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 <u>one</u> 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.