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MINED LAND USE PLAN

NORLITE, LLC COHOES, NEW YORK

Prepared for:

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TABLE OF CONTENTS

| | | |
|----------|--|----|
| 1.0 | INTRODUCTION | 1 |
| 2.0 | MINE PLAN..... | 2 |
| 2.1 | SITE LOCATION AND HISTORY | 2 |
| 2.2 | REGULATORY OVERVIEW..... | 2 |
| 2.3 | ENVIRONMENTAL SETTING..... | 3 |
| 2.3.1 | Adjacent Land Use Features..... | 3 |
| 2.3.2 | Topography | 4 |
| 2.3.3 | Water Resources | 4 |
| 2.3.4 | Man-made Features | 5 |
| 2.3.5 | Vegetation..... | 5 |
| 2.3.6 | Wildlife..... | 6 |
| 2.4 | DESCRIPTION OF MINERAL AND MINING METHOD – MINE SITE..... | 6 |
| 2.4.1 | Mining Method..... | 6 |
| 2.4.1.1 | <i>Excavation Equipment</i> | 6 |
| 2.4.1.2 | <i>Mining Sequence</i> | 6 |
| 2.4.1.3 | <i>The Southern Overburden Storage Area</i> | 7 |
| 2.4.1.4 | <i>Grading and Setbacks</i> | 9 |
| 2.4.1.5 | <i>Roadways</i> | 9 |
| 2.4.1.6 | <i>Disposal of Waste Materials</i> | 9 |
| 2.4.1.7 | <i>Traffic</i> | 9 |
| 2.4.1.8 | <i>Hours of Operation</i> | 9 |
| 2.4.1.9 | <i>Site Facilities</i> | 10 |
| 2.4.1.10 | <i>Other Facilities</i> | 10 |
| 2.5 | POLLUTION CONTROL AND PREVENTION OF ENVIRONMENTAL DAMAGE | 10 |
| 2.5.1 | Air Quality..... | 10 |
| 2.5.2 | Vegetation and Wildlife..... | 11 |
| 2.5.3 | Noise Impacts | 12 |
| 2.5.4 | Blasting Impacts..... | 13 |

| | | |
|-----|--|----|
| | 2.5.5 Stormwater Runoff and Controls..... | 15 |
| | 2.5.6 Visual Resources | 16 |
| 3.0 | RECLAMATION METHOD | 17 |
| 3.1 | FINAL RECLAMATION PLANS AND OBJECTIVES | 17 |
| 3.2 | RECLAMATION SCHEDULE..... | 18 |
| 3.3 | SEQUENTIAL RECLAMATION PLANS..... | 18 |
| 3.4 | DISPOSITION OF MATERIAL..... | 18 |
| 3.5 | HAULAGEWAYS | 19 |
| 3.6 | DRAINAGE..... | 19 |
| 3.7 | FINAL SLOPE CONFIGURATION | 19 |
| 3.8 | REVEGETATION..... | 19 |

FIGURE

FIGURE 1 SITE LOCATION MAP

PLATES

PLATE 1 MINE PLAN MAP

PLATE 2 RECLAMATION PLAN

PLATE 3 FINAL GRADE PROFILES

APPENDICES

APPENDIX A MINE APPLICATION FORM AND ORGANIZATIONAL REPORT

1.0 INTRODUCTION

This report presents an updated Mined Land Use Plan (MLUP) for the Norlite, LLC (Norlite) mine site, located in the Town of Colonie and City of Cohoes, Albany County, New York. The report was created by Spectra Environmental Group, Inc. (Spectra) of Latham, New York on behalf of Norlite as part of a renewal application, and is intended to satisfy Condition 4 of the Mined Land Reclamation Permit by furnishing a comprehensive MLUP. No changes in acreages or operations are proposed within this MLUP. This MLUP serves as a compilation of previously approved documents and reflects continued excavation within the currently approved Life of Mine Affected Area and 1977 SEQR Grandfathered area.

Updates in mapping through recent photogrammetry, GPS and conventional survey methods are reflected in the Mine and Reclamation Plan Maps and Final Grade Profiles. These survey updates improve and refine the topographic information presented on the site mapping, and may result in minor changes across the site. These changes reflect only improvements in elevation data and do not include any material alterations to the approved Mine or Reclamation Plans.

Included in this report is an updated Application for Permit to Mine and Organizational Report form.

The information presented in this document is submitted in compliance with the application requirements contained in Article 23, Title 27, of the New York State Environmental Conservation Law and known as the Mined Land Reclamation Law (MLRL).

Mining is not prohibited at this site. The site is currently an active clay and shale quarry with an operational history of approximately 52 years of continuous, active excavation.

2.0 MINE PLAN

2.1 SITE LOCATION AND HISTORY

The Norlite mine site property, which comprises approximately 238 acres, is situated on New York State Route 32 (Saratoga Street) and Elm Street and is located in the Town of Colonie and City of Cohoes, Albany County, New York. Figure 1 illustrates the location of the mine and its relationship to the surrounding area. Of the approximate 238 acres held by Norlite at this location, approximately 226 acres are contiguous, with 12 acres in the southwest separated by a narrow band of National Grid/Niagara Mohawk property. The site is bound by NYS Route 32 (Saratoga Street) to the east, NYS Alternate Route 7 and Elm Street to the south, and privately held lands to the north and west.

The history of mining at this site by the Norlite, LLC (formerly Northern Lightweight Company) dates back to 1956, and has been continuous since that time. Mining continued through the inception of the Mined Land Reclamation Law (MLRL) in 1975 and has operated in compliance with the MLRL since its enactment. Norlite has gone through several changes of ownership since 1956. It was purchased by Certified Industries, a subsidiary of United States Steel Corporation, in 1961. In 1974, the company was sold to P.J. Keating Company. Ownership transferred to American NuKEM Corp. in 1991, and then to United Oil Recovery, Inc. in 1995. United Oil Recovery was purchased by Tradebe Treatment and Recycling, LLC on April 15, 2011.

The primary activity at the Norlite mine is the excavation of the Normanskill shale for the on-site production of lightweight aggregate. Norlite began operation with a single kiln for processing shale and added a second in 1962. Both rotary kilns are currently operating within a maximum permitted rate of 22 tons of shale per hour per kiln. In some portions of the mine, high quality clay is present above the bedrock.

2.2 REGULATORY OVERVIEW

As previously stated, mining activities at the site commenced in 1956. Operations at that time, and for a time period of approximately 19 years thereafter, were conducted prior to the enactment of the New York State Mined Land Reclamation Law ("MLRL", Environmental Conservation Law (ECL) Article 23, Title 27 – effective April 1, 1975.) In early 1975, to comply with the new MLRL and acquire the necessary operating permit, Norlite submitted the required forms and

completed applications to the New York State Department of Conservation (NYSDEC). Shortly after the inception of the MLRL, Norlite received its initial permit to operate from the NYSDEC.

Since that time, Norlite has regularly submitted renewal applications to the NYSDEC and has routinely received permit extensions and renewals. Typically, renewed permits were issued with an effective term of three years, although in 1993 the permit term was extended to a five year time period, consistent with amendments to the MLRL effective in 1991. Norlite's current mining permit was issued on February 1, 2008, modified on March 25, 2011, and expires on January 31, 2013.

The historic and continuous operation of the Norlite mine site, with commencement of excavation and processing activities in 1956, established the use of the site within recognized boundaries through the inception of the New York State Environmental Quality Review Act (SEQR) ECL Article 8, which came into law in 1977. Under SEQR, facilities operating or recognized land uses in existence before the inception of SEQR were granted "grandfather" status when the law was enacted. Plate 1 shows the Mine Plan Map for the Cohoes Mine. The 1977 SEQR Grandfathered Affected Area is outlined on the map. This area represents lands recognized as an active bedrock mine and processing area prior to the enactment of SEQR in 1977.

The historic and continuous operation of the Norlite mine site, with commencement of excavation and processing activities in 1956, also established the use of the site within recognized boundaries through the inception of zoning in the Town of Colonie.

This MLUP is submitted in support of a renewal application. This document presents information consistent with previous NYSDEC - approved plans and includes updated mapping and document references.

2.3 ENVIRONMENTAL SETTING

2.3.1 Adjacent Land Use Features

Land use in the immediate vicinity of the Norlite mine site has changed since the inception of the mining operation, particularly to the north and east. The adjacent land uses are residential properties and forested land to the north and northwest; a combination of residential and commercial properties to the east; to the south properties are a mixture of residential, commercial and state highway; and to the west adjacent properties are predominately forested land. Plate 1 shows the Mine Plan for the site and the location of surrounding residential and commercial

structures. National Grid (formerly Niagara Mohawk) maintains a bank of electrical lines that run in a northwest-southeast direction along the southern and western perimeter of the site. To the west of the electrical lines is a 12-acre parcel of land owned by Norlite and maintained as a visual and acoustic vegetated buffer. Similarly, a gas line right-of-way bisects property owned by Norlite south of the active excavation area. The orientation and location of the National Grid electrical lines and the gas line right-of-way are shown on Plate 1.

2.3.2 Topography

The topography of the Norlite mine site property changes from generally flat to rolling on the eastern portion of the property, to steep with significant relief on the southern and western portions of the site. The topography of the site is shown on Plate 1. Generally, the surface elevations of the unmined areas are slightly higher in the west and south than in the north. In the unexcavated western and southern portions of the property, steep overburden slopes rise to a gentle sloping plateau, 100 to 150 feet above the eastern portion of the property. Elevations in the south and west range from 200 to 235 feet above mean sea level (amsl), while elevations on the eastern portion of the site range from 30 to 70 feet amsl. The steeply sloped areas in the south and west are comprised of overburden and are not representative of bedrock outcrops. Historic soil borings along the southern and western portion of the property show that the overburden is up to 80 feet thick or more in these areas. The locations of the soil borings are shown on Plate 1. The current active excavation area is located in the north-central portion of the property.

2.3.3 Water Resources

A settling pond exists in the southeastern portion of the active excavation area. The pond occupies the lowest excavated lift on the quarry floor and is bound on all sides by steep excavated sidewalls. The area of the pond varies during high runoff events, but generally occupies approximately 6 acres of the quarry floor. Stormwater runoff, direct precipitation and groundwater collect in the settling pond. The settling pond is shown on the Mine Plan Map, Plate 1.

The pond serves as a settling area for stormwater runoff from the active excavation area. The elevation of the surface water in the settling pond is allowed to fluctuate with precipitation and runoff events, but when water begins to encroach on the main part of the quarry floor, in accordance with the current Mining Permit, water is discharged from the settling pond to the Salt Kill under the authority of an individual SPDES permit [NY-000 4880] (Outfall 003). Norlite

maintains, reviews, and routinely updates a Storm Water Pollution Prevention Plan and Best Management Practices Plan (SWPPP and BMPP, prepared by Sterling Environmental Engineering, P.C., November 18, 2004, and updated most recently February 29, 2012) in support of the SPDES permit for the site and remains in compliance with all discharge monitoring and sampling parameters.

Water from the settling pond is also used to support secondary manufacturing processes and supply water for dust suppression.

The Salt Kill runs to the east and then south along the northern and eastern property boundaries of the Norlite mine site. The Salt Kill is a Class D stream throughout the reach that passes along and through Norlite's property. The best usage of Class D waters is fishing. Due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery, or stream bed conditions, the waters will not support fish propagation. These waters shall be suitable for fish, shellfish, and wildlife survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

Two intermittent drainage courses currently enter the active excavation area from the west and southwest. The water that enters the active excavation area from the intermittent drainage courses either infiltrates back into the bedrock and rejoins the groundwater regime or flows into the mine settling pond described above. Water that enters the settling pond from the drainage areas is retained in the settling pond until it is discharged to the Salt Kill during discharge events.

2.3.4 Man-made Features

The Norlite mine site is an active consolidated rock quarry. Man-made features on the Norlite mine site include all equipment and structures for the administration and production of lightweight aggregate. Other features include disturbed areas created during previous mining activity such as access roads, haul roads, stripping areas, overburden and finished product storage piles, as well as berms.

2.3.5 Vegetation

Vegetation within the mine site is highly variable. In the active quarry all vegetation has been removed. Vegetation to the north and east is predominantly grasses and trees typical of a residential/commercial setting. West and south of the excavation area, on additional lands held by Norlite, vegetation ranges from upland scrub and shrub and hedgerows to deciduous forest.

There are no Federal or state-listed threatened or endangered species within the excavation area, the overburden storage area, or on adjacent lands held by Norlite.

2.3.6 Wildlife

The mine site may be habitat for common small animals such as squirrels, rabbits, woodchucks and other rodent species. Larger game animals such as deer may feed within the scrub and brush areas along the southern and western perimeters of the excavation area and seek refuge in the wooded areas. There are no endangered or threatened species identified within the active excavation area, overburden storage areas, or other adjacent property held by Norlite.

2.4 DESCRIPTION OF MINERAL AND MINING METHOD – MINE SITE

2.4.1 Mining Method

The method of material extraction will be consistent with the previously reviewed and approved MLUP for the Norlite mine site. Shale bedrock will continue to be excavated by drilling and blasting active mine faces and loading the shot rock into haul trucks by front-end loaders for transport to the aggregate processing facility. Continued mine development into unexcavated areas to the north, south, and west will be accomplished in a similar manner. Removal of overburden from the excavation areas and placement of the overburden in the southern overburden storage area will be accomplished with standard industry earth-moving equipment.

2.4.1.1 Excavation Equipment

Consistent with current excavation activity at the Norlite mine site, standard industry equipment will be used to strip, drill, blast, excavate, and haul materials from active excavation areas.

2.4.1.2 Mining Sequence

The Mining Plan Map (Plate 1) illustrates the limits of the 1977 SEQR Grandfathered Affected Area Boundary, within which all mining will take place over the duration of mining operations. The current, approved mine plan identifies an affected area of approximately 132 acres. This permit renewal application and MLUP do not seek to expand the currently approved affected area nor mine reserves outside the 1977 SEQR Grandfathered Affected Area Boundary. As illustrated on the Mining Plan Map, Reclamation Plan Map and Final Grade Profiles (Plates 1, 2, and 3), the limit of excavation ultimately extends to the limits of the 1977 SEQR Grandfathered Affected Area Boundary (minus regulatory setbacks and overburden grading requirements).

The sequence of mining in the unexcavated portions of the quarry to the north, south, and west, will be initiated by the stripping and storage of topsoil and overburden in on-site stockpiles.

In future excavation areas to the north, south, and west, bedrock will be drilled and blasted from mining faces in a succession of benches similar to the current practice at the site. A series of well established benches have been developed in the current excavation area. Continued blasting and excavation will advance the existing benches and mine faces into unexcavated portions of the affected area boundary.

Mine faces in the active excavation area range in height from approximately 25 to 90 feet, with most benches averaging 75 feet in width. The existing configuration of faces and benches will be continued into unexcavated portions of the affected area boundary. In the current Mine Plan, bedrock will be excavated to the lateral extent of the 1977 SEQR Grandfathered Affected Area Boundary and to a depth of approximately 285 feet below sea level. Recognizing the 1977 SEQR Grandfathered status of the site, Norlite reserves the right to increase the ultimate depth of the mine as long as all NYSDEC mandated setback requirements are maintained and all changes are properly described on an updated Mined Land Use Plan. The reclamation plan for the mine is illustrated in the Reclamation Plan Map (Plate 2).

Haul roads, in addition to those already in existence, will be constructed as necessary within the mine to provide access to all excavation areas.

2.4.1.3 The Southern Overburden Storage Area

The Norlite mine site differs from similar rock quarries in the area in that the mine has a significant layer of overburden. Historic drilling activities in the southwestern portion of the site indicate that overburden is over 80 feet thick from the ground surface to the top of rock (boring locations are shown on Plate 1). A portion of this overburden is fine-grained clay, which is a product used for clay liners and earthen caps and has historically been sold from the site. However, not all of the overburden is marketable, and the markets for the salable overburden are not large enough to sell all of the stripped overburden. As a result, Norlite has historically stored excess overburden in an on-site storage areas located in the northern and southern portion of the quarry. These two areas are known as the northern overburden storage area and the southern overburden storage area. Both the northern overburden storage area and the southern overburden storage area are shown on Plate 1. Currently, excavated overburden is only being placed within the southern overburden storage area.

Overburden is placed in the southern overburden storage area in a series of berms and fill-areas. Compacted berms are constructed in the months of May through October to maximize soil compaction and stability, while fill areas are completed in the winter months (November through April). Construction of the southern overburden storage area started with a berm on the eastern portion of the site in March 2008 and continues to progress to the west. The initial berm (Berm 1) effectively reduced the visibility of the overburden storage area and has greatly reduced the propagation of noise from construction activities, as it is closest to all proximal property owners. As fill activities continue, they will be conducted in a similar manner that eliminates potential nuisance-related impacts.

The overburden is placed in a manner such as when a berm is completed; the area just west of the berm is filled with overburden. When the overburden fill reaches an elevation equal to the top of the constructed berm, an additional berm is constructed atop the placed fill, and the sequence will continue in this manner from east to west across the site. A gas line right-of-way runs east to west across the property proposed for overburden storage and essentially bisects the southern overburden storage area into a northern and southern section. Norlite owns the land on either side of the gas line right-of-way. Placement of overburden within the gas line right-of-way is not permitted. Overburden placed in the storage area to the north and south of the right-of-way will be graded to blend with the existing topography at the edge of the right-of-way. Norlite has secured crossing rights and constructed crossings at the locations shown on Plate 1. As fill is placed in the overburden storage area, additional gas line crossings may be required to the west.

All berms and overburden fill within the southern overburden storage area will be graded at a slope no greater than 1:3 (vertical:horizontal). The overburden to be stored in the storage area is generally fine-grain silts and clays. A grading plan with designed slopes of 1:3 will ensure stability of the overburden material. Berms are constructed in a neat, orderly fashion in accordance with typical industry practices. All finished and graded slopes are seeded and vegetated as soon as practicable after construction. Immediate vegetation of the slopes reduces runoff and the potential for windblown erosion. In general, all stormwater runoff from the storage area remains internal to the site by being directed toward the active excavation area.

Norlite maintains SPDES coverage for the southern overburden storage area under the General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001). Coverage is maintained through a Stormwater Pollution Prevention Plan (SWPPP), Revision 2, prepared by Spectra Environmental Group, Inc., March 2009, and subsequently updated via an Addendum to Norlite Corp. Southern Overburden Storage Area Construction SWPPP.

2.4.1.4 Grading and Setbacks

All New York State Department of Environmental Conservation (NYSDEC) setback requirements will be observed around the perimeter of the Norlite mine site. As a result, the mine floor will remain a distance of at least 1.25 times the height of the active face from the edge of the 25-foot setback from the property line. To ensure stability, overburden to remain in-place around the perimeter of the mine will be graded with a slope of 1:2. Overburden placed in the southern overburden storage area will be graded with a slope of 1:3. The overburden storage and grading plan is presented on Plate 2, the Reclamation Plan Map.

2.4.1.5 Roadways

No additional access points are proposed for Norlite's Cohoes facility. Internal haul routes will be progressively adjusted, as is the current practice, to access active excavation areas. As quarrying activities progress, internal roads will be systematically "mined-out" or reclaimed as they are no longer required to access portions of the site.

2.4.1.6 Disposal of Waste Materials

Continued excavation activities to the north, south, and west will not result in an increase in waste from the mine site. Stripped materials such as brush, shrubs and trees will be chipped for reclamation purposes or removed.

2.4.1.7 Traffic

By law, all over the road trucks are required to comply with NYS Vehicle Code 380(a), which pertains to loose cargo. The amount of material shipped from the site is controlled by market demands and specific contracts. Continued bedrock and clay excavation at the site is not anticipated to create an increase in market demand.

The southern overburden storage area eliminates the need to truck excess overburden from the site to a disposal area, thereby mitigating by design associated traffic impacts.

2.4.1.8 Hours of Operation

Norlite anticipates that the mine site will continue its hours of operation in accordance with the current mining permit:

6:00 a.m. to 9:00 p.m. Monday through Saturday

No operations within the mining affected area will take place on Sundays or on the following holidays: New Year's Day, Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day.

Placement of overburden in the southern overburden storage area will be limited to the hours of 7 a.m. to 6 p.m. Monday through Friday, and from 7 a.m. to 4 p.m. on Saturday. No construction activity in the southern overburden storage area will take place on Sundays.

2.4.1.9 Site Facilities

No increase in the size or number of fixed primary aggregate processing units is proposed to support the continued quarry activity and proposed modifications. Norlite anticipates using the same fixed processing facilities currently on-site to process material from the expanded portions of the mine.

2.4.1.10 Other Facilities

It is not anticipated that a new building(s) will be constructed as a result of continuing mining activities to the north, south, and west, or the continued development of the southern overburden storage area.

2.5 POLLUTION CONTROL AND PREVENTION OF ENVIRONMENTAL DAMAGE

2.5.1 Air Quality

Norlite maintains and observes a Fugitive Dust Plan and Best Management Practices Plan for the entirety of their site. There will be no additional impacts to the local or regional air quality as a result of continued excavation activity. The amount of aggregate processed at the site is a function of market demand. The Fugitive Dust Plan was prepared by Sci-Tech Inc., August 1990 with updates completed by Sci-Tech Inc. in October 1995 and by Norlite in 2010 and July of 2012.

Norlite currently employs the following dust suppression techniques at the mine site and will continue to do so as mining operations continue in the active excavation areas and the Southern Overburden Storage Area:

1. All haulageways and access roads are sprayed with a standard water spray dust suppression system as necessary. Two water trucks are available to accomplish this goal on an as-needed basis.

2. Overburden stripping and clearing and grubbing is carefully controlled.
3. Trees and other existing natural vegetation are left in place wherever possible, especially around the site perimeter. A 12-acre vegetated buffer along the southwest portion of the site, and an 18.7 acre parcel to the northwest of the active excavation area, area maintained act a visual and wind-born transport buffer. These vegetative buffers are shown on Plate I.
4. All access roads to the site are paved with bituminous concrete to minimize the creation of fugitive dust.
5. Completed areas of the southern overburden storage area are vegetated as soon as practicable to prevent wind erosion.
6. Norlite will continue to manage dust along haulageways in the manner prescribed within the MLUP, SWPPP, Fugitive Dust Plan, and Mined Land Reclamation Permit Conditions 19 and 20, through use of a water truck and any other available, approved means.

As the Southern Overburden Storage Area is part of the permitted mine site, the facility-wide Fugitive Dust Plan currently in-place applies to the overburden storage area. The Fugitive Dust Plan specifically covers the Southern Overburden Storage Area. Construction of successive structural berms during the dry weather months of May through November will allow for more timely and effective establishment of vegetation on finished grades and will not increase the potential for the off-site migration of fugitive dust.

2.5.2 Vegetation and Wildlife

The mine plan has been designed to limit disturbance to vegetation and wildlife during the life of the mine. This plan ensures that future areas to be mined are left vegetated and available as wildlife habitat until needed for the mining operation. Concurrent reclamations will ensure that areas are not left exposed and subject to erosion from wind and water. As there is no unique habitat within the quarry area, and there is significant similar habitat surrounding the Norlite mine site, no adverse impacts to wildlife are expected. Concurrent restoration of areas no longer needed for mining will provide a stable vegetative cover that could eventually provide early and mid-successional habitat.

2.5.3 Noise Impacts

Noise generated during mining activity originates from drilling and blasting, the use of equipment to remove material from the active face, haul trucks transporting material, and the primary processing facilities. This renewal does not seek to expand mining operations into previously unapproved areas. The following summarizes the current practices implemented at the mine site to minimize noise.

In general, numerous measures are currently employed at the mine site to minimize noise and reduce off-site noise propagation:

1. All equipment is muffled to meet MSHA standards;
2. Vegetative cover is retained in all areas outside the plant and stockpile areas that are not being mined or prepared for mining. A 12-acre vegetative buffer is maintained on the southwestern portion of the site. In early 2004, Norlite purchased an 18-acre parcel in the northwest portion of the site to retain the visual and acoustic barrier;
3. Active mine faces and overburden act as barriers to attenuate noise when equipment is operating; and
4. Equipment backup alarms across the site, including the southern overburden storage area, are required to utilize broadband technology (as discussed in Spectra Environmental Group, Inc.'s letter of September 13, 2010 to NYSDEC).

Additionally, all plant employees and equipment operators are instructed in the operation of equipment to reduce noise. Below is a list of techniques utilized at the site to reduce noise:

1. Employees are instructed in the proper operation and maintenance of all equipment;
2. Employees are instructed not to "race" the engines of any equipment unnecessarily;
3. Employees are instructed to report any operating irregularities in equipment that may increase the level of noise generated by that equipment; and
4. Vehicle speeds are controlled to reduce engine noise during interior transport of material.

The potential for noise to emanate from future excavation areas and the overburden storage area have been assessed in great detail in prior applications and related documents. In March 2004, a noise assessment was conducted to describe the potential for noise to migrate off-site from future expansion areas and the southern overburden storage area. Additionally, field sound level measurement data was collected during the construction of Berm 1 (construction commenced March 2008). Results were then compared and included in a response to a NYSDEC Notice of Incomplete Application, dated July 28, 2010 prepared by Spectra. A follow-up noise monitoring survey for the Southern Overburden Storage Area was completed by Spectra Environmental Group, Inc., and submitted to NYSDEC July 27, 2011.

To date, all noise studies associated with changes in mining operations at the site have demonstrated no significant impact to surrounding receptors. This renewal application and MLUP proposes no modifications that would result in increased noise impacts to the surrounding area

2.5.4 Blasting Impacts

Norlite conducts approximately 12 blasts annually. The size and design of blasts are carefully controlled to minimize the impacts of vibration. The production shot vibrations are monitored and recorded to aid in improving shot evaluation and design where possible. Consistent with the previously approved Mined Land Use Plan, peak particle velocity (PPV) is maintained at or below 2.0 inches per second (ips) at 100 Hz as a maximum safe value for blasts as recommended by the United States Bureau of Mines (USBM Report 8507, November 1980), and required as Blasting Condition 4 in Norlite's current mining permit.

Consistent adherence to the USBM standards, as set forth in USBM Report 8507, November 1980, show that quarry production blasts will not result in adverse impacts to residential structures in the vicinity of the mine site. Norlite will continue to follow standard industry practices to drill, blast, and excavate its permitted reserves, ensuring that the potential impacts to residential structures are mitigated. The Mine Safety and Health Administration (MSHA) defines the blasting area as "the area in which concussion (shock wave), flying material, or gases from an explosion may cause injury to persons" (30 CFR Part 57, Subpart E). The blast area at the Norlite mine site is confined to the limits of the Affected Area Boundary and within the mine to the immediate area around the blast. Proper blast design ensures no injuries to persons or property damage.

The specific blast area for each production shot at the Norlite mine site is determined through the review of the following factors as outlined by MSHA:

1. Geology or material to be blasted;
2. Blast Pattern;
3. Burden, depth, diameter, and angle of the holes;
4. Blasting experience of the mine;
5. Delay system, powder factor, and pounds per delay;
6. Type and amount of explosive material; and
7. Type and amount of stemming.

A careful review of the geology at each shot location is performed to determine shot parameters that are incorporated into the proper blast design.

Specific blast patterns for the mine site vary from shot to shot, as there are many factors that are associated with the safe and orderly development of the design of each blast pattern. In all cases, blasts are designed to meet the standards set forth by the USBM at the nearest structure outside the affected area boundary. To accomplish these standards, blasters typically alter the delay patterns of the blast, alter the number of blast holes, and/or alter the ratio of explosives in each hole.

Blasting at the site dates back to the inception of mining operations in the 1950's. As blasting has progressed at the site, Norlite has continually made adjustments to blast designs to maintain compliance with the established blasting guidelines.

Norlite currently employs the following practices to minimize noise and vibration impacts of blasting:

1. Blasting occurs between the hours of 9:00 AM to 4:00 PM on weekdays only; explosives are not detonated on weekends or holidays;
2. All blasting is conducted by a qualified licensed blaster pursuant to the applicable requirements of the State of New York and the federal government; and
3. Norlite currently uses an electronic initiation system that allows the blaster to maximize control of the timing of the blast, thus minimizing ground vibration and air blast.

Development of the mine faces by blasting in unexcavated portions of the affected area boundary will not require additional study or mitigation. No blasting will occur in the southern overburden storage area.

2.5.5 Stormwater Runoff and Controls

Within the area of excavation, drainage is directed internally. To control soil erosion, stripping is limited to haul roads, operational areas, and phased excavation areas.

The Norlite mine site maintains coverage under a site-specific State Pollutant Discharge Elimination System (SPDES) Permit for Storm Water Discharge associated with Industrial Activities (Permit No. NY-000 4880). The SWPPP and BMPP associated with this permit was developed by Sterling Environmental Engineering, P.C. in November, 2004, and was last revised February 29, 2012. Under Permit No. NY-000 48880, Norlite discharges stormwater via Outfalls 003, 004, 006 and 007 as described in the SWPPP and BMPP. Outfall 003 receives runoff from the active excavation area, as well as portions of the southern overburden storage area, and discharges at a fixed rate via dewatering pumps. The quarry pit and sump serve as the treatment for stormwater discharged through Outfall 003.

Norlite is currently improving the internal stormwater treatment facilities near the aggregate production plant and mine offices. This activity has coverage under the NYSDEC State Pollutant Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity – Permit No. GP-0-10-001. A Stormwater Pollution Prevention Plan (SWPPP), dated July 2012 was developed by ARCADIS for the installation of stormwater collection and diversion structures at various locations throughout the site under GP-0-10-001. The goals of the measures described in ARCADIS SWPPP are to:

- Divert stormwater from upper reaches of the site into the quarry where possible to allow for settlement and utilization in the manufacturing process;
- Divert stormwater runoff from impervious building areas to treatment units adjacent to the Salt Kill where possible to manage stormwater quality and to reduce overland flow through the facility area;
- Divert the Salt Kill to the quarry during high flow events that are too large for the double drainage culverts located at the east end of the site that conveys the Salt Kill through the finished product area. A significant storm event generated flows in the Salt Kill that exceeded the capacity of the downstream, off-site drainage way causing

flow to be backed up on-site and flow overland to the east side of the site at the Outfall 007 location. This extreme event carried solids and product from the manufacturing area and into the Salt Kill. The intent of this item will be to divert the greatest amount of water practical to the quarry in high flow conditions;

- Divert runoff from the areas south of the main manufacturing area back into the quarry to the extent possible to minimize flow that contributes to the Salt Kill adjacent to the Outfall 007 discharge; and
- Installation of a stormwater basin at the southeastern, and lowest, portion of the site. This basin will collect flows from the eastern half of the manufacturing area that cannot be diverted to the quarry by gravity flow. The basin will be designed to collect stormwater from the contributing drainage area provide temporary storage prior to pumping to the quarry. The basin will be designed as a hard-walled structure with a pump at the south end to deliver most of the collected stormwater to the quarry. It is expected that larger flow events will utilize the overflow channel to the Salt Kill at Outfall 007.

Construction of the southern overburden storage area has stormwater coverage under the General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001). Coverage is maintained through a Stormwater Pollution Prevention Plan (SWPPP), Revision 02, prepared by Spectra Environmental Group, Inc., March 2009, and subsequently updated via an Addendum to Norlite Corp. Southern Overburden Storage Area Construction SWPPP. The southern overburden storage area SWPPP identifies stormwater control measures. A majority of the runoff from the southern overburden storage area is conveyed to the active excavation area for discharge through Outfall 003 under SPDES Permit No. NY-000 4880. A small portion of the berm drains to a series of constructed rip-rap outlet sediment traps for treatment and discharge.

2.5.6 Visual Resources

This renewal proposes no changes to the approved mine plan, and therefore will not result in impacts to visual resources. In general, significant vegetative and topographic screening currently exist along the northern, southern and western borders of the mine site property, effectively screening the mine site from those directions.

3.0 RECLAMATION METHOD

3.1 FINAL RECLAMATION PLANS AND OBJECTIVES

This renewal does not seek to change the previously approved reclamation plan for the excavation area. The currently approved reclamation plan is for the excavation area to be reclaimed as an open water body at the conclusion of mining. In this mine plan, the conceptual quarry floor will be at approximately -285 ft (reference to mean sea level). There will be multiple benches from -285 feet to 15 feet amsl. The overburden along the perimeter of the excavation will be graded with a slope of 1:2. All benches and the bottom of the quarry floor will be constructed to maintain the regulatory setback requirements from the property line. The regulatory setback requirements are shown on Plate 3. The benching plan is conservatively within the setback requirements. As the thickness of overburden varies around the perimeter of the mine, the setback to the first bench varies. A detail of the uppermost mine face and the overburden slope is depicted on the Final Grade Profiles, shown on Plate 3.

After excavation operations at the mine cease and pumping has stopped, the quarry will fill with water, creating a lake of approximately 70 acres. The lake will eventually range in depth from 55 to 355 feet, depending upon seasonal variations in the water table and location. The quarry floor and all the benches will be submerged by the lake. Water elevation in the lake will be controlled by an outfall to the Salt Kill, shown on Plate 2. The elevation of the outfall will be approximately 70 feet amsl.

The resulting lake will provide habitat for a variety of aquatic resources such as plants, fish and amphibians, as well as providing temporary habitat for migrating birds. The reclaimed overburden slopes, following revegetation, will provide habitat for a variety of animals and birds. The final land-use objective for the reclaimed mine site is a lake.

Overburden slopes above the elevation of the lake, between the affected area boundary and the lake perimeter, will be seeded to prevent erosion from wind and water. The planting plan for these areas is discussed below. The overburden storage area will be vegetated with trees and grasses and reclaimed as a combination of lightly wooded and vegetated open space. Successional vegetation and volunteer woody vegetation will be allowed to propagate on the reclaimed storage area slopes.

3.2 RECLAMATION SCHEDULE

As excavation areas expand and operating room increases, areas above the anticipated lake elevation that have reached their excavation limits will be concurrently reclaimed. Reclamation will entail grading, redistribution of overburden and topsoil, and seeding in the above-water areas. Haulageways that will be used continuously until mining is terminated will not be concurrently reclaimed. For best results, final grading and seeding of above water areas will be completed in the spring season following completion of mining in a given area. Above-water reclamation in areas not concurrently reclaimed will be completed within two years of cessation of all mining activity. A Reclamation Plan map and Final Grade Profiles map are included as Plates 2 and 3.

3.3 SEQUENTIAL RECLAMATION PLANS

Continuation of mining activity to the north, south and west within the 1977 SEQR Grandfathered Affected Area Boundary allows for discrete areas to be actively mined at any one time. Areas that have reached regulatory mining limits can be reclaimed as mining continues in other areas. Concurrent reclamation will minimize the exposed (unvegetated) land surface necessary for mining and thereby reduce dust, erosion and visual impacts. All finished slopes within the southern overburden storage area will be fine graded and seeded as soon as practicable after construction.

3.4 DISPOSITION OF MATERIAL

Refuse generated on site such as paper debris, food stuffs, and any industrial waste generated by maintenance activities is placed in on-site dumpsters and periodically removed by a qualified contractor to an approved landfill or waste disposal facility. Worn out or damaged equipment is, for the most part, removed from the site and sold for scrap. A small amount of such equipment will be retained on site and screened from view in the plant area, to be used as a source for replacement parts. Prior to being placed in the storage area, the equipment is drained of all fluids to eliminate the potential for a leak or spill. Vegetative debris is transported off-site or mulched on-site. Stockpiled topsoil/overburden will be re-spread across the above-water areas during reclamation.

3.5 HAULAGEWAYS

Internal haulageways designated for reclamation will be graded and seeded to blend with the surrounding topography and be reclaimed in the same manner as the remainder of the site. Some haulageways, or portions thereof, may be retained for site access.

3.6 DRAINAGE

All drainage from upland areas around the excavation will continue to be internal to the mine at the cessation of mining. Likewise, permanent stormwater conveyances have been designed and will be constructed on the slopes of the southern overburden storage area. These conveyances will ensure that stormwater is retained on-site and that drainage remains internal to the site. Precipitation falling on the above-water overburden slopes around the excavation area will either infiltrate into the reclaimed above-water areas and join the groundwater regime, or runoff directly in to the lake in the former excavation area. The surface water in the lake will interact freely with the surrounding groundwater regime. The maximum elevation of the lake will be controlled by natural interaction with groundwater and an outlet to the Salt Kill on the eastern portion of the lake. There will be no pumping of water from the quarry following the completion of mining.

3.7 FINAL SLOPE CONFIGURATION

Benches will be graded to provide drainage so that localized ponding is minimized during active excavation. Perimeter areas of the Norlite mine site where overburden has been stockpiled will be re-graded to blend with existing topography and vegetated. Above-water overburden slopes will be graded at a slope no greater than 1:2. The southern overburden storage area will be graded at a slope not to exceed 1:3.

3.8 REVEGETATION

The following revegetation plan is based on an NYSDEC Division of Mineral Resources document entitled *Technical Guidance to Mined Land Reclamation* and is consistent with NYSDEC's more recently issued *Revegetation Procedures Manual: Surface Mining Reclamation*. This guidance document outlines reclamation objectives mandated by New York State, and also provides guidance and methodologies for successfully reclaiming mined land. New York State requires that a vegetative cover must be provided on affected land where vegetation is indigenous to the area and where revegetation is consistent with the land use objective as designated in an approved Mined Land Use Plan. The minimum requirements of mined land reclamation include:

- A minimum of 6 inches of cover material with a soil composition which will sustain plant material must be provided on all land to be revegetated (6 NYCRR 422.3.d (vi));
- Reclamation of agricultural lands may require greater depths of soil and subsoil preparation. The minimum of total 48 inches of topsoil and subsoils be provided for prime farmland reclamation (6NYCRR422.3.d(vi), NRCS Code 544);
- Variety of plant species, grasses, legumes, herbaceous or woody plants, trees, or a mixture of these, may be used in reclamation. The plant materials shall be consistent with the site conditions of drainage, pH, soil depth, available nutrients, soil composition, and climate (6NYCRR422.3.d(vi));
- The plants used to revegetate must be planted during the first season following the preparation of the land for this purpose (6NYCRR422.3.d(vi)); and
- At least 75 percent vegetative cover of the area planted with non-tree species or 60 percent survival rate for shrubs and trees by the end of the second growing season after planting are required in order to determine the success of revegetation.

Based on these requirements, all affected areas above the anticipated lake elevation at the Norlite mine site, except the two main access roads, will be covered with at least six inches of overburden and prepared for reseeded. A series of complete soil nutrient tests will be conducted prior to reseeded. The necessity for the application of fertilizer and lime will be determined based on the results of the soil tests. Areas to be reclaimed will be seeded during the first planting season after preparation.

Affected areas above the anticipated surface water elevation of the reclamation lake will be reclaimed as vegetated open space. As stated in NYSDEC guidance documents, grass is the primary component in most open space revegetation reclamation. The wide range of species available, relative ease of establishment and subsequent management, soil building properties and range of surface cover conditions provided make grasses an ideal foundation for revegetation and reclamation planting.

The proposed planting plan for above-water reclamation areas around the perimeter of the mine is provided below. The planting plan is based on the fine-rich nature of the overburden.

Seeding Mixture:

| | |
|-----------------|---------------------|
| Big Bluestem | 10 pounds/acre |
| Switchgrass | 10 pounds/acre |
| Little Bluestem | 10 – 15 pounds/acre |
| Crown Vetch | 10 pounds/acre |
| Tall Fescue | 5 – 10 pounds/acre |

Lime and Fertilizer:

10-20-20 fertilizer at 150 - 200 pounds per acre or as recommend following soil testing.

Mulch:

1,500 - 2,000 pounds per acre

The NYSDEC Region 4 Mined Land Reclamation Specialist will be contacted prior to final seeding to ensure that the most appropriate and effective seed mixture is utilized.

Grasses will also provide the basis for reclamation on the southern overburden storage area. Because the soil types and constructed slopes in the southern overburden storage area are similar to those within the excavation area, the same seed mixture will be used to reclaim the southern overburden storage area. Concurrent reclamation will be employed throughout the construction of the overburden storage area. Reclamation of finished grades in the southern overburden storage area will begin as soon as practicable.

The southern overburden storage area was previously vegetated with a mixture that ranges from grasses to shrubs to mature trees. To re-establish this vegetative diversity, final reclamation plantings will include woody shrubs and selected tree plantings. Trees and shrubs provide food, cover, and nesting places for wildlife. They also protect the soil surface against wind and water erosion and provide aesthetic values through screening and space articulation. Selection of tree and shrub species are based on their suitability and tolerance for the reclaimed site's reconstructed topsoil conditions, particularly drainage, water retention capacity of the soil, and plant hardiness zone. Tree and shrub plantings will compliment the proposed grass seed mixture, but will be planted after the grass has been established. Grass seeding and tree planting will occur on finished berm slopes concurrent with construction in active portions of the overburden storage area. Concurrent planting will minimize erosion and is an integral part of both the reclamation plan and stormwater controls for the overburden storage area.

The tree plantings were selected based on the idea that native plant species are physiologically better adapted to local conditions and require little maintenance to establish on site. Native species initial growth often appears slower but once established they have better long-term survival than introduced species. Non-native plant species also have value and will be used in reclamation of the overburden storage area.

The following native trees and shrubs will be planted in the southern overburden storage area:

- 1) White Pine – alternating spacing with Red Maple;
- 2) Quaking Aspen;
- 3) Common Juniper; and
- 4) Red Maple – alternating spacing with White Pine.

The White Pine and Red Maple will be planted 20-30 feet apart in three rows. The rows will start 15-20 feet west of the eastern boundary of the southern overburden storage area. Adjacent rows will be separated by a distance of 25-30 feet. The spacing of these trees will be offset by 10 feet from the spacing of the trees in adjacent rows. Common Juniper and Quaking Aspen will be planted 15-20 feet apart in rows. These trees will be planted in a series of three rows starting 25-30 feet west of the final White Pine/Red Maple row. The tree stock to be planted will be primarily bare root stock intermixed with more mature ball and burlap stock. The exact spacing and location of any given tree or row of trees respect and maintain appropriate separation distances from all proposed stormwater control devices.

The stock of native shrub and tree species that occur on the property will also be allowed to naturally colonize the grassed and vegetated slopes of the overburden storage area. Species such as Gray Dogwood (*Cornus foemina* ssp. *racemosa*) and Red Cedar (*Juniperus virginiana*) occur on the property and may take root naturally. Species such as Shrubby Cinquefoil (*Potentilla fruticosa*), Staghorn Sumac (*Rhus typhina*), Blackberry (*Rubus allegheniensis*) and Red Raspberry (*Rubus idaeus*) will also be allowed to naturally colonize the reclaimed area. Spruce, Fir, Willow and European Larch may also be considered for planting purposes. The NYSDEC Region 4 Mined Land Reclamation Specialist will be contacted for additional planting recommendations at the time of reclamation.

4.0 REFERENCES

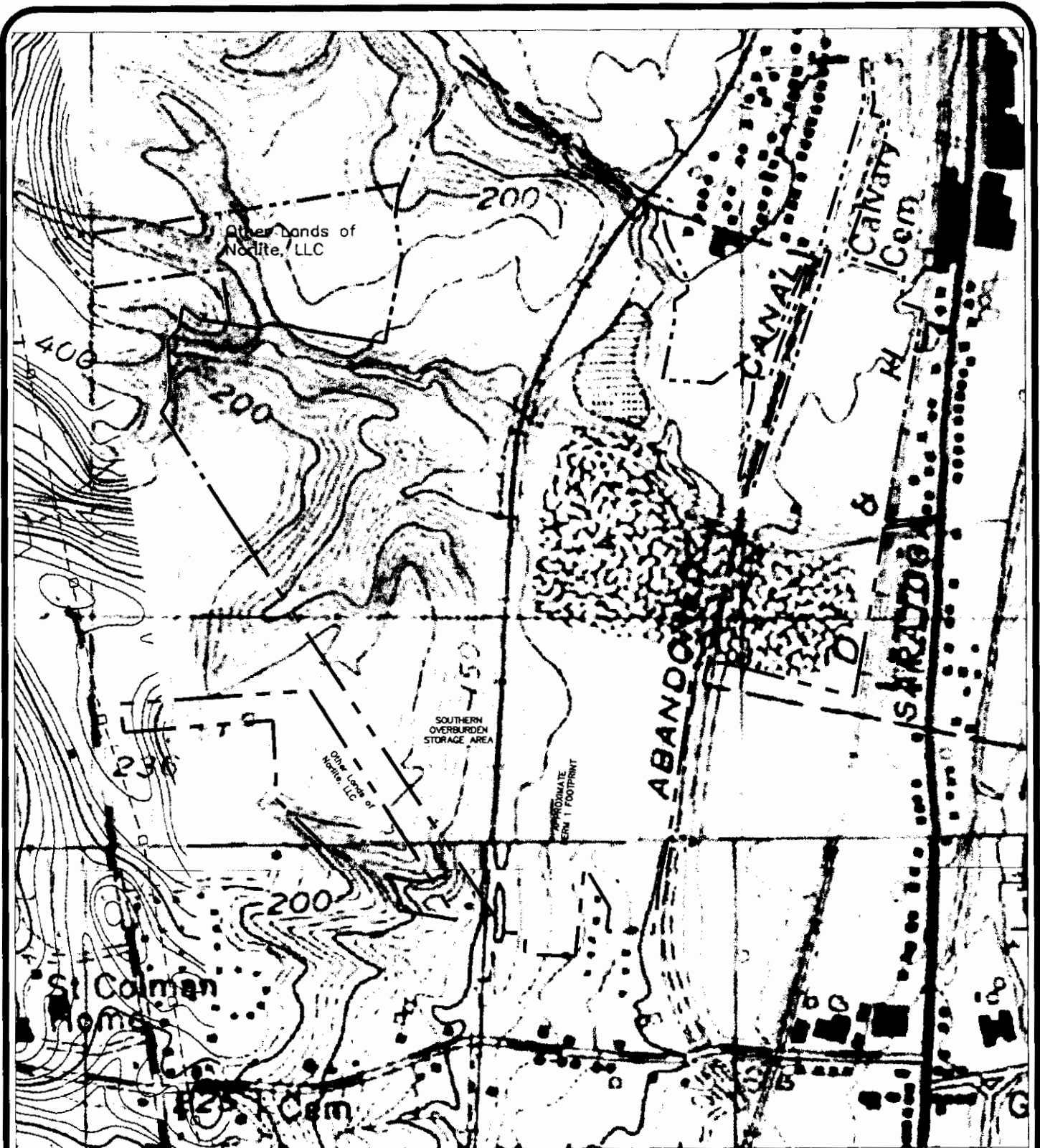
NYSDEC, 1987, Final Upstate New York Groundwater Management Program, pp. IV-16, IV-17.

NYSDEC, May 2005, New York State Revegetation Procedures Manual: Surface Mining Reclamation.

Rosenthal, M.F., and Morlock, G.L., 1987, Blasting Guidance Manual, U.S. Depart. of Interior, Office of Surface Mining Reclamation and Enforcement.

Siskind, D.E., Stagg, M.S., Kopp, J.W. and Dowding, C.H., 1980, Structure Response and Damage Produced by Ground Vibration from Surface Mine Blasting, RI 8507, U.S. Bureau of Mines.

FIGURE



----- Approximate Property Boundary
 Source USGS Topographic Maps: Troy South, 1980 & Troy North, 1980



SPECTRA ENVIRONMENTAL GROUP, INC.
 19 British American Blvd.
 Latham, NY 12110

Site Location

NORLITE, LLC
 COHOES MINE SITE

TOWN OF COLONIE

ALBANY CO. NY

PLATES

APPENDIX A
MINE APPLICATION FORM



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL
CONSERVATION
DIVISION OF MINERAL RESOURCES

MINING PERMIT APPLICATION

| FOR OFFICIAL DEC USE ONLY | |
|---|---|
| FMIS NUMBER: | |
| 7. MINED LAND PROJECT | |
| a. Will the total acreage by mining for the entire mining site exceed 5 acres? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| b. Will the vertical depth from the top of the mine face to the floor exceed 20 feet? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| c. Will there be on-site processing of mining products (eg. crushing, screening, washing)? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| d. Will mining occur within 100 feet of a surface water body (eg. stream, lake) or wetland area? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| e. Will any consolidated materials be mined (eg. limestone, trap rock, sandstone)? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| f. Will mining occur within 500' of any dwelling? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| g. Will mining ever occur at or below the mean high water table? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> |
| 9. APPLICATION TYPE <input type="checkbox"/> New <input checked="" type="checkbox"/> Renewal <input type="checkbox"/> Modification | |
| 10 a. PRESENT PERMIT TERM Expiration Date 1 / 31 / 13 | b. COMING PERMIT TERM <input checked="" type="checkbox"/> 5 years <input type="checkbox"/> Other _____ years |
| 11. COMMON GEOLOGIC NAME OF MINERAL TO BE MINED Shale and Clay | |
| 12. LOCAL ORDINANCES a. Is mining prohibited at this location? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | b. Does the local government require any type of permit for mining at this location? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| 13. a. ARE ANY OTHER STATE MINING PERMITS CURRENTLY HELD BY THE APPLICANT? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | b. If YES, give DEC mine file number(s) |
| 14. Has any owner, partner, corporate officer or corporate director of your organization ever held any of these positions in another organization that has had a New York State mining permit SUSPENDED OR REVOKED or has had a New York State mined land reclamation bond FORFEITED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If YES, identify the person(s). | |
| 15. ACREAGE SUMMARY (To be filled in by applicant) | FOR OFFICIAL DEC USE ONLY |
| a. Total acreage controlled by owner at this location | _____ 238.00 acres |
| b. Total acreage permitted by DEC prior to this application | _____ 132.00 acres |
| c. Total acreage affected since April 1, 1975 | _____ 132.00 acres |
| d. Total acreage approved by DEC as reclaimed since April 1, 1975 | _____ 0.00 acres |
| e. Current affected acreage (c minus d) | _____ 132.00 acres |
| f. Acreage included in this application, but not previously approved | _____ 0.00 acres |
| g. New acreage to be affected during the coming permit term | _____ 0.00 acres |
| h. Number of acres to be reclaimed during coming permit term | _____ 0.00 acres |
| 16. NAME OF MINING SITE Norlite LLC Cohoes Mine | |
| 17. MINE LOCATION Road <u>South Saratoga Street, Route 32</u> Nearest Road Intersection <u>Edsel Place</u> Town <u>Cohoes</u> County <u>Albany</u> | 18. MAP LOCATION a. Quadrangle Name <u>Troy North and Troy South</u> b. <input type="checkbox"/> 15 minute <input checked="" type="checkbox"/> 7 1/2 minute FOR DEC OFFICIAL USE ONLY LATITUDE: _____ LONGITUDE: _____ NAD 83 |
| 19. NAME AND ADDRESS OF SURFACE LANDOWNER SAME AS ABOVE | 20. NAME AND ADDRESS OF MINERAL OWNER SAME AS ABOVE |
| 21. The surface landowner and the mineral owner of the property that is to be mined by the above applicant have read the Mined Land Use Plan, which sets forth the applicant's mining and reclamation plan for the property to be mined, and hereby irrevocably consent and agree to the performance of the Mined Land Use Plan by the applicant, his surety or insurer, or the NYS Department of Environmental Conservation. The surface landowner and mineral owner further agree to allow access to the property to Department personnel for the purpose of conducting inspections or investigations in the regular course of their duties. | |
| SIGNATURE OF SURFACE LANDOWNER | DATE <u>1-8-2013</u> |
| SIGNATURE OF MINERAL OWNER | DATE <u>1-8-2013</u> |
| 22. I hereby affirm, under penalty of perjury that information provided on this form is true to the best of my knowledge and belief. False statements made herein are punishable as a Class A misdemeanor pursuant to Section 210.45 of the Penal Law. | |
| NAME, TITLE AND SIGNATURE OF APPLICANT OR AUTHORIZED REPRESENTATIVE <u>ROBERT O'BRIEN PRESIDENT</u> | DATE <u>1-8-2013</u> |



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
 DIVISION OF MINERAL RESOURCES
 625 BROADWAY - 3RD FLOOR, ALBANY, NEW YORK 12233-6500

OFFICE FILE NUMBER

ORGANIZATIONAL REPORT

INCOMPLETE FORMS ARE NOT ACCEPTABLE AND WILL BE RETURNED FOR COMPLETION

| | |
|---|--|
| <p>1. FULL NAME AND COMPLETE MAILING ADDRESS OF THE ENTITY, INCLUDE NAME AND TITLE TO WHOM ALL CORRESPONDENCE SHOULD BE SENT.</p> <p>Robert O'Brien Norlite, LLC 1301 West 22nd Street, Suite 500 Oak Brook, IL 60523</p> <p>TELEPHONE (518) 235-0401</p> <p>FAX NUMBER (518) 235-0233</p> | <p>2. FULL NAME AND COMPLETE MAILING ADDRESS OF AGENT IN NEW YORK WHO CAN BE SERVED ORDERS, NOTICES AND PROCESSES OF THE DEPARTMENT OR ANY COURT OF LAW. POST OFFICE BOX ADDRESSES ARE NOT ACCEPTABLE</p> <p>Corporation Service Company 80 State Street Albany, NY 12207-2543</p> <p>TELEPHONE (518) 235-0401</p> |
|---|--|

| | |
|--|--|
| <p>3. TYPE OF ACTIVITY (Check those that apply)</p> <p><input type="checkbox"/> PRODUCTION—Oil, Gas, Injection or Geothermal Well(s)</p> <p><input type="checkbox"/> STORAGE—Underground Gas or LPG Facility</p> <p><input type="checkbox"/> PURCHASING—Of Oil or Gas from Others</p> <p><input type="checkbox"/> TRANSPORTATION—By Truck or Pipeline for Others</p> <p><input type="checkbox"/> SALVAGE—Plug and Abandon Wells for Others</p> <p><input type="checkbox"/> DRILLING—Drill Wells for Others</p> | <p><input type="checkbox"/> SOLUTION MINING—Own/Operate Facility</p> <p><input type="checkbox"/> BRINE DISPOSAL—Own/Operate Facility</p> <p><input type="checkbox"/> STRATIGRAPHIC—Own Well or Hole</p> <p><input checked="" type="checkbox"/> SURFACE MINING—Own/Operate Facility</p> <p><input type="checkbox"/> UNDERGROUND MINING—Own/Operate Facility</p> |
|--|--|

| | |
|---|--|
| <p>4. STATE WHETHER THE ENTITY IS A CORPORATION, ASSOCIATION, PARTNERSHIP, INDIVIDUAL, PUBLIC AUTHORITY OR GOVERNMENTAL AGENCY. IF FOREIGN CORPORATION, GIVE STATE AND DATE OF INCORPORATION AND DATE OF AUTHORIZATION TO DO BUSINESS IN NEW YORK STATE. IF PARTNERSHIP, STATE WHETHER GENERAL OR LIMITED AND COUNTY OF FILING. IF DBA, GIVE COUNTY OF FILING.</p> <p>LLC</p> | <p>5. IF A NAME CHANGE, GIVE COMPLETE NAME AND ADDRESS OF PREVIOUS ENTITY.</p> <p>Norlite Corporation 628 South Saratoga Street Cohoes, NY 12047</p> |
|---|--|

| <p>6. IF ENTITY IS A CORPORATION OR ASSOCIATION, LIST ALL DIRECTORS AND ALL OFFICERS. IF PARTNERSHIP, LIST ALL GENERAL AND ALL LIMITED PARTNERS. ATTACH ADDITIONAL SHEETS IF NECESSARY.</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">TITLE</th> </tr> </thead> <tbody> <tr> <td>Robert O'Brien</td> <td>President</td> </tr> <tr> <td>Mike Ferraro</td> <td>Secretary/Treasurer</td> </tr> <tr> <td>Alberto Diez</td> <td>Director</td> </tr> <tr> <td>Sergio Nusimovich</td> <td>Director</td> </tr> </tbody> </table> | NAME | TITLE | Robert O'Brien | President | Mike Ferraro | Secretary/Treasurer | Alberto Diez | Director | Sergio Nusimovich | Director | <p>7. LIST ALL PERSONS AUTHORIZED BY THE ENTITY TO SIGN ALL SUBMITTALS TO THE DEPARTMENT.</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">NAME</th> <th style="text-align: left;">TITLE</th> </tr> </thead> <tbody> <tr> <td>Robert O'Brien</td> <td>President</td> </tr> <tr> <td>Tita LaGrimas</td> <td>Executive Vice President of Regulatory Affairs</td> </tr> </tbody> </table> | NAME | TITLE | Robert O'Brien | President | Tita LaGrimas | Executive Vice President of Regulatory Affairs |
|--|--|-------|----------------|-----------|--------------|---------------------|--------------|----------|-------------------|----------|---|------|-------|----------------|-----------|---------------|--|
| NAME | TITLE | | | | | | | | | | | | | | | | |
| Robert O'Brien | President | | | | | | | | | | | | | | | | |
| Mike Ferraro | Secretary/Treasurer | | | | | | | | | | | | | | | | |
| Alberto Diez | Director | | | | | | | | | | | | | | | | |
| Sergio Nusimovich | Director | | | | | | | | | | | | | | | | |
| NAME | TITLE | | | | | | | | | | | | | | | | |
| Robert O'Brien | President | | | | | | | | | | | | | | | | |
| Tita LaGrimas | Executive Vice President of Regulatory Affairs | | | | | | | | | | | | | | | | |

I hereby affirm under penalty of perjury that the information provided in the report is true to the best of my knowledge and belief. I am aware false statements made in this report are punishable as a Class A misdemeanor under Section 210.45 of the Penal Law.

| | | |
|--|---|---|
| <p>TYPE OR PRINT NAME OF AUTHORIZED PERSON</p> <p>Robert O'Brien</p> | <p>SWORN TO AND SUBSCRIBED</p> <p>BEFORE ME, THIS 8th</p> | <p>KATHLEEN M. NOURY NOTARY PUBLIC State of Connecticut My Commission Expires January 31, 2017</p> |
| <p>SIGNATURE</p> | <p>DATE</p> <p>1-8-2013</p> <p>DAY OF January 2013</p> <p><i>Kathleen M. Noury</i> NOTARY PUBLIC</p> | |