on the Draft EIS. Our notices will explain the time, location and purpose of the hearing, and so you may wish to begin inquiring about potential hearing location venues and availability.

Upon our formal acceptance of the Draft EIS, we anticipate also deeming the several permit applications related to this proposal complete under the NYS Uniform Procedures Act (UPA). In that respect the comment period of the Draft EIS under SEQR, would also serve as the public comment period on complete applications for purposes of UPA.

We remain available to meet and discuss any of the above items, should you or your client feel that it would be helpful. If you have any questions about this notice, or would like to schedule a meeting to discuss this application, please call me at (585) 256-5382. Thank you.

Sincerely,

Scott E. Sheeley

Scott E. Sheeley
Regional Permit Administrator

Ecc (w/attachment):
Steve Army, DEC Region 8
Heidi Kennedy, DEC Region 8
Scott Rodabaugh/Dave Pratt, DEC Region 8
Tom Marriott, DEC Region 8
Scott Jones, DEC Region 8
Leo Bracci, DEC Region 8
Frontier Stone, LLC
Kevin Brown, Esq.

Notice of Intent to Prepare a Draft EIS and Scoping Outline for Public Comment

Positive Declaration
Determination of Significance
Notice of Intent to Prepare A Draft EIS
and Availability of Scoping Outline for
Public Comment

Project Number:
DEC 8-3436-00033/00001
MLR #0823

Date: 5 June 2006

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.

The New York State Department of Environmental Conservation, as Lead Agency, has determined that the proposed action described below may have a significant effect on the environment and that a Draft Environmental Impact Statement (dEIS) will be prepared. In addition, a draft scoping outline for the dEIS is available for public review and comment. The comment period will extend for thirty days following the publication of this Notice in the official newspaper for the Town of Shelby. Copies of the scoping document are available at the Shelby Town Hall and from the Contact Person listed at the end of this Notice. A public scoping meeting will be held on Tuesday, the 27th of June at 7:00 pm, in the Shelby Town Hall on 4062 Salt Works Road in Medina, New York. Written comments on the scope will be accepted until 14 July 2006.

Name of Action: Frontier Stone, LLC, Shelby Quarry

SEQR Status: Type I

Description of Action: Frontier Stone LLC, proposes to develop and operate a 215.5 acre dolomite/limestone quarry on a 269.45 acre parcel. The excavation area totals 174.1 acres and mining is divided into four phases over the estimated 75 year operational life of the facility. Quarrying will be conducted by standard drill and blast technology with front end loaders feeding an in-pit primary crusher with shot rock from the muck pile. The primary crusher will follow the advancing face. Rock will be conveyed to the processing plant at the land surface by conveyor for further processing. Mining will occur below the water table and the project includes dewatering. Wash water used in the processing facility will be drawn from groundwater and surface water accumulating in the pit and recirculated for reuse. Settling ponds will be located in the plant area; no offsite discharge will occur from these ponds. The site will be reclaimed by grading, replacement of topsoil, revegetating upland areas with an approved seed mix, and the creation of two lakes. The lakes, separated by the existing utility line, are approximately 38.9 and 161.2 acres. The first 50 feet of shore below the water surface will be less than 5 feet deep. The reclamation objective will be to create recreational lakes/wildlife habitat.

Location: The proposed mining site is approximately 3.7 miles south of Medina, and is located south of Fletcher Chapel Road and bounded generally by Sour Spring Road on the west and South Wood Road on the east. The facility is located in the Town of Shelby, Orleans County.

Reasons Supporting This Determination:

Issues have been raised regarding the project's potential for adverse impacts to wildlife, increased noise and dust, traffic, ground water/surface water quantity and quality within the project area, and impact to wildlife and wildlife habitats found in and adjacent to the Iroquois National Wildlife Refuge.

SEQR Positive Declaration

For Further Information:
Contact Person: David L. Bimber
Address: NYSDEC, 6274 East Avon-Lima Road, Avon, New York 14414
Telephone Number: 585-226-5401
E-Mail Address: dlbimber@gw.dec.state.ny.us

A copy of this Notice Sent to:

Commissioner, Department of Environmental Conservation, 625 Broadway, Albany, New York 12233

Regional Office of NYS DEC
Supervisor, Town of Shelby
Applicant
Other Involved Agencies and interested parties

6/14/M
#14504881

STATE OF NEW YORK

ORLEANS COUNTY,} SS._____

Dawn S. Miller, of said county, being duly sworn, deposes and says that she is now and during the whole time hereinafter mentioned was the Legal Clerk of

The Medina Journal Register

A newspaper published in the County and State aforesaid, and that the annexed printed legal #_____ was printed and published in said paper at least _____ a week for _____ successive weeks, commencing on the _____ day of _____ and ending on the _____ day of _____, 2006.

Principal Clerk

Subscribed and sworn to me before this _____ day of _____, 2006.

Notary Public

Expiration Date

Amy M. Leenhouts
Notary Public
State of New York
Qualified in Niagara County
No. 01LE6000433
My Commission Expires December 15, 2009

DRAFT ENVIRONMENTAL IMPACT STATEMENT (dEIS) SCOPING OUTLINE

Frontier Stone, LLC
Shelby Quarry
DEC 8-3436-00033/00001
MLR 80823

1.0 COVER SHEET. Type of document (draft, final), title of project, location, name and address of Lead Agency, name and telephone number of Lead Agency contact person, name and address of document preparer and deadline for acceptance of public and agency comments.

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  Table 1.0 provides an overview of the permits and approvals presently anticipated to be necessary for the proposed project, the agencies responsible for the approvals and the applicable law or regulations associated with each approval. This table may be revised as additional information is developed in the course of the scoping process.

- **State Environmental Quality Review.** The SEQR Act and its implementing regulations require agencies to assess potential environmental impacts of proposed projects during the permitting process. Under SEQR, the primary means of assessment is a dEIS.

A dEIS is intended to function as a disclosure document to reveal information about the expected environmental effects of the proposed action and provide a basis for informed decisions. The dEIS identifies and addresses the potential environmental impacts of a project and reasonable alternatives, if any, and identifies ways to avoid or mitigate any potential adverse impacts to the maximum extent practicable. Also addressed are irreversible and irretrievable commitments of resources, growth inducing aspects, and the use and conservation of energy.

The dEIS must be written to a level of detail to properly assess the impacts identified and which allows an agency to make a reasoned decision on the action. Many of the issues will also be reviewed in accordance with NYS statutory requirements relating, for example, to the mineral resources permit program. In general, the dEIS will follow the content requirements of SEQR, 6 NYCRR Part 617.9(b) Environmental Impact Statement Content.

- **EIS Scoping Process.** The primary goals of scoping are to focus the dEIS on potentially significant adverse impacts and to eliminate consideration of those impacts that are irrelevant or non-significant. The scoping process establishes the content of a dEIS, and the lead agency provides the public the opportunity to participate in that process. The final scoping document will be completed after consideration of all substantive comments from the public and involved agencies.

- **Opportunities For Public Comment.** In addition to seeking public input on its scope, the dEIS, when completed and accepted by NYSDEC, will be made available for public review and comment. A Public Hearing will be held by the NYSDEC to receive public comment on the dEIS. A final EIS will then be prepared to address all substantive comments received. The dEIS and supporting documents must be available in an electronic format and posted on the web to enable public review.

4.0 ENVIRONMENTAL SETTING, SIGNIFICANT ENVIRONMENTAL IMPACTS, AND MITIGATION MEASURES TO MINIMIZE ENVIRONMENTAL IMPACTS.

The environmental setting of the proposed project will be described. Impacts of the proposed project will be evaluated; for each environmental discipline, the dEIS will discuss present conditions, the environmental impacts anticipated to result from project development, alternatives, and mitigation measures to be incorporated into the project to minimize its impact. If beneficial impacts are identified, they will be described in a similar manner. In general, the dEIS will follow the content requirements of SEQR, Part 617.9(b). This dEIS will focus on identifying environmental issues, their analysis and the evaluation of alternatives related to the construction and operation of a new dolomite/limestone quarry. Specific topics to be addressed are discussed below.

- **Earth and Natural Resources**

Ecological Resources. The dEIS will assess the potential impact of mine development and operation on habitats for terrestrial and aquatic ecosystems within and in proximity to the mine site. Plant and animal species and habitat sites will be characterized using available secondary data sources and field reconnaissance. The New York Natural Heritage Program

and the US Fish and Wildlife Service will be consulted to identify the presence of any threatened or endangered species or their habitats. The potential impact on resident and migratory wildlife species will be evaluated and discussed. An on-site survey of the mine site will be conducted to quantify any anticipated losses of terrestrial and aquatic habitat.

A. Existing Environmental Setting. The existing flora and resident and migratory fauna currently found within the mine area will be described. Existing conditions shall be assessed through an onsite evaluation. The presence of any endangered or threatened species or significant habitats within the mine site, or in proximity to the mine, will be identified through literature reviews, site surveys and consultation with NYSDEC personnel. If any of the above are found, the size of the population, its range, and a description of its typical habitat shall be provided.

Agricultural soils will be documented and evaluated. The *Soil Survey of Orleans County* will be reviewed to evaluate the relationship to other prime farm soils and farming operations.

B. Potential Impacts. Impacts to habitat types on the mine site will be studied and reported, including the amount and type of soils and vegetation to be excavated, removed, modified or disturbed. Impacts to agricultural soils and agricultural production will be examined and evaluated. Impacts to wildlife and wildlife habitats should be considered on both the local and watershed/landscape scale.

Of particular concern are the following: (1) those avian species, both migratory and resident/breeding, that use contiguous forest interior habitats and those that use these habitats when they are in proximity to wetland or open water habitats; (2) terrestrial amphibians and reptiles and the terrestrial life stages of semi-aquatic amphibians and reptiles; (3) vertebrate species sensitive to disturbance from human use and occupancy of critical habitats or whose use of critical habitats is reduced due to human disturbance or occupancy of nearby areas and; (4) aquatic and terrestrial life stages of vertebrate and invertebrate species listed as Endangered, Threatened, or of Special Concern.

The level of analyses expected of the applicant will be dependent upon the availability information in existing published scientific and natural history literature, NYS DEC data (where available), status and trends reports, life history accounts, and other appropriate sources of information. In the absence of such information or if such information is inconclusive, the applicant may be required to conduct additional site- and project-specific studies to assess potential impact from the project.

The analyses of potential impacts must include species' use of habitats throughout the year, i.e., courtship, breeding, nesting, insect and herpetofaunal juvenile life stages, avian brood rearing, avian resting/loafing/feeding, wintering/hibernacula, migrating.

1. Potential impacts from all aspects of the project must be investigated at the following scales:
   a. direct mortality to individual organisms from construction component of project,
   b. destruction of habitat resulting from construction or improvements,
   c. diminution of habitat suitability or availability resulting from construction, occupancy, and use (habitat fragmentation)
   d. alterations to habitat that increase its suitability for non-indigenous or invasive exotic species.

2. The above effects must be considered at the following levels:
   a. at the local (project site and immediate vicinity) level,
   b. in the context of the watershed/landscape ecosystem level and in consideration of the relative uniqueness of the project site,
   c. at the State population level, especially with regard to those species listed as State Endangered, Threatened, or of Special Concern,
   d. at the overall population level, for those listed as State or Federally Endangered, Threatened, or of Special Concern.

3. Habitat fragmentation effects:
   a. for avian, reptile, and amphibian species listed above, the impact of the development on habitat availability and quality; terrestrial and terrestrial life stages of semi-aquatic amphibians and reptiles are of particular concern,
   b. potential for development to result in habitats more favorable to "edge" avian species, at the expense of forest interior species.

The potential for loss of hunting opportunities as a result of mining operations should be examined including a review of impacts to nearby parts of the wildlife Refuge that offer lottery-based hunting for waterfowl.

C. Proposed Mitigation Measures. A reclamation plan will be prepared to indicate how the site will be restored after mining is completed in each phase. Measures to preserve existing wildlife habitat, as appropriate, will be identified and discussed. Loss of wetlands, and loss of wetland function and benefits will be identified and a detailed mitigation plan will be developed to compensate for unavoidable losses of wetlands, and the functions and benefits they provide.

- **Water Resources**

Groundwater

A. Existing Environmental Setting. Existing groundwater sources within and in proximity of the mine will be identified and described. The location of water bearing units and the depth to groundwater within the proposed excavation area will be based on published geologic literature, site specific information, and on-site testing. A description of any proposed use of groundwater resources for processing, dust control, or other mine operations will be provided. If groundwater use is proposed, existing water wells and groundwater users at residences on properties in proximity to the mine site will be identified and inventoried.

B. Potential Impacts. Potential impacts that mining may have on groundwater will be identified and discussed, including the potential for impacts to the quality and quantity of groundwater, and changes to existing groundwater flow patterns.

Evaluate potential impacts associated with dewatering and the identification of the area of influence that will be created around the quarry. This analysis should include impacts to nearby wetlands (including the hydrological regime of KN-13), wildlife, etc. from the area of influence caused by quarry dewatering.

C. Proposed Mitigation Measures. A discussion will be provided for the design, construction and operational procedures of the mine that will be utilized to minimize potential impacts to groundwater.

Surface water

A. Existing Environmental Setting. Existing surface water resources within and in proximity to the proposed mine will be identified and described. Streams, wetlands, floodplains (if any) and other surface water features will be identified and examined based on DEC classification and field observations. Site drainage patterns will be described and mapped as applicable.

B. Potential Impacts. Impacts related to alteration of the surface water drainage patterns, wetlands, flooding, erosion and sedimentation that may affect the surface waters will be estimated. The potential for impacts to the quality and quantity of surface water will also be evaluated.

C. Proposed Mitigation Measures. A storm water plan/erosion control plan will be prepared. Methods to control storm water runoff and the locations of any detention basins will be provided.

Wetland impacts will be avoided to the greatest extent possible and an alternatives analysis and an evaluation of the associated weighing standards required by 6 NYCRR Part 663 will be conducted. The conceptual mitigation plan, if impacts to wetlands are unavoidable, should assess the functions and benefits that the existing wetlands provide and how these functions and benefits will be provided withing the context of a compensatory mitigation plan.

Air Resources, Noise and Dust

A. Existing Environmental Setting. The dEIS will describe the existing air resources within and in proximity of the mine. Impacts associated with the proposed mine operation, including extraction and processing operations, will be identified and evaluated.

Potential receptors will be identified and the existing noise levels and sources identified in the vicinity of the proposed mine. Existing noise levels at the proposed mine site will be described based on available data and noise measurements from nearby residential receptor locations. Noise sources and locations associated with the proposed mining and processing operations will be identified and quantified. A noise analysis will be required that is consistent with the requirements of the Department's noise guidance document DEP-00-1, *Assessing and Mitigating Noise Guidance*, and will include an identification of sources of noise generation, potential for adverse impacts to nearby receptors, and mitigation for those impacts.

A blasting plan will be prepared that shows how the mine operator will meet U.S. Bureau of Mines safe blasting standards as adopted by NYS DEC.

B. Potential Impacts. Potential impacts associated with the mine operation will be identified and discussed. Processing equipment and processing plant locations will be identified and discussed to the extent possible. It is anticipated that potential air impacts will be related primarily to blowing dust and particulates associated with material handling, processing and trucking operations. The analysis should include the potential and impact of blowing/settling dust offsite. The sources, levels and duration of excavation-related and processing noise that may occur will be identified based on the anticipated mine operation procedures. The impacts of project-generated noise, including that from traffic and other mine site operations, will be compared to existing noise levels at the project site.

C. Proposed Mitigation Measures. The dEIS will identify and describe mining and processing procedures that will be implemented to mitigate identified potential impacts associated with the project. Proposals for mitigation of long-term impacts and short term impacts will be identified and addressed in the dEIS. Noise impacts associated with mine site operations will be assessed. The dEIS will address noise mitigation measures which will be incorporated into the operation to reduce impacts.

- **Traffic and Transportation**

A. Existing Environmental Setting. Existing traffic conditions in the vicinity of the proposed mine will be inventoried. The inventory will consider primary truck routes, key intersections along the routes, traffic volumes, and flow patterns all in relation to the new mine. Incremental increases in traffic volumes associated with the operation within new mining areas will be quantified. The inventory of the existing roadway system will include the composition and volume of current traffic flow, the posted speed limits, and the existing traffic volumes at area intersections in proximity to the mine during daily and peak periods. The traffic data will be collected from existing reports and data. Additional traffic counts will be performed to supplement available data, where necessary.

B. Potential Impacts. The potential impact of traffic volumes and types relative to the proposed mine will be identified and evaluated. Access to mine areas from local roads adjacent to new mine phases will be identified and evaluated.

C. Proposed Mitigation Measures. The EIS will identify potential mitigation measures that may include road maintenance, signage and other improvements as may be appropriate to maintain the existing level of highway service.

- **Visual Resources**

A. Existing Environmental Setting. The dEIS will describe the existing visual environment in the vicinity of the mine. The dEIS will identify aesthetic resources of local and regional significance occurring within the project viewshed. Mitigation measures to reduce visual impacts, where possible, will be identified and evaluated. The existing view shed will be characterized using photographs to illustrate existing conditions. Existing view corridors into the mine site and from within the mine site will be described. Existing or potential obstructions to views shall be noted.

B. Potential Impacts. Potential visual impacts occurring during mining and processing operations, including facility lighting, will be examined using DEC Program Policy DEP-00-2, *Assessing and Mitigating Visual Impacts*. Potential visual impacts on surrounding areas in proximity to the mine will also be evaluated.

C. Proposed Mitigation Measures. Appropriate mitigation measures will be identified to address both the short-term and long-term impacts on the viewshed. The mining and processing operations will be designed, to the extent practical, to blend with the immediate area.

- **Human, Economic and Community Resources**

A. Existing Environmental Setting. The impact of the proposed mine on existing community services will be examined. The dEIS will also assess impacts of the project on the local economy, employment opportunities, revenues, property values in proximity to the mine and support services will be addressed.

Features of the social, built and natural environment that are key to the character of the area as it exists today, and apparent future trends, will be identified. Recent community survey results, to the extent they are applicable and statistically valid, will be utilized in the discussion of community character.

B. Potential Impacts. The demographic, social and economic changes attributable to the project over the operational phases of the mine will be identified and discussed.

C. Proposed Mitigation Measures. Potential mitigation methods and operation procedures will be identified to evaluate the potential impact the mine may have on the socio-economic conditions, including the delivery of support services.

- **Cultural / Archaeological Resources**

A. Existing Environmental Setting. The dEIS will present a summary of any archaeologically and historically sensitive areas in the vicinity of the new mine area. The impact of the proposed project on the existing historic sites and archaeological areas, if any, will be examined. Any existing archaeologically and historically sensitive areas within the mine site will be inventoried and researched. For each phase of mining, the inventory and research will include a Phase IA and, where necessary, a Phase 1B cultural resource investigation to identify potentially significant historic resources. The results of the archaeologic investigations will be included as an appendix to the EIS and archaeologically sensitive areas will be shown on appropriate site plans. The Office of Parks, Recreation and Historic Preservation will be consulted to evaluate project impacts to historic and cultural resources on the project site.

B. Potential Impacts. The impacts of the construction and operation of the new mine on identified archaeological sites will presented and discussed. The Office of Parks, Recreation and Historic Preservation will be given the opportunity to review the cultural resources report and identify appropriate mitigation measures for the site.

C. Proposed Mitigation Measures. Potential mitigation methods will be identified and discussed with respect to mine site development. This will include a description of the methodology that will be used to ensure the future protection and integrity of archeological and historic sites that may exist at the mine site.

5.0 ALTERNATIVES TO THE PROPOSED ACTION

- **No Action Alternative For Mine Site.** Alternatives to the proposed new mine will be evaluated. The evaluation will include a comparison of impacts on the natural resource system, traffic, demand for utilities and community services, employment, and fiscal balance. This alternative will be evaluated based on the assumption that the proposed mine is not constructed.

- **Alternative Sites.** The evaluation of alternative sites owned by, or under option, to the applicant and located in the general project area will include a comparison of impacts on the natural resource system, traffic, and demand for utilities and community services.

- **Alternative Size.** Alternatives that reflect the evaluation of changes in the scale or magnitude of the project will include a comparison of impacts on the natural resource system, traffic, and demand for utilities and community services.

- **Alternative Design and Technology.** The design of the project and operational practices will be evaluated against perceived impacts.

- **Alternative Land Use.** Alternative land uses such as recreation and residential development and their associated impacts will be evaluated.

- **Alternative Development Schedule.** Alternative development schedules associated with an acceleration or slow-down of the proposed extraction rate will be analyzed for their potential to reduce environmental impacts.

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- **Growth Inducing Aspects.** The dEIS will identify, describe and discuss the potential growth inducing aspects that may occur as a result of the proposed project, including discussions on population, support facilities, and development potential as well as impacts on surrounding properties.

- **Effect On The Use And Conservation Of Energy.** The dEIS will discuss project impacts on the use and conservation of energy. The impacts of the alternatives will also be included in the EIS.

6.0 Tables

7.0 References

8.0 Appendices

Table 1.0 Draft

State Agencies		
Agency	**Permit/Interest**	**Applicable Law/Regulation**
NYS DEC	Mining permit Stormwater SPDES permit Air emission permits - processing, anc. manufacturing - electric power generation	ECL 23-2701 ECL 17-0801 ECL 19-0101 ECL 17-1009
NYS DOT	Curb cut: highway permit(s) (if required)	Highway Law §52 Vehicle and Traffic Law §1220-a
NYS Office of Parks, Recreation and Historic Preservation	Cultural resources, historic preservation review	Parks, Recreation and Historic Preservation Law Article 14
Federal Agencies		
US Army Corps of Engineers	Federal Wetland Permit (if required)	
Mining Safety Health Administration	Information Regulates mine safety	30 USC 811, 957, 961
Local Government		
Town of Shelby	Special Permit for Quarrying and Mining Operations	
Orleans County	Highway permit (if needed)	

DRAFT ENVIRONMENTAL IMPACT STATEMENT (dEIS)
FINAL SCOPING OUTLINE

Frontier Stone, LLC
Shelby Quarry
DEC 8-3436-00033/00001
MLR 80823

Note: Changes from the Draft Scoping Outline are depicted in italic type.

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➢ Water Resources

Groundwater

A. Existing Environmental Setting. Existing groundwater resources within and in proximity of the mine will be identified and described. *A monitoring network consisting of multiple wells will be installed to collect baseline data, render hydrogeologic information through testing, and provide for the long term collection of data throughout the life of the operation. This information, along with information obtained from borings, published geologic literature, site specific information, and on-site testing, will provide the basis for the hydrogeologic assessment. The location of water bearing zones within the geologic unit to be mined, connection between aquifers, depth to groundwater, seasonal fluctuations, direction of groundwater flow, and an accurate characterization of the aquifer system within the proposed excavation area shall be determined. A detailed description of dewatering, and any proposed use of groundwater resources for processing, dust control, or other mine operations will be provided.* If groundwater use is proposed, existing water wells and groundwater users at residences on properties in proximity to the mine site will be identified and inventoried.

B. Potential Impacts. Potential impacts that mining may have on groundwater will be identified and discussed, including the potential for impacts to the quality and quantity of groundwater, changes to existing groundwater flow patterns, *and lowering of surrounding groundwater elevations.*

Evaluate potential impacts associated with dewatering and the identification of the area of influence that will be created around the quarry. *This analysis should include an assessment of impacts to nearby wetlands (including the hydrological regime of KN-13), wildlife, water supply wells, etc. caused by the area of influence surrounding the quarry.*

C. Proposed Mitigation Measures. A discussion will be provided for the design, construction and operational procedures of the mine that will be utilized to minimize potential impacts to groundwater.

Surface water

A. Existing Environmental Setting. Existing surface water resources within and in proximity to the proposed mine will be identified and described. Streams, wetlands, floodplains (if any) and other surface water features will be identified and examined based on DEC classification and field observations. Site drainage patterns will be described and mapped as applicable.

B. Potential Impacts. Impacts related to the alteration of the surface water drainage patterns, wetlands, flooding, erosion and sedimentation that may affect surface waters will be estimated. *This shall include the potential for impacts resulting from dewatering activities. Specifically, loss of surface water due to a decline in the regional aquifer system, and flooding due to the groundwater discharge.* The potential for impacts to the quality and quantity of surface water will be evaluated.

C. Proposed Mitigation Measures. A storm water plan/erosion control plan will be prepared. Methods to control storm water runoff and the locations of any detention basins will be provided.

Wetland impacts will be avoided to the greatest extent possible and an alternatives analysis and an evaluation of the associated weighing standards required by 6 NYCRR Part 663 will be conducted. The conceptual mitigation plan, if impacts to wetlands are unavoidable, should assess the functions and benefits that the existing wetlands provide and how these functions and benefits will be provided withing the context of a compensatory mitigation plan.

➢ **Air Resources, Noise and Dust**

A. Existing Environmental Setting. The dEIS will describe the existing air resources within and in proximity of the mine. Impacts associated with the proposed mine operation, including extraction and processing operations, will be identified and evaluated.

Potential receptors will be identified and the existing noise levels and sources identified in the vicinity of the proposed mine. Existing noise levels at the proposed mine site will be described based on available data and noise measurements from nearby residential receptor locations. Noise sources and locations associated with the proposed mining and processing operations will be identified and quantified. A noise analysis will be required that is consistent with the requirements of the Department's noise guidance document DEP-00-1, Assessing and Mitigating Noise Guidance, and will include an identification of sources of noise generation,

potential for adverse impacts to nearby receptors, and mitigation for those impacts.

B. Potential Impacts. Potential impacts associated with the mine operation will be identified and discussed. Processing equipment and processing plant locations will be identified and discussed to the extent possible. It is anticipated that potential air impacts will be related primarily to blowing dust and particulates associated with material handling, processing and trucking operations. The analysis should include the potential and impact of blowing/settling dust offsite. The sources, levels and duration of excavation-related and processing noise that may occur will be identified based on the anticipated mine operation procedures. The impacts of project-generated noise, including that from traffic and other mine site operations, will be compared to existing noise levels at the project site. *Also, the dEIS will assess the potential impact of noise on terrestrial and aquatic wildlife within and in proximity to the mine site. The potential impact on resident and migratory wildlife species will be evaluated and discussed.*

C. Proposed Mitigation Measures. The dEIS will identify and describe mining and processing procedures that will be implemented to mitigate identified potential impacts associated with the project. Proposals for mitigation of long-term impacts and short term impacts will be identified and addressed in the dEIS. Noise impacts associated with mine site operations will be assessed. The dEIS will address noise mitigation measures which will be incorporated into the operation to reduce impacts.

➢ ***Blasting***

A. Existing Environmental setting. The dEIS will contain a blasting plan which will show how the mine operator will meet U.S. Bureau of Mines safe blasting standards as adopted by NYS DEC. This plan will consider the environmental effects of blasting, and will discuss geologic considerations, blast design, drilling operations, explosive loading, blasting confinement, and blasting frequency.

B. Potential Impacts. Potential impacts associated with blasting will be identified and discussed, specifically, impacts associated with flyrock, ground vibration, dust, and airblast. Possible impacts to residential, commercial, and public structures will be analyzed. Also, the dEIS will assess the potential impact of blasting on habitats for terrestrial and aquatic ecosystems within and in proximity to the mine site. The potential impact on resident and migratory wildlife species will be evaluated and discussed.

C. Proposed Mitigation Measures. The dEIS will identify and describe blasting procedures that will be implemented to mitigate identified potential impacts associated with Blasting. Proposals for mitigation of long-term impacts and short term impacts will be identified and addressed in the dEIS.

➢ **Traffic and Transportation**

A. Existing Environmental Setting. Existing traffic conditions in the vicinity of the proposed mine will be inventoried. The inventory will consider primary truck routes, key intersections along the routes, traffic volumes, and flow patterns all in relation to the new mine. Incremental increases in traffic volumes associated with the operation within new mining areas will be quantified. The inventory of the existing roadway system will include the composition and volume of current traffic flow, the posted speed limits, and the existing traffic volumes at area intersections in proximity to the mine during daily and peak periods. The traffic data will be

collected from existing reports and data. Additional traffic counts will be performed to supplement available data, where necessary.

B. Potential Impacts. The potential impact of traffic volumes and types relative to the proposed mine will be identified and evaluated. Access to mine areas from local roads adjacent to new mine phases will be identified and evaluated.

C. Proposed Mitigation Measures. The EIS will identify potential mitigation measures that may include road maintenance, signage and other improvements as may be appropriate to maintain the existing level of highway service.

- **Visual Resources**

A. Existing Environmental Setting. The dEIS will describe the existing visual environment in the vicinity of the mine. The dEIS will identify aesthetic resources of local and regional significance occurring within the project viewshed. Mitigation measures to reduce visual impacts, where possible, will be identified and evaluated. The existing view shed will be characterized using photographs to illustrate existing conditions. Existing view corridors into the mine site and from within the mine site will be described. Existing or potential obstructions to views shall be noted.

B. Potential Impacts. Potential visual impacts occurring during mining and processing operations, including facility lighting, will be examined using DEC Program Policy DEP-00-2, Assessing and Mitigating Visual Impacts. Potential visual impacts on surrounding areas in proximity to the mine will also be evaluated.

C. Proposed Mitigation Measures. Appropriate mitigation measures will be identified to address both the short-term and long-term impacts on the viewshed. The mining and processing operations will be designed, to the extent practical, to blend with the immediate area.

- **Human, Economic and Community Resources**

A. Existing Environmental Setting. The impact of the proposed mine on existing community services will be examined. The dEIS will also assess impacts of the project on the local economy, employment opportunities, revenues, property values in proximity to the mine and support services will be addressed.

Features of the social, built and natural environment that are key to the character of the area as it exists today, and apparent future trends, will be identified. Recent community survey results, to the extent they are applicable and statistically valid, will be utilized in the discussion of community character.

B. Potential Impacts. The demographic, social and economic changes attributable to the project over the operational phases of the mine will be identified and discussed.

C. Proposed Mitigation Measures. Potential mitigation methods and operation procedures will

be identified to evaluate the potential impact the mine may have on the socio-economic conditions, including the delivery of support services.

- **Cultural / Archaeological Resources**

A. Existing Environmental Setting. The dEIS will present a summary of any archaeologically and historically sensitive areas in the vicinity of the new mine area. The impact of the proposed project on the existing historic sites and archaeological areas, if any, will be examined. Any existing archaeologically and historically sensitive areas within the mine site will be inventoried and researched. For each phase of mining, the inventory and research will include a Phase IA and, where necessary, a Phase 1B cultural resource investigation to identify potentially significant historic resources. The results of the archaeologic investigations will be included as an appendix to the EIS and archaeologically sensitive areas will be shown on appropriate site plans. The Office of Parks, Recreation and Historic Preservation will be consulted to evaluate project impacts to historic and cultural resources on the project site.

B. Potential Impacts. The impacts of the construction and operation of the new mine on identified archaeological sites will presented and discussed. The Office of Parks, Recreation and Historic Preservation will be given the opportunity to review the cultural resources report and identify appropriate mitigation measures for the site.

C. Proposed Mitigation Measures. Potential mitigation methods will be identified and discussed with respect to mine site development. This will include a description of the methodology that will be used to ensure the future protection and integrity of archeological and historic sites that may exist at the mine site.

5.0 ALTERNATIVES TO THE PROPOSED ACTION

- **No Action Alternative For Mine Site.** Alternatives to the proposed new mine will be evaluated. The evaluation will include a comparison of impacts on the natural resource system, traffic, demand for utilities and community services, employment, and fiscal balance. This alternative will be evaluated based on the assumption that the proposed mine is not constructed.

- **Alternative Sites.** The evaluation of alternative sites owned by, or under option, to the applicant and located in the general project area will include a comparison of impacts on the natural resource system, traffic, and demand for utilities and community services.

- **Alternative Size.** Alternatives that reflect the evaluation of changes in the scale or magnitude of the project will include a comparison of impacts on the natural resource system, traffic, and demand for utilities and community services.

- **Alternative Design and Technology.** The design of the project and operational practices will be evaluated against perceived impacts.

- **Alternative Land Use.** Alternative land uses such as recreation and residential development and their associated impacts will be evaluated.

- **Alternative Development Schedule.** Alternative development schedules associated with an acceleration or slow-down of the proposed extraction rate will be analyzed for their potential to reduce environmental impacts.

- **Irreversible And Irretrievable Commitment Of Resources.** The dEIS will identify those natural and human resources listed in Section 4 that will be consumed, converted or made unavailable for future use.

- **Growth Inducing Aspects.** The dEIS will identify, describe and discuss the potential growth inducing aspects that may occur as a result of the proposed project, including discussions on population, support facilities, and development potential as well as impacts on surrounding properties.

- **Effect On The Use And Conservation Of Energy.** The dEIS will discuss project impacts on the use and conservation of energy. The impacts of the alternatives will also be included in the EIS.

6.0 Tables

7.0 References

8.0 Appendices

Table 1.0 Draft

State Agencies		
Agency	**Permit/Interest**	**Applicable Law/Regulation**
NYS DEC	Mining permit Stormwater SPDES permit Air emission permits - processing, anc. manufacturing - electric power generation	ECL 23-2701 ECL 17-0801 ECL 19-0101 ECL 17-1009
NYS DOT	Curb cut: highway permit(s) (if required)	Highway Law §52 Vehicle and Traffic Law §1220-a
NYS Office of Parks, Recreation and Historic Preservation	Cultural resources, historic preservation review	Parks, Recreation and Historic Preservation Law Article 14
Federal Agencies		
US Army Corps of Engineers	Federal Wetland Permit (if required)	
Mining Safety Health Administration	Information Regulates mine safety	30 USC 811, 957, 961
Local Government		
Town of Shelby	Special Permit for Quarrying and Mining Operations	
Orleans County	Highway permit (if needed)	

NYS DEC

PUBLIC SCOPING MEETING

FRONTIER STONE QUARRY

SHELBY, NEW YORK

JUNE 27, 2006

REPORTED BY:

DOREEN M. SHARICK, Court Reporter

EDITH E. FORBES COURT REPORTING SERVICE

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MERLE DRAPER, TOWN OF SHELBY SUPERVISOR

MR. BIMBER: Good evening. We might as well get started. I apologize to those of you on either end of the room, only because you probably can't see the slides that well. If you'd like, I can e-mail you or send you a copy after the meeting. Just stop up and see me. Can everybody hear me okay?

UNIDENTIFIED SPEAKER: No.

MR. BIMBER: Okay. We'll start this all over. Good evening. My name is David Bimber. I'm with the New York State Department of Environmental Conservation out of the Avon Region 8 Office.

I'd like to welcome all of you to tonight's scoping meeting for the Frontier Stone Quarry here in the Town of Shelby on Fletcher Chapel Road.

The goal of tonight's meeting is to develop an outline of what we want to have discussed and analyzed in the draft Environmental Impact Statement for this project.

If you'd like to speak tonight, please fill out a registration card at the table out by the front door. And when we get to the public comment part of the session, you'll be more than welcome to come on up and ask your questions and make your comments.

Also, out front we have got copies of the draft scoping outline as well as the full diagram of the basic SEQR process that we will be going over tonight in some detail. So you have an understanding of how the State Environmental Quality Review Act works and how it's going to apply to this project and where you can participate effectively in that process. Okay. That's me.

If you have any questions about the process or review of this project or comments, please contact me at this address by e-mail. I've got business cards up here if you'd like to take one, you're more than welcome to

1
2 them. Much of the information that we
3 are going to talk about tonight
4 including the State Environmental
5 Quality Review Act project review,
6 information on mining, permits, hearings
7 and so on are available on our web site.
8 Other DEC staff participating
9 in tonight's meeting are Nancy Barkan up
10 front here. John Cole out on the front
11 desk, Roger McDonough from the Division
12 of Minerals. We have Steve Army, Joe
13 Bucci and Dan Sek up front here.
14 On behalf of Frontier Stone we
15 have the project's sponsors, Chuck
16 Loiacano, Dave Mahar; and John Hellert,
17 their consultant.
18 Public officials tonight, I
19 know we've Supervisor Draper from the
20 town and that's about it.
21 Okay. Tonight's meeting will
22 proceed as follows: of course, this is
23 the introductory remarks section, Nancy
24 Barkan, Environmental Analyst in my
25 Division will provide a general overview

of the SEQR process.

The project overview, I'll be doing that during my presentation. And then we will get around to your comments during the scoping session during the public comment part of the meeting.

We also have present Doreen Sharick, who is a court stenographer, who will be preparing official transcripts of tonight's meeting including the public comment portion.

The transcripts of these comments, of this entire meeting tonight, will be available for your review at about the same time the scoping outline is finalized.

I'd appreciate it as we go through our presentations if you can hold your questions until the end and we will answer them. Also, at the end of the meeting, when we've received all the comments, and we closed the record, the department staff as well as the project sponsors and their consultants will be

available to talk to you and answer your questions that you might have specific to the project.

Frontier Stone proposes to develop and operate a 215 acre dolomite/limestone quarry on roughly a 270 acre parcel. The quarry will be conducted by standard drill and blast technology. The total excavation area for the project is approximately 174 acres. Mining will be divided into four phases over the estimated 75 year operational life of the facility.

And you can look at those phases up front here at the end of the meeting. You can see exactly what's going to happen with this proposal if it's approved. Minerals will be processed on site.

The site will be ultimately reclaimed by grading, replacement of top soil, revegetation, and a creation of two lakes. The lakes will be separated by an existing utility line. They will

be roughly 40 and 160 acres in size.

The first 50 feet of the shoreline below the water surface around the perimeter the lakes will be designed to be less than five feet deep and, again, the reclamation objective will be to create recreation lakes for wildlife habitat.

Okay. Location map if you're familiar with the site, proposed mining site is, of course, in the Town of Shelby. Roughly three and three and a half miles south of here and immediately north of the Iroquois National Wildlife Refuge.

You probably can't see this too well. The mining site as located specifically just south of Fletcher Chapel Road and bounded generally by Sour Springs Road on the west and South Wood Road on the east.

This is an aerial photo of the site. I'm not sure, probably because the angle you are looking, you probably

can't see it very well, but this is Fletcher Chapel Road, 63, power line. As you follow this power line south, the quarry will be located on either side of the power line.

This is a view looking to the north. Again, power substation, power line, quarry on the west and on the east.

Okay. Approvals, DEC approvals, of course, you got a mineral's permit involved in this project which is the primary permit that we will be looking at during our review. Additionally, though, the air pollution control permits required for any processing that occurs on site, the crushers, screeners. If there's auxiliary power generators, they will need an air permit, also. If they are going to be storing, bulk storage on site, fuel, they will need a registration for those.

This entire application is

being reviewed pursuant to the State Environmental Quality Review Act Part 617 and uniform procedures is just the State regulation that we use to guide our review of permit applications. That's all I have.

I'd just like to introduce Nancy Barkan, again, Environmental Analyst with the Division of Environmental Permits and she'll be giving you a general review of the SEQR process and the current status of our review. You'll see she'll have a SEQR diagram. She'll be going over that. If you have one of those, you can follow along. I'm not sure if we ran out of them or not. Nancy.

MS. BARKAN: Thank you. Good evening. I'm Nancy Barkan. I'm going to define a few terms so you can better understand the presentation tonight.

SEQR is the acronym for State Environmental Quality Review Act, a law

which was passed in 1975. It requires a consideration of environmental factors early in the planning stages of any project that's directly undertaken, funded or approved by local, regional or state agencies.

SEQR provides a systematic approach to environmental review in the early planning stages in order to identify potential environmental issues and modify the project as needed to avoid adverse impacts on the environment. SEQR is not a permit for an approval, but a framework for decision making.

It's important to know that SEQR does not effect regulatory jurisdictions. It does not change the jurisdiction of local agencies or governments.

If the town has a permit to issue, it continues to have that authority.

Draft Environmental Impact

Statement or dEIS, serves as a primary source of environmental information to help agencies consider the environmental concerns in making decisions about a proposed action. It also allows public review and comment on an action's potential environmental effects.

The dEIS examines the nature and extent of identified potential environmental impacts, as well as the various means to avoid or mitigate adverse impacts.

A Negative Declaration is a statement by a Lead Agency that a project will not result in a significant adverse environmental impact.

A Positive Declaration is a statement by a Lead Agency that a project may have a significant adverse impact and that a dEIS must be prepared.

I'd like to review the early steps in the SEQR process and how we got to the point we are at tonight. I'm only going to touch on the steps that

apply to this project. You can get additional information like Dave said on our website.

Tonight we are right here, scoping. It's a flow chart of everything in the SEQR process. Like Dave side, I don't know if you got enough flow charts, but follow along here.

This proposal has been identified as a Type 1 action. Type 1 actions are usually large complex projects and are defined in the law as projects that are more likely to have significant effects on the environment. They generally follow the path noted on the top of the page.

For this project, Frontier Stone provided us with a mining application and environmental assessment containing information on the size and magnitude of the project. The application was filed with us on the 14th of March of this year. We then

initiated a Lead Agency search to identify an agency to coordinate the environmental review. It's Department's policy to request Lead Agency status for mining permits.

Lead Agency coordinates the SEQR process so that when an action is to be approved, carried out, or funded by two or more agencies, only one environmental review is conducted. The Lead Agency is also responsible for making key SEQR determinations during the review process. Lead Agency is selected by the mutual consent of all Involved Agencies, those that have an approval.

We identified the agency that might have approval over any aspect of the project. It's the Town of Shelby. We sent a letter on the 28th of March of this year indicating that the DEC would serve as Lead Agency, if the Town agreed.

We received no objections and

the Town concurred in an April 20th letter, and the Department was formally identified as the Lead Agency to coordinate the environmental review of the proposal.

The Lead Agency coordinates the SEQR process so that a single integrated environmental review is conducted.

It makes key decisions. Is it a Negative Declaration or a Positive Declaration? Is an Environmental Impact Statement needed?

It's selected by mutual consent of Involved Agencies, those that have approval over the project.

Selected by determining if anticipated impacts are of statewide, regional or of local importance. In selecting an agency which has the broadest powers and capability to provide the most thorough assessment of the proposed project.

The Lead Agency is responsible

for conduct and administration of the SEQR review process.

It must have its own decision making authority and may not delegate its authority to an advisory body.

Our next step was to review the application and environmental assessment materials that we were provided by the applicant.

This is one of those critical Lead Agency decisions that I mentioned earlier. Once a Lead Agency is agreed upon, only the Lead Agency can make a determination of environmental significance, and issue either a Negative Declaration, the project will not result in a significant adverse environmental impact, or a Positive Declaration that will lead to the preparation of a draft Environmental Impact Statement.

On the 7th of June of this year, the Department issued and published a Positive Declaration,

indicating that we believed that this action might have significant effects on the environment and that a dEIS should be prepared. And there is a copy of the Positive Declaration in the draft scoping package.

The threshold for issuing a Positive Declaration is very low. The key word is may, the project may have a significant impact, not will.

Reviewing the criteria in determining significance is probably the most important step in the whole SEQR process.

Determination of significance is the formal name for an agency's decision whether or not to require an Environmental Impact Statement for a project.

Lead Agency reviews the whole action, analyzes all relevant impacts and determines why or why they are not significant.

And the Lead Agency at this

point has two choices: either a Negative Declaration, either there are no adverse environmental impacts or none that are significant or that identified adverse environmental impacts can be mitigated, or a Positive Declaration, that the project may have the potential for at least one significant adverse impact.

The goal of tonight's meeting is to finalize the development of an outline of what we want to have discussed and analyzed in the dEIS. Public Scoping is optional, but it's Department's policy that we conduct public scoping whenever we are the Lead Agency.

The scope specifies, or clearly defines the range of the draft Environmental Impact Statement.

It characterizes the project area setting and identifies relevant environmental issues to be addressed. It identifies potential significant

adverse environmental impacts.

The scope determines the extent and quality of the information needed and identifies sources of information that are already available or if a field study is needed.

Provides a range of reasonable alternatives to be discussed.

It identifies potential areas of mitigation and eliminates or de-emphasizes nonsignificant issues.

From the input gained tonight and over the next week, a final scope outline will be prepared. The final scope document will be available at the Town offices and the DEC office in Avon.

DEIS review. DEIS will be prepared by the applicant in accordance with the scoping outline that will be finalized over the next few weeks.

Once it's submitted, it will be reviewed by staff for adequacy and then either accepted for public review or returned to be corrected or

supplemented.

It's possible that several iterations of this loop will occur until we are satisfied with the dEIS.

Once we have determined that the draft EIS is adequate for public review and the applications, mining, protection of water, et cetera, are complete, we will issue notices that will announce that the dEIS and the applications are available for public review.

You will have a minimum of 30 days to review the dEIS after the notice is published. A copy of the dEIS will be available at the Town Hall and the DEC office in Avon. The text will also be available on the internet on a website to be identified.

We will then schedule days 15 through 60 a hearing through our Office of Hearings in Albany. The public hearing will be held by a hearing officer. And we will provide the public

or agencies the opportunity to provide unsworn statements and written comments.

The hearing officer will respond to any request by groups or individuals seeking party status and conduct an issues conference to identify any issues that have not been dealt with adequately in the draft Environmental Impact Statement.

If the hearing officer determines that issues remain outstanding, an adjudicatory hearing will be scheduled. This involves sworn testimony, cross examination, and preparation of a stenographic record of the hearing.

The hearing officer then provides a recommendation and refers the entire record to the Commissioner of DEC for resolution.

It is likely, because of the magnitude of this project, that the Commissioner of DEC may make the final decision on this application.

Final Decision of the Commissioner, the Record of Hearing, comments on the draft Environmental Impact Statement, and the responses will make up the Final Environmental Impact Statement.

The Department and any other agency or government that has an approval must then write findings in support of either issuing or denying the applications under consideration.

Each agency continues to retain its own regulatory jurisdictions. This process is described in the materials that are out at the door.

How can you effectively participate in the SEQR process? Know the procedures for complying with SEQR including the terminology, the time tables and decision making requirements.

Request access to and study all file information including the draft Environmental Impact Statement and applications. If needed, request

clarification of scientific terms, concepts or data.

Contribute relevant scoping topics at tonight's meeting and/or in writing.

Focus on major issues not minor discrepancies like problems with wording in the draft Environmental Impact Statement. Remember, the Lead Agency is only required to consider substantive comments. Avoid making speculative comments or unsupported assertions.

Identify reasonable alternatives or ways to reduce or eliminate impacts that may have been overlooked.

Review and comment on the dEIS during the public review period.

Participate in the SEQR hearing process.

Take part in involved agency decision making including locally sponsored public hearings and meetings

or hearings related to other approvals from State, County or Local Governments.

Copy of the draft scope is available on the table outside. Some of the items that are already identified include a detailed mining permit application including mining plans, reclamation plan, erosion control, et cetera.

Characterization of the site's environmental setting, ecology, groundwater, surface water, et cetera.

Impacts to the nearby Iroquois National Wildlife Refuge, hydrology, noise and visual assessment, travel analysis, cultural and archaeological resources survey. Just to name a few.

If you have any questions about this process, you can ask any of us after the meeting. Thank you.

MR. BIMBER: Okay. Tonight's meeting is the scoping session. We need your input to finalize the outline for the draft Environmental

Impact Statement.

It's really not a time to debate the pros and cons of the proposal nor cross examine the Lead Agency, the Applicant, Local Government or any Involved Agencies on the project detail.

We just don't have a lot of that information at this point.

We are early in that process and this step identifies the questions that we have, that you have, that we want to make clear in the data collection process and in a final document that is put together for this project.

Please address any questions you have to me. If you have any questions about the SEQR process or anything we have talked about so far. And in just a minute if you'd like, you can ask those questions. I'll be available as will be staff as well as the project sponsors after the meeting to talk to you personally about any questions you might

have.

I'll read off your name if you've requested the opportunity to make a public statement for the scoping outline, please move forward. We have a microphone right over here on the corner of the desk or you can use mine. Please state your name, spell it out, and speak clearly into the microphone so that the transcriptionist can hear you.

Keep your comments as brief as possible as a courtesy to those who follow you. So far we've got I think close to 20 people that would like to comment on the scoping outline.

The court stenographer may stop you if she can't understand what you said, if you speak too quickly or if she can't hear you.

Once we get everyone who has signed up in front of us to speak, I'll open it up to anyone else that wants to make a comment or who thought of anything as we speak. And you can come

on up and put your thoughts on the record, also.

Again, we are here to gather questions that will be answered in the dEIS. Again, we don't really have a lot of information on the project and the potential environmental impacts. That's what we are going to be doing here in the near future. If anyone has raised your issue or one of your questions, you really don't have to repeat them again. Just hearing it once will get it into the record. And that's really about it.

Again, if you think of anything after this, you want to provide written comments, I know we ran out of handouts. If you'd like, I've got a pad up front here. Please come on up and write your name. Give me your e-mail address. All this stuff is electronic and I can send you a copy tomorrow or if you need a mailed copy, I can do that, too. Anybody have any questions on the process at all before we get started?

Okay.

This list is just in the order which you actually signed your card. And so I'll call off three of you and one of you can come up. The rest of you can warm up I guess.

Number one, Stephen Seitz, is that correct? Steve, are you here?

MR. SEITZ: Yes.

MR. BIMBER: After Steve will be Dave Reese. And then Wendy Pencille.

If you have written comments or written statements, I'll take those, also.

MR. SEITZ: My name is Steve Seitz. I have questions and concerns about the noise, dust, the values of my property. And you know, also the refuge is a big thing in our area. I bought the property where I'm at and I'm concerned about everything about that only because, you know, I wanted to live in an area where it's

1
2 going to be like farm and everything
3 where it would be nice and quiet and
4 everything. I realize that the farmers
5 in the area, and I understand Mr.
6 Zalaney's, what he's trying to do, but I
7 purchased our property to live the way
8 we wanted to live. If I would have
9 known this was coming along, I wouldn't
10 have purchased the property. I would
11 have moved out. Basically, that's all I
12 have to say.
13 MR. BIMBER: Thank you.
14 Dave Reese.
15 MR. REESE: Dave Reese.
16 Same what Steve said, I purchased the
17 property just a few months ago.
18 Basically, I'm probably three-quarters
19 of a mile from this. So it's in my
20 backyard.
21 I moved out to a very peaceful
22 farming region. I left Tonawanda. It
23 was combustion, noise, traffic. So now,
24 I'm getting it right back. So I think
25 it's following me.

I'm very displeased and the value. I have other concerns as value to my home, the water table, the congestion, so there's a lot of unanswers. I know the scope will -- basically, the impact will answer some of those questions. But still, very unhappy and if I need to run for office, I will. Thank you.

MR. BIMBER: Thank you. Wendi Pencille.

MS. PENCILLE: I'm Wendi Pencille. I'm a resident in the Town of Shelby.

Couple things. We are concerned about many many things and I'm just going to give you briefly what I have. It's a list. How are you going to guarantee they are not going to be any negative impacts? The technological advances that they are going to talk about and lastly, they are by no means fool proof and they are not universally applied.

I think the DEC should deny this permit because it's in a poorly chosen area with respect to residential homes, wells, the wetland habitat of the adjacent National Wildlife Refuge.

It doesn't belong in this location for many reasons. Number one, allowing a stone quarry to be built in this area is going to reduce housing values. The loss by the noise, the loss of the view shed by imposing an industrial character to the area and by the associated imposition of the increased truck traffic. The tranquil nature of the neighbor is going to be destroyed by the noise from the blasting, the truck traffic, the crushing operations and the excavation equipment.

We've already heard about people who can't sell their homes once people find out there's a stone quarry proposed in the area. How will you guarantee housing values will not be

reduced? How will you guarantee there will be no noise impact on the community? How will you guarantee people will be able to get fair market value, pre-quarry market value, for their homes should they decide to sell?

In the case of the habitat, the Endangered Species Short Eared Owl, and other wildlife on the refuge, those are residents who can't speak for themselves.

How will you guarantee we will not loose endangered species, the short-eared owl habitat? Increasing truck traffic will also negatively effect air quality. It will be degraded by the diesel fumes and the dust. You talk about the air pollution in your permits, that is for their equipment. It doesn't have anything to do with the diesel trucks that coming through there.

How will you guarantee there will be no negative impacts on the air quality? How are you going to guarantee

there's no dust from the quarry billowing through the area? Prevailing winds should not be a factor in allowing such a project until you can control the prevailing winds.

Home foundations will be at risk from the blasting operations and heavy truck traffic on the nearby roads. How will you guarantee there will be no damage to the nearby homes? Who will be responsible for determining what caused damage to nearby homes? Residents should not have to pay to determine to prove that the quarry caused their damage. The quarry should have to pay for that. It wouldn't have happened had not the quarry been in place. Who will pay for the damage?

Wells will be at risk. The quantity and quality of the groundwater is at risk every time the rock is fractured by the blasting through loss of recharge areas, lowering the water table by the pit excavation and other

blasting effects. We have seen that on our road already that. That's why District 8 had to be created.

How will you guarantee that area wells will not be negatively effected by the quarry? Who will pay to provide water to these homes once the wells are damaged?

Water costs for these residents is negligible right now. They shouldn't have to pay for water in the future when the quarry effects their wells.

Who will be responsible for determining what caused damage to those wells? Again, the residents should not have to pay to prove that the quarry damaged their wells.

The increased truck traffic is not only detrimental to the residential areas surrounding the mine, but to the National Wildlife Refuge as well. Just because you can repair roads doesn't mean it's going to have no negative

impact.

The additional truck traffic and the additional impacts of having to resurface and repair the roads through the refuge more often will also have a negative impact.

Recently, a truck delivering molten tar to LaFarge's Emporium in Lockport overturned, spilling hundreds of gallons of tar. If it hadn't been stopped by a passing motorist, it would have been thousands of gallons of tar. Imagine that happening in our refuge. It's unthinkable that the DEC would allow that risk.

How will you guarantee there will be no spills of this kind in the refuge and the surrounding area? How will you guarantee there will be no negative impacts to the refuge due to the increased traffic in the resurfacing of the roads?

The operation of the quarry in this location will result in loss of

habitat for Endangered Species Short Eared Owl.

I have served on the Board of Directors for New York State Wildlife Rehabilitation Council for many years and I graduated from Cornell University with a degree in Animal Science. For 18 years I've been a wildlife rehabilitator. 13 of those years have been here in the Town of Shelby.

The only three Short Eared Owls that I've received for rehabilitation have come from that area, south of Fletcher Chapel Road and north of the refuge.

The blasting studies have been done on wildlife and the effects of blasting on wildlife have been done on tree nesting birds. The Short Eared Owl nests on the ground. None of those studies have been done on this bird.

Allowing this project in this sensitive area is unthinkable. How do you guarantee that effects of blasting

on habitat loss will not effect this endangered bird?

In summary, we don't want the effects of the quarry operation mitigated. We went them eliminated.

We understand that the DEC does not routinely turn down permits of this type, but the situation here is very different. With a populated residential area and an extremely sensitive wildlife habitat mitigation isn't enough when you're talking about quality of life for people living in the immediate area, endangered species habitat and a pristine National Wildlife Refuge next door.

Also, if you allow this permit, you will be letting the State and the country know that an endangered species distinction in New York State is not worth the paper it's written on.

MR. BIMBER: Thank you. Next up is Thomas Winans.

MR. WINANS: My name is

Thomas Winans. I live on Ryan Road in the Town of Shelby. And as a neighbor of an existing stone quarry, I would just like to make the town and the DEC aware that this area does not need another stone quarry. The noise, and the blasting, which has effected my well also, we don't need another area of problems in the Town of Shelby at this time. So that's really all I have to say right now.

MR. BIMBER: Thanks, Tom. Next up is Lynn Mietz.

MR. MIETZ: Lynn Mietz. I'm no talker, but I'm a resident of West Shelby. I live on Salt Road. And mine comes under traffic analysis. The trucks is terrible. I got pictures that I would like to present to Wendi of the road, the shape it was in before they redone it about -- I don't know, five years ago. Well, I walk. That road is coming back to that same situation again.

And now, it's tri-axles, not just dump trucks, tractor trailers, and they shouldn't be on that road, but it's a County road. They say we can't post it. So that's the problem and I know what they are facing. I just wanted to bring that up. Thank you.

MR. BIMBER: Thank you, Lynn. Next up is Michael Fuller.

MR. FULLER: Mike Fuller. I live on the Fletcher. Plain and simple, the stone quarry is too close to the National Wildlife Refuge.

MR. BIMBER: Thank you. Next is David Green.

MR. GREEN: David Green, G-R-E-E-N. I basically just wanted to say I live on the East Shelby Road. It's a distance from this, but my concern is the traffic, truck traffic, and also my real concern is the quality of life of my neighbors on the Fletcher Chapel Road. Thank you.

MR. BIMBER: Thank you.

Edwin Kiesinger.

MR. KIESINGER: I think Wendi hit on the everything I wanted to say.

MR. BIMBER: Thanks.

MR. KIESINGER: Thank you, Wendi.

MR. BIMBER: Donald Kelley.

MR. KELLEY: My name is Donald Kelley. I live on the West Shelby Road. Probably the majority of friends and neighbors here, who I hope will remain my friends and neighbors because I support this. I only have two things that I'd like to say. One, if the moratorium is approved, it would be under the Federal Government. That would be the United States of America Federal Government.

The lady before who was worried about the environmental impact, the last time she was worried about the jobs. She wanted to know where the jobs went. Fisher Price, they went to

Mexico. And now, as we all know, Burns-O-Matic is going to China.

I believe that the governor was down here trying to take back the State of New York. Not many people know about the Town of Shelby, but it will be the first with an ethanol plant. Okay. I don't know how many people it will employ. If this is approved, well, then, you'll be taking back the United States of America one job at a time. And I believe it should start with Town of Shelby. I have no more to say. Thank you.

MR. BIMBER: Thank you. Jim Heminway.

MR. HEMINWAY: Jim Heminway. Wendi, thank you for the statement. I couldn't have said it better.

I, too, live in an area just three miles from the proposed quarry. I live there for the very same reasons I've heard spoken about by many, the

quality of life. I could live many places, but I choose to live there.

I pay taxes like everybody else and part of those taxes go towards the funding of the DEC, which I thought was to protect, and I hope is to protect the views of the citizens and our rights as citizens.

And that involves the quality of life not only the area that we are in, that the rural setting and such, but the wildlife, the habitat, and the refuge, that both the State and Federal, and it seems unthinkable to me that they could build a quarry right next to the refuge with no guarantee and as far as I know, there are no guarantees of maintaining the water shed in the State that it is today. And that's all I have. Thanks.

MR. BIMBER: Thanks. Steve Miller.

MR. MILLER: My name is Steve Miller. I live on the Sour

Springs Road. And I don't think that -- I think we should allow them to maybe at least do the study and find out what they have to say and see what we've got to do before we get angry and doing things out of control.

MR. BIMBER: Thanks. Next up, Russ Crea.

MR. CREA: Russ Crea. First of all, I'd like to say God bless America and God bless our men and women for fighting over there to keep America free. I thank God tonight for the Town of Shelby for the Board, and I even thank God for the Frontier people because you know what, I'm a man and I can tell you straight to your face, we don't want your stone quarry. We don't want your jobs. And you know what, it's like that other gentleman that came up and spoke, God bless him, it's a freedom of speech. You know what, why don't you take your quarry and go down to Mexico and go down there with your jobs.

Wendi, fantastic job and that in regards to everything with the wildlife.

I was sitting on the porch. We live right on Fletcher Chapel Road. Right where it's going to be. My father and mother-in-law are next door, Mike Fuller, all our neighbors.

And for years I've seen in the paper about the blue bird. Okay. The blue bird we are trying to get them back in the area. My father-in-law, about four years ago, helped build a nest for the blue bird.

All right. Yesterday, just yesterday, swear to God, here's a blue bird on my deck. I wondered myself, I was telling my wife. We said you know how many years it's taken to get a blue bird to try to come to our nest. And do you think if there's a quarry back there, the noise, the dust, do you think that that blue bird will make a nest there? I don't think so.

And you know what, they don't care about the blue bird. They just care about one thing, and the color is green. They don't care about the people at all. They could care less about the wildlife. If they did, they wouldn't be proposing a quarry there.

And another thing is, that our good neighbors, Chet Zalaney, love Chet Zalaney. My father and mother-in-law have been there for years. My wife, my kids, they saw my kids grow up. My father and mother-in-law been friends with him for years and years.

You know what, Chet, you can stop all this. Only you can stop it. It's your land. You have the opportunity to prevent all of this from going on because you know what, my poor father and mother-in-law cannot sleep at night. And you know what, you laugh. You laugh. Maybe you can sleep at night, but they can't.

And the problem is that it's

greed again. God bless you. You know what, you've been a hard worker all your life. You're a farmer and God bless the farmers, but I'll tell you what. We don't want a stone quarry. Thank you for your time.

MR. BIMBER: Thank you. Next is Mr. Eugene Otterson.

MR. OUTTERSON: My name is Eugene Outterson. I live on Fletcher Chapel Road. My wife and I own the property which will adjoin this proposed stone quarry.

We are against this a hundred percent. The proposed stone quarry will have a negative and adverse effect on the Iroquois Wildlife Refuge and the surrounding area. Blasting will effect ducks, geese, other wildlife such as the bald eagle, turkey, deer, and owls and will have an adverse effect on the fish in the ponds.

Water level in the refuge could be changed or polluted by washing

operations. Noise level will effect nesting water foul and other birds in the refuge in the area. Noise level will effect area residents and change the quality of country life.

Fields are used in the spring and fall for migratory birds resting and feeding in the area. These areas within the refuge are used by people and organizations who want to use a nature trail. With blasting going on and loud noises from equipment, machinery, these trail areas will be disturbed.

Airborne dust can cause adverse effects to the water and cause feeding problems and sediment problems. Airborne dust can threaten the respiratory health of area residents and emissions from diesel engines on a daily basis, human and animal alike. May cause a resident to have limited outside activity for health reasons.

Truck traffic on nearby roads will increase and cause a negative

effect to the area residents. Smaller trucks will use existing routes and not truck routes.

Blasting can cause damage to home foundations, older and newer ones. And also cause structure damage to homes and buildings from vibration, diminishing the quality and quantity of groundwater available to nearby wells, by lowering the water table, loss of recharge areas, fractures, faults and other water bearing features.

Property values will be diminished due to the character of an industrial area. I have talked personally to two local realtors, and they have said values of homes would be reduced by as much as 20 percent and cause difficulty in trying to sell property if a person wanted to sell.

A local resident has had property for sale and have had problems selling their home. When a perspective buyer finds out about the proposed stone

quarry, they walk away with no intention of buying the property.

269 acres of agricultural land will be removed from farm production and will never be returned to workable farm land. Ag/residential district is for the purpose to protect agricultural lands and uses from incompatible uses and development, maintain rural character of the community and to protect the rural environment. This stone quarry will not adhere to these values.

The tranquility of the neighborhood will be reduced at present with the loss of green space. It would effect ponds, streams and the Oak Orchard water shed. There are already four stone quarries in Orleans County and have all the stone needed for years to come.

This proposed stone quarry will not benefit Orleans County or the Town of Shelby. The only people that

will benefit will be the property owners and family and the owner/operators of the stone quarry. This will have a negative effect on the Iroquois Jobs Corps and their teaching facility on the Tibbits Road.

I am sure the owners have heard all these concerns before.

I say open your books and show us how you are to resolve each and every problem and complaints brought before you of operations. Give us a list of all complaints. Also, give us the names and addresses of every person who had a problem or complaint. And give us the specific resolution to everything you have done.

And finally, remember the New York State DEC is a state agency, which is funded and paid by the taxpayers of the State of New York. And it is your responsibility to protect us and the environment for today and for years to come.

MR. BIMBER: Thank you. Next up is Nick Outterson.

MR. OUTTERSON: My name is Nick Outterson, O-U-T-T-E-R-S-O-N, like it was from my dad. I'm a senior. I've graduated from SUNY Albany with a Bachelor's of Arts in Biology. And a gentleman earlier talked about studies that could be done about quarry issues.

Well, I found studies about environmental problems with quarries. And my sources, I have a mining civil engineer named Sandy Cove of Nova Scotia, Canada, a geotechnical engineer, which is through Golder Associates in Torino, Italy, and they talk about impacts of noise on marine and terrestrial animals. They talk about blasting of a quarry which is in excess of 120 decibels and that can cause behavioral disturbances such as foraging, mating and nursing for many animals which live in the refuge.

It can also cause masking

communication signals which prevents similar species from communicating with one another.

Also, there are breeding grounds for migratory birds less than a mile away from where this proposed quarry is at. This blasting can cause permanent hearing impairment especially in the early stages which is vital to their growth.

I also read about water pollution. There is unexploded material left from blasting in stone quarries. This explosive residue will enter the surface and groundwater through gravity flow in washing of the aggregate stone. This will contaminate groundwater and lower water table values.

Siltation effects also effects the fish habitat. Siltation is as the dust enters the water. It creates high turbidity which is cloudiness of the water. This high turbidity disturbs the behavior flow of many species, many fish

and wildlife animals. This disrupts the food chain. As far as I'm concerned, everyone is part of the food chain.

Also, the base flow of regional waterways will be reduced and the last time I checked, there's an awful lot of water around, especially in that refuge.

And I just like to say that quarries are seasonal jobs and how many jobs could a 215 acre stone quarry have. Maximum, there'd probably be about 10 and they would be experienced people, not many people from around this community. And that's all I'd like to say. Thanks.

MR. BIMBER: Thank you. Laura Dunn.

MS. DUNN: Fortunately, my friends and neighbors have covered most of my questions and concerns.

MR. BIMBER: Thank you. Karen Ashton.

MS. ASHTON: I'm Karen

Ashton. I live about a half-mile or three-quarters a mile from where this is going to be. I'm on Fletcher Chapel Road.

All the concerns everybody else has been saying, I have those concerns, also. We have a flock of sheep and I'm concerned how this would effect them. How many lambs will I end up losing because the ewes get nervous from the blasting and stampede and run them over?

I am also worried about the water level in our well. Right now, we have city water that the goes by, but we're not hooked up to it. We just use our well water. And worried that if the water level goes down, then we will end up having to pay for water for all our animals we have. We have horses, goats, sheep, rabbits and a number of other animals. I'm concerned about what, you know, how much that would end up costing us.

I'm also concerned about the wildlife refuge like anybody else. And if the bedrock would be fractured, what would that do to the water level of the river that goes through and all the way down stream. What would that do to that? There's people all the way up Lake Alice, Point Breeze, Carlton that their incomes rely on the river. What would that do to them? So it's not just us people that live right out there that are concerned. It could end up impacting people all the way down to Lake Ontario.

Another thing is, the speaker, you mentioned that is going to have two recreational lakes eventually. What kind of time line is that and what good will that be to anybody else? It's on private property and it was mentioned that would be for wildlife. The wildlife have the swamps. They don't really need more lakes for water.

I have seen instances that you

mentioned about a 5 foot drop around the edge. Is that gradual or is that just a drop down? Because at that level, if deer get in there, in the water to swim or, you know, they go in the water sometimes. They wouldn't be able to get back out. How many deer would end up drowning because they can't get back out of that 5 foot ledge? If it does end up going in, that might be something they might need to make a more gradual slope for them.

I'd like to know also how often this blasting would be. Like I said, I'm about a half a mile away and that would definitely ruin our peace and everybody else's. I'm concerned about the air quality like anybody else. The wind, where the wind comes from the south or the southwest so we would be right in the path of the wind from the quarry probably. So I'm really concerned what that would do in our area. I guess that's it.

MR. BIMBER: Thank you. Next up is Philip Keppler.

MR. KEPPLER: I just like to say we own land that borders up to the Shelby Stone Quarry. And those fellows do a great job of running it. We have the muck land there and it never goes dry except for in a drought. We have great duck hunting, tons of wildlife. I think we all got to use science and don't get carried away with just rumors. Let's use our heads and be calm and just think this thing through and use science. That's all I'd like to say.

MR. BIMBER: Thank you. Vincent Cardone.

MR. CARDONE: My name is Vince Cardone, spelled C-A-R-D-O-N-E. I've been a life-long resident of the Town of Shelby, both in the village and outside of, and I've owned extensive amounts of property in the area. I've been a practicing attorney for over 50

years. I'm acquainted with just about all aspects of property ownership and its development and use.

All that I can say to you people is that you all need to use common sense and reasoning. We all are to some extent or another polluters. Just being on earth makes us a polluter. On the other hand, we also know that protection of the environment is an extremely important consideration.

Environmental Law has really been in the development over the last 35 years or thereabouts. It started in the sixties and it's grown in huge proportions and rightfully, it should be.

My concern has to do with how important a stone quarry would be to Orleans County, to our area, to our state and to our nation. My belief is that we are a small rural county. We value our environment. Obviously, anything we do effects the environment.

And there are a lot of factors that need to be taken into account when making a decision regarding this matter. I urge upon the people to give consideration to the fact that with progress and development occurs pollution. That has to be a measured kind of thing. You certainly don't want to pollute the world. You don't want to pollute our area any more than necessary.

I'm not against progress. I'm for progress, but it needs to be a measured thing. I can tell you from my own experience and experience of numerous people that I've represented, that here in our county, rural, that there are numerous problems to deal with. We already have a stone quarry in our area. I'm absolutely satisfied that it can meet the needs of the present area that we live in. I'm also satisfied that it can meet those needs for some years to come.

Question presents itself is to who benefits from another quarry coming into the area? Also, do we need in a particular township more than one quarry? Do we need to have it effect the wildlife that we have?

We have here the largest wildlife situation in the entire State of New York and one of the largest in the nation. It's a valued item. It's something that attracts tourists and all that. We also have a very limited road system in Orleans County, particularly, in the Town of Shelby.

At one time the State of New York considered putting 531 from Rochester on through into Niagara County. That never came to pass. That was supposed to pass through Shelby. We are limited in terms of truck transportation, automobile transportation and all of that. People need to give those things consideration.

My belief is that we have more

than we need right now in traffic. As we know, we are getting a new ethanol plant and we all know that that's going to result in a huge increase in the amount of heavy traffic in and out of the county. We have limited road facilities in the area and there are no prospects of that increasing substantially. Taking into account -- I can talk and talk and talk, but all that I wanted to see to each of you people is that you give this thing the consideration that it deserves.

My judgment is that we don't need another quarry at this time. And I would ask the people to weigh all the factors and be fair to all of the parties concerned. Thank you.

MR. BIMBER: Thank you. Next up is Jonathan Sherman.

MR. SHERMAN: John Sherman. I just have a few questions that I think needed to get satisfactorily answered from the scope project.

First off, with the quarry in place, what happens to the aquifer for those residents that rely on that still? With blasting taking place at the mine, how far will the nearest blasting be?

I know in a quarry in the Town of Ogden, the DEC determined that 700 feet away would cause significant structural damage. So if that's the case, hopefully, it's far, far away from those houses.

What dangers does this impose to endangered or threatened species? The eagles and the owls are the obvious ones. The refuge is currently looking for a turtle species that is endangered as well. That may be in that location.

And thirdly, what effect will the hole that's left behind have on the swamp or wetland drainage? Will it still be wetland area? Or will it simply drain on out of there?

And finally, the access road to the quarry, is that planned to go

through the middle of the nature preserve or is that planned on going through the neighborhood area in itself? That's it.

MR. BIMBER: Okay. Thank you. That's all the speakers who have signed the cards to speak tonight. Is there anyone else who would like to come forward and ask a question that we need to include in a scoping outline for this project?

MR. OTTERSON: Can I say something just to comment?

MR. BIMBER: Okay.

MR. OTTERSON: Nick Outterson, again. I would like just to thank you for splitting up a relatively quiet rural community and it could have all been prevented. Everyone was very closely knit in this town, but due to this, everyone has their own opinion and everyone seems to have turned against each other as you sit by and just watch it happen. And just wanted to thank you

sarcastically.

MR. BIMBER: I would also like to thank all of you for your interest in this project, and coming out tonight and providing your input into the scoping outline and into this process. Certainly, as we go through this process -- let me take a step back.

We will be accepting comments on the scoping outline through the 14th of July. So if you think of something when you get home, tomorrow, next week, give me a call, or preferentially, put it in writing or send it to me or e-mail it to me.

Again, if you didn't get copies of the handout, the outline to look at, please see me after the meeting. I'll get your name and I'll send you a copy. And that's about it.

Again, comment deadline 14 July. As we move through the process, the next step once the draft Environmental Impact Statement is

finished, as Nancy indicated earlier, the next step will be a department review. Minimum number of 30 days, probably closer to 60 days and at that time or any time between now and then or any time in the future, you're more than welcome to come on up and look at the files, look at the applications and look at the materials that are available for you to review. And that's all I have.

No other comments? Again, thank you very much for coming out tonight and we will close the record.

If anybody has any comments or questions or would like talk to myself or the project sponsor, our minerals experts, come on up front. We'll be glad to talk to you.

(Whereupon the proceedings concluded at 8:09 p.m.)

C E R T I F I C A T E

I, DOREEN M. SHARICK, do hereby certify that I have reported in stenotype shorthand the NYS DEC Public Scoping Meeting, Frontier Stone Quarry, at the Shelby Town Hall, Shelby, New York, on June 27, 2006.

That the transcript herewith numbered one through sixty-five is an accurate and complete record of my stenotype notes.

Doreen M. Sharick

DOREEN M. SHARICK

Notary Public.

July 10, 2006

Mr. Dave Bimber:
Deputy Regional Permit Administrator
6274 East Avon-Lima Road
Avon, N.Y. 14414

I am writing you this letter in reference to the proposed stone quarry in the Town of Shelby. As a resident, living only 1/3 of a mile from the proposed site, I have my concerns about my well, the noise, and dust from the production of crushed stone being produced at the quarry. In addition my concerns are for the truck traffic and the effect it may have on the wildlife in the Irquois National Wildlife Refuge which could be devastating.

Having been in the construction business over 30 years I do have knowledge of how a quarry works. They can say they will do this and not do that but we all know how that goes sometimes.

The main reason for my writing you this letter is in response to something that was presented to the Shelby Town board meeting on June 13, 2006. A Syracuse law firm, Gilbenti, Stinziano, Heintz and Smith were there on behalf of Frontier Stone Llc.An environmental attorney with this law firm got up and said that new blasting technology helps to focus the blasts, reducing noice, and pinpointing the energy. That could still be pinpointed at my water source. He also said that western N.Y. contractors and municipalities would benefit from the stone to build homes and roads. He talked about the high cost of asphalt to build roads due to the stone quarry's closing because of lack of stone and having to haul the blacktop at an average of 30 miles away. We do not have that problem here in Shelby. I did my homework and this is what I came up with as to how far away our quarry's actually are.

Barre Stone Products	(East of proposed site)	6.5 miles	stone & asphalt
County Line Stone	(south of Proposed site)	15.45 miles	stone & 2 asphalt plant
Buffalo Stone Corp.	(South of proposed site)	10.58 miles	stone & asphalt plant (not producing)
Shelby Crushed Stone	(west of proposed site)	5.11 miles	stone only
Lafarge	(west of proposed site)	9.2 miles	stone only
Lafarge North American	(west of proposed site)	15.14 miles	stone & 2 aspahlt plants
Hanson Stone Product	(east of proposed site)	22.6 miles	stone only
Hanson Stone Product	(south east of proposed site)	25 miles	stone & 2 asphalt plants
Fruit Ave Sandstone	(north of proposed site)	6.1 miles	Crushed stone

There are also 7 active sand wash and gravel pits in operation within a 10 mile radius of the proposed site.

In closing I know that some of my information may not be environmental concerns, and

may not have an inpact on you decision, but if your decision could sway either way that my concerns may help in your decision to deny the permit application. Is this quarry Need or Greed..

Thank you in advance for your time and consideration.

Yours truly,

Kenneth L Printup Sr.
5097 Bigford Road
Medina, NY 14103
585-798-2639 Cell (585)704-7674
E-mail – unit3074@yahoo.com

July 10, 2006

D. E. C.
6274 East Avon-Lima Rd.
Avon, N.Y. 14414-9519

Attn: David Bimber

Dear Sir,

We are writing this letter to inform the D.E.C. that we are strongly opposed to the proposed opening and operation of a stone quarry on Chester Zelazny's property on the Fletcher Chapel Rd. We reside 3-4 miles away from this property on South Gravel Road, and the reasons for our opposition are the following:

<1> With four other stone quarries in Orleans County, and a more than adequate supply of stone, a 5th quarry is definetly NOT necessary.

<2> By far, the most important issue is the serious health concerns that could arise from the mining and trucking of the stone. Residents in the area who are suffering from allergies, asthma etc. will definetly be affected from the dust. This is NOT a good environment for babies and young children.

<3> For the residents who cannot speak----please consider the close proximity to the Iroquois National Wildlife Refuge !!!!! Common sense tells anyone that the noise and air pollution would most certainly disrupt the habitat of the wildlife.

<4> As we stated earlier, we have resided on South Gravel Rd. for 36 years. Being a state highway, we have experienced our share of traffic, noise and road dust, and do not feel that an increase in those areas are necessary

In closing, we sincerely request that the D.E.C. take into consideration all the reasons and factors and REJECT the request for the opening and operation of the Frontier Stone Co. stone quarry.

Thank you,
Tom and Nancy Watson

Tom Watson
Nancy Watson

TOWN OF SHELBY
County of Orleans
4062 Salt Works Road
PO Box 348
Medina, NY 14103

Office of Town Clerk 585-798-3120
Office of Highway Supt. 585-798-3248
Office of Assessor 585-798-3465

July 11, 2006

David L. Bimber
Deputy Regional Permit Administrator
NYSDEC – Region 8
6274 East Avon-Lima Road
Avon, NY 14414-9519

Re: Draft Environmental Impact Statement Scoping Outline
Frontier Stone, LLC – Shelby Quarry
DEC 8-3436-00033/00001 MLR 800823

Dear Mr. Bimber:

Each member of the Town of Shelby Town Board is in receipt of a copy of your correspondence dated June 7, 2006 and the attachments thereto including the scoping outline. Please be assured that each member of the Shelby Town Board has carefully considered the contents of your correspondence and the scoping outline. The Town Board concurs with the issuance by your office of a positive declaration of significant effect with respect to the proposed action and further concurs with the necessity of the preparation of a Draft Environmental Impact Statement.

Additionally, all of the members of the Shelby Town Board were present at the public scoping meeting held on June 27, 2006 at the Shelby Town Hall. Accordingly, the members of the Shelby Town Board have had an opportunity to reflect on the comments made at the scoping meeting. The Town Board also takes due note of the extremely large attendance at the public scoping meeting. Given that the public scoping meeting was transcribed, and the transcript will become a part of the official record of this application, it is unnecessary to summarize the public comments in the context of this correspondence. A number of issues have been raised regarding the project's potential for adverse impacts to wildlife, increased noise and dust, traffic, ground water/surface water quantity and quality within the project area, and impact to wildlife and wildlife habitats found in and adjacent to the Iroquois National Wildlife Refuge. While all of the aforementioned issues are of enormous local concern, negative impact to wildlife and wildlife habitats found in and adjacent to the Iroquois National Wildlife Refuge must also be viewed in a regional and state-wide context.

Pages 2 through 6 appear to require exhaustive examination of these issues and their potential impact. The Town Board concurs with those enumerated issues. A subject area which was repeatedly raised at the scoping meeting was the impact of blasting on the foundations of homes and other structures in the proximity of the proposed mine. Not only is blasting likely to result in noise and dust, but may well have an impact on the structural integrity of residences and other improvements to real property in proximity to the mine. Therefore, the Town requests particular attention be paid to blasting not only as a potential nuisance but also as a potential destructive force to the structural integrity of improvements.

Given the proposed location of the mine site, it would appear that traffic and transportation will be utilizing the existing roadway system which consists mainly of local and secondary roads. Maintenance and control of this local roadway system falls to a large extent on the Town government. Given the expense of road construction and repair, traffic and transportation is of particular concern to the Town. Therefore, the Town requests that detailed study be given to this subject and the potential impact to the Town in terms of increased cost of road maintenance and repair and corresponding tax revenue requirements be examined in the Draft Environmental Impact Statement.

Similarly, as the elected members of the Town government, the Town Board is of the opinion that the DEIS must also thoroughly assess the potential impacts of the project on the local economy, employment opportunities, revenues and property values, not only in proximity to the mine but also throughout the Town. While there may be some potential for additional assessment valuation to the Town as a result of the possible construction of the project, it also appears that a potential long term impact of the project would be to diminish property values of existing construction and to discourage future rural business and residential development. In the event that there is a negative effect on property values in proximity to the mine and throughout the Town, the construction of the project may conceivably result in a net negative revenue impact to Town government and the Town as a collective municipal entity.

As well as the impact on the governmental revenue stream, due consideration must be given to the demographic and sociological changes attributable to the project which may ensue. Continuance of a rural agrarian lifestyle has always been identified as a key element for becoming and staying a resident of the Town of Shelby. It would also appear that the proposed project area falls within the Oak Orchard Creek Watershed. The Orleans County Soil and Water Conservation District has devoted considerable time and effort to studying and ensuring the vibrancy of the Oak Orchard Watershed. This would appear to be a concern of agriculture producers as well as residents, and therefore, requires specialized study and evaluation in the DEIS.

It is the opinion that the Town Board that one of the most important functions of the scoping process is to identify the alternatives to the proposed action which must be addressed in the DEIS. As you know, the SEQR regulations identify a range of alternatives that should be considered for inclusion in the DEIS. The consideration of

less environmentally damaging alternatives is one of the critical objectives served by a DEIS. The Lead Agency is charged with ensuring that the DEIS contains a description and evaluation of the range of reasonable alternatives to the action which are feasible considering the objectives and capabilities of the project applicant. Alternatives can be quite varied, and in this instance, alternate avenues should be considered such as different sites or simply not proceeding with the proposed action at all. The DEIS should, in the opinion of the Town Board, thoroughly evaluate the avenue of not proceeding with the proposed action at all. This request is made in recognition of the fact that there is an already existing mining operation within the Town and there are mining operations in adjacent and nearby towns. Given the ample availability of mined stone products, the DEIS should utilize a balancing test whether the potential benefits of additional mined stone products outweighs the impacts on the natural resource system, traffic, community services, and fiscal balance.

Similarly, the DEIS should identify and discuss the irreversible and irretrievable natural and human resources which will be made unavailable for future use should this project proceed. Your scoping outline suggests that growth inducing aspects should be evaluated as a result of the proposed project. Conversely, an equal amount of study and discussion needs to be devoted to the growth inhibiting aspects that may occur as a result of the proposed project.

Simply put, the proposed project has the real potential to be one of the most significant events in the life of the Town of Shelby. Given the magnitude of the potential impacts, the Town Board must insist that the NYSDEC as lead agency, require that the DEIS be of equally comprehensive length, breadth and sophistication.

Very truly yours,

Merle Draper
Shelby Town Supervisor

cc: Town Councilmen
Town Clerk

I

July 10, 2006

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DEC
274 East Avon-Lima Rd.
Avon, N.Y. 14414-9519

JUL 11 2006

To whom it may concern,

I am writing to comment on the DEC scoping meeting at the Town of Shelby town hall on June 27, 2006, about the proposed stone quarry on the Chester Zelazny property.

My wife and I purchased our property, located at 11646 Fletcher Chapel rd., in September of 1962, moving there in July of 1963. It was an old home, needing a lot of repair and remodeling, knowing that it was all we could afford at the time, rearing six children. We chose to live out in farm country, and enjoy watching the wild life surrounding us. We can look out, both to the north and to the south, and observe wild turkey, deer, duck and geese, different times of the year, plus all our feathered friend that we feed at our feeders.

With the proposed stone quarry, we would see that all disappear. We would also see the value of our home be reduced by at least twenty per cent, according to a couple realtors. Our next door neighbor has been trying to sell his home, and when he has someone interested in it, they decline, until they find out the status of the quarry.

Although we have municipal water, many

of us still use our wells irrigating lawns and gardens, and some still prefer it for drinking. those wells stand a good chance of being destroyed, through the quarry operation.

The reason I bring this up is, that I grew up on a farm which is situated on the corner of the Shelby Basin rd. and Freeman rd., Town of Shelby. This property is situated about 3/4 mile from the quarry operation on the Blair rd. in the Town of Shelby. Since its operation, the water in the well isn't potable. While my mother was still alive, she either had water brought to her by relatives, or she purchased it in stores. Also the quarry blasting cracked the foundation of the house.

Some points I would like to bring up.

1. This is part of the Oak Orchard Water Shed area. What happens to it?
2. This is all farm country, which is in an Ag District, which I am told that it is important to keep our rich farm land intact as good farming land is important for the preservation of humanity. All of a sudden, it is unimportant to keep rich farm land intact?
3. Proximity to the Iroquois Wildlife Refuge. The quarry property butts up to it.
4. At the meeting, there was a picture projected on the screen of the area to be mined. Why wasn't

the aerial picture made large enough to show all the roads, encompassing the square mile of property surrounding the quarry site? (The roads being Tibbets road to the south; Sour Springs to the west; Fletcher Chapel Rd. to the north; and South Woods rd to the east.) There are twenty (20) homes surrounding this area, fifteen (15) of which are on the Fletcher Chapel Rd., between the Sour Springs rd. an the South Woods rd. The Iroquois Job Corp houses 250 students on the Tibbets Rd., plus staff that commutes to work there.

all surrounding areas of the proposed quarry are approximatly 2500 feet from quarry area.

I am deeply concerned about the wild life, and just as important, the human factor.

Thank you for the priviledge of voicing my concern.

Sincerely,

Lavern O. Fuller

Lavern O. Fuller
11646 Fletcher Chapel Rd.
Medina, N.Y. 14103

July 11, 2006

David L. Bimber
NYSDEC
6274 E Avon-Lima Rd
Avon, NY 14414

Dear Mr. Bimber:

Thank you for the opportunity to comment on the scoping outline for the draft EIS for the proposed Frontier Stone Shelby Quarry (DEC 8-3436-00033/00001). Please forgive my handwritten letter but I am currently out of town and do not have access to a computer.

I first would like to formally requested that all project-related documents be placed at the Lee Whedon Library, West Avenue, Medina NY 14103 so that the public may have ready access to them. I anticipate that the draft EIS will be a lengthy document, and it would require most area residents to take a day (and probably more than one day) off of work to visit your office between 8:30 and

4:45pm Monday through Friday. The office is more than an hour from the project site.

The following are my comments on the scoping document:

Section 4.0

The scoping document mentions that an on-site survey of the mine site will be conducted. At a minimum surveys should be conducted in spring and fall due to the importance of the area to migrating birds. Ideally a survey should be conducted in each season of the year to note changes in use by wildlife.

Because I believe much of the project area is or has been used as farmland in the recent past, the potential impacts to grassland birds should be considered (in addition to birds that use forest interior habitats, wetlands and open water as specified already in the scoping outline.)

In addition to the potential loss of waterfowl hunting opportunities, the potential loss

of deer hunting and birding opportunities due to blasting noise and habitat change and the overall mining operation should also be evaluated. I have witnessed significant amounts of this type of activity near the project site

Groundwater

The draft EIS should focus heavily on the potential impacts to groundwater. It should include maps showing all homes that use well water and should evaluate the potential impacts to homes on Bigford and Edwards Roads that use well water as well as any homes on other neighboring roads that currently use well water regardless of whether public water runs by those properties.

The potential for odors from the dewatering and settling ponds needs to be evaluated. How much hydrogen sulfide and other odor-causing compounds exist in groundwater presently?

Groundwater impacts should be evaluated for every season since there may be hydrological changes

at different times of year.

Air Resources, Noise and Dust

The noise analysis should consider the potential impact of blasting noise on duck hunters, birders and other people recreating in the Iroquois National Wildlife Refuge. It should consider potential economic losses from people choosing not to visit the area due to noise impacts if it becomes apparent that there will be significant noise from the mine.

The effect of noise, especially blasting noise, on migrating and breeding birds needs to be considered. Loud noise can cause birds to flush, and this activity causes them to expend energy. I am familiar with research on tropical birds that showed negative impacts on birds that regularly flushed due to human disturbance. If there are any similar studies of wetland birds, these

should be considered.

Under "Air Resources/Noise/Dust, & Potential Impacts" that scoping outline states that "Processing equipment and processing plant locations will be identified and discussed to the extent possible."

Given the proximity of the mine to homes and to the Iroquois National Wildlife Refuge, these locations should be spelled out in the draft EIS. Only then can the true impact to the site neighbors be evaluated.

Additionally, this is a very windy area. To measure the potential for dust to leave the site and cause problems off-site, wind speed and direction measurements should be taken during all seasons of the year. Changing seasonal wind conditions should be evaluated.

Traffic and Transportation

The draft EIS should include information about whether existing

roads were built to handle the anticipated truck traffic, who pays to maintain those roads (town, county, state?) and whether those entities will be able to sustain additional maintenance costs, etc.

The "additional traffic counts" and/or traffic data that is reviewed should include not only whatever route the applicant plans to use but also an analysis of Bigford, Edwards, and Harrison Road traffic. It is well known to area residents that the intersection of Fletcher Chapel Road and Route 63 is a difficult and dangerous intersection due to limited sight distance. Travelers familiar with the area frequently take Bigford or Edwards Road to Harrison Road. The Harrison Road/Route 63 intersection is a much easier intersection, with longer ~~site~~ sight

distances.

Despite the applicant's initial intention to direct truck traffic through the Wildlife Refuge to route 63, I do not believe that trucks needing to travel north or northwest will follow this longer route, nor do I have any reason to believe that local, county or state law enforcement officials have or will have the resources to regularly enforce such a traffic route.

Visual Resources

The view of the Iroquois Wildlife Refuge from Fletcher Chapel Road residences and the road itself should be evaluated. There is a significant drop in elevation between Fletcher Chapel Road and the Refuge, which makes for very scenic views. It would seem like a mine and any berm designed to hide it could significantly alter the

views from homes along Fletcher Chapel, which could impact ~~the~~ property values.

Human, Economic and Community Resources

The draft EIS should consider the potential loss of revenues from reduced birding, hunting and hiking activity in the Iroquois refuge. It should consider the impact of increased road maintenance costs on local governments and the cost to increase law enforcement activities on area roads. Site safety and security issues should be evaluated in relation ~~to~~ to the neighboring Iroquois Job Corps population of teenagers.

The draft EIS should also explicitly explain the applicant's reclamation plan, including how the reclamation will be funded, who will maintain the new habitats (for example,

invasive species control will be necessary to establish a quality wildlife habitat around the lakes. ~~Do~~ Who will maintain the habitat and for how long? How will it be funded?).

Because the mine operations are expected to affect the neighborhood for the next 75 years, it seems appropriate that the reclamation plan be designed to establish and maintain a quality wildlife and scenic habitat for 75 years after the mine ceases operation. A quality habitat can take many years to become self-sustaining. The draft EIS should provide details on the length of time for the reclamation plan to be implemented.

Additionally, it seems that reclamation plans call for a large deep and smaller deep lake, which is a change from the current wetland and upland

communities that exist in the area. The draft EIS should evaluate the impacts from establishing such a different type of habitat. Could some type of wetland development be included in the reclamation plan? By wetland I mean emergent marsh, swamp or wet meadow habitat.

Section 5.0
Alternative Land Use - continued use of the area for agricultural production or for wind farm development should be considered

Thank you for considering my comments. I look forward to reviewing the draft EIS at the Lee Wheldon Library. If you have any questions (or can't read my writing!) please do not hesitate to contact me at 585-944-0951.

Sincerely,
Meaghan Green

11425 Harrison Rd, Medina NY 14103

IROQUOIS JOB CORPS CENTER

ETR

July 25, 2006

David L. Bimber
Deputy Regional Permit Administrator
NYSDEC-Region 8
6274 East Avon-Lima Road
Avon, NY 14414-9519

RE: Draft Environmental Impact Statement Scoping Outline
Frontier Stone, LLC – Shelby Quarry
DEC 8-3436-00033/00001 MLR 800823

Dear Mr. Bimber:

The Iroquois Job Corps Center is in receipt of a copy of your correspondence dated June 7, 2006 and the attachments, including the scoping outline. Please be assured that we have carefully considered the contents of your correspondence and the scoping outline. The Iroquois Job Corps Center concurs with the issuance by your office of a positive declaration of significant effect with respect to the proposed action, and further concurs with the necessity for the preparation of a Draft Environmental Impact Statement. In addition, as an affected entity, we request that we are provided a copy of all future correspondence regarding this project.

A number of issues are of great concern to our training center in regard to this project's potential for adverse impact to the quality of life for our residents and the existing infrastructure of our facility. This particular Job Corps Center houses 255 residents and operates 24 hours per day, 7 days a week. We maintain our own water, sewer and fire prevention systems.

1. The intent of the mining operation to blast in close proximity to the Job Corps Center risks the integrity of its structures, creating the potential for catastrophic failure.

2. The Center utilizes 36,000-40,000 gallons per day of potable water from ground sources. We are concerned the mining operation has the potential to disrupt the water table and deplete or compromise our resources

3. A large portion of our staff and students have respiratory conditions and an increase in airborne particle material resulting from ongoing blasting may exacerbate their current medical conditions or cause more serious health issues to our Center population.

4. Students at our Center are considered "at risk" youth; increased noise levels could disrupt their learning environment and prevent them from completing their educational goals.

5. The Center strives to provide a calm environment for our "at risk" student population. Blasting in the evening hours could interrupt their sleep cycles, impeding their quality of life and depleting their ability to focus on their academic studies and career skills training.

11780 Tibbets Road, Medina, NY 14103
Phone: (585) 798-7000
Fax: (585) 798-7046

6. Some of the Center buildings are constructed at a lower elevation. The concern of uncontrolled flooding to these buildings due to a water table disruption needs to be taken into consideration.

7. The Center relies on a sprinkler system fed by a fire suppression pond. The disruption of the water table could eliminate our ability to insure the safety of our students. Should a disruption occur and obstruct the operation of our sprinkler system, this center would have to close immediately.

8. The wetlands around the Center expose the student population to a diverse variety of wildlife and waterfowl. Many of our students have had little experience cohabitating in isolated and natural surroundings. One of the tools used on the Center to create a calm environment is visual interaction with the wildlife. A disruption to the wildlife could directly effect our students' ability to adapt to Center life.

9. We are concerned with the increased traffic potential creating unsafe pedestrian conditions. Staff and students frequently walk on Sour Springs, South Woods, Tibbets, and Old Oak Ridge Roads. During the training day academic classes routinely walk down these roadways as an educational experience to heighten the students' awareness of the surrounding nature the refuge harbors.

9. With the potential disruption to the environment, we believe a geographic as well as an in-depth hydrographical survey needs to be completed and all parties informed of the survey findings.

The proposed project has enormous potential to completely subvert operations of the Iroquois Job Corps Center, the students learning environment and the over all safety. Given the magnitude of the potential adverse impacts, we request an alternative site be identified. In closing, we believe this proposed heavy industrial/commercial operation would be in direct conflict with the current operation of this center, the learning environment for our student population, and the preservation of the natural surroundings.

Sincerely,

Steven G. Belk
Center Director

cc: Robert Sweeney, Project Manager - DOL – Region 1 – Job Corps
Brian Fox, President – Education and Training Resources
Timothy Davis, Safety Manager – Iroquois Job Corps Center

11780 Tibbets Road, Medina, NY 14103
Phone: (585) 798-7000
Fax: (585) 798-7046

July 29, 2006

Mr. David Bimber
Dept. Regional Permit Administrator
Division of Environmental Permits
6274 East Avon-Lima Road
Avon, NY 14414-9519

Celeste Morien/ Thomas Morien
12534 Hemlock Ridge Road
Medina, NY 14103

Dear Mr. Bimber:

My husband and I are writing to voice our strong objection to the planned Frontier Stone Quarry in the Town of Shelby. We are objecting for several reasons.

Foremost, we are frequent users of the Iroquois National Wildlife Refuge and think the hydrology of this project will have negative impacts on the water levels and therefore, the wildlife of the refuge as well as the wildlife of the land proposed for quarry use, which is used by Short-eared Owl and Northern Harrier for both nesting and hunting. Many other ground nesting grassland birds, which all face loss of habitat currently survive in some of these fields, including Horned Lark, Savannah Sparrow, Bobolink, Upland Sandpiper, Eastern Meadowlark, Vesper Sparrow, Henslow's Sparrow, Grasshopper Sparrow and Field Sparrow. The section of land specified for use by the stone quarry is massive and is directly adjacent to the Forrestal Flats north of Oak Orchard Ridge Road, a part of the refuge which is well known as a grassland bird habitat. Use of the land close by for a quarry further isolates the populations of birds on the refuge genetically from surrounding populations, making the remaining birds subject to further species decline. At the least, if this quarry is approved, the management of the quarry should be required to create a natural grassland habitat with the affected area, maintaining it as unmowed field through to September, rather than as a mowed, groomed site. This should be required from the onset of operations, not waiting for the 75 year usage to be over, as mentioned in the proposal.

Secondly, our home is located 1.5 miles from the proposed quarry site. We are very concerned that truck traffic, blasting vibrations and noise and air emissions will have a negative impact on our house value and quality of life in the entire neighborhood.

Third, there are already two existing quarries, one in Barre and one in Shelby. Why disrupt more agricultural land when limestone can be obtained already from two other sources?

Thank you for registering our objections to this project.

Sincerely,
Celeste S. Morien
Thomas E. Morien

Genesee Valley Audubon Society

August 7, 2006
208 Rhea Crescent
Rochester, 14615-1212

Mr. David Bimber
Deputy Regional Permit Administrator
NYS DEC Region 8
6274 East Avon-Lima Rd
Avon, New York 14414-9519

RE: Frontier Stone, LLC, Shelby Quarry

Dear Mr Bimber:

On behalf of the Board of Directors of Genesee Valley Audubon Society, I respectfully submit to you the following statement for the Public Record. We have reviewed the scoping outline for the above project. We believe that any project at this proposed site could affect the water level and quality of a national wildlife resource, Iroquois National Wildlife Refuge (Iroquois NWR).

As we have seen with other mining projects mistakes can be made causing aquifers to be drained and the water quality sacrificed. These mistakes can have far reaching implications, therefore we believe that Iroquois NWR will be put at risk by the proposed quarry. Therefore, we believe this project should not be approved.

Sincerely,

June Summers, President GVAS

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Iroquois National Wildlife Refuge
1101 Casey Road
Basom, NY 14013

August 10, 2006

David L. Bimber
Deputy Regional Permit Administrator
NYSDEC – Region 8
6274 East Avon-Lima Road
Avon, New York 14414 - 9519

RE: Draft Environmental Impact Statement Scoping Outline
Frontier Stone, LLC, Shelby Quarry
DEC 8-3436-00033/00001 MLR 80823

Dear Mr. Bimber;

The Iroquois National Wildlife Refuge is in receipt of your June 7, 2006 letter indicating that a draft environmental impact statement will be prepared for the proposed Shelby Quarry for Frontier Stone, LLC and that a draft scoping outline is available for public review and comment.

These scoping comments and information are being provided under the State Environmental Quality Review Act process. We support the scoping outline provided by the New York State Department of Environmental Conservation and the comments below are in addition to the outline provided by the NYSDEC. Additional comments may be provided by our agency under other legislation such as the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*) or the Fish and Wildlife Coordination Act (48 Stat.401, as amended; 16 U.S.C.661 *et seq.*).

The Iroquois National Wildlife Refuge (NWR) is a 10,828 acre refuge located in Orleans and Genesee Counties in western New York. The Iroquois NWR was established in 1958 under the Migratory Bird Conservation Act as an inviolate sanctuary for migratory birds. Our habitats consist of 4,190 acres of uplands and over 6,600 acres of wetlands. Iroquois NWR has recorded over 300 bird species, 42 mammals, 29 amphibians and reptiles and 504 plants. The refuge is home to 2 nesting pairs of bald eagles. The bald eagle is currently listed federally as a Threatened Species. Oak Orchard Creek meanders through the refuge and is designated as a National Natural Landmark.

Along with providing habitats for wildlife the refuge provides wildlife-dependent recreational opportunities like hunting, fishing, wildlife observation, wildlife photography, environmental education and interpretation. The popularity of the refuge's programs is important to the local

community as well as those folks that travel to the area to visit the refuge. The refuge's visitation for these activities is from 35,000 – 50,000 annually.

Additionally, the Iroquois Job Corps Center is located on the refuge and is approximately one-half mile just south of the proposed quarry. The Center is a training facility for youths from age 16 to 22. The Center has housing, cafeteria, offices, and training facilities for 255 students and over 100 staff, as well as their own water well and septic systems

As you can see above, 60% of the refuge habitat is wetland related and the refuge is home to many wetland dependent bird, mammal, amphibian, reptiles and plant species. In addition to this, much of the refuges recreational opportunities are dependent upon wetlands. Examples include birding for waterfowl and marsh and wading birds, waterfowl hunting, fishing and interpretive programs that focus in on aquatic species or wetland management techniques. Hence, it is imperative that water resources, both surface and sub-surface, be analyzed for the impacts to water resources off-site of the proposed quarry area.

Ground water flow paths need to assess the potential impact of changing these flow patterns due to quarry operations. The refuge has four emergent marsh wetlands totaling over 300 acres near the vicinity of the proposed quarry. Consultation with U.S. Geological Survey staff or professional hydrologist may provide pertinent information and advice on ground water flow patterns and potential impacts.

The refuge provides opportunities for waterfowl hunting as mentioned in the draft scoping outline. However, there are additional recreational activities that could be impacted as well including, deer hunting, small game hunting, fishing, birding, trapping, etc. The impacts to all these other activities should be addressed as well and not limited to just waterfowl hunting.

Blasting and use of heavy machinery on-site will produce noise levels much higher than ambient conditions; therefore, the project sponsor should evaluate these potential effects on the Iroquois NWR and wildlife.

The draft environmental impact statement (DEIS) should specifically identify traffic patterns to and from the quarry area. There are two roads that go through the refuge that will allow access to the proposed quarry – Oak Orchard Ridge Road and Sour Springs Road. If these roads are expected to be used the impacts to migratory birds and resident wildlife from the increase truck traffic and noise levels need to be addressed along the entire access corridor. Additionally, safety as well as aesthetic issues along this same corridor needs to be considered since refuge visitors use these roads for access to refuge facilities like observation areas and participate in activities like bird watching, hunting and fishing. The increased and continuous traffic may discourage use of these areas by refuge visitors for these types of activities.

The bald eagle (*Haliaeetus leucocephalus*) is known to occur at Iroquois NWR, as mentioned earlier. Bald eagles are found at various times of the year in the area, including during the migratory and breeding seasons. Eagles will feed on fish, carrion or small mammal prey where available. The project sponsor should evaluate the project's potential direct and indirect effects on bald eagles. Site specific surveys and monitoring of movements near and through the project site should be completed. The project sponsor should contact the Service's New York Field Office for more information. Existing information on bald eagles on Iroquois NWR can be obtained by contacting this office.

Thanks for the opportunity to comment on the draft scoping outline and for keeping the refuge informed on the DEIS process. I welcome the opportunity to discuss these comments with the NYSDEC and the project sponsor as needed. I you need anything further I can be reached at 585.948.5445 ext 202.

Sincerely,

Thomas P. Roster
Refuge Manager

From: David Bimber
To: Davis, Timothy
Subject: Re: Request Extension

I will contact the applicant to see if they will agree to an extension of timeframes. Do you need the entire 30 days or will something less (15 ?) be Ok?

I would appreciate if you could send a written request on organizational letterhead for the record.

Thanks

Dave

>>> "Timothy Davis" <Davis.Timothy@jobcorps.org> 07/11/06 8:32 AM >>>
Mr. Bimber I received your email with attachments. I am reviewing the proposal. I am requesting a 30 day extension. I need to submit our concerns as well as notify the Department of Labor of pending developments.

Thank you

-----Original Message-----
From: David Bimber [mailto:dlbimber@gw.dec.state.ny.us]
Sent: Monday, July 10, 2006 5:00 PM
To: Timothy Davis
Subject: Frontier Stone, LLC

Tim:

Attached is a copy of the Positive Declaration, draft scoping outline and a .jpg of the project location. Please let me know if you have any problems opening the files. Call if you have any questions.

Dave

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

Voice: 585-226-5401
Fax: 585-226-2830

12

From: Gerry Rising <insrisg@buffalo.edu>
To: "David L. Bimber" <dlbimber@gw.dec.state.ny.us>
Date: 8/8/06 10:28PM
Subject: Quarry Concerns

Dear Mr. Bimber:

As a member of the Friends of Iroquois National Wildlife Refuge, I have been asked to look into the situation with regard to the proposed quarry adjacent to the INWR property. As part of my investigation, I contacted refuge managers across the country and have received a number of messages expressing concern about this situation.

The e-mail that I am forwarding, it seems to me, is of particular interest as it speaks to problems associated with a similar undertaking. In particular, it mentions a website that should certainly assist you in your investigation of this quarry proposal:

www.dnr.state.mn.us/publications/waters/quarries_impacts.html

Surely Ms. Takekawa and Ms. Danver (mentioned in the message) could also serve as useful references in your study of this proposed activity.

Sincerely yours,
G. Rising
SUNY Distinguished Teaching Professor Emeritus
University at Buffalo

-------- Original Message --------
Subject: Quarry Question
Date: Tue, 8 Aug 2006 12:44:51 -0700
From: Jean_Takekawa@fws.gov
To: insrisg@buffalo.edu

Hi Gerry,

I thought it would be more appropriate if I wrote you directly regarding your question about effects of quarries on water and other Refuge concerns.

We have encountered issues associated with two gravel mines adjacent to or near Nisqually NWR out in western Washington. These issues have also involved associated asphalt plants, which I'm assuming is not an issue for you there. Water resource effects (both quantity and quality) are both valid concerns. They are also very difficult to quantify or demonstrate.

You may already be familiar with the following report, but I've attached a link that has an interesting report on the effects of quarries/mines on water table and water resources (done in Minnesota).

http://www.dnr.state.mn.us/publications/waters/quarries_impacts.html

I understand from local agency people here in Washington that the type of operation at a quarry can also make a difference in impacts, depending on the product they are producing. In other words, gravel or

larger rock that is for building purposes typically requires water for washing and rinsing, which greatly increases the water use, and so increases potential impact on ground water in the area. For example, a Washington Department of Ecology staff person indicates that if crushed down to 1" in size, water is not typically used or needed to wash the rock, so water demand is reduced.

However, either way, quarries and gravel mines typically leave behind a big deep "lake" which then has an evaporative effect. For example, the final result of the one of the gravel mines adjacent to our Refuge will be a huge, deep "lake" which would result in an estimated 9 million gallons of water lost to evaporation annually. In a system that is already impacted by reduced water flow, this is a real concern.

Much of the debate and evaluation for these two gravel mines have occurred at the local and State level, as here in Washington all gravel mines are regulated by the County who issues the permits, plus involves Washington Department of Natural Resources, which regulates the reclamation plans for gravel mines. The close proximity of our Refuge has been one of several major issues raised by the public and environmental groups. Both proposals went to court - one has been resolved (they got their permit) and the other is still being contested.

In case you would be interested in more details, feel free to give me a call (see contact info below). You may also want to contact a local person here who has been very closely involved in one of the gravel mine issues here (that one involves expansion of an existing gravel mine, plus addition of an asphalt plant). She said she would be happy to talk with you further if you are interested. Sue Danver is the Conservation Chair for the Black Hills Audubon Society. Her home phone is 360-905-9247; email address is Sdanver7@aol.com

Best wishes in your support of Iroquois NWR - the role of Friend's groups is invaluable to Refuges across the country, Jean

Jean Takekawa
Refuge Manager
Nisqually NWR Complex
100 Brown Farm Road
Olympia, WA 98516
360-753-9467

From: "Wendi Pencille" <wpencile@rochester.rr.com>
To: "David Bimber" <dlbimber@gw.dec.state.ny.us>
Date: 8/14/06 3:15PM
Subject: Scoping deadline issues

Mr. Bimber,

I am writing to request that the permittee be required to have Flow Modelling be performed by the US Geological Survey to determine potential impacts of the quarry operation to the aquifer, groundwater flow, and surrounding area. I am requesting this as a part of the comment period for the scoping process.

I recently read the 38 page court decision regarding the problems caused by the mine in the Town of Clarendon in Orleans County NY. In the Matter of Aggregates New York Inc., Ruling on Issues and Party Status Dated May 21, 2004, by Administrative Law Judge, P. Nicholas Garlick.

Regardless of how the town handled the case from a legal perspective, the fact remains that the water over the town's historic waterfall was impacted by the dewatering of the mine as determined in the decision. Initially the Mining company was adamant that it was in no way responsible for the loss of water over the falls (pg 5). However the judge admitted that statements by the permittee did suggest a causal effect between it's activities and the the reduction of water flow over the falls(pg 6). The DEC performed an investigation utilizing aerial photographs and several visits to the mining site and determined that the mining activity could not have caused the the problems reported at the falls (pg 6) and issued a permit to allow dewatering in the mine. However, as soon as dewatering began, the flow of water over the falls ceased. The DEC finally admitted, not only that the mining practices were in fact responsible for the problem, but also that the DEC's own environmental review did not forsee the problem and could not foresee it. They finally concluded that further hydrogeological study was required the study the impacts.

If that happened in our case in the Town of Shelby, it wouldn't mean losing a nice waterfalls. It could mean devastation to an extremely sensitive habitat. The area of the proposed mine in the Town of Shelby is so sensitive hydrogeologically that it would seem essential to the permitting process to determine objectively, what the potential effects would be before permitting the mine in this area. In this case I believe it is imperitive to employ an objective organization to perform the Flow Model vs. a company provided by the mining industry or with ties to the mining industry. And as evidenced in the case above, the current DEC SEQRA process proved woefully inadequate to the task.

I have spoken with Ed Bugliosi of the US Geological Survey office in Ithaca, NY that represents our area. He informed me that the process of Flow Modelling could take up to 2 years. When we're talking about permitting a mining operation that will be in business for 75 years according the the application, this would seem to be an extremely reasonable amount of time to take to perform this critical analysis.

I've also spoken with Steve Army, NYSDEC Apparently he was the responsible party with respect to this mining issue as well as the decisions regarding remediation of the AKZO salt mine collapse south of Rochester. We're concerned with the DEC's ability to objectively and scientifically review the data collected by consultants paid for by the mining industry permittees. History has shown that your review processes have been inadequate in the past and we have more than a town waterfall to protect here in the Town of Shelby.

Sincerely,
Wendi Pencille
President, Citizens for Shelby Preservation and
Concerned Resident, Town of Shelby

CC: "Gene Outterson" <outterson21@yahoo.com>, "Ken Printup" <unit3074@yahoo.com>, "Mike Fuller" <firedog657@wnyisp.com>, "Steve Seitz Jr." <Steve@E-Zsellrealestate.com>, "Skip Draper" <skipdraper@verizon.net>

From: "Wendi Pencille" <wpencile@rochester.rr.com>
To: "David Bimber" <dlbimber@gw.dec.state.ny.us>
Date: 8/22/06 10:03PM
Subject: Re: Fw: Scoping deadline issues

Dave:

It appears that you may have missed the issues I considered critical in my previous email (see below.) The important point in my comments regarding the hydrogeological study was not merely that it needs to be done, but that it needs to be done by an impartial science-based organization. It should not be done by a consultant that caters to the permittee, the mining industry.

Also, that at the very least, the data presented should be reviewed by impartial scientists. From all appearances the DEC seems to be in the business of issuing permits. In three months of talking with officials with the DEC I could find no one who could remember a mining permit ever being denied. No one could produce a single name or example when requested. As such it appears that, barring an incomplete application, while the DEC does require a lot of paperwork and hoop-jumping on the part of the permittees, the DEC ultimately grants all mining permits.

US Geological Survey (USGS) is an impartial organization with no ties to the mining industry. They are well qualified and have extensive experience in hydrogeological data collection and flow modelling. The data they produce would be impartial and comprehensive. We believe they would be the best qualified and most appropriate organization to collect the data regarding the proposed mine in the Town of Shelby adjacent to the Iroquois National Wildlife Refuge. Brockport State University has a department dedicated to surface and groundwater issues. They could review the data. Again they are impartial and science-based.

We want to make sure that the hydrogeological data produced regarding the proposed quarry in the Town of Shelby is more objective, is more carefully reviewed and is more thoroughly scrutinized than was the data produced in the Clarendon situation and any other mining permit application to date. We've got much more to lose here in the Town of Shelby than a waterfall.

You mention that you were the analyst for the Clarendon situation. Do you mean to say that you were the only person to review the hydrogeological data and approve the de-watering permit? Are you a hydrogeologist? I assumed that the DEC had more than one qualified person, certified in the field of hydrogeology reviewing the hydrogeological data for scientific validity, comprehensiveness, and accuracy prior to approving permit applications. Is this not true?

In the case of the proposed mine in the Town of Shelby, we want an impartial and strictly science-based organization collecting the data. Further we want an impartial and highly qualified group to review the data, not the same group who reviewed the Clarendon situation and incorrectly determined that de-watering that mine would have no effect on the town's waterfall.

From talking to DEC officials and people from USGS I understand there is friction between DEC and USGS. We think past differences need to be set aside so that objective and accurate scientific data are collected and

presented. If this does not happen we fear that a permit will be granted based on unsound, subjective data. When this happens, the current way of life for local homeowners and a critical wildlife habitat will be sacrificed.

The above information is presented to clarify my previous comments which were submitted within the comment period for the scoping outline and which I wish to have included in the scoping outline.

Sincerely,
Wendi Pencille
President, Citizens for Shelby Preservation and
Concerned Resident, Town of Shelby

----- Original Message -----
From: "David Bimber" <dlbimber@gw.dec.state.ny.us>
To: "Wendi Pencille" <wpencile@rochester.rr.com>
Sent: Thursday, August 17, 2006 8:53 AM
Subject: Re: Fw: Scoping deadline issues

> Wendi: Your comments in the first paragraph regarding the need for a
> hydrogeological study is appropriate and will be addressed in the
> scope. I was the analyst on part of the Clarendon project, you are
> welcome to come in to look at that file if you would like to review any
> of the data or analyses that were conducted.
>
> Thank you for sending your comments
>
> Dave
>
>>>> "Wendi Pencille" <wpencile@rochester.rr.com> 08/16/06 4:37 PM >>>
> The following was sent to you one August 14th at 3:14 p.m., within the
> time deadline for the scoping outline comment period. I'm writing to
> make sure it has been included in the comments submitted for
> consideration.
>
> Wendi Pencille
> President, Citizens for Shelby Preservation and
> Concerned Resident, Town of Shelby
>
> ----- Original Message -----
> From: Wendi Pencille
> To: David Bimber
> Cc: Gene Outterson ; Ken Printup ; Mike Fuller ; Steve Seitz Jr. ; Skip
> Draper
> Sent: Monday, August 14, 2006 3:14 PM
> Subject: Scoping deadline issues
>
>
> Mr. Bimber,
>
> I am writing to request that the permittee be required to have Flow
> Modelling be performed by the US Geological Survey to determine
> potential impacts of the quarry operation to the aquifer, groundwater
> flow, and surrounding area. I am requesting this as a part of the

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> Garlick.
>
> Regardless of how the town handled the case from a legal perspective,
> the fact remains that the water over the town's historic waterfall was
> impacted by the dewatering of the mine as determined in the decision.
> Initially the Mining company was adamant that it was in no way
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> judge admitted that statements by the permittee did suggest a causal
> effect between it's activities and the the reduction of water flow over
> the falls(pg 6). The DEC performed an investigation utilizing aerial
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> the mining activity could not have caused the the problems reported at
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> it. They finally concluded that further hydrogeological study was
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> losing a nice waterfalls. It could mean devastation to an extremely
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> would be before permitting the mine in this area. In this case I
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> processes have been inadequate in the past and we have more than a town
> waterfall to protect here in the Town of Shelby.
>
> Sincerely,
> Wendi Pencille
> President, Citizens for Shelby Preservation and

> Concerned Resident, Town of Shelby
>
>
> --
> No virus found in this incoming message.
> Checked by AVG Free Edition.
> Version: 7.1.405 / Virus Database: 268.11.1/421 - Release Date: 8/16/2006
>
>

CC: "Gene Outterson" <outterson21@yahoo.com>, "Gerry Rising" <insrisg@buffalo.edu>, "Sue Senecah" <ssenecah@esf.edu>, "Skip Draper" <skipdraper@verizon.net>, "Steve Seitz Jr." <Steve@E-Zsellrealestate.com>, "Mike Fuller" <firedog657@wnyisp.com>, "Ken Printup" <unit3074@yahoo.com>, "Hawk Lady" <hawklady@gmail.com>

ADDITIONAL COMMENTS REGARDING THE DEIS SCOPING OUTLINE

July 11, 2006

Re: Frontier Stone LLC - New Shelby Quarry
DEC 8-3436-00033/00001 MLR 800823

The Draft Environmental Impact Statement Scoping Outline is insufficient.

- It fails to require significant attention to potential adverse effects on the area in the neighborhood including the extreme adverse effects proposed for use of land (invasive industrial as opposed to agricultural/residential) and fails to require sufficient focus on the adverse effects on quality of life of residents in the vicinity of the project.

- Further, the section entitled, "Human, Economic and Community Resources" states, "...Recent community survey results, to the extent they are applicable and statistically valid, will be utilized..." This section should be amended to require accumulation of sufficient statistics to afford a meaningful analysis as opposed to simply referencing "survey results" if they are deemed statistically valid.

- The scoping document fails to require a meaningful analysis of the cumulative effects of the enumerated areas of the investigation. The scoping document fails to require addressing of the creation of material conflict with the community's (the Town of Shelby) current plans or goals as officially approved or adopted, i.e. fails to address the potential for conflict with the Town's master plan, and its establishment of industrial areas as opposed to rural and farming areas.

- The scoping document also fails to require addressing of creation of hazards to human health and, in particular, health of nearby residents subjected to blasting, vibration, noise and traffic. Analysis should be contained relative to effect of a strip mine on the health of the inhabitants.

Please include these as issues to address as well. Thank you.

Sincerely,

Wendi Pencille
Town of Shelby Resident

Dave Ashton

2a1

Questions for meeting on quarry on 6/27:

- I'm sure there are lots of detail they would present on how they will mitigate various concerns but how will they mitigate the loss in real-estate value in the surrounding area?
-
- I know there are 'test wells' in the plan but what will they do when the test wells go dry or are contaminated? What will they do when our wells go dry or are contaminated?
-
- There are documented cases near other stone quarries where not only blasting, but heavy truck traffic have caused foundation problems for nearby homes. What can they possibly do to mitigate that and what will they do if someone's house needs repairs or is condemned due to cracking of the foundation?
-
- It is well documented that the compressional seismic waves as well as the rayleigh or surface waves from the detonation of explosives can cause the swim bladder of finfish to rupture. It has also been known to cause rupture and hemorrhaging of the kidney, spleen, and sinus venous in finfish. Incubating fish eggs are also susceptible to damage by the seismic vibrations. Blasting this close to the wildlife refuge will certainly cause problems for the fish population.
-
- Noise from blasting and from continuous sources like grinding and shipping have been shown to cause several problems for both local mammals and humans. While there may be steps they say they will take to reduce the noise issues, they cannot totally stop the noise or the affects of that noise. Above normal noise levels will affect animals in several ways:
- **Masking**: Noise can mask communication signals that play a role in social cohesion, group activities, mating, warning, or individual identification. Noise can further interfere with environmental sounds that animals might listen to. Noise also affects the direction of sounds of predators and prey (Erbe and Farmer, 2000).
- **Behaviorial Disturbance**: Noise has the potential of disrupting normal animal behavior. Reported animal reactions include a cessation of feeding, resting, socializing, and an onset of alertness or avoidance (Richardson et al., 1995).
- **Hearing Impairment**: Repeated exposures to relatively low levels of noise may have a cumulative effect in inducing permanent hearing loss in mammals (as has been confirmed in humans and other species). Perhaps the most serious impact of noise is the debasement and depletion of habitat as animals are driven from their normal ranges by noise levels.
-
- Quarrying operations will progressively remove one or more benches of rock, most likely advancing from close to the wildlife refuge and proceeding away toward the north and east. Depending on the cumulative height of the benches, the pit will act as a dug well which will draw down the water from the hills (or land) in the surrounding area. The extent of drawdown will depend on the rate of advance of the quarry face, level of the water table in reference to elevation of the bottom of the pit, and the conductivity of the rock. The conductivity of the rock would be enhanced by the effect of blasting. The drawdown of water will adversely affect the level of water table and the use of aquifers by the neighbors. The wells in the vicinity of the quarry may run dry and the base flow in the regional streams, such as Oak Orchard, may be reduced. The dust from blasting and grinding as well as the siltation (silting) carried by the drainage through the blasted rock will affect the quality of the groundwater.

1/27/06

2a2

To:a)N.Y.S.D.E.C.,Div.Of Mining
b)Shelby Town Board
From:Wayne Dickinson,5167 Posson Rd.,Medina,NY 14103
Ph.-585-798-1288
Re:Proposed Stone Quarry-Between SouthWoods and Soursprings Rd.
T/Shelby , Orleans County

I am opposed to such a development.I give the following reasons:1)The area will become an eye sore. The existing land is wide open fields and and farm land adjacent to a federal wildlife refuge.Fletcher Chapel Rd. being higher in elevation allows you to look down onto the land. It's a nice scenic view with the geese landing on it in the Spring and Fall.With it's low elevation this area is going to be very difficult to desguise with earthen mounding ,etc. 2) I am very concerned about what negative affects may occur to local well water users as the excavation gets deeper and the owners have to pump away ground water. Not only can local residential wells go dry ,but as the local water table is lowered the mineral content of well water can increase, making hard water even harder,for example. When a water table is lowered, wells start to draw from water that is deeper and farther away,thereby creating a potential to draw in contaminants from further away sources such as sewage disposal systems,barn yards,etc. .3) I am also concerned about any reclaimation plan that may be mandated. I use Genesee Leroy Stone in Clarendon as an example of what I don't wanrt in my Town:an incinerator ash disposal facility. Better to turn it into a small lake and stock it with fish.

If this quarry ends up being approved by the Town and DEC then please put some conditions on it's development in order to protect the local residents.I make these suggestions: a)Make it a Permit condition that money be set asside in the form of a bond to be used to help those residents whose wells have become affected by the project. If the owners were made to set asside $100,000 a year,then ten years down the road when the quarry is deeper,there might be enough moey to extend the existing public water main in the area to those roads that don't have public water,should people's wells start to go dry or diminish in quality.b)Make it a Permit condition that the applicants develop a well water quality plan. To include routine and background sampling of of local residential wells for mineral content such as calcium hardness,magnesium hardness,sulphate,iron,and also bacteriolgical quality(coliform/fecal coliform bacteria). Develop some monitoring wells in the area of the quarry and do routine static water levels of these wells and local residential wells to look for trends in water quality and quatity changes. Actually anticipate a problem before it happens.c) Require that the reclaimation plan be such that it benefits the area as a recreation,hunting,fishing,hiking resource and not to be used as a landfill of any type d) Make it a condition that they take certain measures to try to desguise the site with well groomed earthen mounds,quick growing trees,etc.

Thanks For Your Consideration

EUGENE OUTTERSM

2a3

This proposed stone quarry will have a negative & adverse effect on the Iroquois Wildlife Refuge.

1. Blasting will effect ducks, geese, an other wildlife such as the bald eagle, turkey, deer & owls. It will have an adverse effect to fish in the ponds.

2. Water level in the refuge could be changed or polluted by washing operations

3. Noise level will effect nesting water fowl & other birds in the refuge & area. Noise level will effect area residents and change the quality of country life

4. Fields are used in the spring & fall for migratory birds resting & feeding

5. There are areas within the refuge used by people and organizations who want to use a nature trail, with blasting going on & loud noises from equipment and machinery these trails/areas will be disturbed.

6. Air bourn dust can cause adverse effect to the water and cause feeding problems and sediment problems

7. Air bourn dust can threaten the respiratory health of area residents and emissions from diesel engines on a daily bases (human and animal alike). May cause a resident to limit outside activity for health reasons

8. Increase truck traffic on nearby roads will increase and cause a negative effect to the area & residents, smaller trucks will use existing roads and not truck routes

9. Blasting can cause damage to home foundations, older & newer ones. Could also cause structure damage to homes & buildings from vibration

10. Diminishing the quantity & quality of ground water available to nearby wells by lowering the water table, loss of recharge areas, fractures, faults and other water bearing features

11. Property values will be diminished due to the character of an industrial area.

Have talked to 2 local realtors & they said the value of home would be reduced by as much as 20% & cause difficulty in trying to sell property

12. A local resident has property for sale & have had problems selling their home. When a prospective buyer finds out about a proposed stone quarry they walk away with no intention of buying the property

13. 269 acres of agricultural land will be removed from farm production & will never be returned to workable farm land.

14. Ag/Residential District is for the purpose to protect agricultural lands & uses from incompatible uses & development, maintain open rural character of the community & to protect the rural environment. This stone quarry will not adhere to these values. The tranquility of the neighborhood will be reduced as it is as present and loss of green space

15. Could effect area ponds, streams in the Oak Orchard Water Shed

16. There are already 4 operating stone quarry's in Orleans County and have all the stone needed for years to come

17. This proposed stone quarry will not benefit the Town of Shelby or Orleans County

18. The only people to benefit will be the property owners & family and the operator/owners of the stone quarry

19. This will have a negative effect to the Iroquois Job Corps and their teaching facility on Tibbits Rd

20. I am sure the owners have heard all of these concerns before. Open all your books & show us how you have resolved each & every problem & complaint brought before you of your previous operations. Give us a list of all complaints. Also give us the names & addresses of every person who had a problem or complaint. Give us the specific resolution of everything you have done

21. Finally remember that the NY State DEC is a state agency which is founded and paid by the taxpayers of New York State and is to protect us and the environment today and for years to come. Dated 6/27/2006

NICK OUTTERSON

2a 4

Environmental Problems with proposed quarry

Impact of Noise on Marine Mammals

-Masking communication signals (social cohesion of various species)

-Behavioral Disturbance (foraging, mating, nursing)

-Blasting in excess of 120 decibels

- Permanent Hearing Impairment (especially in nesting areas)

Water Pollution/ Toxic Explosive residues

-Unexploded material left over from blasting
(The explosive residue will enter the surface and groundwater through gravity flow and washing of the aggregate.)

-Contaminated groundwater/ lower water table

-Siltation effects fish habitat

-High turbidity disrupts the food chain (migratory birds ARE included)

-Base flow of regional waterways will be reduced (last time I checked there is a large amount of water located nearby.

-Where will the wastewater go?

sources: (1) Mining-Civil Engineer, Sandy Cove, Digby County, NS, Canada
(2) Fisherman, Whale Cove, Digby County, NS, Canada
(3) Geotechnical Engineer, Golder Associates S.r.l, Turin, Italy

Wendi Pencille
2a5

Mining and quarrying can cause considerable harm to nearby residents and the environment. Frontier can tell us all about the technological advances that have reduced mining impacts, but the negative effects are by no means eliminated. Plus the impact reduction technology they are talking about is by no means foolproof much less universally applied.

- **HOW WILL YOU GUARANTEE THERE WILL BE NO NEGATIVE IMPACTS?**

The DEC should deny this mining permit because it is in a poorly chosen area with respect to residential homes, wells, and the wetland habitat of the adjacent National Wildlife Refuge. It doesn't belong in this location for many reasons.

Allowing a stone quarry to be built in this area will reduce housing values by the noise, loss of view shed, by imposing an industrial character to the area, and by the associated increased truck traffic. The tranquil nature of the neighborhood will be destroyed by the noise emitted by the blasting, truck traffic, crushing operations, and excavation equipment. We've already heard about people not wanting to buy property when they know a quarry may be coming to the area.

- **HOW WILL YOU GUARANTEE HOUSING VALUES WILL NOT BE REDUCED?**
- **HOW WILL YOU GUARANTEE THERE WILL BE NO NOISE IMPACT ON THE COMMUNITY?**
- **HOW WILL YOU GUARANTEE PEOPLE WILL BE ABLE TO GET A FAIR MARKET, PRE QUARRY, VALUE FOR THEIR HOMES SHOULD THEY DECIDE TO SELL?**

And in the case of the habitat of the Endangered Species Short Eared Owl and other wildlife in the refuge, you'll have residents who can't speak for themselves.

- **HOW WILL YOU GUARANTEE WE WILL NOT LOSE ENDANGERED SPECIES, SHORT EARED OWL HABITAT?**

The increased truck traffic will also negatively affect air quality. It will be will be degraded by the diesel fumes and dust. Just because the fumes get diluted as they blow away from the site doesn't mean there is no harm. This threatens the respiratory health of the neighbors in the area as well as the wildlife. Prevailing winds should not be a factor in allowing such a project until you can control the prevailing winds.

- **HOW WILL YOU GUARANTEE THERE WILL BE NO NEGATIVE EFFECT ON AIR QUALITY?**
- **HOW WILL YOU GUARANTEE THERE WILL BE NO DUST FROM THE QUARRY BILLOWING THROUGHOUT THE AREA?**

Home foundations will be at risk from the blasting operations and heavy truck traffic on the nearby roads.

- **HOW WILL YOU GUARANTEE THERE WILL BE NO DAMAGE TO NEARBY HOMES?**
- **WHO WILL BE RESPONSIBLE FOR DETERMINING WHAT CAUSED DAMAGE TO NEARBY HOMES? RESIDENTS SHOULD NOT HAVE TO PAY TO PROVE THE QUARRY CAUSED THE DAMAGE.**
- **WHO WILL PAY FOR THE DAMAGE?**

Wells will be at risk. The quantity and quality of ground water is at risk every time the rock is fractured by blasting, through a loss of recharge areas, lowering of the water table by the pit excavation and by other blasting effects.

- **HOW WILL YOU GUARANTEE THAT AREA WELLS WILL NOT BE NEGATIVELY AFFECTED BY THE QUARRY?**
- **WHO WILL PAY TO PROVIDE WATER TO THESE HOMES ONCE THE WELLS ARE DAMAGED? WATER COST TO THESE RESIDENTS IS NEGLIGIBLE RIGHT NOW. THEY SHOULDN'T HAVE TO PAY FOR WATER IN THE FUTURE WHEN THE QUARRY AFFECTS THEIR WELLS.**
- **WHO WILL BE RESPONSIBLE FOR DETERMINING WHAT CAUSED DAMAGE TO THE WELLS? AGAIN, RESIDENTS SHOULD NOT HAVE TO PAY TO PROVE THE QUARRY CAUSED THE DAMAGE. THIS WOULDN'T BE AN ISSUE WITHOUT THE QUARRY AND RESIDENTS SHOULD NOT HAVE TO PAY ANY COSTS ASSOCIATED WITH THE QUARRY IMPOSED ON THEM.**

The increase in truck traffic is not only detrimental to the residential areas surrounding the mine, but to the National Wildlife Refuge as well. Just because you can repair roads doesn't mean it's going to have no negative effect on the refuge. The additional truck traffic and the additional impacts of having to resurface and repair the roads through the refuge more often will also have a negative impact. Recently a truck delivering molten tar to LaFarge's quarry in Lockport overturned spilling hundreds of gallons of tar. If it hadn't been stopped by a passing motorist there could have been thousands of gallons of tar spilled. Imagine that happening in the refuge. It's unthinkable that the DEC would allow the added risk.

- **HOW WILL YOU GUARANTEE THERE WILL BE NO SPILLS OF THIS KIND IN THE REFUGE AND SURROUNDING AREA?**
- **HOW WILL YOU GUARANTEE THERE WILL BE NO NEGATIVE IMPACT TO THE REFUGE DUE TO THE INCREASED TRAFFIC, AND RESURFACING OF ROADS?**

The operation of a quarry on this location will result in the loss of habitat for the Endangered Species Short Eared Owl. I have served on the Board of Directors for the New York State Wildlife Rehabilitation Council and graduated from Cornell University with a degree in animal science. I have been a wildlife rehabilitator for 18 years specializing in raptors. 13 of those years have been here in the Town of Shelby. In the 13 years I have lived in Shelby I received three Short Eared Owls for rehabilitation. All of them have come from the area immediately north of the refuge off of Fletcher Chapel Road. This bird only nests in four states and we're lucky enough to have them right here in our community. The effects of blasting, elimination of habitat and disruption of the surrounding habitat on this bird could be disastrous. Studies on the effects of blasting on wildlife have been conducted with respect to tree nesting birds. The Short Eared Owl nests on the ground. We're lucky enough to be some of the few people in the country who will ever be able to see these magnificent birds in their native habitat. Allowing this project in this sensitive area is unthinkable. How do you mitigate this?

- **HOW DO YOU GUARANTEE THAT THE EFFECTS OF BLASTING AND HABITAT LOSS WILL NOT AFFECT THIS ENDANGERED BIRD?**

In summary, we don't want the effects of quarry operation mitigated, we want them eliminated. We understand that the DEC does not routinely turn down permits of this type, but the situation here is very different, with a populated residential area and an extremely sensitive wildlife habitat. Mitigation isn't enough when you're talking about quality of life for people living in the immediate area, endangered species habitat, and a pristine National Wildlife Refuge next door. Also, if you allow this permit you will be letting the state and the country know that an Endangered Species distinction in New York State is not worth the paper it is written on.

To: Dave Bimber
N.Y.S. Department of
Environmental Conservation

From: Jerry Velesko
10375 Maple Ridge Rd.
Middleport, New York 14105
Town of Shelby

I totally support the application of Frontier Stone, LLC, for the proposed quarry operation in the town of Shelby.

Benefits to the community are substantial, which include, job creation, tax base assessments, contributions to local charities, sales and use taxes, and owner-operator delivery services are a few examples.

Clearly a balance must be developed where by industry can supply the existing aggregate resources within the community in an environmentally responsible manner.

Sincerely,

Jerry Velesko

Jerry Velesko

To: Department of Environmental Conservation
6274 East Avon-Lima Rd.
Avon, NY
CC: Town of Shelby Supervisor(Mr. Draper)

This letter is in relation to the proposed mining operation to be located on Fletcher Chapel Road in the town of Shelby.

My family and I live on Johnson Road in the Southwest corner of the town of Shelby, Orleans County and at the present time and I believe not in my lifetime, will see a county water line in front of my house. We are on a drilled well at a depth of sixty-three feet and depend on this well for all our water supply.

We already have two mining operations going on in the town that I am aware of and others in the county and I constantly worry about our well coming up dry one day due to the sand and gravel pits. I also worry about a problem with sulfur showing up in the water. As in the case of Sherkston quarry in Canada, the mine can fill with water over night. If anyone has doubts, SCUBA dive into that quarry and see the equipment left there because the water came in before they could remove the equipment.

Another concern is what is to become of these quarries after they have been mined out. Will they become landfills as has happened in the town of Lockport? We are not leaving our children with a clean environment when we constantly build landfills and stone quarries.

All that being said, are we going to turn the refuge into a desolate piece of land when all the wildlife move out due to the noise, dust and truck traffic?

I am strongly opposed to the addition of another dusty, noisy and potentially damaging situation to our well water system.

Thank you for your time
Joseph A Grabowski
Joseph A. Grabowski
10337 Johnson Rd.
Middleport, N.Y. 14105(Orleans County Town of Shelby)

David L. Bimber, Deputy Regional
Permit Administrator
New York State Department of
Environmental Conservation
Region 8
6274 East Avon-Lima Road
Avon, NY 14414

Re: Frontier Stone LLC
Shelby Quarry, DEC ID No. 8-8436-00033/00001
Response to the Department's June 13, 2008 comments on Frontier Stone LLC's DEIS

Dear David:

Provided below are responses to the Department's June 13, 2008 review and comment letter. Each comment is reproduced in italics below, and where applicable, the section of the DEIS is referenced along with a summary of any changes made therein.

1. The influence of quarry activities on the Iroquois National Wildlife Refuge (INWR) and the NYS Wildlife Management Areas (WMA) located immediately south and contiguous to the proposed quarry, is the most significant potential impact associated with this proposal. In general terms, the dEIS does not adequately analyze those impacts. Statements in the dEIS such as "the proposed site totally avoids the Iroquois Wildlife Refuge and will have no impacts to the vegetation and wildlife there" (4.4.4.1, pg 106) are not adequately supported.

Response:

Please see Frontier's response to Comment 2 of DEC's December 22, 2009 review and comment letter.

2. The conclusion that ongoing mining and blasting activities will have no impact to wildlife in the INWR is unsupported. The assessment of blasting focuses primarily on structural impacts to nearby buildings. A discussion regarding the impacts of noise and vibration on wildlife and wildlife recreation is needed. Please include information on the frequency of blasting and an analysis of the impact of blasting and mining activities on the Refuge. Table 13 should include ambient sound levels at nearby overlooks on the INWR and a discussion of potential impacts should be included for those locations.

Ground nesting birds which may be affected by vibrations, in addition to noise, should also be discussed. There is a large grassland area on the INWR which is in close proximity to the southwest boundary of the proposed quarry site. In the past, this grassland area has been

extensively used during the nesting season by a variety of grassland bird species including the state threatened Henslow's sparrow.

There are also possible issues related to disturbance of migratory birds using INWR, the state WMAs, and the surrounding area; for example waterfowl often feed on waste grains in farm fields during migration. Loud noises and vibrations could potentially decrease the value of the stopover habitat by disturbing resting and feeding activities.

In addition, the discussion should include an assessment of blasting and other quarry related noise on wildlife recreation in the area including hunting, bird watching, etc. Any increase in noise on the area will detract from the peaceful atmosphere which many visitors enjoy when visiting INWR and the State WMAs.

A tabular and narrative summary of potential worst case scenario noise impacts on nearby receptors: S-1, S-1, S-3 and including the INWR and the Iroquois Job Corps Center is needed. The summary should describe impacts occurring during land clearing activities, operations behind proposed berms, and noise generated from a developed mining operation (1 lift and berms).

A tabular and narrative summary of potential worst case scenario noise impacts on nearby receptors: S-1, S-1, S-3 and including the INWR and the Iroquois Job Corps Center is needed. The summary should describe impacts occurring during land clearing activities, operations behind proposed berms, and noise generated from a developed mining operation (1 lift and berms).

Response:

See response to Comment 2 of DEC's December 22, 2009 review and comment letter. To facilitate discussion and to better visualize the impacts of the project on resources within the Refuge, Frontier prepared two maps which overlay the limits of noise and vibration, including ambient readings, over the Refuge. Two maps have been created: Plate 2 and Plate 3. Plate 2 depicts the existing noise conditions throughout the Refuge and proposed quarry site. Plate 3 depicts the anticipated noise and vibration impacts that will result from the proposed quarry. These maps are referenced in multiple sections throughout the DEIS to assist in analysis of the exiting conditions and potential quarry impacts within affected habitats.

As discussed in detail in section 3.1.4 and 4.1.4 the noise from operations reduces to ambient within 200' of the southern boundary of the project area. It is also important to note the ambient readings of 72dBA, 54 dBA and 55 dBA are found within the heart of the Refuge (see Plate 2). The ambient readings reflect the existing farming operations – plowing, planting, tilling, harvesting. In addition the ambient readings reflect busy State Route 63, classified as a minor arterial and the main route to the Village of Medina from the Thruway, is designated by DOT as a "qualifying" or "access" highway for larger dimension trucks (greater than 53-foot trailers).

Blasting is limited by the hours of operations and, when it occurs, it is of a very temporary duration (seconds). In addition, it is an intermittent activity, not a daily activity, and does not occur in the off-season between approximately November to April. Blasting is also weather dependant. Blasting is limited to weekday daytime hours between 10 am and 5 pm. Given these constraints, even assuming 2 blasts per week and 34 weeks of operation per year, and conservatively allowing 3 seconds per blast, the total impact would be 3 minutes per year.

3. Ground water and surface water that accumulates in the quarry will be pumped into existing drainage ditches running to the south. The dEIS states that "how this pump-out will affect habitats down-drainage from the quarry will depend upon the volume of pump-out water. It is anticipated that it potentially will add water to the system and may result in more wetland areas". Part 4.1.4.2 also states that "seasonally there may be increased drainage due to the quarry pump out but this should be no different from current heavy precipitation events."

Despite the fact that flow will be in existing drainage patterns, the timing and amount of the flow may have negative impacts on existing habitat. Water from the drainage ditch will flow into School House Marsh on INWR (State Regulated Wetland MD-3), and if water is sent in heavy pulses it may cause fluctuations in the water levels in the wetland that could impact wildlife species (herps, nesting birds, etc.) and adversely affect the management plans for the wetland. Additionally, any alteration of water levels in a NYS Regulated Wetland would require an Article 24 Freshwater Wetlands permit. The dEIS should provide more information on anticipated flow levels and timing for floes entering into the wetlands south of the proposed site. Another concern is with the quality of water being pumped into the wetlands from the quarry. It is likely that water quality decreases with increasing mining depth, and an analysis of quality issues should be provided. Finally, as mining expands, and discharge continues, the nuisance effects of H2S should be considered.

Your consultant has concluded that there is no Corps jurisdiction on this site by virtue of the Carabell and Rapanos decisions. Has the Corps provided a concurrent opinion or issued a jurisdiction determination regarding this proposal?

Response:

Please see response to Comment 3 of DEC's December 22, 2009 review and comment letter. The DEIS evaluation of potential impacts to wetlands is revised and substantially expanded. This includes revisions to the Wetlands Impact Assessment by TES, a detailed HydroCAD analysis and water quality sampling performed by CPI, and an expanded water budget analysis performed by Alpha Geoscience in its Hydrogeologic Investigation Report. These reports fully address potential impacts to Refuge wetlands, including water quality data, water discharge rates and capacities of culverts and control structures within affected water basins on the project site and adjacent Refuge areas.

Water budget analyses were performed for both Basin 1 and Basin 2 to assess existing conditions and future conditions at full build-out of the quarry and future conditions at Phase 1 of the project.

A water quality assessment was performed based on water quality samples for both surface and groundwater include existing water quality in the wetland and the project site. All parameters requested by DEC were tested. Samples were taken from on-site wells. Those test results are presented in section 3.1.2.2 of the DEIS. Water quality samples representing surface water were taken from School House Pond and from an on-site agricultural drainage ditch. Those results are discussed in section 3.1.2.1. Discussion regarding H_2S is also contained in Section 3.1.2.2.

The applicant submitted information to the Corps for a jurisdictional determination regarding the agricultural drainage ditch and is waiting for the Corps' response.

4. Significant wetland and habitat areas exist surrounding the property and additional hydrological analysis is required. Groundwater impacts are projected to extend to thousands of feet from the proposed quarry, yet a "no impact" conclusion is reached, but is not supported. Groundwater discharge conditions exist in certain areas surrounding the proposed quarry. An evaluation of discharge conditions in wetlands, streams, springs, etc. must be evaluated, and the impacts from dewatering assessed. Worst case conditions need to be examined in light of documented draw down at distance during the pump test.

Response:

Please see response to Comment 3, previous.

5. A narrative and graphic description of the quarry's draw down at full buildout [sic] must be provided. Extrapolated drawdown contours on Figure 11 show a groundwater depression at approximately 9000 ft. from the pumping source. Drawdown contours need to be provided for the mine at full buildout, and in a dewatered state (drawdown of 120 + feet).

Figure 11 projects a measurable impact at approximately 9,000 ft. from the pumping well, while Figure 12 only shows an impact area of 4,000 ft. Figure 12 should be expanded to show all wells within the projected draw down area of the mine at the final depth and full buildout.

Response:

Please see response to Comment 3, previous.

6. All drill logs, notes, data, and information used as a basis to form conclusions on the geology and hydrogeology of the site, and surrounding areas, must be submitted. If groundwater monitoring has continued since 7 July 2007, the data should be included.

Response:

All data used to form conclusions regarding geology and hydrogeology is provided in the Appendices.

7. *The residential well mitigation plan is unacceptable. The one-half mile radius needs to be expanded based on data provided in the DEIS. Monitoring well data during the pump test as well as Figure 11, indicate that there is a potential for impact beyond the one-half mile radius. Furthermore, data has confirmed drawdown of 3 to 7 feet at distances approaching 2000 ft. with minimal drawdown in the pumping well.*

Response:

Please see Frontier's response to DEC's comment letter dated December 22, 2009 regarding Section 1.5.2.2.

The proposed arbitration agreement has been deleted from the DEIS and an alternative mitigation plan is provided.

8. *The route that the trucks will take to access Route 63 goes right through a portion of the INWR. No mention is made of the impacts of truck traffic to the recreational use of these roads by visitors to the INWR (including birders, hunters, students from the Job Corps, etc.). Dust, noise, and safety issues related to this heavy truck traffic will have definite impacts to public use of this portion of the wildlife refuge (there are two overlooks/parking areas located on this truck route). There should also be a discussion of impacts to wildlife use of the habitat immediately adjacent to the roads and to wildlife crossing the road from one portion of the refuge to another.*

Does the traffic survey and levels of traffic generated by the facility include estimates of traffic levels associated with ancillary processing facilities (concrete batch plants, etc.)?

Response:

See response to Comment 2 of DEC's December 22, 2009 review and comment letter. To facilitate discussion and to better visualize the impacts of the project on resources within the Refuge, Frontier prepared two maps which overlay the limits of noise and vibration, including ambient readings, over the Refuge. Two maps have been created: Plate 2 and Plate 3. Plate 2 depicts the existing noise conditions throughout the Refuge and proposed quarry site. Plate 3 depicts the anticipated noise and vibration impacts that will result from the proposed quarry. These maps are referenced in multiple sections throughout the DEIS to assist in analysis of the exiting conditions and potential quarry impacts within affected habitats.

Frontier's proposed operations do not include ancillary processing facilities such as concrete batch plants.

9. Page 70 Corrections: The DEIS states that the Tonawanda area includes the headquarters and visitors center, but there are no headquarters or visitors center on state land; these are part of INWR. The list of recreational opportunities on the refuge mentions hiking and wildlife viewing, but does not mention other activities such as hunting, fishing, trapping, canoeing etc.

Response:

The list of recreational opportunities has been expanded to include the referenced activities. New Section 1.3.3.1.1 Recreation has been added. Section 1.3.3 includes a summary of impacts to the recreation. Section 3.2.7.1 discusses the existing Refuge recreational uses in detail. Section 4.2.7.1 contains detailed discussion regarding potential significant impacts to recreational users.

10. Discussion is needed regard the use of the area by wildlife. For example, will it make the general landscape in the area less attractive to the short-eared owl that winter in close proximity to the site? Also the cumulative affect of development and other land use changes in the area should be discussed. Due to the ethanol plant located nearby in Medina there is an increased demand for land that is suitable for farming. This increase demand will likely result in corn being planted in areas that are currently pasture, hay and fallow fields which provide some habitat for grassland nesting birds, many of which are in decline. The quarry will eventually remove 175 acres of farmland which will put additional pressure on farm land and grassland habitat in the area.

Response:

TES prepared a Vegetation and Wildlife Resources Report describing baseline conditions at the site. TES also prepared an Impact Analysis of Ecological Resources. In response to DEC and USFWS comments, TES prepared a Supplement to Ecological Resources Report. Those three reports were located in Appendices 6 and 7a of the November 2009 DEIS. Since those reports were prepared, DEC provided additional comments on the DEIS. As a result, TES conducted additional visits and field surveys on the proposed quarry site and surrounding Refuge area. TES combined its previous reports and incorporated the new field work data and responses to comments in an updated Vegetation and Wildlife Resources and Impact Analysis of Ecological Resources Report. The entire revised and updated TES report is located in Appendix 6 of the DEIS and the data is referenced throughout Volume 1 of the DEIS.

Chapter 1 of the TES report provides baseline vegetation and wildlife information. Relevant information from Chapter 1 is excerpted and placed in Section 3.1.4, which describes the existing conditions for terrestrial and aquatic resources Chapter 2 provides the impact analysis of the proposed quarry on ecological resources. Relevant information from Chapter 2 is

excerpted and placed in Section 4.1.4 which discusses the potential impacts to terrestrial and aquatic resources.

The change from farming to quarrying will be very gradual, over many years, with farming continuing on unaffected portions of the project site as long as practicable. In addition, the parcels which comprise the project site are already farmed as row crops such as corn, soybeans and wheat, and not dedicated to hay or pasture.

It is important to note that, despite the overwhelming 566% increase of "urban" lands within the Town, as illustrated in DEIS Table 9 and Table 10, there has actually been a slight increase in lands characterized as "field" and "water" in both the Town of Shelby and the County of Orleans. See discussion in Section 3.2.2 of the DEIS.

As discussed in the Western Orleans Comprehensive Plan, the greater pressure on agriculture land is from residential development. "The potential for conflict between agriculture and residential uses is a concern. Farming is more difficult in close proximity to houses." Agricultural land, when developed residentially, permanently eliminates any potential for continued agricultural use, wildlife habitat, recreational use, open space, and public resources. While eventually removing farmable land, two very large lakes will be made for wildlife and/or recreation, and creating a permanent open space.

County-wide, only 13% of available acres were devoted to hay. The ethanol plant may promote regional farmers to switch from one particular crop to corn. However, as DEC commented in paragraph 2, this will become a food source for migrating waterfowl that feed on waste grains in farm fields.

Map 2-13 contained in the Western NY Comprehensive plan identifies agricultural parcels and designated use (field crop, dairy, livestock, orchards, vacant agricultural parcels). The majority of agricultural parcels within the Town are characterized as vacant. The remaining are considered field crop operations. There are none designated as dairy, livestock or orchards.

11. In my 24 January 2007 transmittal of the final scoping outline, I requested that the dEIS include a table that summarizes public agency and agency comments and where they were addressed in the document. I was unable to find that table in the dEIS.

Response:
A table is included in Section 1.6.

12. The Division of Minerals has also provided detailed technical comments on the MLUP and the dEIS. I have included them as Attachment 1 to this letter.

Response:
Comment noted. Those comments are addressed below.

13. 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.

Response:
Comment noted. Those comments will be addressed separately.

Attachment 1 Division of Minerals Comments
dEIS Vol 1

1.
1.2.3 - As in other sections of the dEIS, topsoil separation from overburden should be described. Where will the 6" of topsoil stripped from the mining areas be stockpiled. Separate stockpiles of topsoil and overburden should be identified.

Response:
The Mined Land Use Plan has been revised and now identifies the stockpiles for topsoil north of the processing area. The overburden will be used for berm construction.

2.
1.2.3 The permittee shall notify the Department's Mined Land Reclamation Specialist, in writing, at least 24 hours in advance of operating outside the currently identified hours of operation. This notice shall include the reasons for the request, relevant contract information, specific activity, and the dates and hours during which the hours of operation restriction would be temporarily suspended. Operations that are limited to these restrictions do not include, maintenance activity or other operations associated with industrial activity at the site (ex HMA production or RMC production. If an emergency situation occurs outside the Department's normal working hours, the permittee shall notify the Department the next business day. Please indicate the days and hours when blasting will take place.

Response:
Please see response to December 22, 2009 Comments for Section 1.2.3.

3.
1.2.3 Provide additional information and impact assessment on the quarry discharge to the agricultural drainage ditches. Where does the water go? Is there a potential for off site impacts from the quantity of water to be discharged? In addition, water quality decreases with increasing mining depth and an analysis of quality issues should be provided. Finally, as mining expands and discharge continues, the nuisance affects of H2S should be considered.

Response:
Please see response to paragraph 3 of Mr. Bimber's comments, above.

4.
1.2.4.2. Topsoil segregation is mentioned, however, where will it be stored.

Response:
Please see response to paragraph 1 of Mr. Bimber's comments, above.

5.

1.2.4.4. A concurrent reclamation schedule should be developed. At a minimum, once an area has been mined out, the quarry face can be backfilled and seeded, while maintaining the quarry floor for operations.

Response:

Portions of the quarry perimeters may be reclaimed concurrently if they do not interfere with daily operation of the mine. Such perimeters would include those along the National Grid land since they are not external to the project and berms in those areas have no significant function in attenuating noise, dust or visual impacts. Efforts will be made to slope and seed reclaimed perimeter areas as mining progresses. A precise schedule for concurrent reclamation is difficult to predict, but once a perimeter is mined to the excavation limit it may be reclaimed if it does not interfere with daily operations and retention of berms affords no environmental benefit.

6.
1.3.2.5./Page 5 B1(g) of the EAF- A maximum truck limit of 8-10 trucks per hour is referenced. However, it also states that it is dependant on market demand, suggesting that levels could be higher. The maximum number of truck trips per hour that will not be exceeded must be state definitively. This should also be considered in the traffic study.

Response:

Please see response to December 22, 2009 Comment letter regarding Section 1.3.2.5.
The average number of trucks was provided as an estimate based upon a projected maximum annual production over 220 days, which is in turn based upon projected plant capacities. Production varies based upon demand. A peak number of trucks per hour based upon equipment capacities is 30 trucks per hour and could occur in the event of supplying aggregate for a large road or construction project, such as for NYSDOT.

7.
1.5.2.2 Consideration needs to be given to residents connected to municipal water, but still utilize their wells for other purposes. The residential well plan is unacceptable. The one-half mile radius needs to be expanded based on data provided in the dEIS. Monitoring well data during the pump test, as well as Figure 11 indicate that there is a potential for impact beyond the one-half mile radius. Furthermore, data has confirmed drawdown of 3 to 7 feet at distances approaching 2000' with minimal drawdown in the pumping well. Extrapolated drawdown contours in Figure 11 are showing a groundwater depression at approximately 9000' from the pumping source. Drawdown contours need to be provided for the mine at full buildout and in a dewatered state. Finally, the your [sic] responsibility to mitigate any impact which has resulted from the mining operation can not be limited to only those residents who participated in the survey.

Response:
Please see response to December 22, 2009 Comment letter regarding Section 1.3.2.2.

8.
3.1.1.3 *All drill logs, notes, data, and information used as a basis to form conclusions on the geology and hydrogeology of the site, and surrounding areas, must be submitted.*

Response:
Please see response to paragraph 6 of Mr. Bimber's comments, above.

9.
3.1.2.2 The quality of the groundwater discharge needs to be considered, and potential impacts evaluated. H2S odor should be considered from a nuisance perspective.

Response:
Please see the response to December 22, 2009 Comment letter, regarding Section 3.1.2.2.

10.
3.1.4 The characterization and impact assessment of off site resources is inadequate. The dEIS only details resources within the project boundary, and has not adequately characterized the surrounding environs with respect to vegetation and wildlife, endangered and threatened species, and wetlands and streams.

Response:
Please see response to paragraphs 1, 2, 4, 8 and 10 of Mr. Bimber's comments, above.

11.
Identify the proposed site location on Map 2-8.

Response:
The site location is identified on Map 2-8.

12.
4.1.2.1 Surface water drainage courses will be altered. As mining progresses, the man made ditch section location in Phase 2 will be removed. Where will the drainage flow when the ditch is cut off. Will a structure be built to allow drainage into the quarry. If so, design details need to be provided, and erosion and sedimentation need to be addressed. If not, what will happen to ditch drainage and how will the backup of water be controlled.

Response:
Please see the response to DEC's December 22, 2009 comment letter regarding this section.

13.
4.1.2.2 - Hydraulic connection appears to exist between the upper bedrock layers and the deeper zones. This is shown by the 2.9' of drawdown in the shallow barn well at approximately 1700' from the pumping well. Potentially significant impacts exist taking into account that the pumping well was only drawn down 11.7' over 72 hours. Also, the drawdown plots in the groundwater study indicate that the shallow barn well responded quickly to the pumping well. Furthermore, statements on minimal vertical connection within the Lockport are not supported by the pump test results.

Response:
Please see the response to DEC's December 22, 2009 comment letter regarding this section.

14.
4.1.2.2. - Figure 11 projects a measurable impact at approximately 9,000' from the pumping well, while Figure 12 only shows an impact area of 4,000'. Figure 12 should be expanded to show all wells within the projected draw down area of the mine at the final depth and full buildout.

Whether or not local wells are drawing water from the water bearing zone at depth is irrelevant. The pump test has confirmed impact at distance in the shallow aquifer.

A narrative and graphic description of the quarry's draw down at full buildout must be provided.

As stated, varied hydrologic conditions exist within the Lockport. Despite the data supplied in the dEIS, other quarries within this formation do not typically exhibit draw down less than 50' from the quarry face. In fact, draw down at distance and residential well impacts have been documented. Worst case conditions need to be examined in light of documented draw down at distance during the pump test.

Response:
Please see the response to DEC's December 22, 2009 comment letter regarding this section.

15.
4.1.2.2.3 - Additional analysis is required. Significant wetland and habitat areas exist surrounding the property. Groundwater impacts are projected to extend thousands of feet from the proposed quarry, yet a "no impact" conclusion is reached, but is not supported. Groundwater discharge conditions exist in certain areas surrounding the proposed quarry. An evaluation of discharge conditions in wetlands, streams, springs, etc. must be evaluated, and the impacts from dewatering assessed.

Response:

The DEIS evaluation of potential impacts to wetlands is revised and substantially expanded. This includes revisions to the Wetlands Impact Assessment by TES, a detailed HydroCad analysis performed by CPI, and an expanded water budget analysis performed by Alpha Geoscience in its Hydrogeologic Investigation Report.

Water budget analyses were performed for both Basin 1 and Basin 2 to assess existing conditions and future conditions at full build-out of the quarry and future conditions at Phase 1 of the project. The HydroCad and water budget analysis include annualized volumes from groundwater and storm event analysis to include a 2 year, 5 year, 10 year and 25 year storm events. School House Marsh Pond will have insignificant water level changes. Seasonal runoff is reflected in these storm event analyses.

16.
4.1.3. Please confirm that processing equipment will be run by line power.

Response:
Frontier will use line power to run the processing equipment. This is stated in Section 4.1.3.

17.
4.1.4.1 The conclusion that ongoing mining and blasting activities will have no impact to wildlife in the Iroquois Wildlife Refuge is unsupported.

Response:
Please see response to Comment 2 of DEC's December 22, 2009 comment letter.

18.
4.2.3 The applicant must commit to the recommendations/improvements outlined in the traffic report.

Response:
The traffic engineer's report lists recommendations for the proposed project which will be implemented by the Applicant in cooperation with the Town Highway Department prior to operation of the facility.

19.
4.2.5.1 Why is there a break in the berm along Fletcher Chapel Road. Provide the timing of berm construction. Will all berms remain in place until mining is complete.

Response:

The break in the berm is provided at request of the landowner in that it provides an access lane for farm machinery and in order to observe crops in the field. All exterior screening berms will remain in place. Some interior berms that do not provide screening may be removed and used for reclamation. The applicant anticipates that there will be adequate material from clearing to accomplish reclamation involving seeding for stability. See also section 4.1.1.2 of the DEIS.

20.
5.1.2 Again, what will be done when the ditch crossing the site is removed? Will water be allowed to enter the quarry? If yes, how will the water be accepted, and what structures will be put in place. If no, how will water backup in the ditch be prevented.
Where will the water pumped from the quarry go? Need to address ditch, wetland, wildlife, habitat, and adjacent property owner impacts.

Response:
Please see the response to DEC's December 22, 2009 comment letter regarding Section 4.1.2.1, page 92.

21.
5.1.2.3 *The well mitigation plan is unacceptable. The one-half mile radius around the quarry may not be adequate based on the projected broad cone of depression. The mitigation plan cano not only be limited to those impacted who have participated in the well survey. An individual's right to decline participation does not alleviate the permittee's responsibility to mitigate an impact if one exists. Applicant must commit to installing monitoring wells and take baseline samples prior to the commencement of mining activities.*

Response:
See response to DEC Comment letter dated December 22, 2009 regarding Section 1.5.2.2. The proposed arbitration agreement has been deleted and an alternative mitigation plan is proposed.

22.
Page 2 of DEIS (Vol 3) provides information regarding a barn well. By looking at the elevations, it appears this well is in a pit. Drilled wells in a pit below grade tend to flood if not properly maintained. Please indicate if this pit is ever flooded, therefore introducing surface water into the groundwater. This could have an effect on well monitoring data accuracy. Provide design detail and current condition of this well in order to determine if it is an effective monitoring point.

Response:

The barn well on the Zelaney property is used for watering the cattle. While it is a depression, the well does not flood. It is a reasonable indication of water elevation in the area, however, the applicant is proposing other wells to monitor ground water elevation.

Mined Land Use Plan Volume 2

23. *All dEIS changes based on comments shall be incorporated into the MLUP where applicable.*

Response:
Comment noted. Necessary changes are incorporated in the MLUP.

24.
Why is there a break in the berm along Fletcher Chapel Road on Map 1?

There are acreage and detail discrepancies between Maps 1 and 2. Map 1 shows an excavation area of 28.4 acres for phases 1 and 4, yet Map 2 shows 38 acres of lake area. Similarly, Map 1 shows an excavation area of 143.8 acres for phases 2 and 3, yet Map 2 shows 161.2 acres of lake area. The cross section on Map 2 verifies this.

Map 2 shows that excavation will take place under the berms identified on Map 1, outside the excavation area.

The cross section on Map 2 does not show overburden replacement on the western side of A-A' at the top of rock. All other slopes show replacement.

Surface contours do not extend into the phase 1 area. The last contour is 626', while DH S-05 shows a surface elevation of 619'. With the contour interval at 2', this area should show 3 to 4 additional contours.

The Mine Plan Map shows a cross section identifying 2 lifts. The narrative in section 1.2.3. states that there will be 3 lifts. This discrepancy should be corrected, and either the narrative of map must be revised.

Response:

The break in the berm is provided at request of the landowner in order to provide an access lane for farm machinery and in order to observe crops in the field.

The excavation area refers to bedrock excavation area. The lake, as shown in the cross section on Map 2, will rise above the top of the bedrock excavation and areal coverage will extend over the shallow overburden slopes, creating a lake larger than the bedrock excavation area.

Contours have been adjusted based upon several additional surveys.

The cross section on Map 2 indeed shows overburden replacement.

Mining will take place in 3 lifts as stated in Section 1.2.3. Reclamation will create 2 lifts. The Mine Plan map does not show any cross sections of the lifts. The reclamation plan, however, shows the 2 lifts that will be created upon reclamation.

General

25. Need to provide a map identifying the boundaries of the Iroquois Wildlife Refuge, the Oak Orchard and Tonawanda Wildlife Management Areas in relation to the proposed property.

Response:
A map showing the proposed project site relative to the Refuge and Wildlife management areas is located in Figure 1 of TES's revised report.

26. Identify and describe the multiple sump locations that will be needed during phase progression.

Response:
The multiple sump locations are depicted on the mining plan map.

27. If groundwater monitoring data has continued since July 7, 2007, the data should be provided.

Response:
See Response to paragraph 6 of Mr. Bimber's comments, above.

28. All boring information should be provided.

Response:
See Response to paragraph 6 of Mr. Bimber's comments, above.

29. Reference was made to the possibility of using a well to supply water to the primary crusher. Information, details and an impact assessment should be provided.

The water for the primary crusher will be provided by the sump and not a well.

30. Provide ROW crossing construction details, and/or restrictions. A letter from Niagara Mohawk should be submitted granting approval of the crossing.

The applicant submitted construction details to National Grid to approval that setbacks from the power line are adequate. National Grid has agreed to enter into a Third Party Occupation Agreement with Frontier for its proposed crossing of National Grid land. The documents are located in Appendix 15 of the DEIS. National Grid will sign the agreement upon issuance of the mining permit.

The following are Frontier's responses to the specific comments submitted to David Bimber by Thomas P. Roster, Iroquois National Wildlife Refuge Manager, dated June 26, 2008.

Volume 1 USFWS Comments:

Page 2 states "all identified potential impacts resulting from the activities associates with the proposed mine will be satisfactorily mitigated". We feel that the potential impacts have not been properly researched and identified and that no mitigation for any wildlife impacts have been offered.

Response:

The language in the DEIS has been changed. Please also see Frontier's response to DEC Comment letters dated June 13, 2008 and December 22, 2009. The DEIS and supporting documents, particularly the wetlands impact investigation, ecological resources report and hydrogeologic investigation have been substantially revised.

Page 90 states that Figure 11 illustrates the drawdown contours as a result of the 72-hour pump test and that the "drawdown has created a cone of depression that theoretically extends several thousand feet". However, on page 102 when discussing the Dewatering Impacts on Wetlands, the applicant states that "quarry dewatering will not produce a significant cone of depression". We find these statements to be contradictory and confusing.

Response:

The Refuge will not be impacted by groundwater drawdown by the quarry. This conclusion is predicated on observations that the water levels in the wetlands are associated with a shallow water table, that a thick (30 ft.) deposit of underlying, low permeability, silt and clay isolate the wetlands from the bedrock aquifer and that the water levels in the bedrock are already below levels in the wetland; consequently, any potential drawdown has already occurred naturally. See DEIS Section 3.1.2 and 4.1.2, and the Alpha Geoscience Hydrogeological Investigation in Appendix 4.

The DEIS evaluation of potential impacts to wetlands is revised and substantially expanded. This includes revisions to the Wetlands Impact Assessment by TES, a detailed HydroCAD analysis and water quality sampling performed by CPI, and an expanded water budget analysis performed by Alpha Geoscience in its Hydrogeologic Investigation Report. These reports fully address potential impacts to Refuge wetlands, including water quality data, water discharge rates and capacities of culverts and control structures within affected water basins on the project site and adjacent Refuge areas. Water budget analyses were performed for both Basin 1 and Basin 2

to assess existing conditions and future conditions at full build-out of the quarry and future conditions at Phase 1 of the project.

Regarding quarry drawdown, the DEIS also states:

> The theoretical cone of depression shown on Plate 4 in the Alpha Geoscience report (Appendix 4), is considered a worst case scenario and is based solely on intercepting groundwater from the entire Lockport section, and it assumes a highly permeable fracture system. The site specific core data show that the fractures are concentrated in the interval from the top of the Lockport Dolomite to a depth of 59 to 89 feet below the land surface; consequently, the remaining Lockport section to a depth of 150 feet below the land surface will have a non-significant influence on drawdown. The hydraulic conductivity anisotropic distribution of the fractures limits drawdown away from the quarry face. These conditions are the reason that the horizontal extent of drawdown impacts in Lockport quarries fall in the range of 50 to 1200 feet, rather than several thousand feet as suggested by the analysis provided in the Alpha report in Appendix 4.

Page 47 the data the applicant presents to support their claim that "... a typical stone processing facility is an insignificant contributor to ambient concentrations of particulate matter" is from a quarry that operated approximately 4 days/week, 4 hours/day. On page 7 the applicant states that this proposed facility will operate 12 hours/day for 5 days/week and 6 hours/day for 1 day/week, over 4 times the operating time of the study facility. Based on this information, we feel that the applicant's suggestion that the proposed facility will be an insignificant contributor of particulate matter is unfounded.

Response:

As stated, the study supports findings regarding particulate formation, composition and deposition of particulate matter. The study is not a direct comparison of the study plant and the proposed project. The air impacts of the aggregate extraction and processing industry is well documented. Limestone mining involves standard techniques of extraction, crushing, screening, conveying and loadout. The only pollutant generated from the stone is particulate matter. The United States Environmental Protection Agency (EPA) conducts emission inventories and develops emissions factors as a fundamental tool to develop air control strategies. Refer to the New Source Performance Standards for non-metallic mineral processing and EPA AP-42, Chapter 11. The use of EPA AP-42 Emissions Factors is an accepted method for estimating the particulate emissions for many industries, including aggregate processing. Using AP-42 Factors, Frontier's projected particulate emissions from its operations are as set forth in Section 4.1.3. The NYS DEC is the state agency that carries out both the state and federal air pollution control and monitoring programs, as required by the Clean Air Act and under New York State law and regulation, most notably 6 NYCRR Part 201. New York's air permitting program identifies and controls sources of air pollution requiring either air pollution permits (state facility or Title V), or

air facility registrations. Frontier will operate its equipment pursuant to the regulatory limitations of the permit issued by NYS DEC.

Page 53 in the Threatened and Endangered Species section states "There is little forested habitat in the vicinity of the site. Surrounding land uses are largely agricultural or residential". The area of Iroquois NWR immediately adjacent to the site is a mix of forest, shrub land and wetland. There is clearly a significant amount of forested habitat adjacent to the sight and since the refuge is approximately 25% of the adjacent property line, wildlife habitat and public recreation should also be listed as a surrounding land use.

Response:

The DEIS has been significantly revised and contains more discussion about the adjacent Refuge, its ecological and recreational resources, as well as discussion about the potential impacts to those resources. The section that is quoted in the comment is contained in a discussion concerning available bald eagle habitat in the immediate vicinity of the site. This section of the TES report and Section 3.1.4.2 of the DEIS is revised to reflect that there is little mature forest which contain super canopy trees which are preferred by bald eagles for nesting.

Several areas of the document state that wildlife on Iroquois NWR will not be impacted by the quarrying operation; Page 106 – "The proposed site totally avoids the Iroquois National Wildlife Refuge and will have no impacts to the vegetation and wildlife there"; Page 163 – "... no significant impacts will occur to wildlife outside the project area"; Volume 3 Section 7A Page 4 – "Mining operations on the site are not expected to affect the wildlife use of adjacent habitats, including those on the Iroquois National Wildlife Refuge". However, the applicant offers no data to support these claims. Several studies have shown that blasting and traffic can have a significant affect on wildlife populations.

Response:

The language on page 106 was deleted. The DEIS has been significantly revised and contains more discussion about the adjacent Refuge, its ecological and recreational resources, as well as discussion about the potential impacts to those resources.

As stated in Frontier's response to DEC's comments, the Vegetation and Wildlife Resources and Impact Analysis of Ecological Resources Report, contains information from additional visits and field surveys on the proposed quarry site and surrounding Refuge area.

In addition, to facilitate discussion and to better visualize the impacts of the project on resources within the Refuge, Frontier prepared two maps which overlay the limits of noise and vibration, including ambient readings, over the Refuge. Two maps have been created: Plate 2 and Plate 3. Plate 2 depicts the existing noise conditions throughout the Refuge and proposed quarry site.

Plate 3 depicts the anticipated noise and vibration impacts that will result from the proposed quarry. These maps are referenced in multiple sections throughout the DEIS to assist in analysis of the existing conditions and potential quarry impacts within affected areas.

Page 154 states that "if the project site was not farmed, the only alternative would be residential development..." This site could also be used as open space and in fact Iroquois NWR has asked the landowner if he would be willing to sell the land to be incorporated into the refuge. The landowner declined.

Response:

This section of the DEIS discusses the beneficial effects from the project, which is the eventual establishment of open space. The landowner is under no obligation to sell the land for incorporation into the Refuge. Despite that the owner declined sale of the land, after mining it will still be established as a permanent open space, with two large lakes for wildlife habitat and/or recreational use. Ultimately, the land will be used as open space.

Page 139 states that "Where serenity and quiet are especially important, an exterior design level of 57 dBA (Leq) is recommended". Serenity and quiet are especially important to many refuge visitors. However, the blast guidelines at the top of page 169 that the applicant says it will conform to appear to be well above the 57 dBA level.

Response:

To facilitate discussion and to better visualize the impacts of the project on resources within the Refuge, Frontier prepared two maps which overlay the limits of noise and vibration, including ambient readings, over the Refuge. Two maps have been created: Plate 2 and Plate 3. Plate 2 depicts the existing noise conditions throughout the Refuge and proposed quarry site. Plate 3 depicts the anticipated noise and vibration impacts that will result from the proposed quarry. These maps are referenced in multiple sections throughout the DEIS to assist in analysis of the exiting conditions and potential quarry impacts within affected areas.

As discussed in detail in DEIS section 3.1.4 and 4.1.4, the noise from operations reduces to ambient within 350' of the northern boundary of the Refuge. It is also important to note that ambient readings of 72dBA, 54 dBA and 55 dBA are found within the heart of the Refuge (see Plate 2). The ambient readings reflect the existing farming operations – plowing, planting, tilling, harvesting. In addition the ambient readings reflect busy State Route 63, classified as a minor arterial and the main route to the Village of Medina from the Thruway, is designated by DOT as a "qualifying" or "access" highway for larger dimension trucks (greater than 53-foot trailers).

Blasting is limited by the hours of operations and, when it occurs, it is of a very temporary duration (seconds). In addition, it is an intermittent activity, not a daily activity, and does not

occur in the off-season between approximately November to April. Blasting is also weather dependant. Blasting is limited to weekday daytime hours between 10 am and 5 pm. Given these constraints, conservatively estimating 2 blasts per week during 34 weeks of operation per year, and very conservatively allowing 3 seconds per blast, the total impact would be 3 minutes per year.

Volume 2:

Page 9, Question 8 of the Environmental Assessment Form asks "Is the proposed action compatible with adjoining/surrounding land uses within ¼ mile?" The applicant selected the answer Yes. We feel that this proposed action could be in conflict with refuge uses and these conflicts have not been adequately addressed in the dEIS.

Response:

The DEIS and the supporting hydrogeological, wetland and ecological studies have been significantly revised and contain more discussion about the adjacent Refuge, its ecological and recreational resources, as well as discussion about the potential impacts to those resources.

Volume 3:
Section 6 Vegetation and Wildlife Resources of the Shelby Quarry Site

The contractor visited the site only two days in winter and two days in summer. We feel this level of survey may be inadequate to accurately determine use by Threatened and Endangered Species, particularly short-eared owls which have been previously seen in the area.

Response:

TES prepared a Vegetation and Wildlife Resources Report describing baseline conditions at the site. TES also prepared an Impact Analysis of Ecological Resources. In response to DEC and USFWS comments, TES prepared a Supplement to Ecological Resources Report. Those three reports were located in Appendices 6 and 7a of the November 2009 DEIS. Since those reports were prepared, DEC provided additional comments on the DEIS. As a result, TES conducted additional visits and field surveys on the proposed quarry site and surrounding Refuge area, including an off-site breeding survey on the Refuge with a follow-up study thereafter. TES combined its previous reports and incorporated the new field work data and responses to comments in an updated Vegetation and Wildlife Resources and Impact Analysis of Ecological Resources Report. Chapter 1 provides baseline vegetation and wildlife information. Relevant information from Chapter 1 is excerpted and placed in Section 3.1.4, which describes the existing conditions for terrestrial and aquatic resources Chapter 2 provides the impact analysis of the proposed quarry on ecological resources. Relevant information from Chapter 2 is excerpted and placed in Section 4.1.4 which discusses the potential impacts to terrestrial and

aquatic resources. The entire revised and updated TES report is located in Appendix 6 of the DEIS and is the data is referenced throughout Volume 1 of the DEIS.

Vegetation surveys were conducted on November 9, well after the growing season and likely too late in the year to detect all vegetation species

Response:

Off-site vegetation cover types were cover mapped by aerial photograph interpretation and field verified on June 17, 2010 and July 13, 2010. This information was used to prepare a vegetation cover map for an area that extends 3,500 feet from the proposed project site. In response to DEC comments, TES performed additional site visits and visits to the adjacent Refuge during spring, summer and fall months.

The number of species detected during wildlife surveys was relatively low. However, both northern harrier (state threatened) and horned lark (state, special concerned) were seen using the project site during wildlife surveys. Therefore, the applicant's statement on page 106 of volume 1 that "'Field studies confirmed that wildlife of special concern such as the endangered short-eared owl are not found on site, nor was there suitable breeding habitat" is inaccurate. Not only were listed species found, but the level of survey effort was likely inadequate to confirm or deny if any particular species is regularly found at that site.

Response:

The statement has been revised. TES prepared a Vegetation and Wildlife Resources Report describing baseline conditions at the site. TES also prepared an Impact Analysis of Ecological Resources. In response to DEC and USFWS comments, TES prepared a Supplement to Ecological Resources Report. Those three reports were located in Appendices 6 and 7a of the November 2009 DEIS. Since those reports were prepared, DEC provided additional comments on the DEIS. As a result, TES conducted additional visits and field surveys on the proposed quarry site and surrounding Refuge area, including an off-site breeding survey on the Refuge with a follow-up study thereafter. TES combined its previous reports and incorporated the new field work data and responses to comments in an updated Vegetation and Wildlife Resources and Impact Analysis of Ecological Resources Report. Chapter 1 provides baseline vegetation and wildlife information. Relevant information from Chapter 1 is excerpted and placed in Section 3.1.4, which describes the existing conditions for terrestrial and aquatic resources Chapter 2 provides the impact analysis of the proposed quarry on ecological resources. Relevant information from Chapter 2 is excerpted and placed in Section 4.1.4 which discusses the potential impacts to terrestrial and aquatic resources. The entire revised and updated TES report is located in Appendix 6 of the DEIS and is the data is referenced throughout Volume 1 of the DEIS.

Section 7 Wetland Delineation Report

Figure 8 Shows all ditches at the site as being delineated except for the ditch on the southwest side of the site which drains into Iroquois NWR. This is also the ditch that the applicant proposes to pump their stormwater. Why is this ditch not on this map?

Response:

The wetland delineation report concerns areas to be affected by mining. That ditch will not be affected by mining. The unaffected ditch is highlighted on the Mining Plan Map.

Section 14, 4,1 and 4.6 discuss the potential for pollutants from the aggregate stone, however, particulate matter is the only pollutant mentioned. What other pollutants might be extracted with the stone?

Response:

None. Aggregate extraction and processing operations in New York State are well documented. Limestone mining involves standard techniques of extraction, crushing, screening, conveying and loadout. Industry-wide standards and processes are well-documented. No chemicals are added during the process. Crushing does not chemically change the stone or create new material other than smaller stone. The only pollutant generated from the stone is particulate matter. The United States Environmental Protection Agency (EPA), conducts emission inventories to develop emissions factors as a fundamental tool to develop air control strategies. Refer to the New Source Performance Standards for non-metallic mineral processing and US EPA AP-42, Chapter 11, which identify particulate matter as the only pollutant.

The entire basis for the applicants Stormwater Pollution Prevention Plan seems to be what they refer to as "Good Housekeeping Practices". While these are all good ideas, there are no specifics on where, when, how these practices will be implemented.

Response:

Stormwater Pollution Prevention Plans ("SWPPP") are developed to identify potential sources of stormwater pollution; describe implementable practices to prevent or control the release of pollutants in stormwater discharges; provide corporate assurance that the practices described in this SWPPP are in fact implemented and to evaluate the plan's effectiveness in reducing the pollutant levels in stormwater discharges, and to ensure proper and adequate recordkeeping under the plan. Good housekeeping practices are a part of the SWPPP and are implemented at all times and in the manner described in the SWPPP as required by law and regulation.

Additionally, the monitoring requirements for the discharge of water from the site are unacceptable being as that discharge flows onto Iroquois NWR. The applicant says that there will be "Quarterly Visual Monitoring" of the discharge ditch. This seems to amount to no more than a cursory look at the water in the ditch. No analysis is required. What's more, if the applicant does find visual evidence of contamination in the ditch, their response is simply to remedy the problem at the facility. No mention is made of contacting DEC or the downstream landowner (in this case, Iroquois NWR).

Response:

The discharge into the ditch will be permitted either under the General Permit for Industrial Activities or an Individual SPDES Permit issued by the DEC. Either permit contains monitoring requirements.

It appears that the only requirement for a laboratory analyzed water sample is one sample per year. Considering the potential fur contamination from the facility as well as the fragile nature of the downstream habitats, we feel that a much more comprehensive sampling program is appropriate. Multiple samples, collected and analyzed by independent contractors should be required.

Response:

See previous response.

Additionally, we see no mention of the potential downstream impacts of the groundwater that will need to be constantly pumped from the facility. We feel that this water has the potential to negatively affect the habitats on Iroquois NWR through the introduction of chemical contaminants and suspended solids and by changing the pH of refuge waters.

Response:

Water quality samples were taken from on-site wells. Those test results are presented in section 3.1.2.2 of the DEIS, In addition, water quality samples representing surface water were taken from School House Pond and from an on-site agricultural drainage ditch. Those results are discussed in section 3.1.2.1. The samples were measured for multiple parameters including sulfates, chlorides, hardness, TDS, TSS, DO, pH, iron, manganese, barium and H_2S. The results show that the groundwater meets drinking water standards. As previously stated, aggregate extraction and processing operations in New York State are well documented. Limestone mining involves standard techniques of extraction, crushing, screening, conveying and loadout. Industry-wide standards and processes are well-documented. No chemicals are added during the

process. Crushing does not chemically change the stone or create new material other than smaller stone. Dewatering does not involve use of chemicals.

David L. Bimber, Deputy Regional Permit Administrator
New York State Department of
Environmental Conservation
Region 8
6274 East Avon-Lima Road
Avon, NY 14414

Re: Frontier Stone LLC
Shelby Quarry, DEC ID No. 8-8436-00033/00001
Response to DEC Comments dated December 22, 2009

Dear David:

On behalf of Frontier Stone LLC enclosed herewith are 5 copies of the applicant's revised Draft Environmental Impact Statement, including Volume 1 DEIS, Volume 2 MLUP, and revised/updated reports from Volume 3, along with a digital copy and red-lined version of same. We have provided below responses to the Department's December 22, 2009 comment letter. Each comment is reproduced in italics below, and where applicable, the section of the DEIS is referenced along with a summary of any changes made therein.

1. Several factors significantly constrained our review of the resubmitted dEIS and mining application for this proposal. Three copies were not adequate for review by five of the Department's Divisions and at two locations. I acknowledge receipt of the dEIS (Vol. 1) in a digital format. I requested (via email November 25, 2009) but did not receive additional copies of the MLUP (Vol. 2) and the Appendices (Vol. 3). Future submissions must include five printed copies (see below) and a digital version of all documents.

We recommend that your next submittal include three copies of the amended maps and revisions of specific narrative/text pages as needed and two additional complete copies. We will replace those pages and maps in our three copies of the dEIS or MLUP received on November 23, 2009. Please include an index of the pages/maps etc. to be replaced. 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.

Response:

In lieu of page revisions with and index of page replacements, we are submitting 5 complete copies of the revised DEIS, Volume 1, Volume 2, and revised/updated reports from Volume 3. When the DEIS is accepted and application deemed complete, the Applicant will follow the regulation with respect to publication of the DEIS on a website.

2. The influence of quarry activities on the Iroquois National Wildlife Refuge (Refuge) and the NYS Wildlife Management Areas (WMA), located immediately south and contiguous to the proposed quarry, is the most significant potential impact associated with this proposal. In general terms, the dEIS does not adequately analyze those impacts. Staff suggest that you create a map depicting the limits of disturbance, for example, noise and vibration overlaying habitat cover types. This map would be used to facilitate a discussion of a variety of issues including impacts to wildlife and to recreational users of the affected area. The discussion based on the map and overlays should address potential impacts to wildlife within the affected habitat types, possibly including forest, shrub-scrub, marsh, grassland and agricultural land. Impacts to nesting and migrating birds (raptors, songbirds, waterfowl, etc.) in these habitats should be included.

Response:

To facilitate discussion and to better visualize the impacts of the project on resources within the Refuge, Frontier prepared two maps which overlay the limits of noise and vibration, including ambient readings, over the Refuge. Two maps have been created: Plate 2 and Plate 3. Plate 2 depicts the existing noise conditions throughout the Refuge and proposed quarry site. Plate 3 depicts the anticipated noise and vibration impacts that will result from the proposed quarry. These maps are referenced in multiple sections throughout the DEIS to assist in analysis of the exiting conditions and potential quarry impacts within affected areas.

3. An Article 24, Freshwater Wetlands permit 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 discharges rates, and capacities or limits of culverts and control structures on the Refuge. See comments below for more detail.

Response:

The DEIS evaluation of potential impacts to wetlands is revised and substantially expanded. This includes revisions to the Wetlands Impact Assessment by TES, a detailed HydroCad analysis and water quality sampling performed by CPI, and an expanded water budget analysis performed by Alpha Geoscience in its Hydrogeologic Investigation Report. These reports fully address potential impacts to Refuge wetlands, including water quality data, water discharge rates and capacities of culverts and control structures within affected water basins on the project site and adjacent Refuge areas.

Water budget analyses were performed for both Basin 1 and Basin 2 to assess existing conditions and future conditions at full build-out of the quarry and future conditions at Phase 1 of the project. A water quality assessment based on CPI samples for both surface and groundwater included existing water quality in the wetland and the project site. All parameters requested by DEC were tested.

4. *An Article 11, Rare and Endangered Species permit application may be needed to address issues related to the potential take of threatened of endangered species or their habitat (related to Northern Harriers and Short-eared Owls). Staff will need additional information (below) prior to making a final determination on this issue.*

Response:

The applicant is providing herein clarification of information with respect to threatened and endangered species. Please see Sections 3.1.4 and 4.1.4 of the revised DEIS.

TES prepared a Vegetation and Wildlife Resources Report describing baseline conditions at the site. TES also prepared an Impact Analysis of Ecological Resources. In response to DEC and USFWS comments, TES prepared a Supplement to Ecological Resources Report. Those three reports were located in Appendices 6 and 7a of the November 2009 DEIS. Since those reports were prepared, DEC provided additional comments on the DEIS. As a result, TES conducted additional visits and field surveys on the proposed quarry site and surrounding Refuge area. TES combined its previous reports and incorporated the new field work data and responses to comments in an updated Vegetation and Wildlife Resources and Impact Analysis of Ecological Resources Report. Chapter 1 provides baseline vegetation and wildlife information. Relevant information from Chapter 1 is excerpted and placed in Section 3.1.4, which describes the existing conditions for terrestrial and aquatic resources Chapter 2 provides the impact analysis of the proposed quarry on ecological resources. Relevant information from Chapter 2 is excerpted and placed in Section 4.1.4 which discusses the potential impacts to terrestrial and aquatic resources. The entire revised and updated TES report is located in Appendix 6 of the DEIS and is the data is referenced throughout Volume 1 of the DEIS.

5. *It was difficult to verify that some of our comments provided in our June 13, 2008 and July 8, 2008 letters were addressed in your recent resubmission. Please provide and itemized response to those letters, the location of where they were addressed in the dEIS, and a brief summary of the rationale behind your response. I have examples that I can provide of similar response letters.*

Response:

Comment noted. DEC's comments and applicant's itemized response to each comment are set forth below. Where applicable, a reference is made to the DEIS sections where revisions have been made. Itemized responses to the June 13, 2008 and July 8, 2008 letters are provided as attachments A and B hereto.

6. *Item 3 of our June 13, 2008 letter was not adequately addressed. The estimates of impact were based on an annualized average of 1,142 gpm flow to the Refuge. This analysis doesn't account for the impact of seasonal flow rates on the downstream water impoundments in the Refuge and Oak Orchard Creek at a time when they may be stressed by increased seasonal runoff rates. The analysis of impact should be augmented by a more concise estimate of those seasonal highs and a management plan developed jointly by Frontier Stone and the Refuge Manager. See comments below for more detail.*

Response:

The DEIS evaluation of potential impacts to wetlands is revised and substantially expanded. This includes revisions to the Wetlands Impact Assessment by TES, a detailed HydroCad analysis performed by CPI, and an expanded water budget analysis performed by Alpha Geoscience in its Hydrogeologic Investigation Report. These reports fully address potential impacts to Refuge wetlands, including water quality data, water discharge rates and capacities of culverts and control structures within affected water basins on the project site and adjacent Refuge areas.

Water budget analyses were performed for both Basin 1 and Basin 2 to assess existing conditions and future conditions at full build-out of the quarry and future conditions at Phase 1 of the project. The HydroCad and water budget analysis include annualized volumes from groundwater and storm event analysis to include a 2 year, 5 year, 10 year and 25 year storm events. School House Marsh Pond will have insignificant water level changes. Seasonal runoff is reflected in these storm event analysis.

Seasonal water flow rates for the HydroCad analysis included snow melt conditions. Records going far back as 1938 were reviewed to establish worse-case seasonal, i,e, storm and snow melt, conditions. See also Sections 1.3.2.2 and 4.1.2.2.4 for additional discussion.

7. *Item 3 also requested groundwater quality data. Other than the Johnston (1964) information provided, I was unable to find recent groundwater quality data. The data provided by Johnson (1964) suggests that groundwater from this geologic unit may not meet the discharge requirements of the Multi-Sector SPDES permit. A comparison with surface water characteristics is also necessary. This information is critical to our determination regarding the need for a site-specific Industrial SPDES permit. See comments below for more detail.*

Response:

Section 3.1.2.1 which contains test results for water samples from Schoolhouse Pond and the agricultural field drainage ditch. Test results for the water samples from the wells are also located in the section. See also discussion regarding Alpha Geoscience Report.

8. *The dEIS (Vol. 1) should include more summary information on impacts and analysis from the Appendices. In some instances, the statements in Vol. 1 did not support the analysis in the Appendices. Additionally, the possible impacts discussed in the Appendices should be summarized and discussed as necessary in the dEIS (Vol. 1). For example:*

a. "Noise and vibrations that result from blasting can potentially affect wildlife. Loud abrupt [sic] can startle animals, causing them to flush from a perch, leave a foraging area of [sic] abandon a nest. This can result in increased energy expenditure, reduced foraging time, and lowered reproductive output." This statement does a good job at summarizing some of the potential impacts to offsite wildlife, but none of these issues made it to Vol. 1 of the document.

b. The projected drawdown out to 7,000 ft. (page 14, Alpha Report) from the Frontier Stone quarry dewatering operation could affect private bedrock wells along Fletcher-Chapel Road, Sour Spring Road, and Southwood Road. The water level analysis shows that water levels in the Lockport could be drawn down below the top of the rock at distances of between 2100 and 4800 ft. from the quarry limit when the quarry has reached its maximum extent (Plate 2). This impact is not discussed or analyzed in Section 4.1.2.2., page 92, of the dEIS section entitled Potentially Significant Environmental Impacts.

c. The statement (Vol. 3, Appendix 7A, page 5 Impact Analysis of Ecological Resources) "How this pump out will affect habitats down drainage from the quarry will depend upon the volume of pump-out water. It is anticipated that it potentially will add water to the system and may result in more wetland areas" is a key issue that needs a better analysis and discussion throughout this review.

Response:

The text of the DEIS is revised throughout and contains more detailed discussion of existing conditions and analyses of potential impacts from the updated and expanded studies that are contained in the Appendices.

a) As previously stated, Frontier prepared Plates 2 and 3 which overlay the limits of noise and vibration, including ambient readings, over the Refuge. Plate 2 depicts the existing noise conditions throughout the Refuge and proposed quarry site. Plate 3 depicts the anticipated noise and vibration impacts that will result from the proposed quarry. These maps are referenced in multiple sections throughout the DEIS to assist in analysis of the exiting conditions and potential quarry impacts within affected habitats. The DEIS also contains additional discussion of TES's revised and updated Vegetation and Wildlife Resources Report and the Impact Analysis of Ecological Resources. TES's report reflects information obtained during additional surveys and site visits, including an off-site breeding survey on the Refuge and follow-up surveys. These studies provide support for the discussion of the project's impacts to resources within the Area of Influence (AOI).

b) The DEIS evaluation of potential impacts to wetlands is revised and substantially expanded. This includes revisions to the Wetlands Impact Assessment by TES, a detailed HydroCAD analysis and water quality sampling performed by CPI, and an expanded

water budget analysis performed by Alpha Geoscience in its Hydrogeologic Investigation Report. These reports fully address potential impacts to Refuge wetlands, including water quality data, water discharge rates and capacities of culverts and control structures within affected water basins on the project site and adjacent Refuge areas.Water budget analyses were performed for both Basin 1 and Basin 2 to assess existing conditions and future conditions at full build-out of the quarry and future conditions at Phase 1 of the project.

The Refuge will not be impacted by groundwater drawdown by the quarry. This conclusion is predicated on observations that the water levels in the wetlands are associated with a shallow water table, that a thick (30 ft.) deposit of underlying, low permeability, silt and clay isolate the wetlands from the bedrock aquifer and that the water levels in the bedrock are already below levels in the wetland; consequently, any potential drawdown has already occurred naturally. See DEIS Section 3.1.2 and 4.1.2, and the Alpha Geoscience Hydrogeological Investigation in Appendix 4.

c) Please see response to b)

1.2.2 Page 5: Please provide confirmation from National Grid (Niagara Mohawk) that the proposed crossing construction details, and setbacks are adequate and acceptable to maintain transmission line and substation integrity as it relates to blasting and mining activities.

Response:

The applicant submitted construction details to National Grid for approval that setbacks from the power line are adequate. National Grid has agreed to enter into a Third Party Occupation Agreement with Frontier for its proposed crossing of National Grid land. The documents are located in Appendix 15 of the DEIS.

1.2.3 Page 6: The Mining Plan Map reference, included in Appendix I, requires updating. The Acreage Summary references a 2006-2011 permit term. A 2010-2015 reference would be more applicable.

Response:

References to permit term dates are removed from the Mining Plan Map. Please see Volume 2 of the DEIS.

1.2.3 Page 7, 8: The mining hours and days are given in general terms, and there is a reference to operation outside these hours. The MLUP states that "the permittee shall notify the Department's Mined Land Reclamation Specialist, in writing, at least 24 hours in advance of operating outside the currently identified hours of operation." Language must be included that

states the Department authorization must be obtained prior to operating outside the approved hours of operation.

Response:

The language is changed to read the permittee shall notify the Department's Mined Land Reclamation Specialist in writing at least 24 hours in advance and obtain approval to operate outside the normal hours of operation.

Frontier proposes that a special permit condition be included in the Mining Permit that allows operations outside of the normal hours of operation to satisfy NYS DOT projects with a minimum 24 hour written notice to DEC. In all other instances (i.e. non-NYS DOT projects), the applicant will obtain approval from DEC.

1.2.4.1 Page 10: Perimeter shallow sloping is only designed for 5 ft. of water depth. Seasonal fluctuations should be considered when determining this depth. What is the maximum anticipated seasonal lake level fluctuation?

Response:
Final lake elevation is anticipated to be 625' amsl based on water level monitoring data from on site wells. The shallow slope design will accommodate seasonal fluctuations.

1.2.4.2 Page 10: Mulching specifications should be included along with the seed and fertilizer.

Response:
Mulching specifications are added to section 1.2.4.2 of the dEIS.

1.2.4.5 Page 11: If concurrent reclamation is to occur, how will the berms remain in place to limit dust, noise and visual impacts throughout the life of the project?

Response:

All exterior screening berms will remain in place. Some interior berms that do not provide screening may be removed and used for reclamation. The applicant anticipates that there will be adequate material from clearing to accomplish reclamation involving seeding for stability. See also section 4.1.1.2 of the DEIS.

1.3.2 Page 12: Potential impacts to wildlife and recreation should be added to this section

Response:

TES revised and updated its Vegetation and Wildlife Resources Report and the Impact Analysis of Ecological Resources. This section of the DEIS is revised to include summaries of their updated findings. TES performed additional surveys and site visits, including an off-site breeding survey on the Refuge with a follow-up survey thereafter. The TES report, contained in Appendix 6, sets forth the methodologies for the surveys and detailed results. Section 4.1.4 contains more detailed discussion regarding potential significant impacts to these resources.

New Sections 1.3.2.7 Wildlife and 1.3.3.1.1 Recreation have been added to this section. Section 1.3.3 includes a summary of impacts to the recreation. Section 3.2.7.1 discusses the existing Refuge recreational uses in detail. Section 4.2.7.1 contains detailed discussion regarding potential significant impacts to recreational users.

1.3.2.2 Page 13: Potential impacts to the Refuge from dewatering should be analyzed and discussed.

Response:

The Refuge will not be impacted by groundwater drawdown by the quarry. This conclusion is predicated on observations that the water levels in the wetlands are associated with a shallow water table, that a thick (30 ft.) deposit of underlying, low permeability, silt and clay isolate the wetlands from the bedrock aquifer and that the water levels in the bedrock are already below levels in the wetland; consequently, any potential drawdown has already occurred naturally. See DEIS Section 3.1.2 and 4.1.2, and the Alpha Geoscience Hydrogeological Investigation in Appendix 4.

1.3.2.5 Page 14: The maximum or peak number of truck per hour should be specified, not the average.

Response:

The average number of trucks was provided as an estimate based upon a projected maximum annual production over 220 days, which is in turn based upon projected plant capacities. Production varies based upon demand. A peak number of trucks per hour based upon projected equipment capacities is 30 trucks per hour and could occur over limited durations of time to supply aggregate for a large road or construction projects, such as for NYSDOT.

1.5.2.2 Page 18, 19: The potential impact to residential water supply wells has been identified, and a mitigation plan has been proposed. This plan is unacceptable, and would eliminate an individual's ability to seek restitution in the even of an impact, if that individual decides not to consent to the permittee's arbitration agreement. This well arbitration agreement should be eliminated from the dEIS. Also, the proposal to deepen wells where public water is unavailable does not take into [sic] water quality issues, which tend to decline with depth.

Response:

The proposed arbitration agreement has been deleted and an alternative mitigation plan is proposed. The proposed mitigation plan shall read as follows:

A. The permittee must immediately supply water at its expense to the impacted property or properties, and must continue to supply water to the impacted property or properties unless and until the permittee can demonstrate to the satisfaction of the Department that the mining operation is not a contributing cause to the identified impacts. In the event that the impacted water supply is utilized as a drinking water source, potable water must be supplied.

B. The permittee shall undertake tests or investigations as deemed necessary by the Department to aid in determining the cause of the identified impacts.

C. If the Department concludes that the mining operation has negatively impacted groundwater at or in the vicinity of the mine site, the permittee must, at its expense, and with consent of the landowner, provide an alternate, permanent source of water to the impacted property or properties. In the event that the impacted water supply is utilized as a drinking water source, the permittee must connect any impacted property or properties to a municipal water supply system, if available, or, if a municipal water supply system is unavailable to the impacted property or properties, a permanent potable water source must be supplied.

1.5.2.2 Page 19: Spill prevention measures are mentioned, but not specified. A plan containing specific details should be included in the dEIS. Additional information must be provided regarding fuel storage, fueling of equipment and what precautionary procedures are to be incorporated to insure spill prevention and leakage minimization. Where will the fuel tanks be located and what is their maximum capacity? Is adequate secondary containment to be provided? Will there be an area designated for equipment refueling and maintenance? Will this area be constructed in such a manner (compacted clay surface, concrete pad, etc.) as to minimize potential leakage of fuels/lubricants or other contamination? Indicate in the plan that a portable storage unit that contains a spill kit including an adequate supply of absorbent materials (diatomaceous earth and textile absorbent fabric and pads), a shovel and an impermeable container with a tight-fitting lid. In addition, indicate that the NYSDEC Spills Hotline number will posted [sic] in a weatherproof manner on the storage unit and all spills will be treated as emergencies, cleaned up immediately and appropriate notifications made within the required time frames.

Response:

Section 1.5.2.2 is amended as directed. A Spill Response Plan is contained in section 11.0 of the Stormwater Pollution Prevention Plan located in Appendix 14 of the DEIS. An impermeable pad will be constructed for the fueling area to minimize leakage of contamination. In addition, Frontier will have adequate spill kit resources nearby which will included absorbent textile pads

and earthen materials, containers with lids, and shovels. The proposed location of the fueling area and storage area is now depicted on the Mining Plan.

3.0 Page 32: This section should include a description of the adjacent Iroquois National Wildlife Refuge.

Response:

This section now contains a description of the Refuge.

3.1.2.2 Page 45: Inadequate data and information is provided for the assessment of groundwater quality impacts offsite. The dEIS does not contain site specific water quality testing, and there appears to be quality issues in the monitoring wells on the property, as well as nearby residential sources, and offsite springs. Impacts from quarry dewatering to the Wildlife Refuge, as well as Oak Orchard Creek are a concern. Poor groundwater quality and a large discharge volume may have significant impacts on wetland vegetation, wildlife, and habitat areas. Without specific information and data, an appropriate review cannot be completed. The assessment in Appendix 7 does not rely on specific site data, and cannot provide an adequate assessment of quality (components, levels, etc) and potential impacts. The updated analysis should include testing results which include: sulfates, chlorides, hardness, TDS, TSS, DO, pH, iron, manganese, barium and H2S.

Response:

Water quality samples were taken from on-site wells. Those test results are presented in section 3.1.2.2 of the DEIS, In addition, water quality samples representing surface water were taken from School House Pond and from an on-site agricultural drainage ditch. Those results are discussed in section 3.1.2.1. The parameters identified in the above comment were measured.

3.1.4 Page 55: There is no mention of offsite surveys for Short-eared Owls or the presence of a known wintering area in the vicinity of the proposed site (it is briefly mentioned in the Appendices)

Response:

Terrestrial Environmental Specialists (TES) revised and updated its Vegetation and Wildlife Resources Report and the Impact Analysis of Ecological Resources. This section of the DEIS is revised to reflect the updated findings. TES performed additional surveys and site visits, including an off-site breeding survey on the INWR with a follow-up survey thereafter. The TES report, contained in Appendix 6, sets forth the methodologies for the surveys and detailed results.

The surveys for Short-eared Owls were conducted in the winter and spring. No Short-eared Owls were observed on site or in the vicinity of the site.

4.1.1.2 Page 91: The soil balance shows that there will be adequate amounts of material on site for reclamation. However, as stated in the question from 1.2.4.5 Page 11, how will concurrent reclamation occur if the berms remain in place to limit dust, noise and visual impacts throughout the life of the project?

Response:

See response to 1.2.4.5, above. All exterior screening berms will remain in place. Some interior berms that do not provide screening may be removed and used for reclamation. The applicant anticipates that there will be adequate material from clearing to accomplish reclamation involving seeding for stability.

4.1.2.1 Page 92: Additional clarification and detail relating to erosion and sedimentation control is required. There is a concern that there is a significant potential for the discharge of sediment laden water from the site. How will a sediment laden discharge be avoided during quarry construction? During this phase there are no retention areas: and sediment load from stripped soils is high. Additionally, there are no discussion or design details of the inflow and discharge location of the agricultural ditch once bisected by the excavation. Will these areas be rock lined, or will other structures be used to prevent erosion and sedimentation. There is a concern that free flowing water out of a bare soil cutoff ditch or pumping of water to the receiving ditch will cause significant erosion and sedimentation.

Response:

During quarry construction, precipitation and (or) groundwater will collect in the quarry and then be pumped to a series of sediment basins, the location and size of which are shown on the Mining Plan Map. Between each pond and at the outlet a sediment trap will be constructed. A construction detail for a stone outlet sediment trap is also provided in this section.

4.1.2.1 Page 93: No mention is given to what will be done with the agricultural drainage ditch (that will be cut off by the quarry) at the time of final reclamation. It is anticipated that the drainage ditch will be allowed to continue to flow into the reclaimed quarry lake. Based on the ground surface elevations, compared to the reclaimed lake level elevation, the flow that originally continued on to the Refuge will be permanently cut off. An assessment of the quantity of water that will no longer flow to the Refuge, or an alternative, to rerouting the ditch around the lake at final reclamation should be provided.

Response:

Section 4.1.2.1 is modified as follows:

As the mine is developed and advances across phases 2 and 3, the upper 1400± feet of the agricultural drainage ditch will be mined out. The precipitation runoff that may have collected in the ditch will now collect in the quarry where it will be pumped back to the unaffected ditch via the settling pond system to resume the pre-existing condition drainage pattern. The remaining drainage ditch will not be cut off or prevented from flowing southward. Any overland flow which collects in the quarry will collect in a sump which will also act as a settling basin before the water is pumped to the settling ponds and then discharge to the ditch. As an alternative, the water could be pumped to the Phase 1 excavation area for a more controlled flow to the ditch over time (quarry pump out is discussed further in the appended Wetlands Impact Assessment report appended and Section 4.1.2.2.4). In practice, drainage off site will not be altered. At the time of final reclamation, the drainage ditch will remain, except for the upper section between mine phases 2 and 3 which will have been mined through. The ditch will not flow into the reclaimed quarry.

The agricultural drainage ditch is not a continuously flowing feature. During most of the year, the portion of the ditch to be affected is dry with infrequent periods of standing water. During periods of significant precipitation or snowmelt, the ditch does drain to the Refuge; most of the time it does not. This is largely a result of the ditch's location just south of the drainage divide. During active mining operations, water which is captured by the quarry can be pumped back into the ditch. At the cessation of mining, a ditch could be cut from the reclamation lakes to the agricultural ditch to free drain the lakes as runoff raises their elevation during precipitation events, restoring existing conditions.

4.1.2.2 Page 93: The statement that there appears to be little connection between the upper layer of bedrock and the deeper water bearing zone requires further clarification. It is apparent that there is some hydraulic connection between PW-1 and the barn well. The barn well is located approximately 1700 ft. from PW-1 and shows drawdown within hours after the start of the test.

Response:

The statement was deleted and further analysis is provided.

4.1.2.2 Page 99 Provide further explanation as to why drawdown away from the quarry will diminish when the confining layer of the aquifer is relieved.

Response:

Section 4.1.2.2 is substantially revised and contains more detailed analysis regarding the extent of drawdown. See also Appendix 4 page 11 for detailed analysis.

4.1.2.2 Page 99: The narrative indicates that homeowner wells shown in Figure 12 are shallow wells and are not drawing from the same water bearing zone intercepted during the pump test. Approximately 42 wells are identified on Figure 12, seventeen water well surveys are distributed, and only three returned with well information. How was it determined that the wells on Figure 12 are shallow? The additional well information used to determine residential well depth should be provided.

Response:

In addition to the well surveys, DEC's database of registered water wells for the Town of Shelby indicates the average well depth is 49 ft. for the reported wells in the Town.

4.1.2.2 Pages 99-102 Impacts associated with dewatering adjacent to quarries is [sic] dependent on site specific hydrologic conditions. While general conclusions can be drawn relating to a particular formation, they should not be relied upon as accepted site specific characteristics. Department files document a range of measurable drawdown from 50 to over 1200 ft. This section should be revised as to no leave the reader with the impression that there is no measurable impacts adjacent to other quarries, and that a cone of depression only extends 50 ft. from a highwall. Finally, data and information contained in the applicant's dEIS specifically show a significant area of influence surrounding the proposed quarry.

Response:

The text is revised as follows:

> The theoretical cone of depression shown on Plate 4 in the Alpha Geoscience report (Appendix 4), is considered a worst case scenario and is based solely on intercepting groundwater from the entire Lockport section, and it assumes a highly permeable fracture system. The site specific core data show that the fractures are concentrated in the interval from the top of the Lockport Dolomite to a depth of 59 to 89 feet below the land surface; consequently, the remaining Lockport section to a depth of 150 feet below the land surface will neither produce groundwater or influence drawdown. The hydraulic conductivity anisotropic distribution of the fractures limit drawdown away from the quarry face. These conditions are the reason that the horizontal extent of drawdown impacts in Lockport quarries fall in the range of 50 to 1200 feet, rather than several thousand feet as suggested by the analysis provided in the Alpha report in Appendix 4.

4.1.2.2 Page 102: Reference is made to monitoring wells, both existing and planned, to be checked on a regular basis. A monitoring plan should be included which outlines wells to be monitored and frequency. Construction details for newly installed wells should be included.

Response:

The text now provides the following:

> The water level monitoring program will be instituted during mining. The program will consist of quarterly water level measurements from the existing on-site wells, the barn well and the garage well (see Alpha report in Appendix 4 for well locations). The on-site wells will be destroyed as the mine develops. These will be replaced by monitoring other private residential wells, if permission is granted, or by adding site perimeter wells, as needed. The new monitoring wells will consist of a surface casing grouted to the top of the rock and an open bedrock hole below the casing to the full mining depth. The locations of the new monitoring wells will be determined if and when it is determined that these wells are needed.

4.1.2.2.3 Page 104-106: The flow through Basin 1 is characterized as increasing from 169.91 gpm to 1092.06 gpm. This estimate is an annualized average, and does not accurately portray the maximum flow through increase at a given time. The maximum flow through increase should be provided (for a given period of time, presumably spring) to allow for an adequate impact assessment to the Refuge. It is unclear if the marsh design, and outfall structures would be adequate to handle the maximum increase in flow, especially during the spring. Also it is unclear if the maximum increase in flow to the refuge would potentially impact the wetlands, wildlife, and habitat areas. Finally, there is mention that water would be pumped at a desirable level to benefit the Refuge, but no specifics are offered. There is no plan which outlines what this would be, no evaluation of maximum flow impacts, or its acceptability to the Refuge.

Response:

Summary Findings are as follows:

> Summary
>
> Existing natural drainage to that portion of the Refuge which has the greatest potential to be affected by the proposed project (School House Pond wetland area), is from Drainage Basin 1, the location of which is shown on the drainage basin figure developed for HydroCAD calculations. Drainage exits the project site via a constructed agricultural drainage ditch.
>
> The character of the wetland in the Refuge in Basin 1 is primarily man-made, the product of a constructed earthen dike, blocking drainage and impounding water which is controlled by a weir outlet. Wetland environmental conditions can be regulated by the position of the weir boards which determine the size of the wetland and depth of the wetland ponding. Calculations indicate that the existing system has sufficient design capacity to transmit drainage, including storm events, without adverse structural issues.

In regard to the control of wetland size, and/or character, the Refuge's Comprehensive Plan states:

> "The goal of the Refuge water management program is to provide high quality functioning wetlands that supply optimal stopover and breeding habitat for waterbirds and bald eagles. This program requires the manipulation of wetland water levels to provide high-energy plant and invertebrate foods and structural habitat diversity for feeding, resting, and breeding waterfowl and other migratory birds (USFWS 2005b).
>
> There are currently 19 wetland impoundments on the Refuge (Map 2-3). These impoundments encompass nearly 4,000 acres of diverse wetland habitat. Because of the uneven topography within individual impoundments, often a single impoundment will help meet multiple objectives within the same year. Water levels are adjusted within and between years to mimic natural hydroperiods associated with unaltered wetlands and to provide the optimal habitat conditions for wetland dependent wildlife species.
>
> Each impoundment is drawn down approximately every three to six years; a few impoundments are scheduled for drawdown every year. These drawdowns mimic a drought in a natural marsh and allow the re-growth of natural vegetation in a "drawdown cycle."

Manipulation of the wetland water levels is a goal of the Refuge. HydroCAD calculations demonstrate that even with no manipulation by the Refuge, the quarry's impact beyond natural seasonal variations and storm events is insignificant. That is, seasonal drainage variations will result in continued drainage to the Refuge as they have historically done. The addition of the project's groundwater contribution (the impact) is extremely small and essentially non-measureable even with a static control on the wetland.

Drainage analyses demonstrate that the addition of quarry dewatering volumes under a worst case scenario add insignificant amounts to peak precipitation events. Calculations also show that the added quarry volume has little to no effect on wetland pond elevation (and related wetland size) based upon a static weir elevation with no attempt to regulate drainage control.

The Phase 1 quarry will act as a large drainage retention basin as mine Phases 2 and 3 are being excavated. Natural drainage and groundwater can be pumped to the Phase 1 Basin and then pumped to the agricultural drainage ditch in a regulated, controlled manner. Such control will result in no loss of drainage to the Refuge and no stress to the drainage system during precipitation events.

Controlled regulated drainage could be taken a step further to direct drainage to Basin #2 if desired by the Refuge. Drainage Basin #2 will be little affected by mining, impacting only the southeast corner of Mining Phase 2 which has little direct connection to the Refuge property south of the power line. The proposed operation could in the future direct dewatering activities to that Basin #2 if it aided wildlife management or exert more control to Basin 1; the mine plan affords these opportunities. The Refuge Comprehensive Plan states:

> "A refuge does not exist in isolation from its surrounding landscape. That is particularly true of the Iroquois NWR, located within the "Alabama Swamps" and in the heart of the Oak Orchard Watershed. Habitats and wildlife populations are affected by land uses within the watershed including the effects of water quantity and water quality. The Refuge needs to expand its work with adjacent landowners, watershed residents and conservation partners within the basin to ensure a healthy, functioning Refuge."

Upon completion of the project the site will contain large ponds/small lakes. The projected water elevation of the lakes is 625± feet. The lake created in Phases 2 and 3 could be connected to the lake formed in Phases 1 and 2 via a ditch, or the lakes could drain separately to the existing agricultural drainage ditch via a small ditch connecting the excavation areas to the agricultural ditch. Hence, post mining as the lakes receive precipitation and drainage, they will drain into the existing agricultural drainage ditch and runoff will exit to the Refuge as it does now.

4.1.2.2.3 Pages 104-106 Inadequate data and information is provided for the assessment of groundwater quality impacts. The dEIS does not contain water quality testing. Quality issues are apparent in the monitoring wells on the property, as well as nearby residential sources. Quality issues are anticipated to be worst [sic] with depth. Impacts to the Wildlife Refuge, as well as Oak Orchard Creek are a concern. Poor groundwater quality and a large discharge volume may have significant impacts on wetland vegetation, wildlife, and habitat areas. Without specific information and data, an appropriate review cannot be completed. The assessment in Appendix 7 does not rely on site specific data, and cannot provide an adequate assessment of quality (constituents, levels, etc.) and potential impacts.

Response:

Water quality samples were taken from on-site wells. Those test results are presented in section 3.1.2.2 of the DEIS, In addition, water quality samples representing surface water were taken from School House Pond and from an on-site agricultural drainage ditch. Those results are discussed in section 3.1.2.1. The impacts were discussed is section 4.1.2.2.3.

4.1.4.1 Pages 109, 110 Please provide detailed methods from field surveys. In particular, include the methods used for bird surveys including both on and offsite Short-eared Owl surveys (time periods surveyed, survey methods, survey locations, etc.) Also provide details from the walking survey of the Refuge. Spring bird surveys should be completed in the area of the refuge adjacent to the proposed quarry.

Response:

Terrestrial Environmental Specialists (TES) revised and updated its Vegetation and Wildlife Resources Report and the Impact Analysis of Ecological Resources. This section of the DEIS is revised to reflect the updated findings. TES performed additional surveys and site visits, including an off-site breeding survey on the INWR with a follow-up survey thereafter. The TES report, contained in Appendix 6, sets forth the methodologies for the surveys and detailed results.

4.1.4.1 Pages 109: The report states that "Field studies confirmed that wildlife of special concern such as the endangered Short-eared Owl are not found on the site, nor was there suitable breeding habitat." Please provide the details regarding the methods used for the field studies. This statement also appears to contradict the earlier section where use of the site by Northern Harrier (state threatened) and Horned Lark (state special concern) are discussed.

Response:

Please see response to Comment regarding Section 3.1.4, Page 55 above and response to preceding comment.

TES conducted 11 field surveys between November 9, 2006 and July 13, 2010, including an off-site breeding bird survey on the Refuge south of the site. Details of the methods used are contained it their report contained in Appendix 6.

TES observed the northern harrier on three occasions foraging on site. No nesting sites were observed and TES noted that because the site is under active agricultural use, it is not good nesting habitat. Horned larks (species of special concern) were recorded on April 29, 2010 as nesting on the site. The species occurs in open areas with bare ground or short grass. Despite being listed as special concern, horned larks are a fairly common breeder in western and central New York. The habitat on site will diminish very slowly over time. The project site will continue as an agricultural field. There is also abundant agricultural land surrounding the project site.

4.1.4.1 Pages 109, 110 A discussion and analysis of impacts to recreational users on the wildlife areas is needed. Include hunting, trapping, fishing, hiking, bird watching, canoeing etc.

Response:
Impacts to recreational users have been discussed in section 4.1.4.1 of the DEIS.

As directed by DEC, to facilitate discussion and to better visualize the impacts of the project on resources within the INWR, Frontier prepared a map which overlays the limits of noise and vibration, including ambient readings, over habitat areas in the INWR. The map and supporting noise readings indicate that the extent of noise impacts into the INWR is very limited.

4.1.4.1 Pages 109, 110: It is evident that human activity and wildlife can coexist to some degree, however: [sic] the article discussed from the Journal Register regarding use of a Quarry's crusher as a nesting site is a popular account that lacks widespread validity that can apply to this mining operation. It should be deleted. Similarly the comments relating to the New York State Thruway and the Montezuma National Wildlife Refuge did not include a valid scientific approach to analyzing the conclusion offered and should not be included in the dEIS.

Response:
This language has been deleted from the DEIS.

5.1.2.3 Page 167: The mitigation plan (arbitration agreement) is unacceptable, and should be removed as part of the proposed mitigation. As is the case with other quarries, the Department's special condition contains acceptable language for potential impact mitigation. Also, the company's proposal to deepen wells where public water is unavailable, does not take into water quality issues, which tend to decline with depth.

Response:
The above comment duplicates the comment made for 1.5.2.2. Page 19. Please see the response above.

5.1.2.3 Page 168: Spill prevention measures are mentioned, but not specified. A plan containing specific details should be included in the dEIS. Additional information must be provided regarding fuel storage, fueling of equipment and what precautionary procedures are to be incorporated to insure spill prevention and leakage minimization. Where will the fuel tanks be located and what is their maximum capacity? Is adequate secondary containment to be provided? Will there be an area designated for equipment refueling and maintenance? Will this area be constructed in such a manner (compacted clay surface, concrete pad, etc.) as to minimize potential leakage of fuels/lubricants or other contamination? Indicate in the plan that a portable storage unit that contains a spill kit including an adequate supply of absorbent materials (diatomaceous earth and textile absorbent fabric and pads), a shovel and an impermeable container with a tight-fitting lid. In addition, indicate that the NYSDEC Spills Hotline number will posted [sic] in a weatherproof manner on the storage unit and all spills will be treated as emergencies, cleaned up immediately and appropriate notifications made within the required time frames.

Response:
The above comment duplicates the comment made for 1.5.2.2 Page 19. Please see the response above.

*5.1.4.2 Page 170: Please provide a reference for the statement: "For example, Dupont's attenuation curves have demonstrated, there is effectively **no** vibration caused by blasting beyond 1600± feet." Additionally, a conservative worst case scenario should be provided for incorporation into the mapping, analysis, and discussion related to item #2, above.*

Response:
DuPont Blasters Handbook, Technical Services Division, E.I. DuPont, Wilmington, DE (1977)

5.1.4.2 Page 170: The statement: "no significant adverse impacts will occur to wildlife outside the project area" is not supported by the document and the materials provided in the Appendices (Vol. 3).

Response:

The language is stricken. As previously stated, TES revised and updated its Vegetation and Wildlife Resources Report and the Impact Analysis of Ecological Resources. The DEIS is revised to include summaries of their updated findings. TES performed additional surveys and site visits, including an off-site breeding survey on the Refuge with a follow-up survey thereafter.

5.1.4.2 Page 171 The articles cited here do 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 nestling [sic] success".

Response:

The language is stricken. As previously stated, Frontier prepared two maps which overlay the limits of noise and vibration, including ambient readings, over the Refuge to facilitate discussion and to better visualize the impacts of the project on resources within the Refuge. The maps are referenced in multiple sections throughout the DEIS to assist in analysis of the exiting conditions and potential quarry impacts within affected habitats.

5.1.4.3 Page 171: The statement "No significant impacts to the wetlands have been identified" is not supported by the data in the Appendices (Vol. 3).

Response:

The language is stricken. As previously stated, the DEIS evaluation of potential impacts to wetlands is revised and substantially expanded. This includes revisions to the Wetlands Impact Assessment by TES, a detailed HydroCad analysis and water quality sampling performed by CPI, and an expanded water budget analysis performed by Alpha Geoscience in its Hydrogeologic Investigation Report. These reports fully address potential impacts to Refuge wetlands, including water quality data, water discharge rates and capacities of culverts and control structures within affected water basins on the project site and adjacent Refuge areas.

Water budget analyses were performed for both Basin 1 and Basin 2 to assess existing conditions and future conditions at full build-out of the quarry and future conditions at Phase 1 of the project.

5.2.3 Page 175: A plan for implementing the traffic engineer's report recommendations is not provided.

Response:

The traffic engineer's report lists recommendations for the proposed project which will be implemented by the Applicant in cooperation with the Town Highway Department prior to operation of the facility.

5.2.6.1 Page 177: A Pre-Blast Survey will be required for all structures within 1000ft. of the Life of Mine boundary. Please an outline [sic] for the survey, and indicate how it will be implemented.

Response:

Frontier will complete pre-blast surveys on all structures within 1,000 ft. of the mine site upon consent of the property owners.
Prior to conducting blasting operations in each mining phase, Frontier will inventory and conduct pre-blast surveys on all structures within 1, 000 feet of that particular phase, upon consent from owners. Moving forward, pre-blast surveys shall be completed on structures within 1,000 ft. of the phase that mining operations will move into.

.
This pre-blast survey procedure will be memorialized as a special permit condition.

Prior to entering any subsequent phase, the number of structures within 1,000 ft. of the phase being affected will be reviewed and pre-blast surveys will be completed upon consent of the property owners.

All costs associated with conducting the Pre-Blast Surveys shall be paid by the applicant.

Applicant shall maintain all correspondence to and from owners regarding condition surveys and all condition surveys performed and the supporting documentation.

<u>dEIS Volume 2- Mined Land Use Plan (MLUP)</u>

2.4.2 Page 12 The MLUP states that "the permittee shall notify the Department's Mined Land Reclamation Specialist, in writing, at least 24 hours in advance of operating outside the currently identified hours of operation." Language must be included that states the Department authorization must be obtained prior to operating outside the approved hours of operation.

Response:

The above comment duplicates the comment made for 1.2.3, Page 7, 8. Please see the response above.

3.0 Page 19 No mention is given to what will be done with the agricultural drainage ditch (that will be cut off by the quarry) at the time of final reclamation. It is anticipated that the drainage ditch will be allowed to continue to flow into the reclaimed quarry lake. Based on the ground surface elevations, compared to the reclaimed lake level elevation, the flow that originally continued on to the Refuge will be permanently cut off. An assessment of the quantity of water that will no longer flow to the Refuge, or an alternative, to rerouting the ditch around the lake at final reclamation should be provided.

Response:

The above comment duplicates the comment made for 4.1.2.1 Page 93. Please see the response above.

<u>dEIS Volume 3 Appendices</u>

The statement that there appears to be little connection between the upper layer of bedrock and the deeper water bearing zone requires further clarification. It is apparent that there is some hydraulic connection between PW-1 and the barn well. The barn well is located approximately 1700 ft. from PW-1 and shows drawdown within hours after the start of the test.
Provide further explanation as to why drawdown away from the quarry will diminish when the confining layer of the aquifer is relieved.

This request was made in the June 13, 2008 dEIS Review and Comment letter and had not been adequately addressed.

Response:

The above comment duplicates DEC's comments made for 4.1.2.2 Page 93, and 4.1.2.2 Page 99. Please see the response above.

<u>Alpha Report</u>

3.3.2 Page 11, 12 How will the water pumped back to basin 1 be controlled and monitored. A plan needs to be included in the dEIS, and developed with the refuge which outlines what will be done.

Response:

The DEIS evaluation of potential impacts to wetlands is revised and substantially expanded. This includes revisions to the Wetlands Impact Assessment by TES, a detailed HydroCad analysis

performed by CPI, and an expanded water budget analysis performed by Alpha Geoscience in its Hydrogeologic Investigation Report.

Water budget analyses were performed for both Basin 1 and Basin 2 to assess existing conditions and future conditions at full build-out of the quarry and future conditions at Phase 1 of the project. The HydroCad and water budget analysis include annualized volumes from groundwater and storm event analysis to include a 2 year, 5 year, 10 year and 25 year storm events. School House Marsh Pond will have insignificant water level changes. Seasonal runoff is reflected in these storm event analyses.

3.3.3 Page 14 *Only the annualized average rate is given. The flow through Basin 1 is characterized as increasing from 169.91 gpm to 1092.06 gpm. This estimate is an annualized average, and does not accurately portray the maximum flow through increase at a given time. The maximum flow through increase should be provided (for a given period of time, presumably spring) to allow for an adequate impact assessment.*

Response:

The above comments duplicate DEC's comment regarding section 4.1.2.2.3 Page 104-106. Please see the response above.

4.0 Page 16 *The flow through Basin 1 is characterized as increasing from 169.91 gpm to 1092.06 gpm. This estimate is an annualized average, and does not accurately portray the maximum flow through increase at a given time. The maximum flow through increase should be provided (for a given period of time, presumably spring) to allow for an adequate impact assessment to the Refuge. It is unclear if the marsh design, and outfall structures would be adequate to handle the maximum increase in flow, especially during the spring. Also it is unclear if the maximum increase inf flow to the refuge would potentially impact the wetlands, wildlife, and habitat areas. Finally, there is mention that water would be pumped at a desirable level to benefit the Refuge, but no specifics are offered. There is no plan which outlines what this would be, no evaluation of maximum flow impacts, or its acceptability to the Refuge*

Response:

The above comments duplicate DEC's comment regarding section 4.1.2.2.3 Page 104-106. Please see the response above.

4.0 Page 16 *Retaining water in the western quarry is offered as a potential mitigation technique. However, what will be done during the development of the western quarry when a reservoir isn't available? When the western quarry is developed, discuss the feasibility of using this as a retention area due to the existence of the horizontal fractures at the base of the aquifer (between 56 and 89 ft.) which appear to be the main water bearing feature at this location.*

Please evaluate the volume of water would be reintroduced back to the eastern quarry through this feature with only an approximate 600 ft. separation between the excavations.

Response:

The DEIS evaluation of potential impacts to wetlands is revised and substantially expanded. This includes revisions to the Wetlands Impact Assessment by TES, a detailed HydroCad analysis performed by CPI, and an expanded water budget analysis performed by Alpha Geoscience in its Hydrogeologic Investigation Report.

Water budget analyses were performed for both Basin 1 and Basin 2 to assess existing conditions and future conditions at full build-out of the quarry and future conditions at Phase 1 of the project. The HydroCad and water budget analysis include annualized volumes from groundwater and storm event analysis to include a 2 year, 5 year, 10 year and 25 year storm events. School House Marsh Pond will have insignificant water level changes. Seasonal runoff is reflected in these storm event analyses.

4.0 Page 17 No mention is given to what will be done with the agricultural drainage ditch (that will be cut off by the quarry) at the time of final reclamation. It is anticipated that the drainage ditch will be allowed to continue to flow into the reclaimed quarry lake. Based on the ground surface elevations, compared to the reclaimed lake level elevation, the flow that originally continued on to the Refuge will be permanently cut off. An assessment of the quantity of water that will no longer flow to the Refuge, or an alternative, to rerouting the ditch around the lake at final reclamation should be provided.

Response:

The above comment duplicates the comment made for 4.1.2.1 Page 93. Please see the response above.

Appendix 9 – Transportation Impact Study

V.B. Page 3: We were unable to find a response to Item 8 of our June 13, 2008 letter. Does the traffic survey and levels of traffic generated by the facility include estimates of traffic levels associated with ancillary processing facilities (concrete batch plants, etc.)? Also, please specify the maximum or peak number of trucks per hour.

Response:

Frontier does not anticipate including concrete batch plants or other ancillary processing facilities. With respect to the maximum or peak trucks per hour, please see the response to DEC Comment regarding Section 1.3.2.5, Page 14, above.

Appendix 10- Phase I Archaeological Report

OPRHP letter dated March 5, 2007 covers mining phases 1 and 4. What are your plans to complete the surveys for the entire site?

Response:

The entire project site, including Phases 1 through 4, was the subject of the Phase IA archaeological investigation. The entire area was the subject of the background research for any known archaeological resources and to generate a sensitivity assessment. A site visit was also performed for the entire project site to document ground disturbance and to obtain photographic evidence of pre-1950 structures. A more detailed Phase IB investigation was performed as Phase 1 would be the first area disturbed and Phase 4 is directly adjacent, to it on the same parcel. A phase IB will be performed in Phases 2 and 3 prior to stripping of overburden in each phase.

Appendix 14-Stormwater Pollution Control Plan

Page i: The Stormwater Pollution Control Plan must be authorized and certified.

Response:

The Storm Water Pollution Prevention Plan has been signed.

RESPONSE TO COMMENTS

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

Prepared By:

Continental Placer Inc.
Alpha Geoscience
SRF Associates
Terrestrial Environmental Specialists, Inc.

September 11, 2012

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September 11, 2012

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

Dear Scott and Dave:

The following information is our response to comments received from the NYSDEC dated December 8, 2011, comments provided by Thomas P. Roster of the Iroquois National Wildlife Refuge (TNWR) dated March 1, 2012 and comments received during our March 19, 2012 meeting with the Department staff. Finally, the following responses address the concerns identified in the USGS report titled "Water Resources of the Iroquois National Refuse, Genesee and Orleans Counties, New York, 2009-2010.

The comments are presented below followed by the Applicant's response.

New York State Department of Environmental Conservation Comments

Comment 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.

Response: These instructions will be followed.

Comment 2: The Permit Application form, Organizational Report form and Environmental Assessment Form, submitted as 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.

Response: All necessary forms will be signed and notarized as applicable with the final DEIS submission once the Applicant has been notified that the DEIS can be deemed complete.

Comment 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 trucks trips per hour. The traffic study must be revised to reflect the 30 trucks per hour maximum.

Response: The average number of trucks using the site is 8 to 10 trucks per hour; this is a realistic assessment of conditions during normal steady state operations in this market area. The Department, however, has requested a "worst case" scenario. Up to 30 truck trips per hour may be generated, if a large project required material from Frontier. Project traffic volumes are dependent on economic conditions and government infrastructure spending in the market area and the results of competitive bidding.

Project timing and duration are affected by factors such as seasonal and daily climatic conditions, labor issues, DOT and municipal bid requirements and geotechnical and engineering factors.

During the March 19th meeting, Department staff also requested that Frontier consider accessing the site using Fletcher Chapel Road. Based upon this recommendation and the consideration of a potential 30 truck trip condition, Frontier has obtained a traffic study, which analyzes the use of Fletcher Chapel Road based upon 30 truck trips per hour. This study resulted in the conclusion that the use of Fletcher Chapel is a viable alternative.

This plan (i.e. using Fletcher Chapel) offers many different scenarios for traffic distribution. Traffic could be split between Sour Springs/Oak Orchard Ridge Road (existing plan) and a Sour Springs/Fletcher Chapel route, or the traffic could directly access Fletcher Chapel from the site. Any percentage could be allocated to these scenarios, or all could just use only Fletcher Chapel (note: an access could be made out the north side of the mine site along the west side of the utility line onto Fletcher Chapel). If the Fletcher Chapel or Sour Springs/Fletcher Chapel access were used, it would mitigate mine related traffic within the refuge.

The following traffic-related statistic was presented in the Iroquois National Wildlife Refuge Comprehensive Conservation Plan:

"The Refuge receives more than 28,000 visits on the trails and overlooks each year. The majority of Refuge visitors come during the spring, early summer and fall months to take advantage of favorable trail conditions and opportunities for viewing annual spring and fall bird migrations and enjoy the brilliance of New York's fall foliage. The Refuge receives nearly half its annual visitation during the months of March and April."

The forgoing statistic indicates that the Refuge is heavily used during the months of March and April. Because of climatic conditions, construction activity typically has an operating season which begins in mid to late April, and peaks in mid to late -summer. Peak mine related traffic activity will not coincide with peak use of the refuge by the public.

Comment 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.

Response: The issues cited above will be addressed individually as they occur in the subsequent comments.

It is difficult to envision any measurable impact from quarry pump out water to the downstream wetland in light of the fact that the U.S. Fish and Wildlife Service alters the water level of the receiving wetland complex by several feet on a recurring basis. Nevertheless, potential changes to the downstream wetland from discharge water were evaluated in the TES Wetland Impact Assessment Report of July 2011, with additional assessments of seasonal changes provided in the response to NYSDEC Comment 6. These assessments used calculated water discharge volumes of the proposed continuous pumping from Phase 1 of the quarry development, as other phases of quarry development would not exceed these discharge levels as a result of using the Phase 1 quarry for water storage.

Calculated potential changes (see response to NYSDEC Comment 6) to the USFWS-controlled 74-acre Schoolhouse Marsh wetland, which is the receiving wetland, would be an estimated potential increase in water level in this wetland of 0.19 inch using the average annual discharge, 0.26 inch using the March seasonal high discharge, and 0.14 inch using the July/September seasonal low discharge.

To address the potential change in wetland size, a calculation was made of the potential increase in wetland area that would result using these estimated water level changes, length of the perimeter of the wetland, and an assumed wetland side slope. The perimeter of the 74-acre wetland, which was shown in the July 2011 TES report, was calculated to be approximately 10,900 feet. Side slopes around the edge of the wetland vary, but an average side slope of 1 foot vertical in a horizontal distance of 50 feet was assumed. Using this wetland perimeter and assumed side slope, the potential area increase in the size of the wetland would be as follows: 0.20 acre using the 0.19 inch estimated change in water level from projected annual average discharge; 0.27 acre using the 0.26 inch estimated change in water level from projected March seasonal high discharge; and 0.14 acre using the 0.14 inch estimated change in water level from projected July/September season low discharge.

The calculations reveal that there will be very minor potential changes in water elevation and wetland area. Although the potential changes are extremely minor, the effect of any change in wetland hydrology should consider the time of year of the change. The greatest change is projected to be in March when wetland systems naturally have high water levels. These spring season high levels are tolerated by wetland vegetation because it is well before the start of the growing season. These high levels are also tolerated by animals because it is before the breeding season. Water level changes of significance in July in the middle of the growing season could potentially affect vegetation and wildlife, but this is when the discharge and any potential water level changes are at their lowest. The calculated 0.14 inch changes in water level in July would not have a noticeable effect on the wetland.

Ditches and culverts below the USFWS-controlled Schoolhouse Marsh dam have been assessed and found to be of more than sufficient capacity to accommodate the quarry water discharge. Little to no change is expected over existing conditions in these downstream systems as the result of the quarry discharge. It should be noted that in the downstream direction the size of the drainage basin and existing surface water runoff becomes progressively larger. For example, the existing calculated March surface water drainage for Basin 1 at the Schoolhouse Marsh dam is 653 gpm, but increases within this basin to a calculated discharge of 962 gpm at State Route 63. This is an increase in existing drainage discharge of 47%. With the progressively larger surface water runoff, the additional quarry water discharge amount becomes progressively smaller when expressed as a percentage of the total runoff. As a result, any potential for a change from the additional quarry water discharge decreases as you progress downstream in the basin.

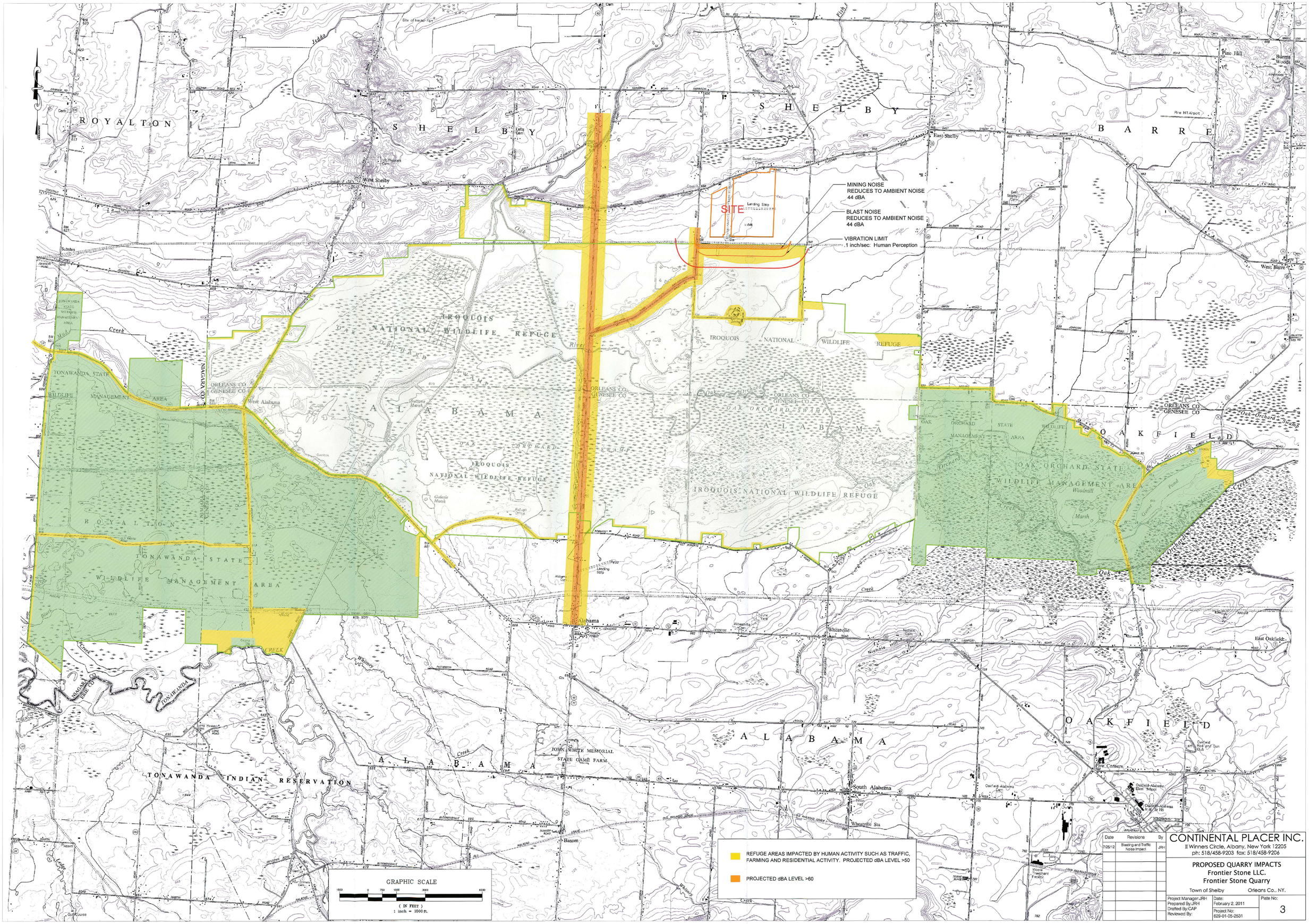
In light of the normal seasonal variation in wetland systems, the controlled nature of Schoolhouse Marsh wetland, and the very minor projected increase in water levels, this additional water will not have a noticeable effect on the Schoolhouse Marsh wetland or areas farther downstream. If there is any effect, it would be a very slight increase in the wetness of the wetland and perhaps a very slight increase in the wetland size.

Comment 5: Impacts on the Iroquois Nation Wildlife Refuge (ENWR) 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.

Response: A line has been added to Plate #3 which delineates the effect of blasting noise on the surrounding environment.

In regard to air blasts, the following information is presented.

In typical blasting applications, explosives are inserted into holes drilled into the bedrock. When the explosives are detonated they immediately create rapidly expanding, high pressure gases. These gases create stress waves that are transmitted through the bedrock. The blast gases are confined and the energy produced will break the rock. As the gases continue to expand, the result is a release of



Date	Revisions	By
7/25/12	Blasting and Traffic Noise Impact	JRH

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PROPOSED QUARRY IMPACTS
Frontier Stone LLC.
Frontier Stone Quarry
Town of Shelby — Orleans Co., NY.

Project Manager:JRH Prepared By:JRH Drafted By:CAP Reviewed By:	Date: February 2, 2011 Project No: 629-01-05-2531	Plate No: 3

energy into the atmosphere referred to as airblast or air overpressure. Airblast is also created by the outward movement of the blasted rock. This energy is measured in decibels (dB) or pounds per square inch (psi) and is simply pressure in excess of the ambient air pressure.

Air overpressure consists of air transmitted sound pressure waves that move outward from an exploding charge. A well confined explosive charge creates pressure waves with frequencies that are predominantly less than 20 hertz (Hz), with a relatively small amount of energy having frequencies above 20 Hz. The human ear responds to frequencies above 20 Hz, but filters out frequencies below 20 Hz. Buildings respond predominantly to frequencies in the range 2 to 20 Hz. Because air overpressure from blasting consists of frequencies that are substantially below 20 Hz, air overpressure levels are measured with a meter that measures frequencies in the range 2 to 250 Hz on a decibel (Linear) (or dBL) scale.

Airblast and air overpressure are interchangeable terms but they should not be confused with acoustic noise by the fact that both are measured in decibels. Acoustic noise is measured using the A-weighted decibel scale (dBA). Most noise standards have been developed for steady-state noise e.g., engine, plane, equipment sounds, etc. The steady-state noise is related with the duration of the noise producing event; airblast is a short duration event, typically less than a second per blasting event.

Airblast is influenced by many factors. The most common variables are the pounds of explosives detonated per delay period, distance from blast site to the area of concern, quarry highwall height and orientation, blast hole stemming, burden and spacing of blast holes and weather conditions. As a general rule, if other factors are equal, airblast levels increase with the increase in the pounds of explosives detonated per delay period, and decrease as the distance from the blast site increases. Air vibration levels can be assessed using the following cube root scaling formula:

where: P = pressure (kPa)
W = explosives charge mass per delay (kg)
D = distance from charge (m)
K = site constant
a = site exponent

Note: To convert kilopascals to pounds per square inch (kPa to PSI), multiply the kPa value by 0.14503773773020923.

For well confined blast hole charges used in quarry blasting, the site constant is 3.15 with a site exponent of -1.2. As the confinement of the blast hole charges decrease, the site constant increases and site exponent decreases.

This formula was applied to the design parameters previously set forth in the Draft Environmental Impact Statement for distances between 100 to 1800 feet from the blast area (see Table 1). The kilopascal value for each distance was converted to pounds per square inch pressure and then the PSI value was converted to decibels (dBL).

Table 1 –Predicted Decibels

Pounds/Delay	Cube Root	Distance (m)	Distance (ft)	Site Constant	Site Exponent	Dist/Cube Root	kPa	PSI	Decibels (linear)
426	7.524365204	30.5	100.1	3.15	-1.2	4.053498092	0.587373821	0.08519137	149.36
426	7.524365204	61	200.1	3.15	-1.2	8.106996185	0.255669305	0.037081698	142.14
426	7.524365204	91.5	300.2	3.15	-1.2	12.16049428	0.157169793	0.022795551	137.91
426	7.524365204	122	400.3	3.15	-1.2	16.21399237	0.111286529	0.016140746	134.91
426	7.524365204	152.5	500.3	3.15	-1.2	20.26749046	0.08514332	0.012348995	132.58
426	7.524365204	183	600.4	3.15	-1.2	24.32098855	0.068412126	0.00992234	130.68
426	7.524365204	213.5	700.5	3.15	-1.2	28.37448665	0.056858702	0.008246657	129.08
426	7.524365204	244	800.5	3.15	-1.2	32.42798474	0.048440275	0.007025668	127.69
426	7.524365204	274.5	900.6	3.15	-1.2	36.48148283	0.042055575	0.006099645	126.46
426	7.524365204	305	1000.7	3.15	-1.2	40.53498092	0.037060783	0.005375212	125.36
426	7.524365204	335.5	1100.7	3.15	-1.2	44.58847902	0.033055472	0.004794291	124.37
426	7.524365204	366	1200.8	3.15	-1.2	48.64197711	0.029778107	0.004318949	123.46
426	7.524365204	396.5	1300.9	3.15	-1.2	52.69547520	0.027050953	0.003923409	122.63
426	7.524365204	427	1400.9	3.15	-1.2	56.74897329	0.024749187	0.003589566	121.85
426	7.524365204	457.5	1501.0	3.15	-1.2	60.80247139	0.022782694	0.00330435	121.13
426	7.524365204	488	1601.0	3.15	-1.2	64.85596948	0.021084854	0.0030581	120.46
426	7.524365204	518.5	1701.1	3.15	-1.2	68.90946757	0.019605408	0.002843524	119.83
426	7.524365204	549	1801.2	3.15	-1.2	72.96296566	0.018305752	0.002655025	119.23

As stated above, a significant portion of the airblast is in a frequency range that is below 20 Hz. To adjust the airblast sound pressure level measured in dBL to dBA, the inaudible portion of the airblast is removed resulting in a lower intensity. The adjustment is frequency based with the lower frequencies of the airblast resulting in larger reductions in noise. The typical frequency range of a confined quarry blast is between 1 to 20 Hz. A frequency of 10 Hz was selected as an average frequency for a typical, confined quarry blast. The anticipated blast noise was calculated at certain distances from the blast areas (Table 2). The quarry site will have a 20 foot high berm along the southern property line. There is also approximately 20 feet of overburden onsite. Accordingly, the blasting on the top bench will have, at a minimum, a 40 foot sound barrier. This sound barrier will reduce the sound intensities off site. This reduction is also shown in Table 2. As the quarry is developed and the lower bench is established, the sound barrier height will increase and result in a further reduction of the off- site blast noise.

The orientation of the quarry highwall will also influence how airblast is transmitted. The highwall in this quarry will be oriented in an east/west direction. The mining activity will start on the north end of the property and progress to the south. When an explosive charge in a vertical hole is fired towards a free vertical face, the resulting airblast levels are greater in front of the face than behind it due to the shielding effect of the face (Moore et al, 1993). There are very complex modeling programs to contour how the airblast contours are "stretched" in front of the highwall and flattened behind the highwall; both of these effects reduce airblast intensity. Those modeling programs have not been employed in this exercise; hence, the noise intensities shown in Table 2 are conservative.

Table 2 - Predicted Blast Noise

Distance	Caculated dBL	Frequency dBL (Hz)	Decibel Reduction	dBA	dBA Reduction from 40 ft Barrier	Final dBA
100.1	149.36	10	70.43	78.93	10	68.93
200.1	142.14	10	70.43	71.71	10	61.71
300.2	137.91	10	70.43	67.48	10	57.48
400.3	134.91	10	70.43	64.48	10	54.48
500.3	132.58	10	70.43	62.15	10	52.15
600.4	130.68	10	70.43	60.25	10	50.25
700.5	129.08	10	70.43	58.65	10	48.65
800.5	127.69	10	70.43	57.26	10	47.26
900.6	126.46	10	70.43	56.03	10	46.03
1000.7	125.36	10	70.43	54.93	10	44.93
1100.7	124.37	10	70.43	53.94	10	43.94
1200.8	123.46	10	70.43	53.03	10	43.03
1300.9	122.63	10	70.43	52.20	10	42.20
1400.9	121.85	10	70.43	51.42	10	41.42
1501.0	121.13	10	70.43	50.70	10	40.70
1601.0	120.46	10	70.43	50.03	10	40.03
1701.1	119.83	10	70.43	49.40	10	39.40
1801.2	119.23	10	70.43	48.80	10	38.80

The impulsive, short duration noise produced by thunder from a thunderstorm can be compared to the impulsive, short duration noise produced by a quarry blast. According to the National Lightning Safety Institute "A clap of thunder typically registers at about 120 dB in close proximity to the ground strike" (the noise produced by thunder is expressed in dBA weighting). Beyond 200 feet from the blast area, a typical clap of thunder will be significantly louder than a typical blast.

The proposed blasting season for this operation will be approximately 30 weeks long. It is anticipated that blasting will occur once or twice a week for the 30 week season; consequently, an airblast will occur for less than a second or two every week or for a cumulative duration of approximately 30 to 60 seconds spread out over the 30 week season.

Measurements show that the ambient sound levels in the Refuge are about 44 dBA. Table 2 also indicates that a typical airblast will attenuate to the ambient dBA level at about 1,000+/- feet. The closest blast will be 500+/- feet from the Refuge boundary. Therefore, air blasts will have the potential to impact the perimeter 500+/- feet of the Refuge, or well within the indicated impact area above ambient (dBA level) from farm equipment presently using the project area's fields.

On the subject of human perception of vibration, most studies of human tolerance to vibrations have been of steady-state sources or those of relatively longer duration than typical quarry blasting, in the absence of data on tolerance to impulsive vibrations (i.e. blasting), these steady-state results have been assumed to be applicable to blasting. Additionally, most useful data are from tests involving human subjects when not in their homes. The duration and frequency of the events are critical.

The USBM Report of Investigation 8507 states, "Human reaction to vibration is dependent on event duration as well as level. Particle velocities of 0.5 in/sec from typical blasting (<l-sec vibration) should be tolerable to about 95 percent of the people perceiving it as distinctly perceptible".

The 0.1 in/sec delineation line shown on our map is very conservative given the findings of the USBM RI 8507 study.

Comment 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.

Response: The maximum discharge will occur at the end of Phase I when the quarry occupies 11.6 acres and is at its maximum depth. The discharge rate will be reduced during subsequent phases due to the use of the quarries from the initial phases for storage of water pumped from the successive phases.

The maximum discharge from Phase I is estimated to be approximately 385.6 gallons per minute (gpm) (see attached Water Budget Summary Table for comparison with average annual and monthly specific discharge rates). This estimate is derived for March of the last year of Phase I mining. The estimate is based on the plan to pump continuously throughout the year (including the winter months) and under the assumption that all the precipitation during December, January and February will accumulate as a snow pack that is assumed to melt during the month of March. This spring snow melt would be pumped out of the quarry along with the direct precipitation and ground water inflow for the month of March. It is also assumed that there will be no evaporation in March. The assumption of accumulated snow pack and lack of evaporation results in a conservatively high discharge rate since snow melt and evaporation (sublimination) will occur during the winter months. The calculation of the components (snowmelt, direct precipitation and ground water inflow) that comprise the maximum discharge rate is explained in the following paragraphs.

The average precipitation for the months of December, January and February is 3.14, 2.64 and 2.07 inches, respectively. These monthly totals are the rainfall equivalents of the snow that is assumed will accumulate in the quarry. These average values, which were provided in the April 29, 2011 hydrogeology investigation report for this project by Alpha Geoscience (Alpha report), are the precipitation normals at the Albion 2 NE station. This is a National Oceanic and Atmospheric Administration (NOAA) weather monitoring station. The precipitation values are 30-year averages for the period for 1971 to 2000. The total accumulated precipitation equivalent of 7.85 inches (December through February) in the 11.6 acre Phase I quarry would require an average pumping rate of 55.4 gpm if completely discharged in March.

The direct precipitation for the month of March is assumed to be the normal monthly rainfall of 2.8 inches. This is also from the Albion 2 NE station. A March rainfall of 2.8 inches into the 11.6 acre quarry, without evaporation, equates to a rate of 19.8 gpm (see attached Water Budget Summary Table for comparisons).

Ground water inflow for the year enters the Phase I quarry at an average rate of 251.04 gpm for a total accumulation of 131,946,624 gallons (see Alpha report). It is anticipated that the flow will actually be uneven with a greater percentage in the spring months and much less during the late summer. Alpha anticipates that 10.5% (13,854,395.5 gallons) will enter the quarry in March. This is based on more than a year's worth of monthly spring flow (ground water discharge) measurements that Alpha conducted on springs at another location in New York. A ground water inflow of 13,854,395.5 gallons in March equates to an average March discharge rate of 310.4 gpm.

The total average pumping rate for March is conservatively anticipated to be equivalent to the combined snow melt (55.4 gpm), direct precipitation (19.8 gpm) and ground water inflow (310.4 gpm). The addition of these rates yields an average March discharge rate of 385.6 gpm.

The potential impact of the discharge to downstream receptors only needs to be addressed for Basin 1, since there will be no changes to flow in Basin 2 during Phase I. The existing, average discharge from Basin I is 185.33 gpm (see Table 4 in the Alpha report). The average Basin 1 runoff coefficient is approximately 0.25 when the entire 403.3 acres of various soil types and open water bodies are considered together. The runoff from the meltdown of the accumulated winter snow pack combined with March rainfall yields 2.66 inches for Basin 1 using the 0.25 runoff coefficient. This yields an existing average March runoff rate of 653.13 gpm for the basin.

The reduction of Basin 1 from 403.3 acres to 391.7 acres by creation of the Phase I quarry will reduce the March runoff from the undisturbed Basin 1 to 633.75 gpm. The total future maximum flow from Basin 1 is projected to be 1019.35 gpm (combined 385.6 gpm discharge from the quarry and the 633.75 gpm runoff from the undisturbed portion of Basin 1). The 1019.35 gpm rate is 366.22 gpm greater than the existing discharge rate through Basin 1 for the period of maximum discharge.

September is the month when water levels are at their seasonal low and the associated inflow to the quarry will be at a minimum. The average quarry pumping rate in September, at the end of Phase I, is anticipated to be 197.34 gpm. This discharge rate is based on a ground water inflow rate of 183.26 gpm, direct precipitation of 27.2 gpm and evaporation of 13.12 gpm. The ground water inflow rate is estimated from spring flow measurements made by Alpha at another site in New York that yielded 6% of the annual flow during September. The average September precipitation is 3.73 inches and the average evaporation rate is estimated to be 1.8 inches. This evaporation rate for September is equivalent to 6.8% of the annual quarry floor evaporation rate of 13.4 inches per year used in Table 8 of the Alpha report. The 6.8% figure comes from monthly pan evaporation data provided for Aurora, New York in the "Evaporation Atlas for the Contiguous 48 United States" by Farasworth et al (1982; NOAA Technical Report NWS 33; U.S. Department of Commerce, Washington, D.C., 26p).

This discussion of the water budget can be best summarized in the following table.

WATER BUDGET SUMMARY TABLE
Frontier Stone Quarry

	Average Annual Flow Rate	Average March Flow Rate	Average July Flow Rate	Average September Flow Rate
Surficial Drainage from Existing Basin 1	185.33	653.13	157.0	236.37
Surficial Drainage from the Unmined Area of Basin 1 at End of Phase 1 Mining	180.55	633.75	152.48	229.58
Ground Water Inflow from the Mine at the Full Development of the Phase 1 Quarry	251.04	310.40	186.21	183.26
Direct Precipitation into the mine at the Full Development of the Phase 1 Quarry	21.44	75.20	18.06	27.20
Evaporation from the mine for the Full Development Phase 1 Quarry	8.03	0.0	9.03	13.12
Discharge at Full Development of the Phase 1 Quarry	264.45	385.60	195.24	197.34
Total Future Discharge from Basin 1 at Full Development of the Phase 1 Mine	445.0	1019.35	347.72	426.92
Increase in the flow to Basin 1 after the Full Development of Phase 1	259.67	366.22	190.72	190.55

Notes: All discharges are in gallons per minute.
The existing Basin 1 area is 403.3 acres.
The unmined area will be reduced to 391.7 acres by the addition of the 11.6 acre Phase 1 quarry.
All the March discharges include the melt of accumulated snow for December, January and February.
Snow melt is imbedded in the direct precipitation of 75.20 gpm in the Future Phase 1 direct precipitation that is comprised of 19.8 gpm of March precipiation plus 55.4 gpm of snow melt.

As seen in the table, the increased flow rate to the Refuge during periods "within the marshes when they normally experience seasonal dry conditions" is minimal, i.e. 190 gpm. This is contrasted to a typical July thundershower (two year precipitation event) which discharges 4,331 gpm to the Refuge under an existing no quarry condition.

Notwithstanding these figures, the Applicant has several alternatives at his disposal. During dry summer months, discharge water can completely bypass the Refuge by pumping to Fish Creek, north of Fletcher Chapel Road. Fish Creek flows to Oak Orchard Creek. Secondly, the quarry site landowner, Chet Zelazny welcomes the use of the discharge water for irrigation of his agricultural fields during the dry season, once again, precluding discharge to the Refuge. Fish Creek has a very large channel which can easily accommodate the meager summer flow from the quarry. It also presents opportunities to expand this directional pumping at other times during the year.

The potential effect of quarry discharge calculations during high and low seasonal periods provided above on the down basin wetlands/waters systems was assessed. Reference should also be made to the response to NYSDEC Comment 4 relative to this assessment, portions of which are reiterated in the following response.

It is difficult to envision any measurable impact from quarry pump out water to the downstream wetland in light of the fact that the U.S. Fish and Wildlife Service alters the water level of the receiving wetland complex by several feet on a recurring basis. Nevertheless, potential changes to the downstream wetland from discharge water were evaluated in the TES Wetland Impact Assessment Report of July 2011, with additional assessments of seasonal changes provided in the response to Comment 6. These assessments used calculated water discharge volumes of the proposed continuous pumping from Phase 1 of the quarry development, as other phases of quarry development would not exceed these discharge levels as a result of using the Phase 1 quarry for water storage.

Since the TES impact assessment report of July 2011, Alpha Geoscience prepared the requested average annual discharge and seasonal discharge estimates during seasonal high and seasonal low discharge periods indicated above for Phase 1 of the quarry development. Their calculations for Phase 1 of the quarry indicate an annual average discharge of 259.67 gpm, a projected seasonal high in March of 366.22 gpm, a projected seasonal low in September of 190.55 gpm and with a similar low in July of 190.72 gpm.

The potential changes to the USFWS-controlled 74-acre Schoolhouse Marsh wetland, which is the receiving wetland, were calculated using the methods described in the July 2011 TES report. These calculations resulted in an estimated potential increase in water level in this wetland of 0.19 inch using the average annual discharge of 260 gpm; 0.26 inch using the March seasonal high discharge of 366 gpm; and 0.14 inch using the July/September seasonal low discharge of 191 gpm. The area calculations were cross-checked using HydroCAD in a "sensitivity" model. The model showed that a 336 gpm discharge would raise the water level .01 foot or .12 inches and a discharge of 381 gpm would raise the water level .04 feet or .48 inches. Discharge amounts below .75 cfs (336 gpm) have a non-measurable effect on water levels. Therefore the area calculations presented are considered very conservative.

Although the incremental water level variations in wetland hydrology are extremely minor, the effect of any change in wetland hydrology should also consider the time of year of the change. Although minor, the greatest change in flow is projected to be in March when wetland systems naturally have high water levels, which are tolerated by wetland vegetation because it is well before the start of the growing season. This change is also tolerated by animals because it is before the breeding season. Water level changes of significance, in July in the middle of the growing season, could potentially affect vegetation and wildlife, but this is when the discharge and any potential water level fluctuations are at their lowest. The calculated 0.14 inch rise in water level in July would not have a noticeable effect on the wetland.

Ditches and culverts below the USFWS-controlled Schoolhouse Marsh dam have been assessed and found to be of more than sufficient capacity to accommodate the quarry water discharge. Little to no change is expected in these downstream systems from the quarry discharge water. It should be noted that the size of the drainage basin and existing surface water runoff becomes progressively larger in the downstream direction. For example, the existing calculated March surface water drainage for Basin 1 at the Schoolhouse Marsh dam is 653 gpm, but increases to a calculated discharge of 962 gpm at State Route 63. This is an increase in existing drainage discharge of 47%. With the progressively larger surface water runoff, the additional quarry water discharge amount becomes progressively smaller when expressed as a percentage of the total runoff. As a result, any potential for a change from the additional quarry water discharge decreases as you progress downstream in the basin.

In light of the normal seasonal variation in wetland systems, the controlled nature of Schoolhouse Marsh wetland, and the very minor projected increase in water levels, it is not expected that this additional water would have a noticeable effect on the Schoolhouse Marsh wetland or areas farther downstream. If there is any effect, it would be a very slight increase in the wetness of the wetland and perhaps a very

slight increase in the wetland size. The gradual increase in quarry related discharges will allow ample time for the floral and fauna to adapt to the new equilibrium.

Comment 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.

Response: A total of seven wells, that are located on, and adjacent to the quarry site, have been sampled and tested for ground water quality. These seven wells include: well DH5-05 and the Barn well, which were sampled on April 14, 2010; and wells MW-1, PW-1, DH1-05, DH4-05 and the Garage well, which were sampled on May 11, 2012, and again on June 8, 2012. The locations of these wells are shown on Figure 3 of the April 29, 2011 report by Alpha Geoscience (Alpha) entitled "Hydrogeologic Investigation of the Proposed Frontier Stone Quarry, Town of Shelby, New York". The remaining three unsampled, on-site wells include OB-DH, DH2-05 and DH3-05. The locations of these three holes are also shown on Figure 3 of the Alpha report. Well OB-DH was an overburden hole that was not converted to a well, and it was never drilled down into the water bearing zones within the bedrock. Drill holes DH2-05 and DH3-05 were never cased through the overburden when drilled into the underlying rock; consequently, the overburden was allowed to collapse into the annular space after drilling was completed. This rendered those holes inaccessible for water level and quality assessments. The seven wells that were sampled provide a good representation of the quarry footprint.

Six of the seven wells were sampled by pumping at 3+ gallons per minute for approximately 40 to 90 minutes prior to sampling. The seventh well (DH5-05) was flowing when sampled. Samples were grabbed directly from the pump's discharge hose by using containers supplied by Test America Laboratories, Inc. or Adirondack Environment Services, Inc. The sample containers were then placed in an ice filled chest and taken to the laboratories. Details of the wells which are available for sampling have been previously summarized in the Ground Water Assessment report (Appendix 4) of the DEIS. The wells on the mine site are open rock holes; therefore, the water samples taken represent ground water from the entire rock mass to be mined (Lockport Formation). This simulates the conditions that will be present when the quarry hole is dewatered.

The water quality testing results are provided on the attached table along with the New York State standards for Class C surface water bodies and drinking water for the tested parameters. All of the streams surrounding the site are Class C surface water bodies. The results show that the ground water within the horizon to be mined contains total dissolved solids (TDS) that are near the New York State limit for Class C surface water and drinking water, and three of the wells are slightly above the limit. The rest of the data indicate that most of the TDS is the result of the calcium carbonate hardness, which is very high. The very high hardness indicates that the TDS is not the result of chloride, which is very low, and sulfate, which is at moderate levels that are well below the drinking water standards. There is no sulfate standard for Class C surface water. The hardness does not represent a potential environmental impact.

The water quality results show that the pH is within normal ranges and manganese is low. The results also show that iron is high, relative to the drinking water standards, and there was some indication of low concentrations of sulfides. The indicated sulfide is consistent with the slight H_2S odor observed during some of the aquifer testing conducted in the early stages of the project. Neither high iron or the low concentrations of sulfide will create an environmental impact as the result of the quarrying activities. Iron readily precipitates when exposed to oxygen. The sulfide will off gas as H_2S before the water ever leaves the property.

Table X
Ground Water Quality Testing Results
Proposed Frontier Stone Quarry
Town of Shelby, New York

Well	Date Sampled	Barium mg/l	Iron mg/l	Manganese mg/l	Hardness as $CaCO_3$ mg/l	TDS mg/l	TSS mg/l	pH SU	Sulfide mg/l	Sulfate mg/l	Chloride mg/l
Garage Well	May 11, 2012	0.036	2.7	0.080 B	310	370	4	8.17	<0.10►	41	97
Hole DH-4-98 (DH4-05)	May 11, 2012	0.29	0.63	0.025 B	690	420	42	7.70	<0.10►	84	46
MW-1	May 11, 2012	0.040	6.9	0.032 B	420	420	10	7.48	0.37►	120	18
PW-1	May 11, 2012	0.027	1.8	0.019 B	480	630	<4.0	7.42	0.6►	220	26
Hole DH 1-05	May 11, 2012	0.046	0.55	0.020 B	500	600	39	7.60	0.64►	220	7.7
Deep (DH5-05)	April 14, 2010	0.087	0.351	<0.020	395	490	2.5	7.3	0.18	104	28.5
Shallow (Barn)	April 14, 1010	0.058	0.118	0.042	491	652	7	7.1	<0.10	138	78
NYSDEC GWS		2.0	0.3*	0.3*	NS	500	NS	>6.5, <8.5	NS	250	250
NYSDEC Class C Surface Water Standard		NS	NS	NS	NS	500	NS	>6.5, <8.5	NS	NS	NS

Notes:
1) mg/l = milligrams per liter
2) SU = standard pH units
3) NYSDEC GWS = New York State Department of Environmental Conservation Ground Water Standards (NS = No standard).
4) * = NYSDEC GWS for the sum of iron and manganese = 0.5 mg/l.
5) B = Compound was found in the blank and the sample.
6) ►= Sulfide data from sampling on June 8, 2012.

The water quality results from the seven wells, which provide a good representation of the vertical and areal extent of the mine, indicate that there will not be significant levels of sodium or sulfate from the discharge of ground water. High levels of iron and low levels of sulfide will precipitate and/or dissipate, respectively, before leaving the property. The high calcium carbonate hardness (primary source of high TDS) is not a concern and will be diluted by direct rainfall. Concerns about ground water quality due to high levels of sodium, sulfate, and chloride, based on data from wells beyond the site and, in some cases, from geologic units that are not being mined at the site are addressed by site specific groundwater sampling data provided above.

Test sheets from the water quality analyses follow.

Comment 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. Measureable 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.

Response: The Alpha report appended to the dEIS, provides a set of cross sections on Plate 2 that illustrate the projected maximum water level drawdowns. This maximum drawdown represents a theoretical condition when all phases have been mined and no water is retained in any of the phases. This is an extreme condition that will never occur since the initial phases will be allowed to fill with water before completion of the final phase. The water retained in the quarry phases will raise the water levels in the adjacent aquifer system; consequently, the maximum projected drawdown impacts will never occur.

Regardless of the fact that the maximum drawdown will not occur, an analysis was provided to show maximum impacts if the quarry was dewatered. The drawdown analysis provided on Plate 2 in the Alpha report shows that the drawdown is essentially zero at 7000 ft. from the quarry face. The drawdown is anticipated to be less than 1.0 ft. at Route 63 at a distance of 6,000 ft. This shows that there will be no impact to the wells along Route 63.

The areas of highest potential impact are concentrated near the mine perimeter within the area that is essentially defined by Sour Spring Road, the southern end of Edwards Road, the southern end of Bigford Road, Southward Road and Fletcher Chapel Road. The section of Fletcher Chapel Road of interest extends westward 1000 ft. from the intersection with Sour Spring Road and 1500 ft. east of the intersection with Southward Road. Figure 11 in the Alpha report shows the previously described roads and the location of residential streets and wells that were investigated by Continental Placer Inc. (CPI). The maximum drawdown will occur along Fletcher Chapel Road, adjacent to the mine, where water levels could decline approximately 40 ft. This should not be considered an impact to these residents, or for any residents along Fletcher Chapel, since a municipal water line extends along Fletcher Chapel Road.

The locations of greatest potential concern are for the residents along Sour Spring Road, which are identified as well number 16 and 17 on Figure 11 in the Alpha report. Well No 16 and 17 could experience maximum drawdowns of 33 and 26 ft., respectively. It is unlikely that this maximum potential impact will ever occur since the relatively small Phase I quarry is located closest to those residents. This part of the quarry will be used to store water while the rest of the quarry is expanded. This approach will minimize drawdown during mining of subsequent phases.

Adirondack Environmental Services, Inc

Date: *29-Apr-10*

CLIENT: Continental Placer
Work Order: 100415044
Reference: Shelby, NY /
PO#:

Client Sample ID: Shallow BARN WELL
Collection Date: 4/14/2010 2:00:00 PM
Lab Sample ID: 100415044-001
Matrix: WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HARDNESS SM 2340B (Prep: SW3010A - 4/16/2010)						Analyst: **KH**
Total Hardness (As CaCO3)	491	5		mg/L	1	4/28/2010
ICP METALS E200.7 (Prep: SW3010A - 4/16/2010)						Analyst: **KH**
Barium	0.058	0.010		mg/L	1	4/28/2010 1:10:00 PM
Iron	0.118	0.050	B	mg/L	1	4/28/2010 1:10:00 PM
Manganese	0.042	0.020		mg/L	1	4/28/2010 1:10:00 PM
ANIONS BY ION CHROMATOGRAPHY E300						Analyst: **SH**
Chloride	78.0	1.00		mg/L	1	4/22/2010
Sulfate	138	2.00		mg/L	1	4/22/2010
PH SM4500 H B						Analyst: **LS**
pH	7.1	1.0	H	pH Units	1	4/15/2010
SULFIDE SM4500 S2 D						Analyst: **PL**
Sulfide	< 0.10	0.10		mg/L	1	4/21/2010
TOTAL DISSOLVED SOLIDS SM2540C						Analyst: **PL**
TDS (Residue, Filterable)	652	5	H	mg/L	1	4/22/2010
TOTAL SUSPENDED SOLIDS SM2540 D						Analyst: **CJ**
TSS (Residue, Non-Filterable)	7.0	1.0		mg/L	1	4/16/2010

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
X - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
T - Tentitively Identified Compound-Estimated Conc.
E - Value above quantitation range

Adirondack Environmental Services, Inc

Date: *29-Apr-10*

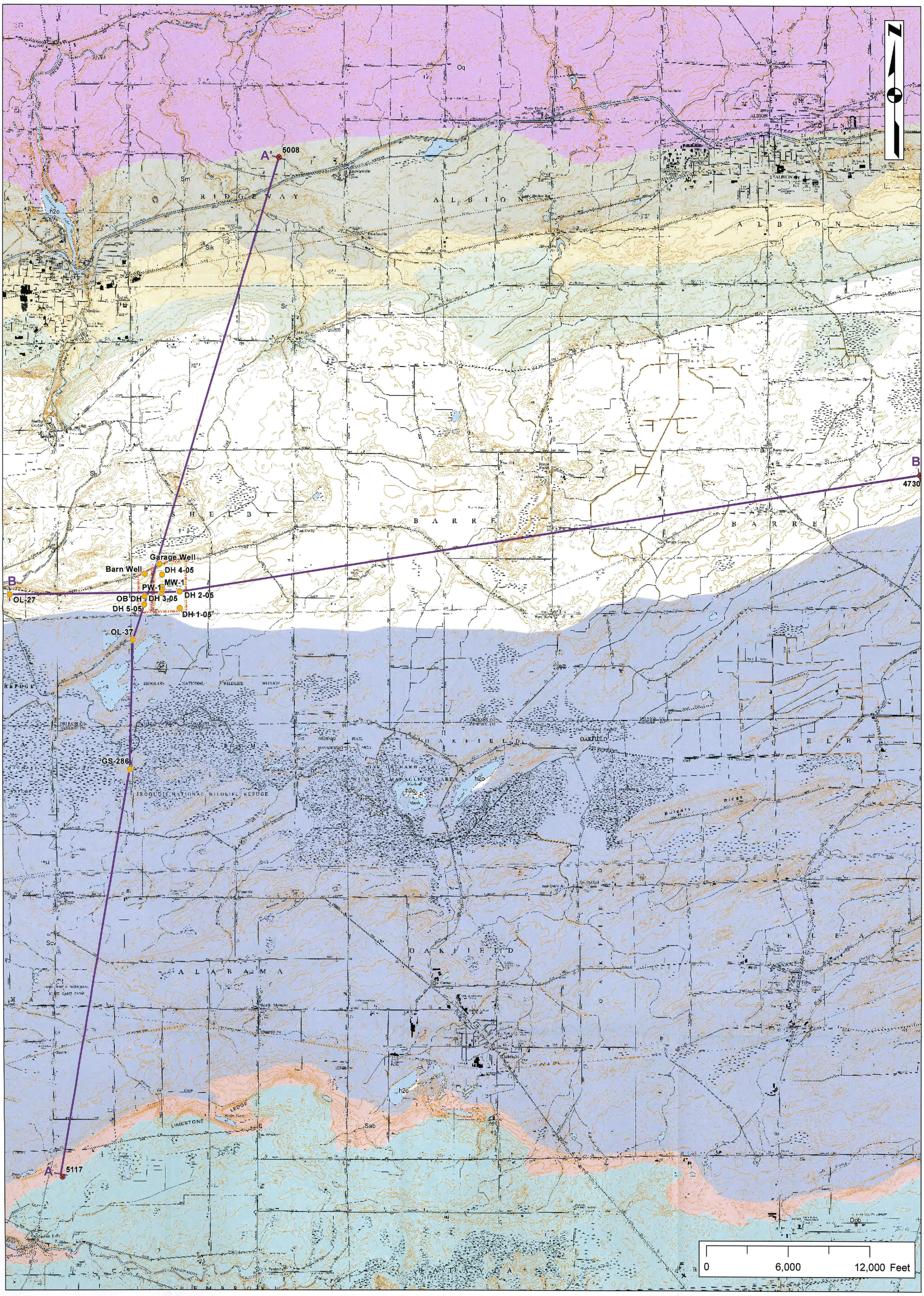
CLIENT: Continental Placer
Work Order: 100415044
Reference: Shelby, NY /
PO#:

Client Sample ID: Deep DRILL HOLE 5-05
Collection Date: 4/14/2010 2:00:00 PM
Lab Sample ID: 100415044-002
Matrix: WATER

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
HARDNESS SM 2340B (Prep: SW3010A - 4/16/2010)						Analyst: **KH**
Total Hardness (As CaCO3)	395	5		mg/L	1	4/28/2010
ICP METALS E200.7 (Prep: SW3010A - 4/16/2010)						Analyst: **KH**
Barium	0.087	0.010		mg/L	1	4/28/2010 1:15:00 PM
Iron	0.351	0.050	B	mg/L	1	4/28/2010 1:15:00 PM
Manganese	< 0.020	0.020		mg/L	1	4/28/2010 1:15:00 PM
ANIONS BY ION CHROMATOGRAPHY E300						Analyst: **SH**
Chloride	28.5	1.00		mg/L	1	4/16/2010
Sulfate	104	2.00		mg/L	1	4/23/2010
PH SM4500 H B						Analyst: **LS**
pH	7.3	1.0	H	pH Units	1	4/15/2010
SULFIDE SM4500 S2 D						Analyst: **PL**
Sulfide	0.18	0.10		mg/L	1	4/21/2010
TOTAL DISSOLVED SOLIDS SM2540C						Analyst: **PL**
TDS (Residue, Filterable)	490	5	H	mg/L	1	4/22/2010
TOTAL SUSPENDED SOLIDS SM2540 D						Analyst: **CJ**
TSS (Residue, Non-Filterable)	2.5	1.0		mg/L	1	4/16/2010

Qualifiers:

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
X - Value exceeds Maximum Contaminant Level
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
T - Tentitively Identified Compound-Estimated Conc.
E - Value above quantitation range



Legend

- Monitoring Well
- Deep Drill Hole
- Regional_X-Sections
- Property Boundary
- Life of Mine Boundary

Bedrock Geology

Onondaga Formation

- Dob, Onondaga Limestone

Salina Group

- Sab, Akron Dolostone
- Scv, Camillus and Vernon Shales

Clinton Group (Lockport Formation)

- Sl, Guelph Dolostone
- Sr, Decew Dolostone
- Sik, Irondequoit Limestone

Medina Group

- Sm, Thorold Sandstone
- Oq, Queenston Formation

Notes:
-NYS Department of Transportation Raster Quadrangle
-Elevations are shown in feet above mean sea level.
-Bedrock Geology of New York State - Niagara Sheet. New York State Museum GIS Dataset based on Map and Chart Series 15. Publication_Date: 7/19/1999

ALPHA GEOSCIENCE
Alpha Proj. No. 08122

ATTACHMENT A

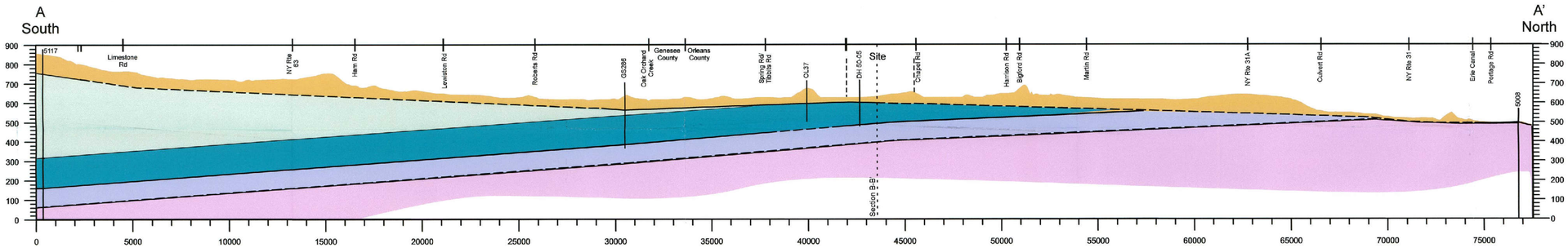
GEOLOGIC CROSS SECTION LOCATIONS

Frontier Stone LLC
Frontier Stone Quarry

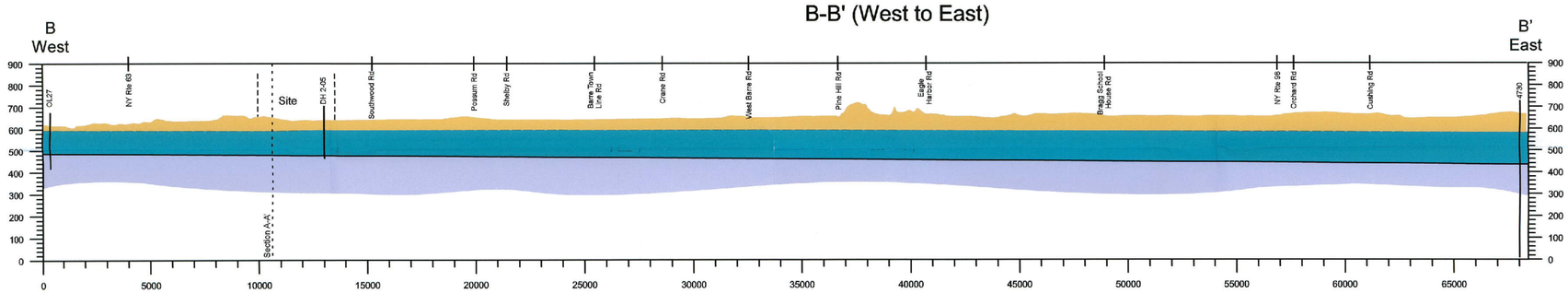
Town of Shelby
Orleans County, New York

Map Document: (Z:\projects\2008\08121 - 08140\08122- Frontier Stone\GIS\Regional Cross Section Map.mxd)
8/22/2008 -- 2:00:55 PM

A-A' (South to North)



B-B' (West to East)



LEGEND

Glacial Overburden

Bedrock Geology

Salina Group

Lockport Formation

Rochester Fm

Medina Fm

STRIKE = N 88° E
Apparent Dip = 0.42° SSE
(5117 to GS286, top of Rochester)
~7.4 FT per 1000 FT

300
SCALE
(feet)
0
3000

ALPHA GEOSCIENCE
Project No. 08122

ATTACHMENT B

GEOLOGIC CROSS SECTIONS

FRONTIER STONE LLC
FRONTIER STONE QUARRY

Town of Shelby, Orleans County, New York

08122 - Frontier Stone\Cross-Sections\Cross-Section.cvx

Detection Summary

Client: Continental Placer Inc.
Project/Site: Shelby

TestAmerica Job ID: 480-19955-1

5

Client Sample ID: GARAGE WELL — Lab Sample ID: 480-19955-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.036		0.0020	0.00070	mg/L	1		6010B	Total/NA
Iron	2.7		0.050	0.019	mg/L	1		6010B	Total/NA
Manganese	0.080	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Chloride	97		0.50	0.28	mg/L	1		300.0	Total/NA
Sulfate	41		10	1.7	mg/L	5		300.0	Total/NA
Hardness as calcium carbonate	310		4.0	1.1	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	370		10	4.0	mg/L	1		SM 2540C	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	8.17		0.100	0.100	SU	1		9040B	Total/NA
Total Suspended Solids	4.0		4.0	4.0	mg/L	1		SM 2540D	Total/NA

Client Sample ID: HOLE DH-4-98 — Lab Sample ID: 480-19955-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.29		0.0020	0.00070	mg/L	1		6010B	Total/NA
Iron	0.63		0.050	0.019	mg/L	1		6010B	Total/NA
Manganese	0.025	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Chloride	46		0.50	0.28	mg/L	1		300.0	Total/NA
Sulfate	84		10	1.7	mg/L	5		300.0	Total/NA
Hardness as calcium carbonate	690		4.0	1.1	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	420		10	4.0	mg/L	1		SM 2540C	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.70		0.100	0.100	SU	1		9040B	Total/NA
Total Suspended Solids	42		4.0	4.0	mg/L	1		SM 2540D	Total/NA

Client Sample ID: MW-1 — Lab Sample ID: 480-19955-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.040		0.0020	0.00070	mg/L	1		6010B	Total/NA
Iron	6.9		0.050	0.019	mg/L	1		6010B	Total/NA
Manganese	0.032	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Chloride	18		0.50	0.28	mg/L	1		300.0	Total/NA
Sulfate	120		10	1.7	mg/L	5		300.0	Total/NA
Hardness as calcium carbonate	420		4.0	1.1	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	420		10	4.0	mg/L	1		SM 2540C	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.48		0.100	0.100	SU	1		9040B	Total/NA
Total Suspended Solids	10		4.0	4.0	mg/L	1		SM 2540D	Total/NA

Client Sample ID: PW-1 — Lab Sample ID: 480-19955-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.027		0.0020	0.00070	mg/L	1		6010B	Total/NA
Iron	1.8		0.050	0.019	mg/L	1		6010B	Total/NA
Manganese	0.019	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Chloride	26		0.50	0.28	mg/L	1		300.0	Total/NA
Sulfate	220		10	1.7	mg/L	5		300.0	Total/NA
Hardness as calcium carbonate	480		4.0	1.1	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	630		10	4.0	mg/L	1		SM 2540C	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.42		0.100	0.100	SU	1		9040B	Total/NA

Detection Summary

Client: Continental Placer Inc.
Project/Site: Shelby

TestAmerica Job ID: 480-19955-1

Client Sample ID: HOLE DH-1-05 — Lab Sample ID: 480-19955-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.046		0.0020	0.00070	mg/L	1		6010B	Total/NA
Iron	0.55		0.050	0.019	mg/L	1		6010B	Total/NA
Manganese	0.020	B	0.0030	0.00040	mg/L	1		6010B	Total/NA
Chloride	7.7		0.50	0.28	mg/L	1		300.0	Total/NA
Sulfate	220		10	1.7	mg/L	5		300.0	Total/NA
Hardness as calcium carbonate	500		4.0	1.1	mg/L	1		SM 2340C	Total/NA
Total Dissolved Solids	600		10	4.0	mg/L	1		SM 2540C	Total/NA

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
pH	7.60		0.100	0.100	SU	1		9040B	Total/NA
Total Suspended Solids	39		4.0	4.0	mg/L	1		SM 2540D	Total/NA

5

Client: Continental Placer Inc.

Job Number: 480-21070-1

General Chemistry

Client Sample ID: **DH-1**

Lab Sample ID: 480-21070-4

Client Matrix: Water

Date Sampled: 06/08/2012 1227

Date Received: 06/08/2012 1405

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfide	0.064	J	mg/L	0.052	0.10	1.0	SM 4500 S2 D

Analysis Batch: 480-68186 Analysis Date: 06/12/2012 1246

Client: Continental Placer Inc.

Job Number: 480-21070-1

General Chemistry

Client Sample ID: **DH-4**

Lab Sample ID: 480-21070-1

Client Matrix: Water

Date Sampled: 06/08/2012 1104

Date Received: 06/08/2012 1405

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfide	ND		mg/L	0.052	0.10	1.0	SM 4500 S2 D

Analysis Batch: 480-68186 Analysis Date: 06/12/2012 1246

Client: Continental Placer Inc.

Job Number: 480-21070-1

General Chemistry

Client Sample ID: **MW-1**

Lab Sample ID: 480-21070-2

Client Matrix: Water

Date Sampled: 06/08/2012 1130

Date Received: 06/08/2012 1405

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfide	0.37		mg/L	0.052	0.10	1.0	SM 4500 S2 D

Analysis Batch: 480-68186 Analysis Date: 06/12/2012 1246

Client: Continental Placer Inc.

Job Number: 480-21070-1

General Chemistry

Client Sample ID: **PW-1**

Lab Sample ID: 480-21070-3

Client Matrix: Water

Date Sampled: 06/08/2012 1200

Date Received: 06/08/2012 1405

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfide	0.60		mg/L	0.052	0.10	1.0	SM 4500 S2 D

Analysis Batch: 480-68186 Analysis Date: 06/12/2012 1246

Client: Continental Placer Inc.

Job Number: 480-21070-1

General Chemistry

Client Sample ID: **GARAGE WELL**

Lab Sample ID: 480-21070-5

Client Matrix: Water

Date Sampled: 06/08/2012 1250

Date Received: 06/08/2012 1405

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Sulfide	ND		mg/L	0.052	0.10	1.0	SM 4500 S2 D

Analysis Batch: 480-68186 Analysis Date: 06/12/2012 1246

The well on Southward Road, which is No. 19 on Alpha Figure 11, could experience a maximum mine related drawdown of 34 ft. This well has the greatest chance to experience impacts due to dewatering of the eastern phases of quarrying. Maximum drawdowns of 25 ft. are anticipated as worst case impacts at the southern end of Edwards and Bigford Roads. These impacts along Southward, Edwards and Bigford Roads, along with the wells on Sour Spring Road, will need to be monitored and mitigated if the water supplies are compromised. A monitoring plan will be prepared to provide early warning of drawdown near these existing wells. The plan will include a well survey to obtain information about wells in potential impact areas; however, these surveys are dependent on cooperation from each well owner.

Comment 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.**

Response: A ground water monitoring program will be initiated at the start of mining. The program will consist of measuring water levels in existing site monitoring wells PW-1, MW-1, DH1-05, DH4-05, the barn well, the Garage well and four sets of new monitoring wells. Previous wells DH2-05,3-05 and 5-05 either no longer exist or will be destroyed during initial mining in Phase I.

Each of the four new monitoring well sets will consist of a shallow well (50 ft. deep) and a deep well (150 ft. deep). The shallow well will be constructed by setting casing into the top of the rock and leaving an open rock hole to 50 ft. The deep well will be cased to a depth of 50 ft. and left as an open rock hole to 150 ft. The well sets will be placed between the property line and quarry limit at locations between the quarry and residential wells of concern. One of these will be in the southwest corner of Phase I to address the residential wells identified as 16 and 17 on Alpha Figure 11. Another set will be placed in the northeast corner to address wells at the southern end of Bigford Road. The fourth set will be east of previous well DH2-05 to address the residential well on Southward Road that is identified as No. 19 on Alpha Figure 11. Frontier will install the northeastern and eastern well sets prior to mining in the phases east of the power line. The existing wells will provide monitoring information in the northeastern and eastern sectors until that time. The locations of all new monitoring wells will be submitted for review and approval by the NYSDEC prior to installation.

Monitoring will consist of measuring water levels every two months during the first two years of mining. The frequency will be reduced to quarterly thereafter. Annual monitoring reports will be submitted to the NYSDEC at the end of each calendar year for five years. Reporting will cease after five years; however, the applicant will maintain a database of quarterly measurements throughout the life of the mine.

Comment 10: It has been brought to the Department's attention that a potentially unique geologic feature exists within the IWWR 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.

Response: A recent publication by the U.S. Geological Survey (USGS) (William M. Kappel and Matthew B. Jennings; 2012; Water Resources of the Iroquois National Wildlife refuge, Genesee and Orleans Counties, New York, 2009-2010; Scientific Investigation Report 2012-5027, 53 p) provides supplemental information that can be utilized with the Alpha report findings to assess potential impacts to the Orchard Oak Acid Springs. Although the exact locations of the Oak Orchard Acid

Springs were not provided, the USGS revealed that they are in the eastern half of the refuge near Oak Orchard Creek and their water quality is relatable to the shales of the Salina Group.

The location of the springs near Oak Orchard Creek, within the eastern half of the refuge, places the springs within the discharge zone of the bedrock aquifer system. The discharge zone interpretation is consistent with the analyses by both Alpha and the USGS. The assessment by the USGS that the water quality indicates a Salina shale source is also consistent with the springs being in the vicinity of the creek. A north-south cross section (see Section A-A' on Attachments A and B) shows that the basal portion of the Salina Group underlies the area occupied by Oak Orchard Creek, If the Acid Springs are on the south side of the creek, such as near USGS hole GS-286, then there would be nearly 30 feet of the Salina Group above the Lockport Group.

The geologic cross sections represented on Attachment A were derived from a combination of oil and gas well data (wells 5008, 5117 and 4730), USGS wells (OL-37, OL-42 and GS-286) and site wells (DH2-05 and DH5-05). The oil and gas well data are available in the publication "Deep Wells in New York State" (W.L. Kreidler, A.M. Van Tyne and K.M. Jorgensen; 1972; Bulletin Number 418A; New York State Museum and Science Services; 334 pp). The USGS well data are provided in the previously referenced 2012 publication by Kappel and Jennings.

The thickness of the Lockport Group provided on the north-south section (A-A') is based on a thickness of 155 feet derived from well 5117. None of the other available well data provided a complete section; however, a thickness of 155 is consistent with observations by CPI in their work in the region and is consistent with the general thickness that can be approximated from the outcrop. An apparent dip of 0.42° (7.4 ft./lOOO ft.) and strike of N 88'E were calculated by correlating the base of the Lockport Group between wells 5117, GS-286 and DH5-05. The result is similar to the east-west (N90° E) strike and dip to the south at 0.351° derived from the elevation of the contact between the Gasport and Decew Formations at wells 2-05 (498.0 ft. amsl), 4-05 (503.34 ft. amsl) and 5-05 (493.76 ft. amsl) provided by CPI. This is a sharper, more well defined contact than the base of the Lockport Group.

The north-south cross section shows that there are approximately 35 ft. of the Salina Group rock above the Lockport Group at the GS-286 well location. This projection from the cross section is consistent with the gamma log for GS-286 in the Kappel and Jennings (2012) publication that shows a similar thickness of apparent shaiey material in the upper part of a unit identified in the USGS report as the Guelph Formation, It is also consistent with the Bedrock Geology of New York State - Niagara Sheet, which indicates Oak Orchard Creek, near well GS-286, is underlain by Salina Group shale. The reassignment of the upper part of the rock to the Salina Group at GS-286 is also consistent with the observation that the USGS has an interpreted thickness of more than 170 ft. at GS-286 for the Lockport. This is thicker than the typical Lockport Group in the area.

The sulfide and other constituents contained in the Acid Springs are also consistent with water coming from the Vernon Formation and overlying Syracuse Formation of the lower part of the Salina Group. The USGS suggests the source is pyrite; however, the ubiquitous anhydrite within the Salina Group is a more likely source. Ground water flow on the south side of the creek is upward through the Salina Group and toward the discharge zones along the creek and; likewise, the flow on the north side of the creek is upward primarily through the Lockport and toward the discharge zones along the creek. The worst case drawdown analysis for the proposed quarry by Alpha shows that the quarry induced drawdown will not extend to the discharge zones along Oak Orchard Creek. The use of the initial phases of the quarry for water storage during the later phases will prevent the drawdown from reaching even the worst case represented in the Alpha report. It is apparent that there will be no drawdown impacts or disruption of flow from the ground water flow system associated with the acid springs.

Comment 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.

Response: Water, which accumulates in Phase 2, will be pumped via pipe to the Phase 1 quarry. Any water which is in the Phase 1 hole will exit through three settling ponds previously shown in the DEIS Mining Plan Map. This pumping route will be clearly shown on the Mining Plan Map in the DEIS.

Comment 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 layout of the wash plant and closed loop settling pond system must be provided on the Mining Plan Map.

Response: A detailed diagram of a closed loop wash water system for a site that does not even yet have a processing plant on the ground is not feasible. It should also be understood that if wash water did leave the site it would be a violation of permit conditions. Frontier will not wash aggregate without submitting a MLRL permit modification.

Comment 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-suliide 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 anaernhieally. Sulfides have a negative effect on the primary productivity of plant communities. Water discharged into the IIWVR from the quarry sump may have elevated levels of these molecules. Information pertaining to this concern must be addressed and provided in the DEIS.

Response: The information above describes the reaction of sulfur **in the absence of oxygen.** However, these processes will not occur in quarry pump out water because of its exposure to oxygen. Water will initially be exposed to oxygen as it collects in the quarry floor, exposed to oxygen when it is pumped into the receiving basins, and further exposed to oxygen as it drains into the wetlands within the refuge. As a result of these aerobic conditions, elevated levels of these molecules will not occur.

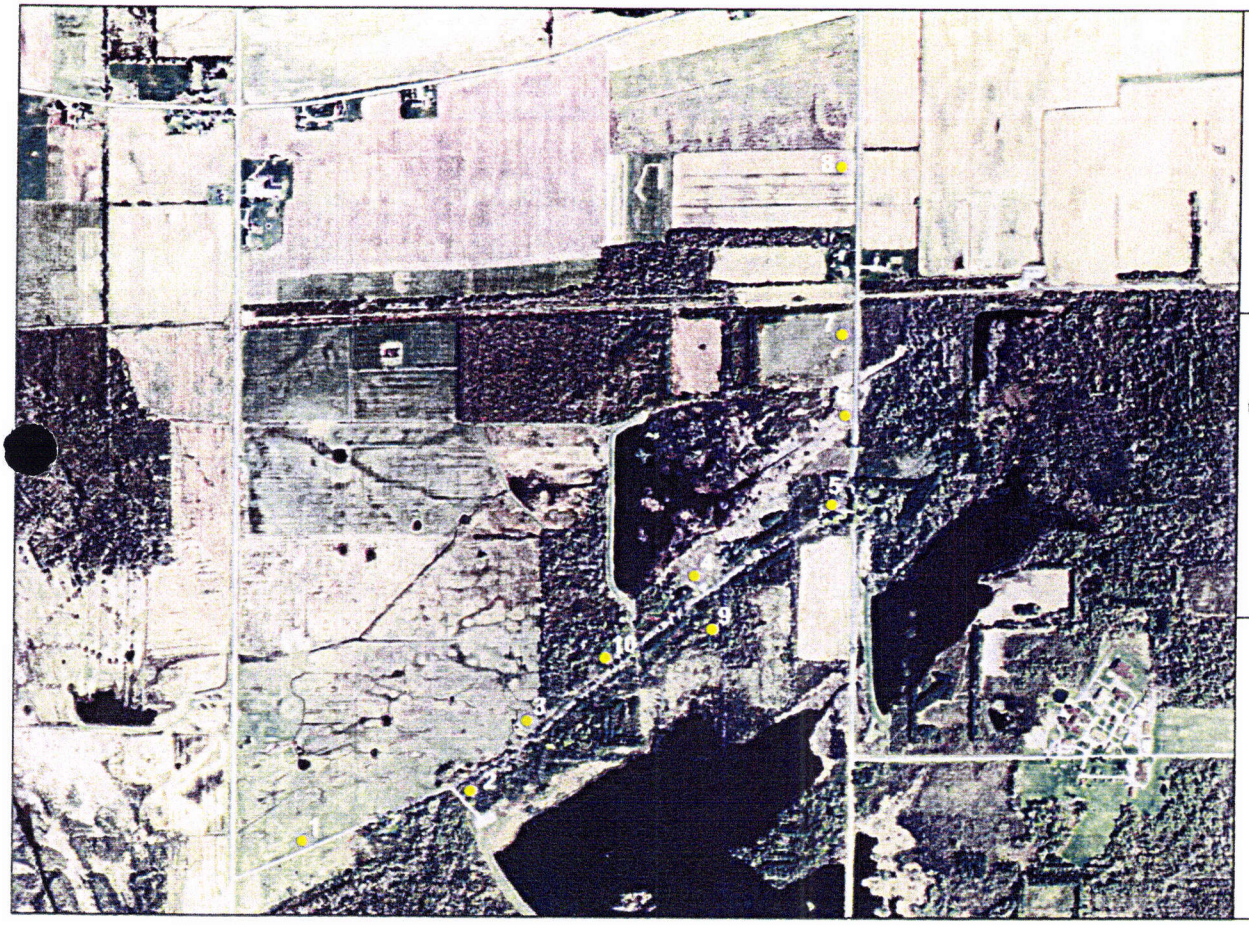
VEGETATION AND WILDLIFE RESOURCES AND IMPACT or ECOLOGICAL RESOURCES

Comment 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.

Response: The area of influence (AOI) of blasting noise is provided above, along with a discussion of the frequency and duration of blasts. As indicated, a typical blast will attenuate to ambient dBA levels at a distance of about 500 feet into the INWR, with a blast likely occurring once or twice per week for duration of less than one second.

TES determined that the following vegetation cover -types were found in the AOI: scrub-shrub upland, deciduous forest upland, mixed forest upland, wet meadow, scrub-shrub wetland, and deciduous forest wetland (See Figure 1 -TES 2011). TES listed the breeding birds recorded within these cover types (see Figure 1 and Table 3).

Noise from blasting in the small AOI within the INWR is not expected to affect the wildlife species that would occur in the habitats of the area. The noise will be similar to a short duration of thunder rumble once per week, which would not result in a negative reaction from wildlife. Blasting noise will occur for a very short duration (less than 1 second per blast) and would be conducted once or twice per week. The blast,



NORTH

0' 400' 800'

APPROXIMATE SCALE IN FEET

Aerial Photograph obtained from NYS GIS Clearinghouse 2010

Figure Prepared by Terrestrial Environmental Specialists, Inc.

Figure 1

Location of Breeding Bird Plots Conducted 5/31/12

Table 3

Birds Recorded Per 10-Minute Point Count on lands including the Iroquois National Wildlife Refuge on Oak Orchard Ridge Road and Sour Springs Road May 31, 2012

Town of Shelby

Cover Type:	SSU	DFU	OF	AG	EW
Great blue heron *Ardea herodias*	6.00		1.00		
Great egret *Casmerodius albus*	0.50		0.50		
Turkey Vulture *Cathartes aura*					1.00
Canada goose *Branta canadensis*	1.00				
Wood duck *Aix sponsa*	1.00				
Mallard *Anas platyrhynchos*	1.00		1.00		
Osprey *Pandion haliaetus*	0.50				
Killdeer *Charadrius vociferus*				1.00	1.00
Ring-billed gull *Larus delawarensis*		0.25			
Red-bellied woodpecker *Melanerpes carolinus*		0.25			

Table 3 (cont.)

Cover Type:	SSU	DFU	OF	AG	EW
Downy woodpecker *Picoides pubescens*		0.25			1.00
Eastern wood-pewee *Contopus virens*		0.50			
Willow flycatcher *Empidonax traillii*	0.50		1.50		1.00
Great crested flycatcher *Myiarchus crinitus*	0.50	0.25			
Eastern kingbird *Tyrannus tyrannus*	0.50	0.25	1.00		
Tree swallow *Tachycineta bicolor*	2.00		1.50		
Blue jay *Cyanocitta cristata*	1.00				
American crow *Corvus brachyrhynchos*	1.00	0.75			1.00
Black-capped chickadee *Parus atricapillus*		0.25			
White-breasted nuthatch *Sitta carolinensis*		0.25			
Marsh wren *Cistothorus palustris*					2.00
American robin *Turdus migratorius*	1.00	0.50	1.00		3.00

Table 3 (cont.)

Cover Type:	SSU	DFU	OF	AG	EW
Gray catbird *Dumetella carolinensis*	0.50	0.25			
European starling *Sturnus vulgaris*				19.00	
Red-eyed vireo *Vireo olivaceus*		0.75			
Yellow warbler *Dendroica petechia*		1.75	1.00		3.00
Chestnut-sided warbler *Dendroica pensylvanica*	1.00				
Cerulean warbler *Dendroica cerulea*		0.25			
American redstart *Setophaga ruticilla*	0.50				
Common yellowthroat *Geothlypis trichas*	4.50	1.25	2.00		1.00
Hooded warbler *Wilsonia citrina*		0.50			
Scarlet tanager *Piranga olivacea*		0.25			
Northern cardinal *Cardinalis cardinalis*		0.50			1.00
Rose-breasted grosbeak *Pheucticus ludovicianus*		0.25	0.50		1.00

Table 3 (cont.)

Cover Type:	SSU	DFU	OF	AG	EW
Indigo bunting *Passerina cyanea*	0.50		0.50		
Chipping sparrow *Spizella passerina*	0.50		1.00	2.00	
Field sparrow *Spizella pusilla*			1.00		
Savannah sparrow *Passerculus sandwichensis*			1.00	1.00	
Song sparrow *Melospiza melodia*	1.50	0.75	1.50		1.00
Swamp sparrow *Melospiza georgiana*	0.50				4.00
Bobolink *Dolichonyx oryzivorus*	1.00		1.50		1.00
Red-winged blackbird *Agelaius phoeniceus*	2.00	0.25	1.00	3.00	7.00
Common grackle *Quiscalus quiscula*	1.50			1.00	
Brown-headed cowbird *Molothrus ater*	1.00	0.75	0.50	6.00	
Baltimore oriole *Icterus galbula*		0.25		1.00	
American goldfinch *Carduelis tristis*			2.50		

Table 3 (cont.)

Cover Type:	SSU	DFU	OF	AG	EW
Total Number of Species:	25	23	19	8	15
Number of 10 Minute Samples:	2	4	2	1	1
Total Number of Birds Per 10 Minute Sample:	31.50	11.25	21.50	34.00	29.00

unlike the explosions documented in our literature review, will be noise similar to thunder from a thunderstorm. According to the analysis provided by Continental Placer, the blast will attenuate at a distance of 500 feet in the INWR with a dBA of 52.15. As this blast is similar to thunder, we do not anticipate negative reactions from wildlife.

Comment 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".

Response: Construction of the berm occurs during the first phase of quarry development and is a temporary impact likely limited to the first year of quarry work. The construction of the berm is designed to minimize off-site noise impacts and based on the noise and vibration maps it meets the purpose.

The statement on page 22 recognizes that noise and vibrations can potentially affect wildlife, but as stated it depends on the level or loudness of the noise. "Loud abrupt noises" can have an effect. However, as the projected level of noise and vibrations from the proposed quarry including blasting are similar to levels from existing farming activity and natural events (thunder), those noise impacts are not in the category of noises identified on page 22. The conclusions from page 24 are valid.

Comment 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.

Response: TES provided a literature review of noise and vibration, but the available literature is primarily associated with military activity at bombing ranges. These references were added at the request of the NYSDEC and the USFWS. There are no studies of quarry activities such as this pre- and post-construction. The literature presented is limited to studies with much greater disturbance potential to wildlife than the "rumble of equipment" within a quarry and the occasional blast. It was our conclusion that there was little effect on abundance, behavior, and nesting success at the bombing ranges noted in the articles reviewed, and disturbance to wildlife adjacent to the quarry operation would not occur based on the much lower noise levels projected.

Comment 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.

Response: Based on the noise and vibration levels projected from blasting and its short duration, TES does not consider the blasting to be a significant impact on wildlife whether it occurs once or twice a week.

Comment 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.

Response: Center Marsh does not currently provide optimum nesting habitat for bald eagles. Center Marsh might provide nesting bald eagle habitat in the future when the trees grow larger. Currently there are 19 impoundments on INWR of which two contain bald eagle nests. There are numerous locations for bald eagles to nest on INWR. In addition, the bald eagle has over 225 nesting locations in New York State and has been delisted from the federal Endangered Species Act. Many of these nests are near roadways, residential areas, and other areas of human activity. The nearest open water area of Center marsh is approximately 1500 feet south of the southern quarry property boundary. Even if future nesting habitat developed, operation of the quarry would not affect the establishment of an eagle nest at Center Marsh. We understand that the USFWS significantly alters the hydrology of Center Marsh and other impounded wetland areas in the INWR on a recurring basis.

Comment 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.

Response: Truck traffic may be as high as 30 one-way trips per hour or 60 trucks per hour passing a given point. Over an eight-hour day, this would be 480 trucks passing a given point. From a traffic volume standpoint, this is a very low number, although it may be a significant increase when expressed as a percentage of existing traffic volume. The increased truck traffic may result in an increase in wildlife-vehicular collisions and, as indicated on the revised Plate 3, there would be an increase in noise from the trucks. However, based on our observations of wildlife usage near highways of much greater traffic volume, it is the opinion of TES that the truck traffic would not affect wildlife usage in the habitats adjacent to the roadways in the INWR.

Comment 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.

Response: Route 63 was present before the INWR was established. TES has no clear indication that Henslow's sparrow has been documented nesting in this field in recent years. TES conducted a breeding bird survey next to the Sour Springs Road and Oak Orchard Ridge Road on May 31, 2012 (see results presented in attached Table 3 and Figure 1). Representative nesting bird species found in multiple communities in those habitats include: Eastern kingbird, red-winged blackbird, common yellowthroat, American robin, and song sparrow. These species were recorded next to the road despite considerable ambient' noise from Route 63. It is TES's professional opinion that additional truck traffic would not affect nesting birds on Sour Springs and Oak Orchard Ridge Roads.

Comment 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.

Response: As referenced on page 10 of the TES report, this information was obtained from the INWR Draft Comprehensive Plan and Environmental Assessment (USFWS 2010, Page 3-22), which apparently was in error.

HYDROGEOLOGIC INVESTIGATION OF THE PROPOSED FRONTIER STONE QUARRY, TOWN OF SHELBY, NEW YORK

Comment 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/sncwmclt 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?

Response: As discussed in the response to Comment 6, the highest quarry discharge rates from maximum buildout of Phase 1 will be in the spring and the lowest will be at the end of the summer. The quarry discharge rate for the combined snow melt, precipitation and ground water inflow in March is anticipated to be 385.6 gpm. The lowest ground water inflow will occur in September. The quarry pumping rate in September is anticipated to be 197.34 gpm. The seasonal discharges for the rest of an average year will range between this seasonal high and low. These seasonal high and low values will be discharged to Basin 1, which will continue to yield an average runoff of 633.35 gpm and 229.58 gpm for March and September, respectively from the 391.7 acres that will remain undisturbed (see Water Budget Summary Table for comparisons). The March runoff is based on the assumption of meltdown of snow accumulated for the three previous months combined with March rainfall and no evaporation. Both of these results show that the quarry discharge is less than the ongoing drainage to the refuge from Basin 1.

Comment 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.

Response: Impacts of the discharge of pump out water to down basin systems are discussed in the response to NYSDEC Comments 4 and 6. As discussed, potential changes to the USFWS-controlled, 74-acre Schoolhouse Marsh are expected to be fractions of an inch in water level and fractions of an acre in size. These minor changes are not expected to noticeably impact the wetland system. Drainage features west of Schoolhouse Marsh, including the culvert under Route 63, were assessed and are of more than sufficient capacity to accommodate the additional discharge water. Ponding in the fields east of Route 63 would not be expected to differ from existing seasonal fluctuations. There would not be any impact to the grassland habitat east or west of Route 63 during the nesting season. These upland grassland habitats are sufficiently above the elevation of the ditch system in this area so that the minor increase from quarry discharge water would not affect these areas.

Spring seasonal high discharge rates are provided in the responses to NYSDEC Comments 4 and 6. The culverts under Route 63 would accommodate the additional quarry pump out water during spring.

Potential impacts from the increased water discharge to the School Marsh wetland system during spring are discussed in the response to Comments 4 and 6. Seasonal discharge are expected to be highest in March when the rate of discharge would be 366 gpm. As discussed, such a discharge could potentially increase the water level in the USFWS-controlled Schoolhouse Marsh by an estimated 0.26 inch, which could potentially result in an increase in the size of the wetland system by 0.27 acre. These extremely minor changes are not expected to result in a noticeable change in the wetland complex or areas further down basin.

High spring water levels are a natural occurrence in wetland systems in this area. It is not a stress to the system, but can actually provide habitat diversity benefits. The very minor changes from the increased discharge water would not be expected to result in any noticeable impact during these seasonal high water periods.

Comment 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.

Response: Comments from the Refuge manager are addressed below.

UNITED STATES DEPARTMENT OF INTERIOR
IROQUOIS NATIONAL WILDLIFE REFUGE
COMMENTS

Comment: Page 14. 1.3.2.2: In this section as well as others throughout the dEIS and related documents the applicant states that the quarry will pump 2S1 gpm of water into the agriculture ditch that flows onto the Refuge. This appears to be an average gpm measured over a year or many years. In order to properly review the proposal it is necessary that the applicant provide additional data on the maximum and minimum estimated gpm of water that will be pumped onto the Refuge and the duration that these pumping rates may be maintained. Additionally, any expected change in the maximum or minimum pumping rate during the life of the quarry should be identified.

Response: The maximum discharge to the agricultural ditch will occur toward the end of Phase 1 due to the need to maintain a dry quarry. The discharge will not exceed 251 gpm thereafter due to the ability to use Phase 1 and the subsequent completed phases for water storage.

The discharge rate of 251 gpm represents an annual average ground water discharge based on a water budget derived from average monthly rainfall from the nearby Albion 2 NE NOAA weather monitoring station. The actual monthly discharges during Phase 1 will vary seasonally with the highest in March and the lowest in September (see Water Budget Summary Table for comparisons). The average discharge from ground water in March toward the end of Phase 1 mining is anticipated to be approximately 310.4 gpm. The average ground water discharge during these months will be less than 310.4 gpm due to the flow reducing effects of using the completed quarry phases for water storage. (See also response to Comment 6).

Comment: Page 16. 1.3.2.7: The applicant acknowledges a potential annoyance to wildlife watchers at Schoolhouse Marsh overlook, but then states that "...truck traffic volumes will be minimal when compared to nearby traffic on Route 63...". While this may be true, the Refuge does not have any overlooks on Route 63, so this information is irrelevant to a discussion of potential traffic effects on Refuge visitors at overlooks.

Response: As noted in the response to Comment 3, 50 percent of the visits to the refuge will occur when there is little to no quarry activity.

While there will be a noise increase for the Schoolhouse Marsh overlook, this is not the case for the Ringneck overlook. Sound readings were taken of tractor trailers and dump trucks in a highway next to an active quarry. The average sound level (Leq) was 74 dBA at 25 feet from the roadway. The Ringneck overlook is approximately 400± feet from Oak Orchard Ridge Road. Using the inverse square law, distance alone will reduce the sound level 24 dBA and vegetation a conservative 2 dBA for a total dBA reduction of *26*± dBA. The measured sound level at the Ringneck overlook was 48 dBA when there was no mining activity, the same as that projected. This limited impact can be further mitigated, as stated in Comment 3, by utilizing a proposed alternative vehicle route on Fletcher Chapel Road.

Comment: Page 16. 1.3.3.2: The applicant references the map outlining an Area of Influence (A 01) around the quarry for noise and vibration. This map appears to include a noise area for regular quarry sounds excluding blasting. We would like to see the noise AOI include blasting. Additionally, this map and associated analysis and discussion should include an AOI along Sour Springs and Oak Orchard Ridge Roads to identify potential disturbance from the increased truck traffic, which the applicant says could be as high as 30 trucks per hour. Also, we it should be clarified if this is 3 trucks driving down the road per hour or if it is 30 trucks driving in and out of the quarry per hour, effectively resulting in 60 truck trips down the road per hour.

Response: (See response to Comment 3 and 5).

Comment: Page 17. 1.3.3.2: In the hiking section, the applicant states that there are no hiking trails within the AOI. While this statement is true, during periods of time when the Refuge is open to off-trail hiking, visitors are allowed to hike in areas without designated trails.

In the bird watching section, the applicant states that bird watching activity focuses on migratory waterfowl at the two refuge overlooks on Oak Orchard Ridge Road and then concludes that even though there will be an increase in truck traffic by these two overlooks, "...the potential for disturbance to bird watchers is minimal." Given the fact that two of the four overlooks on the refuge are located on this truck route and also that the applicant has not evaluated the potential noise and disturbance associated with this increase in truck traffic, it is unclear to us how their conclusion of minimal disturbance can be drawn.

In the hunting section, the applicant states that "deer hunting season does not coincide with the quarry's normal operations season". According to the applicant on page 6, the quarry's normal operations season will be from April to November. It is unclear if this means November 1 or November 30. Regardless the archery deer season on the Refuge begins on or about October 15 and the Deer Management Plan recently adopted by NYSDEC proposes moving opening day of the deer season to October 1, beginning in 2012. There will be overlap between the quarry operation season and the deer hunting season.

Additionally, the applicant only mentions deer and updated game bird hunting in the hunting section. Other types of hunting occur on the Refuge in the area adjacent to the quarry.

The applicant states that "hunting has not been impacted by numerous quarry settings elsewhere in the region", but offers no basis for this statement. Many hunters, particularly bow hunters, prefer to hunt in a settling with minimal noise and disturbance. It seems unlikely that an area near an active quarry would provide the kind of solitude required for this kind of hunting experience.

Response: While hiking may be allowed, there are dense stands of shrubs and wetland areas in the AOL There was no indication that visitors to the INWR use this area.

The increase in truck traffic could have an impact on wildlife watchers at the Schoolhouse Marsh overlook based on the increased volume and the rise of ambient noise levels noted on revised Plate 3. The Ringneck Marsh overlook is shielded from the road by a dense tree and shrub canopy and interference with recreational wildlife watchers would be much less.

There will be some overlap in the hunting seasons. Other types of hunting could occur in the AOI; however, waterfowl hunting would occur in areas with adequate water and adequate cover for hunters.

During the March 19th meeting, Department staff also requested that Frontier consider accessing the site using Fletcher Chapel Road. Based upon this recommendation and the consideration of a potential 30 truck trip condition, Frontier has obtained a traffic study, which analyzes the use of Fletcher Chapel Road based upon 30 truck trips per hour. This study resulted in the conclusion that the use of Fletcher Chapel is a viable alternative.

This plan (i.e. using Fletcher Chapel) offers many different scenarios for traffic distribution. Traffic could be split between Sour Springs/Oak Orchard Ridge Road (existing plan) and a Sour Springs/Fletcher Chapel route, or the traffic could directly access Fletcher Chapel from the site. Any percentage could be allocated to these scenarios, or all could just use only Fletcher Chapel (note: an access could be made out the north side of the mine site along the west side of the utility line onto Fletcher Chapel). If the Fletcher Chapel or Sour Springs/Fletcher Chapel access were used, it would mitigate mine related traffic within the refuge.

The following traffic-related statistic was presented in the Iroquois National Wildlife Refuge Comprehensive Conservation Plan:

"The Refuge receives more than 28,000 visits on the trails and overlooks each year. The majority of Refuge visitors come during the spring, early summer and fall months to take advantage of favorable trail conditions and opportunities for viewing annual spring and fall bird migrations and enjoy the brilliance of New York's fall foliage. The Refuge receives nearly half its annual visitation during the months of March and April."

The forgoing statistic indicates that the Refuge is heavily used during the months of March and April. Because of climatic conditions, construction activity typically has an operating season which begins in mid to late April, and peaks in mid to late summer. Peak mine related traffic activity will not coincide with peak use of the refuge by the public.

Comment: Page 36. 3.1: Nearly all of this text appears to be copied from the Refuge's Draft Comprehensive Conservation Plan (CCP). We request this section be changed in the following ways. First, the applicant should put quotation marks around *te^t* that has been copied verbatim from another document and provide a citation for these quotes and also for information paraphrased from another document. Secondly, the Refuge CCP states that there are 19 managed freshwater impoundments, not 10.

Response: Corrected - 19 impoundments rather than 10. Quotation marks and citations will be provided for any material used verbatim.

Comment: Page 50. 3.1.2.2: Table 4 should include the overall depth of the wells.

Response: The purpose of Table 4 is to establish groundwater depths and elevations, not to document well construction. The reader is referred to Table 4.6 of the Groundwater Assessment report (Appendix 4 of the DEIS) for well depths.

Comment: Page 53. 3.1.2.2: The water quality assessment seems to be based on two water samples taken from unknown depths. A more thorough water sampling study should be conducted.

Response: (See Comment 7).

Comment: Page 63. 3.1.4.1: The applicant states "no state-regulated wetlands are mapped on or near the site". While it may be accurate that there are no state-regulated wetlands on site, there are state-regulated wetlands on the Refuge within a few hundred feet of the site and potential secondary impacts to these wetlands should be evaluated.

Response: As indicated, no state-regulated wetlands are mapped on or near the site. The closest mapped state-regulated wetland (Wetland OK-1) is on the Refuge property, approximately 300 feet south of the southern property line of the quarry, which is part of the USFWS-controlled and manipulated Center Marsh system. This system is not proposed to receive pump out water from the quarry.

The other NYSDEC mapped wetland southwest of the quarry site is Wetland MD-3, which is mapped as occurring approximately 1,500 feet southwest of the southern property line of the quarry. This mapped wetland is part of the USFWS-controlled and manipulated Schoolhouse Marsh system. Assessments of any potential impacts to this wetland system are discussed in response to NYSDEC Comments 4 and 6.

Page 65. 3.1.4.2: The applicant suggests that Center Marsh being periodically dewatered somehow makes it less attractive to bald eagles. All four eagle nests that are currently located within the wetland complex are located on impoundments that are periodically dewatered and they continue to nest successfully nearly every year. Dewatering an impoundment helps to regenerate the marsh and it in fact concentrates fish making it easier for eagles to catch prey. In impoundments where there is no active nest, many eagles (10+) have been seen foraging at one time. Additionally, Center Marsh contains a large and deep borrow ditch adjacent to the dike that nearly always contains open water, even when the rest of the pool is dewatered.

Response: No bald eagles have established a nest in Center Marsh. Based on USFWS statements, bald eagles nest in impoundments that have a regular supply of water. As there are 19 impoundments on the INWR there does not appear to be a lack of available nesting habitat for bald eagles. Regardless of dewatering, the areas of potential future nest locations at Center Marsh are more than 1,500 feet from the southern quarry boundary.

Page 66. 3.1.4.2: We were unable to find a Holt and Leasure (200S) reference in the Birds of North America (SNA). However, the Short-eared Owl section of the Birds of North America (No. 62) (2006) is available online and it appears that this is the reference that the applicant used. The applicant suggests that based on BNA No. 62 "short-eared owls are also known to frequent mines and quarries." In fact, BNA 62 states that short-eared owls "may use" gravel pits and rock quarries. This information is cited from an earlier paper written by R. J. Clark (1975) in which he lists "abandoned limestone quarry partially filled with stumps" and "abandoned gravel pit" as places where he found short-eared owl winter assemblages. Both of these areas are far different than the active stone quarry being proposed and to suggest that this area will somehow be attractive to short-eared owls

once quarrying operations commence is misleading.

Response: Corrected. Holt and Leasure should be cited as 2006 as this reference was recently updated since our first use of this reference. Short-eared owls do not use the proposed quarry site. The applicant has not made any inferences regarding short-eared owls.

Comment: Page 96. 3.2.6: The applicant states that "sound levels at the overlooks will be mainly generated by traffic on Oak Orchard Ridge Road and background sounds from Route 63...sound levels are anticipated to be similar to...S-1...located on Sour Springs Road." Both overlooks are located much farther away from farm machinery than is site S-l and we believe they may have significantly lower ambient noise levels. We suggest additional ambient noise readings be collected at both School house and Ringneck Overlooks.

Response: As previously shown on Plate #2 of the DEIS, ambient noise levels have been recorded for the overlooks. The sound level at location S-l on Sour Springs Road was 53.9 dBA Leq and a second midday reading of 53.7 dBA; the sound level at the Schoolhouse overlook is 54.8 dBA and Ringneck is 48.0 dBA (see also response to Comment # Page 16. 1.3.2.7).

Comment: Page 126. 4.1.2.2.4: The analysis in item 2 assumes that the water level in Schoolhouse Marsh is 6 inches below the top of the "weir", allowing 6 inches of storage capacity in the marsh during a storm event. This is inaccurate since the water level in the marsh is often at or above the "weir: level. Ultimately, there is no way to know what the water level will be prior to a storm event. This analysis should be recalculated with the assumption that there is no water storage capacity available in the marsh at the start of a storm event.

Response: The analysis did not assume that the water level was 6 inches below the top of the weir; it was measured by a GPS instrument. This, however, is a moot point. To analyze the effects of a storm event, a datum has to be assumed to measure the effects of a storm in a measureable way. Thus, the existing observed condition was used. This proved ideal; that is, it enabled an actual measurable effect on the wetland, albeit slight. If the assumption is made that the marsh level is at the top of the weir (i.e. no storage), the storm events will merely discharge over the weir and out of the pond creating **no additional impact** to the marsh beyond the natural storm event. There is no assertion implied that there is storage capacity available or wanted in the pond, this is up to the discretion of Refuge personnel.

The point of the Storm Event Drainage Summary, Drainage Basin 1 table in the DEIS is that even in a 5, 10 and 25 year storm event, the quarry contributes 2.0 to 0.3 percent of the natural drainage to the Refuge. This increase will be an insignificant effect on the marsh. These increases have been calculated in a measurable way by computer modeling.

Comment: Page 128. 4.1.2.2.4: The applicant states that "calculations indicate that the existing system has sufficient design capacity to transmit drainage, including storm events, without adverse structural issues." This statement seems to be based solely on analysis from Schoolhouse Marsh. However, the flow of water from the quarry site travels through Schoolhouse Marsh, immediately to another, smaller wetland, then through a series of ditches within a managed grassland, then under State Route 77, then either into another managed wetland or through a 24" culvert, then into a large managed impoundment where it mixes with water from Oak Orchard Creek and eventually passes through a large water control structure and off the north boundary of the Refuge. We suggest the applicant provide detailed analysis of the potential hydrological impact to this entire wetland system, as it will all be affected by any change in water quantity or quality.

Response: The drainage system from Schoolhouse Marsh to Route 63 was studied. The drainageway consists of a series of ponds, a weir and culverts. All culverts are 24 inches in diameter. As cited in the previous response, the project contributes only 0.3 percent of the flow in a 25-year storm event. The HydroCAD modeling shows that in a 25-year storm event, 2.66 cfs of drainage exits Schoolhouse Marsh via the weir that connects to a 24 inch culvert through the dike. The 24 inch culvert has the capacity to handle 17.96 cfs, or roughly 6.7 times the amount of the 25-year storm event based upon the specific dynamics of this drainage basin. The entire system past Schoolhouse Marsh, composed likewise of 24 inch culverts, has capacity to handle the storm events based upon the modeling data.

The quantity of water from the quarry is insignificant in relationship to the area of the basin and the quantity of water generated from a storm event. No impacts are anticipated given the minimal contribution of quarry water during storm events.

In regard to water quality, see response to Comment 7. From a practical standpoint, a 25-year storm event will generate 65,130 gpm; this will easily dilute 251 gpm from the quarry pump-out. Additionally, from a historical perspective, there are no reports of storm events adversely affecting the existing drainage system. The addition of 251 gpm during a 65,130 gpm storm event will not alter the wetlands.

The ground water quality data obtained from the wells on and adjacent to the site yielded water chemistry that will not result in impacts to surface water. The process of oxidation, and dilution that will occur within the quarry and by the surface water flow associated with Basin 1, prior to flow to the wetlands will prevent impacts.

Comment: Page 129. 4.1.2.2.4: We find the applicants statement that "...the quarry's impact beyond natural seasonal variations and storm events is insignificant" to be misleading. We feel that the continuous pumping of 251 gpm (or other volumes) of water into Refuge wetlands could be very significant. Natural seasonal variations in water levels will certainly be altered as will the ability of the wetlands to absorb storm events. Additionally, we are unable to fully understand the maximum amount of water that may be pumped onto the Refuge from the quarry as the applicant has not thus far provided those data.

Response: The 251 gpm discharge rate from the quarry at the end of Phase I mining is an average annual rate of ground water inflow into the quarry. The actual ground water inflow rate is anticipated to vary seasonally with a maximum estimated rate of 310.40 gpm in March and a minimum of 183.26 gpm in September. These anticipated ground water inflow rates and the total anticipated seasonal discharge rates at the end of Phase I mining are provided on the attached Water Budget Summary Table.

The maximum estimated discharge from the quarry at the end of Phase I mining is 385.60 gpm. This maximum will occur in March and is derived from the combination of ground water, winter accumulated snow melt, direct March precipitation and an assumption of zero evaporation. This maximum quarry discharge will combine with the natural, existing runoff of 633.75 gpm from Basin 1, which is one of the existing source areas of surface water runoff to the refuge. The combination of quarry discharge with natural runoff will result in a total maximum average March flow of 1019.35 gpm to the refuge. This is a "surface flow" to the refuge rather than "pumped onto the refuge" as suggested by the Department of Interior comment.

The forgoing discussion shows that there will be seasonal variations in average monthly flows to the refuge. The data provided on the attached Water Budget Summary Table provide the relative increases in the average flows from Basin 1 as the result of the Phase I quarry discharges. These are averages that do not reflect natural storm runoff events from the remaining unaffected portion of Basin 1. These storm events, which happen now and will continue to occur in the future, result in much higher flows during any month or season of the year. The end of Phase I is provided as the maximum quarry discharge due to the fact that the Phase I quarry, and subsequent completed quarry phases, will be used to store water and moderate the discharge rates during the later stages of quarry development.

WATER BUDGET SUMMARY TABLE
Frontier Stone Quarry

	Average Annual Flow Rate	Average March Flow Rate	Average July Flow Rate	Average September Flow Rate
Surficial Drainage from Existing Basin 1	185.33	653.13	157.0	236.37
Surficial Drainage from the Unmined Area of Basin 1 at End of Phase 1 Mining	180.55	633.75	152.48	229.58
Ground Water Inflow from the Mine at the Full Development of the Phase 1 Quarry	251.04	310.40	186.21	183.26
Direct Precipitation into the mine at the Full Development of the Phase 1 Quarry	21.44	75.20	18.06	27.20
Evaporation from the mine for the Full Development Phase 1 Quarry	8.03	0.0	9.03	13.12
Discharge at Full Development of the Phase 1 Quarry	264.45	385.60	195.24	197.34
Total Future Discharge from Basin 1 at Full Development of the Phase 1 Mine	445.0	1019.35	347.72	426.92
Increase in the flow to Basin 1 after the Full Development of Phase 1	259.67	366.22	190.72	190.55

Notes: All discharges are in gallons per minute.
The existing Basin 1 area is 403.3 acres.
The unmined area will be reduced to 391.7 acres by the addition of the 11.6 acre Phase 1 quarry.
All the March discharges include the melt of accumulated snow for December, January and February.
Snow melt is imbedded in the direct precipitation of 75.20 gpm in the Future Phase 1 direct precipitation that is comprised of 19.8 gpm of March precipiation plus 55.4 gpm of snow melt.

Comment: Pages 185-186. 4.2.7.1: The applicant states that "impacts to hunting on the nearby Refuge are projected to be non-significant", that "the AOI extends into only a small fraction of the adjoining environment" and that "neither the woods, marshes or fields *(on the Refuge in the AOI)* are conducive to hikers." We do not concur. First, the applicant has not included blasting or truck traffic as part of their AOI noise zone determination and disturbance analysis. Second, the applicant has provided no date to quantify the level of recreational activity occurring in the area near the quarry site. Lastly, the statement that an area is not conducive to hikers is a values judgment. Different people have different perceptions regarding what is a quality recreation area.

Response: The noise zone determination has included truck traffic and its calculation of blasting is discussed in detail in response to Comment 14. The sound of blasting is similar to a very short duration rumble of thunder. We would recommend the reviewers from the USFWS visit a nearby quarry to witness a blasting event.

The recently completed INWR Comprehensive Conservation Plan and Environmental Assessment does not describe recreational use in the vicinity ofthe proposed quarry. Based on our visits to the site, there is no indication of recreational use in the area of influence. In addition, INWR policies restrict hiking to the period from October 1 to the end of February. Potential overlap with quarry operations could occur from October until November but not during the remainder of the quarry operating season. The statement that the area is not conducive to hikers is based on the conditions present in the AOI. TES walked through this area on numerous occasions and much of the area is covered by a dense tangle of vegetation. Other portions contain wetlands with no indication of human paths or trails.

Comment: Page 189. 4.2.7.1: The applicant states that "the Refuge receives nearly half its annual visitation during the months of March and April, which *(is)* outside the normal operating season of the project area." However on page 6 the applicant states that "mining and processing will normally occur from April to November...", showing that in fact the month of April is within the normal operating season.

Response: The reference to mining and processing was a generic use of the terms. During the month of April, mine sites are in a start-up mode. Equipment is started to see its need for service or repair, ramps are graded after snow-melt, etc. There is not "full-blown" production with its associated traffic.

Comment: Page 210. 5.2.7.1: We feel that the impacts to recreation on the Refuge have not been adequately addressed. The applicant has not included blasting and increased truck traffic noise in its analysis of disturbance to recreational users of the Refuge.

Response: (see response to Comment #3, Comment #5 and Comment # Page 96, 3.2.6).

Comment: Page 212. 6.0: The applicant states that impacts of increased traffic on Sour Springs Road and Oak Orchard Ridge Road "will be satisfactorily mitigated." We are unclear how this is possible since the applicant has not provided a thorough analysis of the actual impacts.

Response: The traffic noise on Oak Orchard Ridge Road is mitigated to potential receptors in the Ringneck overlook by distance from the roadway (see Comment # Page 96, 3.2.6). Further, the Applicant recognized that road improvements may be necessary by virtue of the increased traffic.

MINED LAND USE PLAN

Comment: Page 13. 2.4.2: In this section and other areas throughout their documentation, the applicant states that the existing agricultural ditch on the site "is not a flowing feature" and that most of the time the ditch does not drain to the Refuge. They also often state that water will be pumped into this ditch from the active quarry "to resume the pre-existing condition drainage pattern." We can find no data to support the first statement or any data that identifies the "preexisting condition drainage pattern." We feel the applicant should provide daily water flow data for at least one full year for this ditch to allow a thorough analysis of the proposed quarry's impact to the hydrology of the Refuge. Additionally, we are unclear how the continuous pumping of 251 gpm of water through the ditch and onto the Refuge can be considered resuming the "pre-existing condition drainage pattern" of a ditch that is currently "not a flowing feature."

Response: The term drainage pattern is a geomorphic term which refers to the location, route or imprint of this fluvial structure on the topographic surface; not how its physical characteristics appear throughout the year. Alpha Geoscience, Continental Placer, Terrestrial Environmental Specialists and others have been on the site frequently since 2005 and infrequently in the two prior years. Our professional expertise allows us to characterize whether the stream generally flows or not. Pumping of quarry water to the existing drainage ditch will not change the channel configuration or location; it will retain its pre-existing drainage pattern.

VEGETATION AND WILDLIFE STUDY AND ECOLOGICAL RESOURCES IMPACTS ANALYSIS

Comment: Page 4. 1.2.3: The applicant conducted two breeding bird surveys on the Refuge. While the timing of the June survey was appropriate, the July survey was too late to adequately assess use by breeding birds.

Response: TES conducted the breeding bird survey in the appropriate time period. As indicated on page 4 of the 2011 TES report the 'off-site breeding bird survey was performed on June 17, 2010." On July 13, 2010, a follow-up survey was conducted by two TES biologists. The follow-up survey was performed during the period when nesting bird species would be actively feeding young and utilizing the habitat if present. For example, the cerulean warbler (mentioned by the USFWS) is known to sing throughout the day and throughout the season.

Comment: Page 9. 1.3.4.3: While the applicant conducted bird surveys adjacent to the quarry site, they did not conduct surveys adjacent to Sour Springs and Oak Orchard Ridge Roads. These areas will be affected by the quarry generated truck traffic and need to be surveyed to properly assess the potential impacts of this traffic.

Some of the species identified during the applicant's bird surveys (e.g., wood thrush, blue-winged warbler, hooded warbler) are on the Partners in Flight (PIF) Species of Continental Importance list. This list includes species that the PIF identified as having "the greatest range-wide concern and which are in most need of conservation attention."

Additionally, the area of the Refuge adjacent to the quarry contains habitat types in which other species of concern (e.g. cerulean warbler, golden-winged warbler) breed, on other parts of the Refuge. These habitats may support these species adjacent to the quarry, even if they were not detected on the applicant's surveys.

Response: As requested by the USFWS, TES conducted a breeding bird survey adjacent to Sour Springs Road and Oak Orchard Ridge Road. It should be noted that as previously provided, there is much ambient noise from nearby Route 63.

See attached Table 7 and Figure 15 showing the results of the breeding bird survey and the survey point locations. Ten locations were sampled along Sour Springs Road and Oak Orchard Ridge Road. It should be noted that at one sample point, at breeding bird location 10, TES recorded cerulean warbler, hooded warbler, and scarlet tanager in a small forested woodlot north of Oak Orchard Ridge Road. Ambient noise was previously monitored by Continental Placer. Increased road noise would occur due to the potential for 480 additional trucks per eight-hour day.

The proposed quarry is not expected to affect these three species. None of these species is listed on the NYSDEC Endangered, Threatened, or Species of Special Concern lists. TES reviewed the status of these Partner in Flight (PIF) species from their website. Wood thrush with a continent-wide population of 14,000,000 birds is listed because of concern primarily with its winter range. Hooded warbler is on the list of "additional stewardship species" whose population trends are stable or unknown and are not currently threatened. Blue-winged warbler is listed due to low population size.

TES conducted a thorough survey in the areas adjacent to the proposed quarry. Cerulean warbler and golden-winged warbler were not present in these areas. Cerulean warbler declines are linked to declines in wintering habitats. Appropriate nesting habitat for Golden-winged warbler habitat is not provided on this portion of ENWR.

Comment: Page 11. 1.3.5.2: The applicant states that "there is little mature forest habitat in the immediate vicinity of the site" as support for their suggestion that bald eagles are likely to not use the area of the refuge adjacent to the quarry. However, their own bird surveys detected both scarlet tanager and ovenbird, two forest interior species known to prefer mature forests. Additionally, while eagles prefer to nest in large super canopy trees they are known to also nest in smaller trees, some as small as 18 inches in diameter. This area of the Refuge contains open water foraging areas and forested habitat, making it suitable for bald eagle nesting and foraging. While it may not be optimum habitat, it is certainly adequate. Abo, over the life of the quarry (75+years), the forest in this area will continue to mature, making it even more attractive eagle nesting habitat.

We were unable to find a Holt and Leasure (2008) reference in the Birds of North America (BNA). However, the Short-eared Owl section of the Birds of North America (No. 62) (20060 is available online and it appears that this is the reference that the applicant used. The applicant suggests that based on BNA No. 62 "short-eared owls are also known to frequent mines and quarries." In fact, BNA 62 states that short-eared owls "may use" gravel pits and rock quarries. This information is in fact attributed to an earlier paper written by R.J. Clark (1975) in which he lists "abandoned limestone quarry partially filled with stumps" and "abandoned gravel pit" as places where he found short-eared owl winter assemblages. Both of these areas are far different than the active stone quarry being proposed and to suggest that this area will somehow be attractive to short-eared owls after quarrying operations commence is very misleading. If this is not the correct reference the applicant needs to provide us with additional reference information.

Response: TES found little mature forest habitat in the vicinity of the site. Scarlet tanager and ovenbird occur in forested areas that may or may not be mature. The area of the refuge that contains open water habitat for foraging bald eagles and that may in the future provide adequate nesting trees is at least 1500 feet south of the southern quarry property boundary. Existing or ftiture disturbance to the bald eagle will not occur. The bald eagle has been delisted by the USFWS under the Endangered Species Act. There are no shortages of potential nest sites on the INWR for bald eagle.

The Holt and Leasure reference should be 2006. No short-eared owls occur on the site. No implication was made that this site would become an alternative for short-eared owls.

Comment: Page 12. 1.3.5.2: The applicant states that "the closest nesting area for *(Henslow's sparrow)* is % mile west from the site", suggesting that these birds are nesting too far away from the site to be affected by quarry operations. However, this nesting area is bisected by a small ditch that will transfer any water pumped from the quarry onto the Refuge, making it vulnerable to any water quantity or quality impacts that may occur.

Response: TES referred to a previous nesting record of Henslow's sparrow from 2001. No recent records of Henslow's sparrows have been provided by the USFWS. Henslow's sparrows do not nest in ditches. As indicated in the response to prior comments, the ditch is of sufficient capacity to accommodate any additional project water.

Comment: Page 19. 2.3.4: The statement that "no adverse modification of bald eagle habitat will occur from the quarry development" is misleading in that the applicant has not adequately addressed the potential disturbance to adjacent Refuge areas.

Response: TES found no potential for adverse modification of bald eagle habitat. The proposed quarry is currently in active agricultural uses and does not provide foraging or nesting habitat for bald eagles. Areas of potential use for bald eagles on the Refuge are distant (over 1,500 feet) from the quarry site.

Comment: Pages 22-23. 2.7.2: There are several literature citations that we draw a different interpretation from the authors information. We provide the following analysis for your consideration.

Schueck *et at* (2001) provides inconclusive information at best. The authors clearly state "during one period of intensive military training in one breeding season, raptor counts were lower during training than on non-training days." Also, "we observed fewer prey capture attempts on ranges on days with training than on days without training." While some response may vary based on species, training activity type and prey abundance, it is clear that, based on the results of this study, there is a level of bird disturbance associated with military training activities.

The statement that "northern harriers are thought to benefit from military training" based on Jackson et al. (1977) is not appropriate. This "study" was simply the observations of two people visiting a bombing range for one hour on one day and observing one bird.

Similar to Schueck *et al.* (2001), he results from Holthuijzen *et al.* (1990) are at best inconclusive. The applicant states that "behavior of incubating and brood rearing prairie falcons was not significantly altered." However, the paper's authors state the overall response rate (i.e., the number of instances in which a change of behavior was observed)..." to blasting "was 54%." It is believed that incubating and brood rearing birds are much less likely to abandon a nesting area than a bird that has not yet laid eggs. The area of the Refuge adjacent to the quarry provides habitat for breeding as well as foraging migratory birds and resident wildlife. A disturbance during any time of year could have a significant negative effect on Refuge wildlife.

Response: TES conducted a literature review at the request of the NYSDEC and the USFWS to include studies of potential adverse effects on wildlife from military operations. TES located no literature analyzing pre-construction and post-construction effects of mining.

A thorough reading of the article provides the reader with a different interpretation. This article was referenced because it was a multi-year study with numerous raptor species.

TES disagrees that these studies are inconclusive. Significant unconfined ordinance explosives detonations, with a magnitude much greater than the planned once or twice weekly confined blasting for the quarry, occurred at the military ranges and successful reproduction occurred. It is our professional opinion based on visiting numerous active quarry sites and surveying wildlife activity that quarry noise does not cause a significant negative effect on wildlife. No military training activities will occur in the proposed quarry.

The study of red-cockaded woodpeckers by Doresky *et al.* (2001) is inappropriate for this evaluation because the authors admit that there was no difference in noise levels between their treatment and control areas. Therefore, they were measuring effects of noise disturbance in an area where there was no increased noise disturbance.

Doresky states in their paper that regardless of the possible explanations for the lack of differences in noise levels between treatment and control clusters, the fact that reproductive variables were similar is of greater importance.

The applicant states that "Stalmaster and Kaiser (1997) showed that wintering bald eagles became habituated to helicopters..." However, the last sentence of these author's abstract states "out data suggest that ordinance explosions, low-level helicopter overflights and boating should be restricted near eagle foraging areas." The scientific literature contains many references supporting the notion that loud noises and human disturbance have a negative effect on wildlife. A balanced review of the literature in this area is necessary for a proper review of this proposal.

As indicated by TES, bald eagles became habituated to helicopters. No foraging areas for bald eagles are found in fields proposed for the quarry. Ordinance explosions, low-level helicopter overflights, and boating will not occur on the quarry site.

TES consulted the literature for articles and studies of mining activities effects on wildlife. There is not a literature base. While loud noises and human disturbance could have a negative effect on wildlife, there is no evidence to support the fact that the proposed mining activities would negatively affect wildlife on the INWR.

Comment: Page 24. 2.7.3: The applicant cites Allaire (1978) regarding minimum mining buffer distances. This citation is not listed in the References section and therefore cannot be evaluated.

The statement that "mining operations will not occur closer than 60 feet from the INWR" is misleading. According to the Mining Flan Map, the constructed overburden berm on the south of the quarry will be less than 400' from the Refuge boundary. Since this berm will be constructed as part of the mining activities, we consider it to be part of the "mining operations."

The applicant provides no basis for the statement that blasting vibrations will be "an insignificant impact" to the Refuge.

Response: Agreed. Reference is Allaire, P.N. 1978. *Reclaimed surface mines: new potential for North American Birds.* 32:3-5.

We disagree with this assessment. The berm would be constructed at the onset of the mining operations and is being constructed to reduce noise from the quarry. Berm construction is a temporary impact likely during the first year of quarry development. The day-to-day mining operations will be further than 600 feet from INWR. As the quarry develops, the distance from the INWR boundary will increase.

As indicated in Section 2.7.1 Noise and Blasting Background Information *"...blasts are planned so that much of the energy as possible is usedtofacture the rock, however, some energy is dissipated beyond the detonation site."* Unlike the numerous studies at military training sites, the blasts will be very brief and occur once or twice a week. The vibration will extend slightly into INWR and be of a very short duration. Based on these facts, there will be an insignificant impact from blasting. Information provided in the response to Comment 14 supports the statement that blasting vibrations will an insignificant impact.

Comment: Page 25. 2.7.3: The truck traffic volumes that TES is basing its analysis on (65 trips per day) does not match the 30 trucks per hour figure elsewhere in the documentation.

The Reijnen *etat.* (1995) study that the applicant uses to base their assertion that "there should be no effect on wildlife" is not supported by the reference. This study was conducted in deciduous and coniferous forests only. More than half of the area immediately adjacent to Sour Springs and Oak Orchard Ridge Roads is shrubland and grassland, with the remainder in forest cover, so the habitat types are not necessarily comparable. The cited study only looked at roads with between 10,000 and 60,000 vehicles per day. The applicant states that "based on this study, the proposed increase in traffic volumes would not cause significant noise disturbance to breeding birds." However, the authors of the cited study make no inferences about the effects of traffic on breeding birds along roads with lower traffic volumes. The applicant simply makes this assumption. In fact, based on the information in the applicant's documentation, they are unclear as to how much traffic might increase on this road (see Page 25. 2.7.3 comment above). It seems to us that the overall traffic volume is less relevant than what the increase in volume and noise level will be. The applicant has stated that these roads currently receive very low traffic volume. An increase in volume, especially by large trucks, may very well have a significant effect on area wildlife.

The applicant provides a comparison in the traffic volume on Sour Springs and Oak Orchard Ridge Roads to the volume on Route 63, to suggest that effects of traffic on wildlife will be minimal. However, the level of traffic on Route 63 is irrelevant to this analysis except to note that the Refuge is already negatively impacted by traffic and any increase in traffic, no matter how small, will likely compound the problem.

The applicants statement that "it appears that traffic has had no notable impact despite the fact that Route 63 bisects the Refuge" has no basis in fact. To our knowledge, there have been no studies to determine this impact.

Response: The maximum volume of trucks is identified to be 30 one way trips per hour or a total of 480 trips during an eight-hour day. The ordinary operation of the quarry will result in 65 trips per day.

Ideally a citation to a paper with mixed cover types would be ideal; however, the Reijnen *et al* (1995) study is a benchmark study for the impacts of road noise on wildlife. Studies of road noise impacts on wildlife are in areas with significant traffic volumes. We do not understand how the commenter concludes that the "the overall traffic volume is less relevant than what the increase in volume and noise level would be." While the maximum traffic increase is expected to be a maximum of 480 trucks per day, ordinary operations will involve approximately 65 trucks per day. This, in our opinion, will not result in a significant impact from increased road noise.

The INWR Comprehensive Plan and Environmental Assessment makes no mention of Route 63 negatively affecting wildlife on the Refuge. While Refuge staff may feel that the Refuge is negatively impacted by traffic, there is a wide variety of wildlife species (mammals, reptiles, amphibians and birds) nesting, foraging, and thriving next to Route 63.

TES noted during visits that a wide variety of open field/wet meadow species were breeding next to Route 63. If Route 63 caused a reproductive sink for breeding birds, it would have been mentioned in the INWR Comprehensive Conservation Plan and Environmental Assessment.

WETLAND IMPACT ASSESSMENT

Comment: The flow analysis conducted by the applicant seems to assume no obstruction to the flow of water through the wetland areas. In fact most of the flow areas are vegetated and this vegetation *h* dependent on historical flow regimes. Any changes to these regimes may have negative impacts to the vegetative community. Additionally, flow analysis that doesn't take into consideration the existing vegetative obstructions will likely overestimate the ability of the system to pass increased water flows.

We can find no discussion regarding the water temperature of water pumped from the quarry onto the Refuge and how that temperature may affect Refuge vegetation, fish, wildlife, invertebrates, etc.

Response: This statement is incorrect. HydroCAD's, TR-20 model does take into consideration the type of surface the flow is passing over through the application of the Manning Number. This comment assumes that the addition of 200 to 300 gallons of water created by the project will potentially have a negative impact on vegetation. This is in contrast to existing conditions where natural storms discharge 4,331 gpm, 11,525 gpm, 40,754 gpm and 65,130 gpm to the Refuge.

In regard to temperature, water discharged from the quarry becomes surface water not groundwater which enters the Refuge. Groundwater which flows into the quarry will collect and sit in a sump. From there it will go through a series of three ponds where it will be retained. From there it will collect in the shallow drainage ditch and flow approximately 1800± feet before entering the northern edge of the Refuge.

In any wetland system there are existing obstructions to the flow of water. These obstructions can change the path of water or act to alter the water level, depending upon the nature of the obstruction and the nature of the surrounding wetland system. The duration of any changes caused by obstructions can vary greatly. These obstructions, especially vegetative obstructions, also change from year to year through decay of dead material, live material being added, or changes in flow pathways by channel erosion/deposition among other things.

Changes in flow patterns are part of the dynamics of a wetland system, where habitat types on a macro or micro scale fluctuate in time. These fluctuations occur on a regular basis to existing wetland systems. They occur now and would occur after the addition of any pump out water from the quarry. Such changes should not be viewed as detrimental or negative.

Of note for this discussion is the fact that the water level in the Schoolhouse Marsh wetland complex is controlled by the Schoolhouse Marsh dam, which likely results in less internal water level fluctuations than an uncontrolled system. The water level is also manipulated by the USFWS for management purposes on a recurring basis. Such water level manipulation may be several feet, which would result in significant habitat changes. Again, these changes are not necessarily negative depending upon the habitat you want to promote. However, they would dwarf any potential changes in fractions of inches estimated from the addition of quarry pump out water.

GROUNDWATER ASSESSMENT

Comment: The applicant's analysis shows that in Phase I the water flow onto the Refuge will increase from 185 to 445 gpm or 241%. For phase 4 the increase is from 185 to 10S4 gpm or 482%. This is a significant increase in flow, but the applicant insists throughout the document that there will be no effect on Refuge habitats and original drainage patterns will be maintained. The presented data do not seem to support these statements.

The applicant only provides average flow rates and no maximum or minimum flow rates.

Many references are made to the idea that previously mined areas (e.g. Phase I) "can" be used to store water before discharging onto the Refuge, but there is no plan outlined for this strategy. Additionally, the water stored in these areas will eventually have to be discharged, which will eventually result in an increased average flow (>251 gpm) during later phases of the mining operation. Also, the notion of pumping 251 gpm continuously is also just a statement that is not part of an outlined plan.

Response: The downstream drainage system is more than adequate to accommodate the increase in average flow rates. The channels already accommodate flows that are more variable than the flows that will occur in the future. The fact that these downstream reaches are adequate to transmit the increased flows will preclude adverse changes in the downstream drainage system. The reduced variability is due to the retention effect of the quarry reservoir.

The current (pre-mine) average flow rate to the refuge from Basin 1, which is the basin that will receive Phase I discharge and drain to the Refuge, is 185.33 gpm. This will increase to an average of 445.0 gpm at the end of Phase I mining as described in the Alpha report. The maximum flow is anticipated to occur in March when the combined contribution of snow melt, March precipitation and increased ground water discharge could yield a maximum Basin 1 discharge of 1019.35 gpm to the Refuge. Although September will experience the lowest ground water discharge of the year, July is actually the driest month due to a very low average rainfall of 2.56 inches and a very high evaporation rate that is assumed to be 50%. The minimum Basin 1 flow, based on July conditions, is anticipated to be 347.72 gpm. This value includes 186.21 gpm of ground water inflow, 9.03 gpm of net precipitation to the quarry and 152.48 gpm of runoff from the remaining undisturbed portion of Basin 1 (see attached Water Budget Summary Table for comparisons).

The idea of using the initial phases to store water and reduce pumping rates is an effective plan because it allowed the opportunity to pump at controlled rates, it reduces the ground water inflow rates by reducing the effective size of the dewatered portion of the quarry, it diminishes the ground water drawdown effects on the surrounding aquifers and it reduces the total dissolved solids (TDS) content of the discharge water. The plan would be to maintain pumping at 250 gpm after completion of Phase I. The Phase I quarry will slowly accumulate water. The rate of ground water inflow will decline slowly and evaporation will increase gradually in the Phase I quarry while the contribution from Phase II will increase slowly from near zero as it is quarried. Pumping from the Phase I and Phase II quarry at a rate of 250 gpm will provide excess capacity when large precipitation events require the transfer of large volumes from the Phase II area to the Phase I quarry. The maintenance of a continuous pumping rate of 250 gpm throughout the life of the mine should be sufficient to maintain the excess capacity necessary to store storm events and slow the rate of quarry filling.

MISCELLANEOUS COMMENTS BY APPLICANT

Comments received from the Department and particularly from Tom Roster of The Iroquois National Wildlife Refuge appear to be based upon the USGS report titled ***"Water Resources of the Iroquois National Refuge, Genesee and Orleans Counties, New York, 2009-2010".*** Data and inferences in the report appear grossly inaccurate, particularly the conclusions on geology and discharge characteristics. First, the stratigraphic nomenclature in the report is incorrect. The site is underlain by the Oak Orchard member, not the Eramosa member. If the quarry site was underlain by the Eramosa member there would be no proposed quarry. The Eramosa fails all NYSDOT specifications and it cannot be used for DOT approved coarse aggregate. Secondly, the acid springs are not underlain at the surface by the Lockport Formation but rather the Vernon Formation, the USGS appears to have mis-interpreted their geophysical logs.

The USGS summary states:

> **"The additional flow to the refuge from the dewatering of the quarry will affect the hydrology of any wetlands downstream from the quarry and possibly Oak Orchard Creek. During low-flow periods, the quantity of discharge from the quarry, when compared with the flow of Oak Orchard Creek, could be less than 2 percent of the Oak Orchard Creek flow, but as much as 20 percent of the creek flow. During low streamflow periods, the anticipated poor quality of the quarry water discharging into tributary channels with no flow could affect the ecology of the wetlands and the wildlife that use these wetlands."**

This statement is not supported. During low flow of Oak Orchard Creek, i.e. July -September, flow to the Refuge would be 190 gpm from the quarry, whereas a summer thunderstorm could result in a natural discharge of 4,331 gpm (2-year event) and up to 40,754 gpm for a 10-year event.

September is the month when water levels are at their seasonal low and the associated inflow to the quarry will be at a minimum. The average quarry pumping rate in September, at the end of Phase I, is anticipated to be 197.34 gpm. This discharge rate is based on a ground water inflow rate of 183.26 gpm, direct precipitation of 27.2 gpm and evaporation of 13.12 gpm. The ground water inflow rate is estimated from spring flow measurements made by Alpha at another site in New York that yielded 6% of the annual flow during September. The average September precipitation is 3.73 inches and the average evaporation rate is estimated to be 1.8 inches. This evaporation rate for September is equivalent to 6.8% of the annual quarry floor evaporation rate of 13.4 inches per year used in Table 8 of the Alpha report. The 6.8% figure comes from monthly pan evaporation data provided for Aurora, New York in the "Evaporation Atlas for the Contiguous 48 United States" by Farasworth et al (1982; NOAA Technical Report NWS 33; U.S. Department of Commerce, Washington, D.C., 26p).

This discussion of the water budget can be best summarized in the following table.

WATER BUDGET SUMMARY TABLE
Frontier Stone Quarry

	Average Annual Flow Rate	Average March Flow Rate	Average July Flow Rate	Average September Flow Rate
Surficial Drainage from Existing Basin 1	185.33	653.13	157.0	236.37
Surficial Drainage from the Unmined Area of Basin 1 at End of Phase 1 Mining	180.55	633.75	152.48	229.58
Ground Water Inflow from the Mine at the Full Development of the Phase 1 Quarry	251.04	310.40	186.21	183.26
Direct Precipitation into the mine at the Full Development of the Phase 1 Quarry	21.44	75.20	18.06	27.20
Evaporation from the mine for the Full Development Phase 1 Quarry	8.03	0.0	9.03	13.12
Discharge at Full Development of the Phase 1 Quarry	264.45	385.60	195.24	197.34
Total Future Discharge from Basin 1 at Full Development of the Phase 1 Mine	445.0	1019.35	347.72	426.92
Increase in the flow to Basin 1 after the Full Development of Phase 1	259.67	366.22	190.72	190.55

Notes: All discharges are in gallons per minute.
The existing Basin 1 area is 403.3 acres.
The unmined area will be reduced to 391.7 acres by the addition of the 11.6 acre Phase 1 quarry.
All the March discharges include the melt of accumulated snow for December, January and February.
Snow melt is imbedded in the direct precipitation of 75.20 gpm in the Future Phase 1 direct precipitation that is comprised of 19.8 gpm of March precipiation plus 55.4 gpm of snow melt.

As seen in the table, the increased flow rate to the Refuge during periods "within the marshes when they normally experience seasonal dry conditions" is minimal, i.e. 190 gpm. This is contrasted to a typical July thundershower (two year precipitation event) which discharges 4,331 gpm to the Refuge under an existing no quarry condition.

Notwithstanding these figures, the Applicant has several alternatives at his disposal. During dry summer months, discharge water can completely bypass the Refuge by pumping to Fish Creek, north of Fletcher Chapel Road. Fish Creek flows to Oak Orchard Creek. Secondly, the quarry site landowner, Chet Zelazny may use the discharge water for irrigation of his agricultural fields during the dry season, precluding discharge to the Refuge.

References to poor quality discharge water from the site are unsupported by analysis or data. The water quality testing results were previously provided on Table X along with the New York State standards for Class C surface water bodies and drinking water for the tested parameters. All of the streams surrounding the site are Class C surface water bodies. The results show that the ground water within the horizon to be mined contains total dissolved solids (TDS) that are near the New York State limit for Class C surface water and drinking water, and three of the wells are slightly above the limit. The rest of the data indicate that most of the TDS is the result of the calcium carbonate hardness, which is very high. The very high hardness indicates that the TDS is not the result of chloride, which is very low, and sulfate, which is at moderate levels that are well below the drinking water

standards. There is no sulfate standard for Class C surface water. The hardness does not represent a potential environmental impact.

The water quality results show that the pH is within normal ranges and manganese is low. The results also show that iron is high, relative to the drinking water standards, and there was some indication of low concentrations of sulfides. The indicated sulfide is consistent with the slight H_2S odor observed during some of the aquifer testing conducted in the early stages of the project. Neither high iron or the low concentrations of sulfide will create an environmental impact as the result of the quarrying activities. Iron readily precipitates when exposed to oxygen. The sulfide will off gas as H_2S before the water ever leaves the property. The authors also fail to recognize that there are roughly 12 Lockport formation quarries which have been discharging for up to 80 years with no environmental issues.

The U.S.G.S. report is insufficient in scientific analysis to address objectives such as describing *"(1) the glacial and bedrock geology; (2) the groundwater -flow system, including water levels and groundwater and surface- water interaction"*. A fundamental professional recognized requirement to address these objectives is the establishment of a geologic framework for the flow system. This requires correlation of the rock and unconsolidated units. The approach is to create geologic cross sections based on interpretation of geologic logs, geophysical logs and other accessible geologic data. No cross sections were provided in the U.S.G.S. analysis. This geologic analysis is necessary to make sure that the water level and water quality data that were collected by the U.S.G.S., is properly assigned to the correct aquifer. The lack of a complete hydrogeologic model is the fundamental reason that conclusions regarding potential impacts from the proposed quarry on the Refuge cannot be drawn from the U.S.G.S. report. The analysis conducted by the applicant's team of experts does meet the threshold required to assess the potential for hydrogeologic impacts from the proposed quarry.

Best regards,

John R. Hellert
Senior Geologist

JRH/acf