

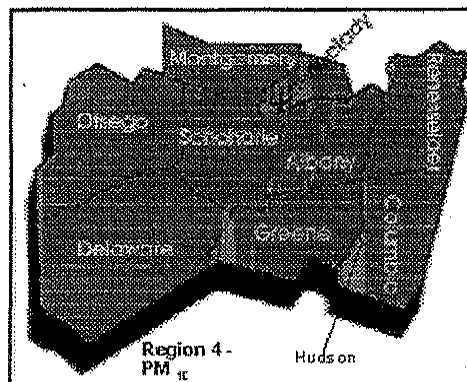
13.4 Air Resources

Ambient Air Quality Data

Fugitive-Dust Control Plan

INHALABLE PARTICULATES - Wedding Sampler

**NYSDEC Region 4
Hudson Valley Air Quality Control Region**



**Annual Averages 1993 through 2003
Annual Arithmetic Mean ($\mu\text{g}/\text{m}^3$)**

Station	Site No.	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	3 Yr Exp Val
Albany	0101-10	23	23	(17)	xx	xx	xx	xx	xx	xx	xx	xx	xx
Albany	0101-13N	23	25	21	21	23	21	xx	xx	xx	xx	xx	xx
Loudonville	0101-33	18	19	16	17	19	19	xx	xx	xx	xx	xx	xx
Cohoes	0102-03	18	21	(16)	xx	xx	xx	xx	xx	xx	xx	xx	xx
Hudson	1001-02	--	--	--	--	--	--	--	13	14	(19)	(14)	16

Sampling commenced at 1001-02 on 03/01/2000, was suspended on 10/03/2001, resumed on 07/01/2002, and was terminated on 09/30/2003.

Comparison Between NYS Ambient Air Quality and Ambient Air Quality Standards for Calendar Year 2003

		24-Hour Concentrations - $\mu\text{g}/\text{m}^3$							# of Days $>150 \mu\text{g}/\text{m}^3$ - Not to exceed an expected avg of one per year during the last 3 years*						
		Maximum		2 nd Max.		3 rd Max.		2001		2002		2003			
Station	Site No.	Total Obs.	Value	Date	Value	Date	Value	Date	Mea	Est	Mea	Est	Mea	Est	Exp Avg
Hudson (W)	1001-02	43	53	06/26	32	08/07	29	07/26	0	0.0	0	0.0	0	0.0	0.0

Footnotes for PM10 data:

(Annual Means in parentheses are based on less than 75% available data)

Mea=Measured

Est=Estimated

*New York and Federal Ambient Air Quality Standard

+ Denotes a contravention of NYS/Federal AAQS

[Back to top of page](#)

Dust Control Plan
A. Colarusso & Son, Inc.
Proposed Quarry Expansion

Prepared for:

A. Colarusso & Son, Inc.
PO Box 302
Hudson, NY 12534
Responsible Party: Robert Colarusso, Jr.

Prepared By:

Roy T. Budnik & Associates, Inc.
317 Main Street
Poughkeepsie, NY 12601

January 9, 2006

Table of Contents

1.0 Project Description.....	1
1.1 Project Summary.....	1
1.2 Location.....	1
2.0 Sources of Fugitive Dust.....	1
3.0 Dust Control.....	2
3.1 Overburden Removal.....	2
3.2 Drilling and Blasting.....	2
3.3 Load out.....	2
3.4 Haulroads.....	2
3.5 Reclamation.....	3
4.0 Monitoring.....	3
5.0 Figures	

Dust Control Plan
A. Colarusso & Son, Inc.
Proposed Quarry Expansion Area

1.0 Project Description

1.1 Project Summary

A. Colarusso and Son, Inc. operates a construction aggregate quarry on Becraft Mountain, in the Town of Greenport, Columbia County, New York. The company has proposed to expand the quarry onto portions of an existing property owned by the City of Hudson. The existing 77-acre quarry would be increased in size by approximately 175 acres, including 122 acres of excavation area and 53 acres of support area. This dust control plan has been prepared to address operations within the proposed expansion area and supplement the current approved dust control plan that covers operations within the existing quarry.

1.2 Location

The new site is located along the eastern edge of Becraft Mountain, within a 354-acre parcel formerly owned and mined by Lone Star Cement Company. The property is west of County Route 29 (Spook Rock Road) and east of Newman Road. The existing quarry lies to the north; lands of St. Lawrence Cement Company lie to the northwest, west, and south (see Location Map).

2.0 Sources of Fugitive Dust

Operations within the new excavation area will be similar to those within the existing quarry. Potential sources of fugitive dust emissions include 1) overburden removal, 2) drilling and blasting, 3) loading, 4) hauling, and 5) reclamation. Truck traffic over unpaved haul roads is the largest contributor to the generation of fugitive dust of aggregate quarry operations, according to a 2003 report by the USEPA. The longest distance that rock currently has to be hauled from the active face to the processing plant is about 2,400 feet. The haul distance with the permit modification will be approximately 6,000 feet, at the farthest point in Phase V.

As noted by a 1995 USEPA report, the potential distance that dust moves from the point of generation is governed by the initial source height, the size of the particle, and wind speed. Fugitive dust from unpaved roads is generated at ground level; turbulence of the air around the vehicle can move the particles higher into the atmosphere. Coarse particles (silt) will settle very close to the source (20-30 feet), medium-sized particles (fine silt to coarse clay) may travel a few hundred feet. The finest particles ($<PM_{10}$) can travel farther. The percentage of silt and clay on the road surface is the single most significant factor in the generation of fugitive dust from unpaved haul roads (USEPA, 2003). In addition, for a given dust loading on the road, the volume of dust emitted is proportional to the volume of traffic on the roadway, the vehicular speed and weight, the number of wheels per vehicle, and the road surface texture and moisture content.

3.0 Dust Control

3.1 Overburden Removal

Overburden removal activities will be limited because of the discontinuous nature of the soils within the excavation area. Lone Star removed the overburden from much of the area during previous mining activities. Natural soil moisture will minimize the generation of fugitive dust during removal operations.

Shaping and seeding the overburden stockpiles will reduce wind erosion of the established piles. The piles will be less than 15-feet high, with side slopes no greater than 2:1. A "conservation mix" with fast-growing warm and cool-season grasses will be seeded within 10-days of the creation of the stockpile.

3.2 Drilling and Blasting

Modern shot-hole drill rigs, of the type used in the existing quarry, are equipped with dust collectors to minimize fugitive dust generated during drilling. As a result, little dust is observed during drilling operations.

Dust generation can be controlled during blast events by prior removal of the overburden and proper design of the blasting program. Dust emission factors are determined on a per ton basis, therefore, limiting the tonnage yield per blast will limit the volume of dust generated. In addition, a properly designed blast event will produce adequate cap-rock fragmentation without generation of an excessive air blast, which could carry dust outside of the quarry.

3.3 Load out

The fragmented rock that is loaded into trucks at the active face is relatively coarse, resulting in little dust generation at the load-out point. Truck loading will take place on the quarry floor within the sheltering walls of the pit. Wind velocities will be generally lower than in more exposed locations, further reducing emission of fugitive dust.

Dust emissions from this activity can be controlled by proper loading techniques. Matching of loader and truck sizes will reduce the drop height and the distance that the material falls through the air. In addition, prevention of overfilling will reduce spillage along the haul route. Finally, the muck pile can be watered, if necessary, to suppress dust during unusually dry conditions. This is usually not required, as natural moisture within the rock mass will resist dust generation, if the shot material is promptly loaded out.

3.4 Haulroads

Fugitive dust on unpaved haul roads can be controlled by 1) vehicle restrictions, 2) surface improvements, and 3) surface treatments. All haul trucks use 6 wheels, so this factor in the emission equation is fixed.

Vehicle restrictions limit the speed, weight, or number of vehicles on the road. Only authorized vehicles will use the haul road, and only to access the active mining area. Vehicle speeds are already controlled for safety reasons; this has the added benefit of limiting dust generation. Signs will be posted along the haul road to remind drivers of the

speed limit. The selection of the truck size (weight) and number of trucks used will be dictated by the production rate and distance between the active face and the processing plant. The composition of the truck fleet will likely evolve as operations extend into the later phases of the quarry.

Surface improvements to the haul roads consist of covering the road surface with material that has low silt content. As the percentage of fines is a significant determinant of fugitive dust generation, this can be a very effective control measure. The haul road will be constructed to coarse crushed stone, which will allow dust to move from the surface of the road downward through the interstices of the material.

Surface treatment to the haul roads involves use of dust suppressants to prevent the fine particles from becoming airborne. These materials are most effective on the finest particles, as moisture causes clumping and an increase in the effective particle diameter. Dust is currently controlled on the haul roads through the application of water or a NYSDEC-approved dust suppressant. These are sprayed from a water-tank truck, equipped with spray bars and/or nozzles. The application schedule is adjusted for atmospheric conditions to insure that the roads do not become too dry or too muddy. The operator applies water to the roadways when excessive air-borne dust develops around the wheels of the moving vehicles. The water is drawn from the pond on the existing quarry.

3.5 Reclamation

Concurrent reclamation will take place as mining progresses. The quarry floor is relatively sheltered from high winds by the pit walls, which will reduce potential wind erosion of the reclaimed areas. Reclamation will include fertilizing, liming, and seeding as per the *Reclamation Plan*. The reclaimed areas will be watered, as necessary; areas with weak vegetation will be reseeded.

4.0 Monitoring

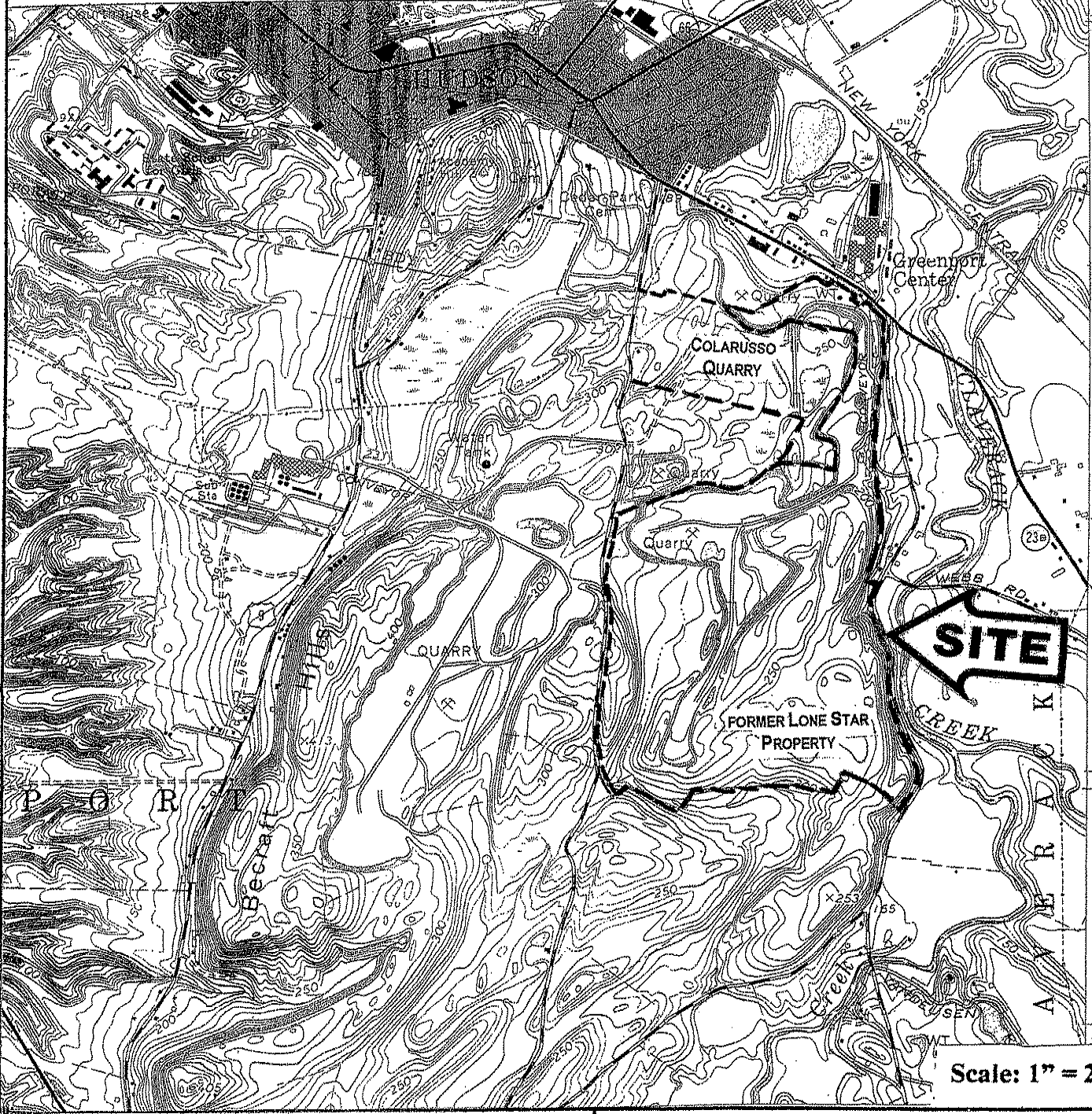
The pit manager or his designee is responsible for monitoring of the quarry for fugitive dust problems. Overburden removal, drilling and blasting, load out, and trucking activities are observed several times a day. Excess dust generation during any of these operations will require a prompt corrective response. For example, certain operations, such as overburden removal, may be suspended during periods of high wind velocities. Also, surface treatments on the haul roads may be modified to include use of additional dust suppressants during especially dry conditions.

5.0 Figures

HUDSON SOUTH QUADRANGLE
NEW YORK
7.5 MINUTE SERIES (TOPOGRAPHIC)

NE/4 CATSKILL 15' QUADRANGLE

47°30' 600 650 000 FEET ALBANY 32 MI. STOTTVILLE 2.7 MI. CHATHAM 12 MI. BRICK TAVERN 2.6 MI. 803 73°45' 42°15'



Scale: 1" = 2,000'

LOCATION MAP
North to Top

ROY T. BUDNIK & ASSOCIATES, INC.



GEOLOGICAL & ENVIRONMENTAL CONSULTANTS
317 MAIN STREET, POUGHKEEPSIE, NEW YORK 12601

Approx. True North

NEWMAN ROAD
TOWN ROAD

COLARUSSO

ST. LAWRENCE

CITY OF HUDSON

RESERVOIR

SOIL STOCKPILES

N. W. E. L. L. E. R

HALL ROAD

COL. CO
ROUTE # 29
SPOOK ROCK ROAD

SOIL STOCKPILES

OVERBURDEN REMOVAL
DRILLING & BLASTING
LOAD-OUT

POTENTIAL AREAS OF DUST GENERATION
EXCAVATION AREA
COLARUSSO QUARR

N. E. ST. LAWRENCE CEMENT

SOIL STOCKPILES = AREAS OF DUST GENERATION

