

EXHIBIT M.



August 15, 2014

Ms. Margaret Valis

Chief, Impact Assessment and Meteorology Section
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233

RE: Taconic Plastics - DEC ID: 4-3834-00004

FILE: 10660/51812

Dear Ms. Valis:

On April 28, 2014, O'Brien & Gere submitted an air dispersion modeling protocol to the New York State Department of Environmental Conservation (NYSDEC) on behalf of Taconic for its facility located in Petersburg, New York. A copy of the protocol is contained in Attachment A. This letter report presents the results of the dispersion modeling.

NYSDEC APPROVAL

On June 2, 2014, NYSDEC, via email, approved the protocol, with the exception of the receptor grid and emission rates. NYSDEC recommended that the receptor grid have 70 meter spacing to a distance of 1 kilometer from the facility, 100 meter spacing from a distance of 1 to 2 kilometers, and 250 meter spacing from a distance of 2 to 5 kilometers. This change has been incorporated into the analysis. In addition, the latest AERMOD version (Version 14134) was employed.

Mr. Don Welsted, NYSDEC Region IV air permit engineer, approved the emission rates shown in Table 1 for use in the model, with the understanding that additional modeling will be performed using the results of upcoming source testing to be conducted in accordance with a condition that will be included in Taconic's revised State Facility Permit, once issued by NYSDEC.

RESULTS

Stack parameters used in the model are presented in Table 1 of Attachment A. Please note that each of the four individual stacks was included in the model independently (i.e., a hypothetical combined stack was not used).

Tables 2 and 3 present a summary of the modeling results. As discussed in the protocol, NYSDEC Annual Guideline Concentration (AGC) and Short-term Guideline Concentration (SGC) values for hydrogen fluoride impacts were used as a first-level comparison. However, initial results indicated a potential exceedance of the AGC. Therefore, model results were compared to the fluoride standards contained in 6 NYCRR 257-8.3(b). As shown in Tables 2 and 3, predicted concentrations are below applicable AGCs, SGCs and the New York State fluoride standards.

Electronic copies of the AERMOD input and output files, BPIP input and output files, AERMAP input and output files, DEM files and meteorological data files are included on the enclosed CD.

Please feel free to contact Cris Hine at (518) 724-7259 or Katie Cooper at (315) 956-6205 with any questions or comments.

Very truly yours,

O'BRIEN & GERE ENGINEERS, INC.



Cris Hine
Project Associate

O'BRIEN & GERE ENGINEERS, INC.



Matthew Traister, P.E.
Vice President

Attachments: Table 1 - Summary of Emission Rates
Table 2 - Summary of AERMOD Results
Table 3 - Summary of AERMOD Results - Hydrogen Fluoride
Attachment A - April 2014 Modeling Protocol

cc: Don Welsted - NYSDEC
Karen Toth - Taconic
Katie Cooper - O'Brien & Gere

Taconic Plastics
Petersburgh, New York

Table 1 - Summary of Emission Rates

Contaminant	CAS		EPO0001	EPO0002	EPO0010	EPO0011
	Number					
Ammonia	7064-41-7	Max Hourly (lb/hr)	—	0.0060	0.0060	0.012
		Potential Annual (lb/yr)	—	53	53	105
Butyl Acrylate	140-32-2	Max Hourly (lb/hr)	3.9E-05	—	—	—
		Potential Annual (lb/yr)	0.34	—	—	—
Diethylene Glycol Monobutyl	112-34-5	Max Hourly (lb/hr)	4.6E-05	—	—	—
		Potential Annual (lb/yr)	0.41	—	—	—
Dimethylaminoethanol	108-81-8	Max Hourly (lb/hr)	4.6E-05	—	—	—
		Potential Annual (lb/yr)	0.41	—	—	—
Ethyl Acetate	140-78-6	Max Hourly (lb/hr)	0.013	—	—	—
		Potential Annual (lb/yr)	99	—	—	—
Ethylbenzene	100-41-4	Max Hourly (lb/hr)	0.073	—	—	—
		Potential Annual (lb/yr)	642	—	—	—
Heptane	140-83-5	Max Hourly (lb/hr)	0.0063	—	—	—
		Potential Annual (lb/yr)	55	—	—	—
Hydrogen Fluoride	7664-39-3	Max Hourly (lb/hr)	—	0.064	0.009	0.088
		Potential Annual (lb/yr)	—	385	342	771
Isobutane	75-28-5	Max Hourly (lb/hr)	4.6E-05	—	—	—
		Potential Annual (lb/yr)	0.41	—	—	—
Isopropanol	67-43-0	Max Hourly (lb/hr)	0.014	—	—	—
		Potential Annual (lb/yr)	124	—	—	—
Petroleum Naphtha	64763-89-8	Max Hourly (lb/hr)	0.0014	—	—	—
		Potential Annual (lb/yr)	12	—	—	—
Toluene	108-88-3	Max Hourly (lb/hr)	0.39	—	—	—
		Potential Annual (lb/yr)	3,390	—	—	—
Vinyl Acetate	108-05-4	Max Hourly (lb/hr)	0.0015	—	—	—
		Potential Annual (lb/yr)	13	—	—	—
Xylene	1330-33-7	Max Hourly (lb/hr)	0.23	—	—	—
		Potential Annual (lb/yr)	2,195	—	—	—

Notes:

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Table 2 - Summary of AERMOD Results

Contaminant	CAS Number	Averaging Period	Emission Rate (lb/hr)	Normalized Concentration ¹ (µg/m ³)(lb/hr)	Predicted Concentration ² (µg/m ³)	SO ₂ /AQ ₁ ³ (µg/m ³)	Percent of SO ₂ /AQ ₁ (%)
Ammonia	7664-41-7	1-Hour			0.32	2,400	<1
		Annual			0.095	100	<1
Butyl Acrylate	140-82-2	1-Hour	3.9E-05	94.1	0.0036	—	—
		Annual	3.9E-05	3.92	1.5E-04	26	<1
Diethylene Glycol	112-94-5	1-Hour	4.6E-05	94.1	0.0044	370	<1
		Annual	4.6E-05	3.92	1.8E-04	200	<1
Dimethylaminoetha	108-81-8	1-Hour	4.6E-05	94.1	0.0044	—	—
		Annual	4.6E-05	3.92	1.8E-04	26	<1
Ethyl Acetate	140-78-4	1-Hour	0.013	94.1	1.0	—	—
		Annual	0.013	3.92	0.042	3,400	<1
Ethylbenzene	100-41-4	1-Hour	0.079	94.1	6.9	—	—
		Annual	0.079	3.92	0.29	1,000	<1
Heptane	142-82-5	1-Hour	0.0063	94.1	0.59	210,000	<1
		Annual	0.0063	3.92	0.025	3,900	<1
Hydrogen Fluoride ⁴	7664-39-8	1-Hour			3.7	5.8	67
		Annual			0.24	0.071	341
Isobutane	75-28-5	1-Hour	4.6E-05	94.1	0.0044	238,000	<1
		Annual	4.6E-05	3.92	1.8E-04	—	—
Isopropanol	67-63-0	1-Hour	0.014	94.1	1.3	98,000	<1
		Annual	0.014	3.92	0.055	7,000	<1
Petroleum Naphtha	64762-89-8	1-Hour	0.0014	94.1	0.13	—	—
		Annual	0.0014	3.92	0.0053	3,200	<1
Toluene	108-88-3	1-Hour	0.39	94.1	36	87,000	<1
		Annual	0.39	3.92	1.5	5,000	<1
Vinyl Acetate	108-05-4	1-Hour	0.0015	94.1	0.14	5,300	<1
		Annual	0.0015	3.92	0.0059	200	<1
Xylene	1330-20-7	1-Hour	0.25	94.1	23	22,000	<1
		Annual	0.25	3.92	1.0	100	<1

Notes:

- For pollutants that are emitted from DP00021 only, modeling was performed on a normalized basis. The concentration shown is from the AERMOD model.
- For pollutants that were modeled on a normalized basis:

$$\text{Predicted Concentrations (}\mu\text{g/m}^3\text{)} = \text{Normalized Concentration (}\mu\text{g/m}^3\text{)(lb/hr)} \times \text{Emission Rate (lb/hr)}$$
 For the remaining pollutants, this value was obtained from the AERMOD model.
- From the NYSDCC AQ/SGC Tables, February, 2014.
- As discussed in the protocol, AQ₁ and SGC values for hydrogen fluoride impacts were used as a first-level comparison. Since these initial results indicated a potential exceedance of the AQ₁, model results were compared to the fluoride standards contained in 6 NYCRR 257-6.3(b). See Table 3 for a summary.

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Petersburgh, New York**

Table 3 - Summary of AERMOD Results - Hydrogen Fluoride

Contaminant	CAS Number	Averaging Period	Predicted Concentration ¹ ($\mu\text{g}/\text{m}^3$)	NY6 AQS ² ($\mu\text{g}/\text{m}^3$)	Percent of AQS (%)
Hydrogen Fluoride	7664-39-3	12-Hour	1.4	3.7	37
		24-Hour	1.26	2.85	44
		1 Week	1.26	1.65	77
		1 Month	0.64	0.8	80

Notes:	
1	From the AERMOD model.
2	From 6 NYCRR 217.8.3(b).

*April 2014
Modeling Protocol*

PROTOCOL

Modeling Protocol

Taconic
Petersburgh, New York

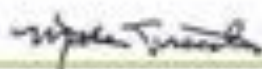
April 2014



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Modeling Protocol

Taconic
Petersburgh, New York



MATTHEW TRAISTER, P.E.
O'Brien & Gere Engineers, Inc.

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1. INTRODUCTION

The Taconic facility located in Petersburg, NY manufactures PTFE and silicone fiberglass/fabric products for the food processing industry and other industrial applications, including laminated boards for the fabrication of printed circuit boards. Buildings 4, 5, 6, and the proposed new Building 11 operate PTFE surface coaters, where a PTFE compliant coating is applied to fiberglass and cured in propane-fired vertical ovens.

The Building 5 fume eliminator (Emission Point 00002) receives emissions from six Building 4 ovens and nine Building 5 ovens. The Building 6 fume eliminator (Emission Point 00010) receives emissions from four Building 6 ovens.

In addition to the PTFE coaters and ovens, Taconic operates an adhesive surface coater and oven in Building 1. The room housing the coater and oven is vented to a thermal oxidizer (Emission Point 00001).

Taconic is applying for an air permit modification to allow for construction and operation of additional PTFE coaters/ovens that will vent to a new fume eliminator, referred to as Emission Point 00011. As a part of the permit application, New York State Department of Environmental Conservation (NYSDEC) has requested that a facility-wide DAR-1 air dispersion modeling analysis be performed. In addition, NYSDEC has requested a modeling protocol be submitted before commencement of the modeling analysis. This modeling protocol has been developed to meet that request.

2. BACKGROUND

2.1 TACONIC SITE LOCATION AND DESCRIPTION

The location of the Taconic site is shown in Figure 1. The facility is located within the Town of Petersburg, New York. The site is located at the bottom of a very steep valley in a bend where the valley changes from being oriented to the North/South to being oriented to the Northeast/Southwest.

The facility is comprised of several buildings, within which product manufacturing and administrative activities are performed.

Emission points at the facility that emit toxic contaminants listed in the NYSDEC Annual Guideline Concentration (AGC)/Short-term Guideline Concentration (SGC) tables will be included in the analysis. Source parameters for these emission points are summarized in Table 1.

A building plot plan depicting tier heights and stack locations is included as Figure 2.

2.2 TACONIC EMISSIONS

Emission rates to be used in the analysis will be provided to NYSDEC Region 4 under separate cover. It is expected that the contaminant list will consist of hydrogen fluoride and various volatile organic compounds (VOC).

3. MODELING METHODOLOGY

A refined modeling analysis will be performed. This analysis will follow generally accepted modeling principles contained in guidance documents including:

- NYSDEC DAR-10
- NYSDEC DAR-1
- USEPA *Revision to the Guideline on Air Quality Models* (a.k.a. Appendix W)

3.1 MODEL SELECTION AND USE

The current version of the USEPA AERMOD modeling system (Version: 13350) will be used to evaluate toxic air quality impacts from the Taconic facility. The AERMOD model was selected primarily for the following reasons:

- USEPA and NYSDEC have approved the general use of the model for air quality dispersion analysis as a result of the model assumptions and methods being consistent with those referenced in the *Guideline on Air Quality Models*.
- The results from the AERMOD model are appropriate for addressing compliance with the 1-hour and annual SGCs and AGCs as it predicts the maximum 1-hour and annual impacts at each receptor.

The AERMOD model has several options and features that enable it to be adapted to a wide range of specific applications. A complete listing of currently proposed model option "switches" to be used is included as Table 2.

3.2 URBAN/RURAL CLASSIFICATION

A land use review was performed to evaluate whether rural or urban dispersion parameters should be used in the analysis. This procedure involved evaluating the presence of various industrial, commercial, residential and agricultural/natural areas within a three kilometer radius circle centered on the Taconic facility (Auer scheme). If more than fifty percent of the area within this circle were designated industrial, commercial and compact residential, urban dispersion parameters would be used; otherwise, the modeling would use rural dispersion parameters. A review of the topographic map area and aerial photos surrounding the site revealed that the area within three kilometers of the site was predominately rural. Thus, based on this analysis, rural dispersion curves will be used in the analysis.

3.3 GOOD ENGINEERING PRACTICE STACK HEIGHT ANALYSIS

USEPA provides specific guidance for calculating Good Engineering Practice (GEP) stack height and for evaluating whether building downwash will occur (USEPA, 2003). GEP stack height is defined by USEPA as the height of the structure plus 1.5 times the lesser of the structure height or projected width. If the stack height for a source is less than the height identified using GEP guidelines, based on the dimensions of nearby buildings, then the potential for building downwash to occur exists and is to be considered in the modeling analysis.

The Taconic stacks in this analysis are less than GEP stack height. Therefore, 36 directional building heights and widths data will be estimated using the USEPA Building Profile Input Program, PRIME version (BPPI-PRIME) and incorporated into the AERMOD model.

3.4 METEOROLOGICAL DATA

The closest National Weather Service (NWS) station is located in Bennington, New York. A windrose depicting wind speed and wind direction from Bennington for years 2008-2012 is shown in Figure 3. Given the valley orientation at the Taconic site, and the wind direction distribution at Bennington, it is unlikely that the Bennington data is representative of the winds at the site.

Albany, New York is the next closest NWS station to the Taconic facility. A windrose from Albany for years 2009-2013 is shown in Figure 4. The windrose shows high frequencies of southerly and west northwest winds. Since the valley orientation at the site would likely create a dominance of southerly winds, the Albany meteorological

data is proposed to be used in the analysis. Upper-air data from Albany would also be used. NYSDEC has provided the necessary pre-processed data to be used in the analysis.

3.5 RECEPTOR LOCATIONS

The analysis will utilize a Cartesian grid of receptors with a spacing of 70 meters extending to a distance of 1 kilometer from the center of the grid. A second Cartesian grid, with a spacing of 250 meters, will extend from 1 to 3 kilometers. The center of the grid will be at the approximate center point of the Taconic facility. Receptors will be added, as appropriate, to locate the maximum impact if it is outside of the 3 kilometer area.

The current version of AERMAP (Version 11103) will be used to calculate the receptor elevations and appropriate hill height values. Ten meter resolution Digital Elevation Model (DEM) data will be obtained from the Cornell Cugir website for utilization in AERMAP.

3.6 ASSESSMENT OF IMPACTS

Predicted impacts from the Taconic facility will be compared against published NYSDEC AGC/SGC guideline values.

For hydrogen fluoride, the published AGC and SGC values will serve as a first-level comparison. Should the model results indicate a potential exceedence of the hydrogen fluoride SGC and/or AGC, 12-hour, 24-hour, and monthly predicted impacts of fluoride emissions from the model will be compared against the standards in Title 6 of the New York Code of Rules and Regulations (6 NYCRR) 257-8.3(b). 24-hour impacts will be used as a surrogate for weekly impacts.

4. MODELING REPORT FORMAT

A modeling report will be provided and will include comparisons of the maximum projected impact concentrations to the published NYSDEC AGC/SGC values, and fluoride standards, if applicable. The approved protocol will be included as an attachment. Electronic copies of AERMOD input and output files, BPIP input and output files, AERMAP input and output files, DEM files and meteorological data files will be submitted on compact disc.

5. REFERENCES

- Auer, A.H. 1978. *Correlation of Land Use and Cover with Meteorological Anomalies*. *Journal of Applied Meteorology*, 17:636-643.
- NYSDEC, 1997. *New York State Department of Environmental Conservation, DAR-1: NYSDEC Guidelines for the Control of Toxic Ambient Air Contaminants*.
- NYSDEC, 2006. *New York State Department of Environmental Conservation, DAR-10: NYSDEC Guidelines on Dispersion Modeling Procedures for Air Quality Impact Analysis*.
- USEPA, 1985. *Guideline for Determination of Good Engineering Practice Stack Height (Technical Support Document of the Stack Height Regulations) (Revised)*. U.S. Environmental Protection Agency. EPA-450/4-80/023R. Washington, DC: USEPA.
- USEPA, 2004. *User's Guide for the AMS/EPA Regulatory Model - AERMOD*. Research Triangle Park, NC: EPA, Office of Air Quality Planning and Standards. EPA-454/B-03-001.
- USEPA, 2005. *Revision to the Guideline on Air Quality Models, Appendix W to 40 CFR Part 51*.

**Taconic Plastics
Petersburgh, New York**

Table 1 - Summary of Stack Parameters

Emission Point ID	Emission Point Description	Stack Location ¹		Base Elevation (ft)	Stack Parameters ²			
		UTME (m)	UTMV (m)		Height (feet)	Temperature (°F)	Flow Rate (scfm)	Diameter (Inches)
00001	Building 1 Outdoor	694243	4733226	770	25	156	5,000	53x30 ³
00002	Building 5 Fume	694233	4733215	758	48	97	24,000	38
00010	Building 6 Fume	694222	4733048	763	40	102	24,000	38
00011	Building 11 Fume	694082	4733054	767	40	130	54,000	38

Notes:

- 1 Stack locations are in UTM, NAD 27, Zone 18.
- 2 Stack parameters were supplied by Taconic.
- 3 Rectangular duct.

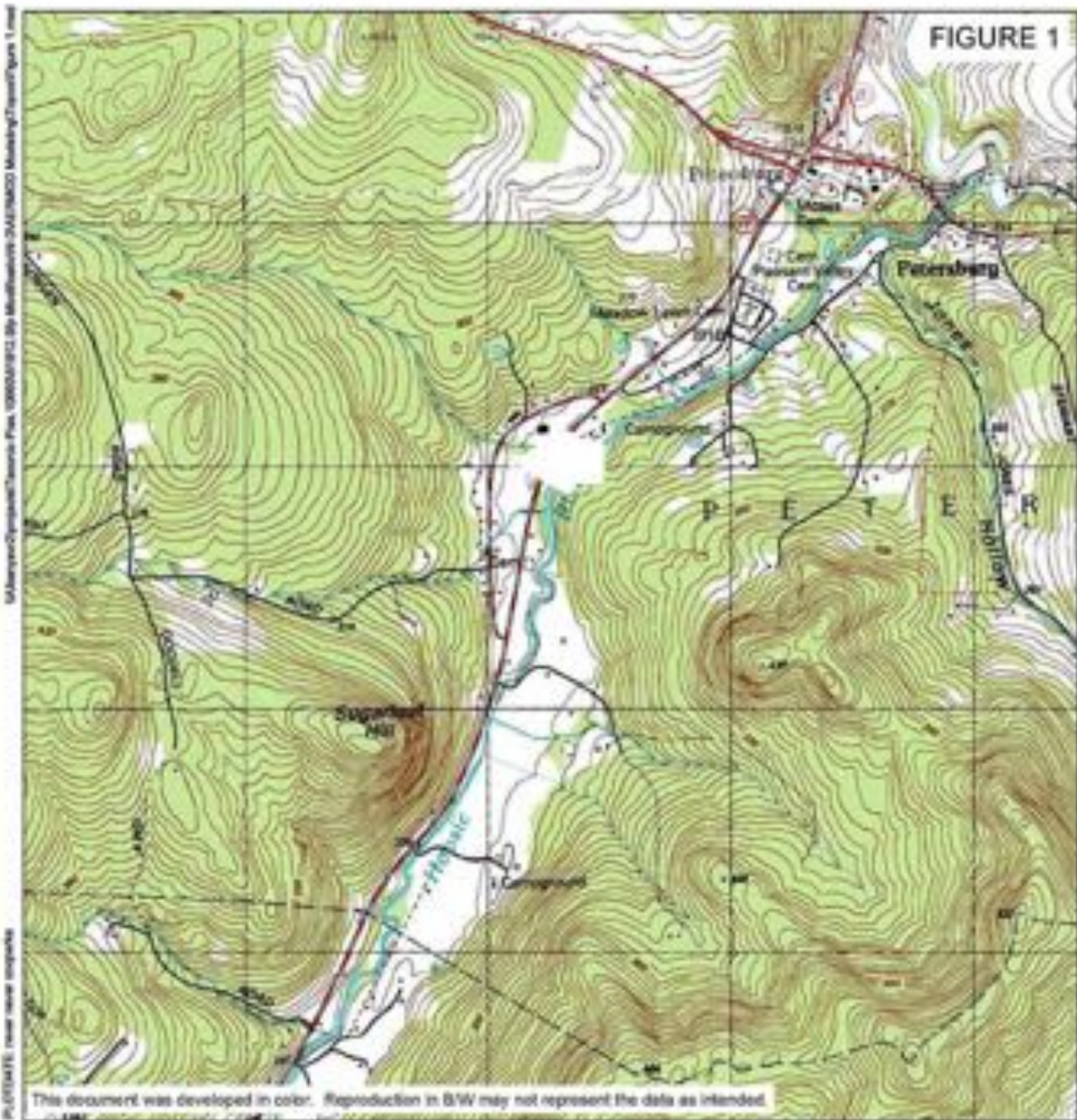
Taconic Plastics Petersburgh, New York

Table 2 - Summary of Model Options

Option	Selected Parameter
Calculations	Refined Analysis, 1-Hour and Annual Averages
Receptor Orientation	Cartesian (70 meters to 1 km and 250 meters to 3 km)
Dispersion Coefficients	Rural
Stack Tip Downwash	Yes
Building Downwash	Yes
Directional Dependent Building Dimensions	Yes
Terrain	Simple, Complex and Intermediate: AERMOD Algorithm
Meteorology	2009-2013 - Albany, NY (Surface & Upper Air)

Notes:

FIGURE 1



ADAPTED FROM: BERLIN AND NORTH POWNAL, NEW YORK USGS QUADRANGLES



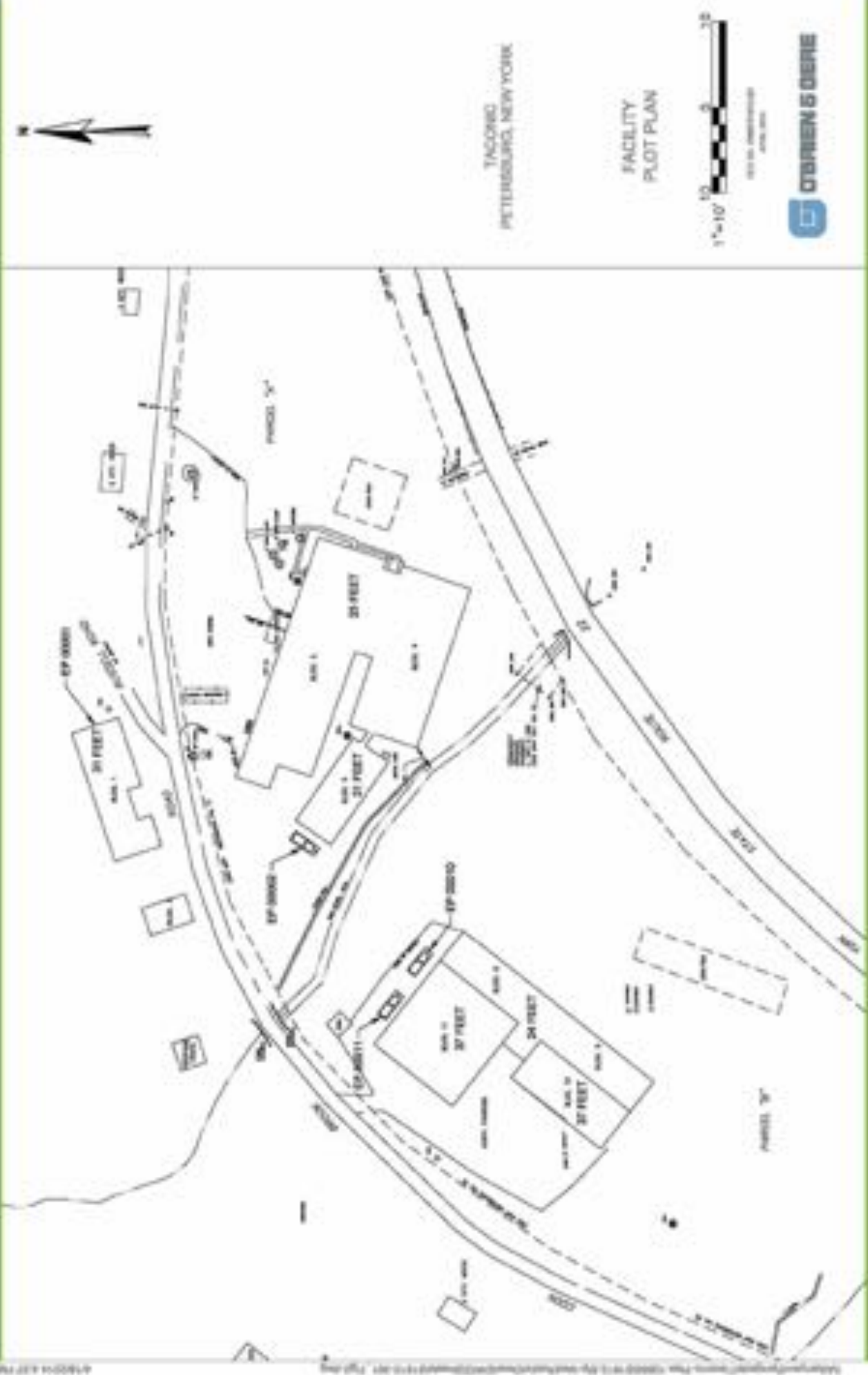
TACONIC
PETERSBURG, NEW YORK

SITE LOCATION



1:24,000

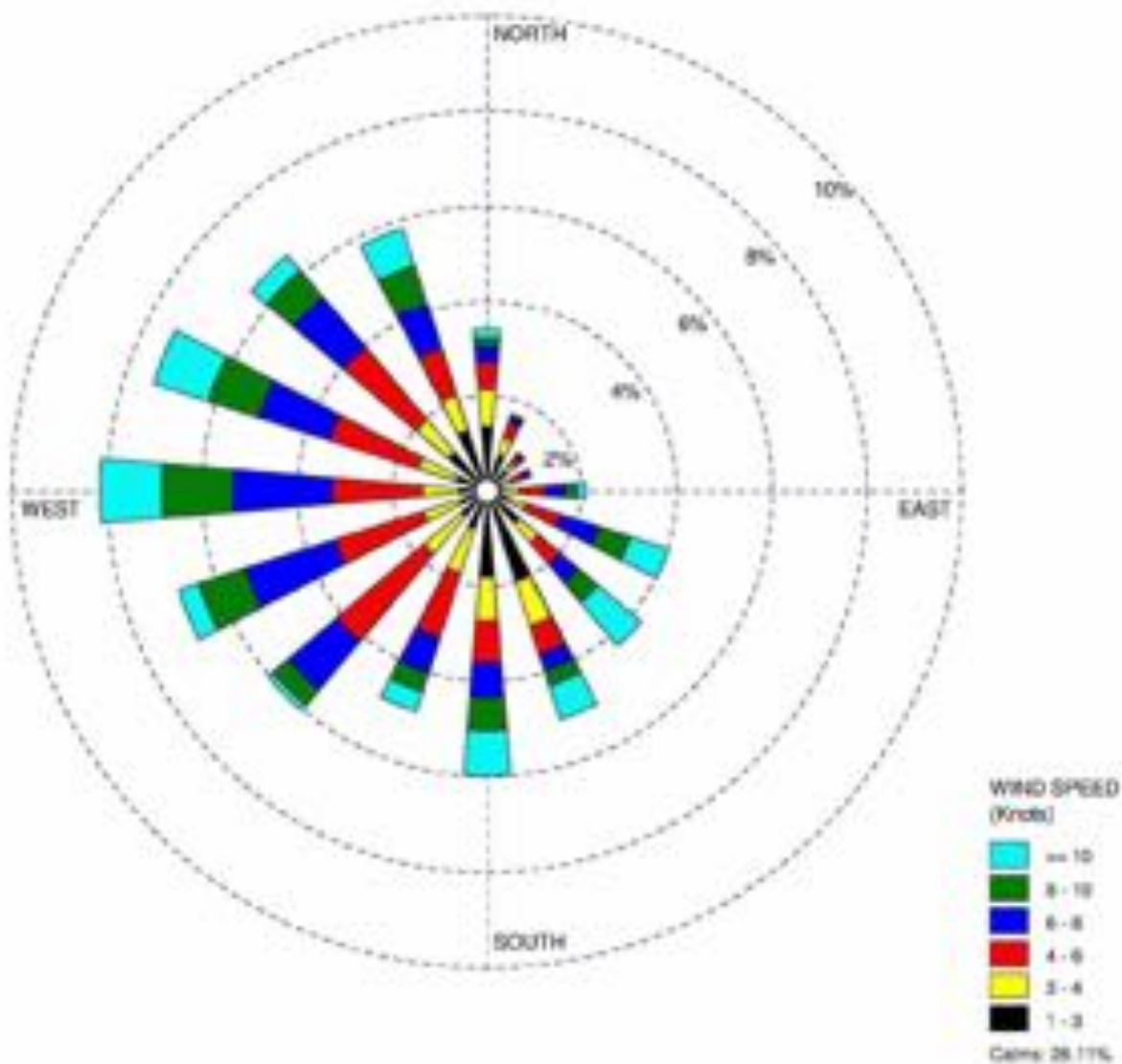




WIND ROSE PLOT

Figure 3 - Bennington, Vermont Windrose

DISPLAY

Wind Speed
Direction (blowing from)

COMMENTS

DATA PERIOD:

2006-2012
Jan 1 - Dec 31
00:00 - 23:00

COMPANY NAME:

O'Brien & Gere

CALLS WIND:

26.11%

TOTAL COUNT:

41211 hrs.

AVG. WIND SPEED:

4.62 Knots

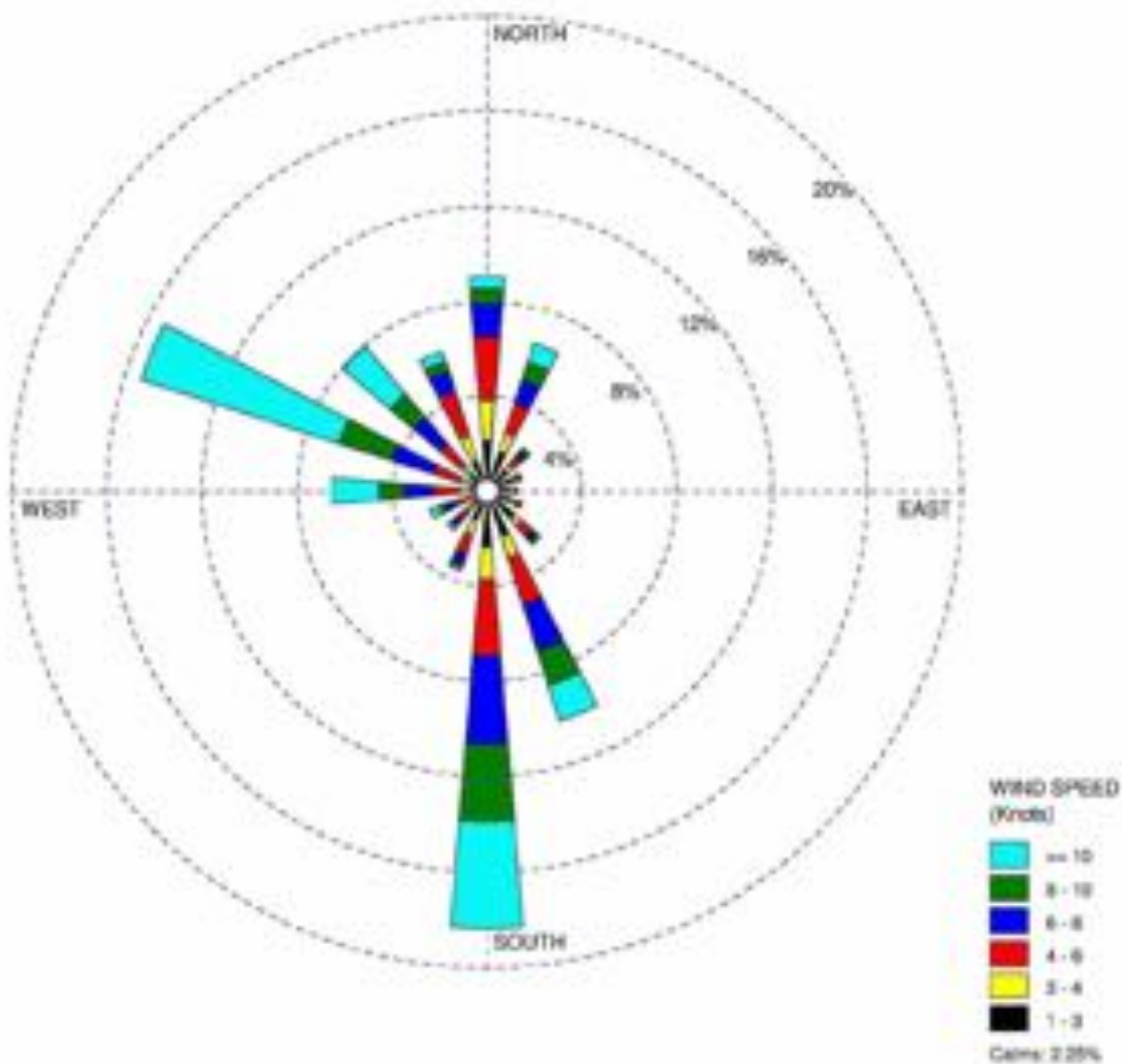
PROJECT NO.:

51812

WIND ROSE PLOT

Figure 4 - Albany, New York Windrose

DISPLAY

Wind Speed
Direction (blowing from)

COMMENTS	DATA PERIOD:	COMPANY NAME:	
	2009-2013 Jan 1 - Dec 31 00:00 - 23:00	O'Brien & Gere	
	CALC WIND:	TOTAL COUNT:	
	2.28%	43760 hrs.	
	Avg. WIND SPEED:		PROJECT NO.:
	6.76 Knots		51812

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