CROSS/TESSITORE & ASSOCIATES, P.A.
4763 SOUTH CONWAY ROAD
ORLANDO, FLORIDA 32812
407/851-1484

December 11, 1992

Mr. Dennis Nester
Orange County Environmental Protection Department
2002 East Michigan
Orlando, Florida 32806

Subject: Foamex, L.P. - Orlando Facility Consent Order No. ORG-92-040/FDER File No. AC48-214902 C/TA #F21.816

Dear Dennis:

Attached is a copy of the FDER Air Construction Permit Application that was submitted to Mr. C.H. Fancy of the FDER in compliance with Condition 7 of the subject consent order.

If you have any questions, please do not hesitate to call upon me.

Sincerely,

Joseph L. Tessitore
Joseph L. Tessitore, P.E.
Vice President

JLT/ser
Enc. a/s
cc: C.H. Fancy, FDER-Tallahassee District
Charles Collins, FDER-Central District
Art Pereira, Foamex L.P.
Charles Eavenson, Foamex, L.P.
Clifford Schulman, Greenberg-Traurig

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DEC 14 1992
Division of Air Resources Management

CROSS/TESSITORE & ASSOCIATES, P.A.
4763 S. CONWAY ROAD, SUITE F
ORLANDO, FLORIDA 32812
407/851-1484

December 3, 1992

RECEIVED
DEC 4 1992
Bureau of
Air Regulation

Mr. Willard Hanks
Review Engineer
Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Foamex,L.P.
FDER File No. AC 48-214902
C/TA # F03.816

Dear Mr. Hanks:

Please find enclosed four (4) copies of the revised construction permit application for the Foamex polyurethane foam manufacturing facility located in Orlando.

The following paragraphs provide an itemized response to the June 26, 1992 letter from C.H. Fancy regarding the preliminary review conducted by FDER of the initial application submittal.

1. *A process flow diagram that includes: individual process equipment, maximum/average process rates for each chemical in lbs/hr and lbs/yr, maximum average fugitive and stack emission estimates in lbs/hr and TPY (Section V-1 and 6)*

Figures 5-3 and 5-4 in Section 5.0 of the application provide process flow diagrams as requested.

2. *Provide emission estimates (maximum/average in lbs/hr and TPY), and stack parameters for each source in the modified plant. The application fee may have to be adjusted depending on your response to this question (Section IIIC.)*

Section 5.0 of the application provides detailed calculations of emission rates for each source at the facility.

3. *Estimate, using a Department approved model, the maximum 8 hour, 24 hour, and annual ambient air impact of the methylene chloride emissions from the plant (Section VII).*

Section 7.0 of the application provides an air quality impact analysis which contains the requested impact levels.

BEST AVAILABLE COPY

FEDERAL EXPRESS

[redacted]

QUESTIONS? CALL 800-238-5355 TOLL FREE.

2666404031

AIRBILL
PACKAGE
TRACKING NUMBER

2666404031

RECIPIENT'S COPY

1 [redacted]

Date 12/3/92

From (Your Name) Please Print: Joseph Tessiaore
Your Phone Number (Very Important): ( )
Company
Department/Floor No.
Street Address
City
State
ZIP Required

2 To (Recipient's Name) Please Print: Mr. Willard Banks, Rev Eng
Recipient's Phone Number (Very Important): (904) 488-1344
Company: FDER-Bureau of Air Regulations
Department/Floor No.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): Twin Towers Office Building, 2600 Blair Stone Road
City: Tallahassee
State: Florida
ZIP Required: 32399

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.): F21.616

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City
State
ZIP Required

3 PAYMENT
1 [X] Bill Sender
2 [ ] Bill Recipient's FedEx Acct. No.
3 [ ] Bill 3rd Party FedEx Acct. No.
4 [ ] Bill Credit Card
5 [ ] Cash/Check
[redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)
11 [ ] YOUR PACKAGING
16 [ ] FEDEX LETTER*
12 [ ] FEDEX PAK*
13 [ ] FEDEX BOX
14 [ ] FEDEX TUBE

Standard Overnight (Delivery by next business afternoon. No Saturday delivery†)
51 [ ] YOUR PACKAGING
56 [ ] FEDEX LETTER*
52 [ ] FEDEX PAK*
53 [ ] FEDEX BOX
54 [ ] FEDEX TUBE

Economy Two-Day (Delivery by second business day †)
30 [ ] ECONOMY

Government Overnight (Restricted for authorized users only)
46 [ ] GOV'T LETTER
41 [ ] GOV'T PACKAGE

Freight Service (for packages over 150 lbs.)
70 [ ] OVERNIGHT FREIGHT** (Confirmed reservation required)
80 [ ] TWO-DAY FREIGHT**

† Delivery commitment may be later in some areas.
*Declared Value Limit $500.
**Call for delivery schedule.

5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [X] DELIVER WEEKDAY
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE ______ Lbs.
7 [ ] OTHER SPECIAL SERVICE
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
10 [ ]
11 [ ]
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE
Total 1 | Total 2 | Total

DIM SHIPMENT (Chargeable Weight)
[ ] ______ lbs.
L x W x H

Received At
1 [ ] Regular Stop
2 [ ] On Call Stop
3 [ ] Drop Box
4 [ ] B.S.C.
5 [ ] Station

Emp. No. | Date
[ ] Cash Received
[ ] Return Shipment
[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City | State | Zip
Received By:
X
Date/Time Received | FedEx Employee Number

7 Release Signature:

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Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

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4. *Provide a Best Available Control Technology determination to justify the air pollution control equipment you proposed to install if the future emissions will exceed 100 TPY of any air pollutant, along with the other information required by F.A.C. Rule 17-2.500(5). The determination should include comparisons of a carbon adsorption unit, condenser unit, and other applicable air pollution control equipment (Section VI).*

Section 6.0 of the application provides a BACT analysis as requested. However, as noted in the application, the applicant does not agree that such a BACT determination is warranted or necessary for this source and reserves its rights to question such a determination should it become necessary.

5. *What is the maximum time each line in the plant will operate? These times may become limits in any permit issued for this plant (Section IIE).*

This information is provided in Section 2.0 of the application.

6. *Please clarify what is the maximum heat input to each indirect fired heater. Is distillate oil used as an alternate fuel in this plant (Section IIIE) ?*

Distillate oil is not used as an alternate fuel at the Foamex facility. A complete listing of the individual indirect fired heaters and the corresponding maximum heat input for each is provided in Section 5.0 of the application.

7. *Will any liquid or solid waste be generated by the modified plant and, if so, how will it be disposed of (Section IIIG)?*

As stated under Section IIIG of the application form, liquid and/or solid waste generated by the plant are properly characterized as either hazardous or nonhazardous waste prior to disposal. Hazardous waste is disposed of in accordance with the RCRA regulations, for example, waste toluene diisocyanate is incinerated. Nonhazardous waste is disposed of in accordance with applicable federal, state and local requirements.

8. *Complete Section V of the application for the air pollution control equipment you select (Section V-2,3,4 and 5).*

Detailed emission calculations are provided in Section 5.0 of the application.

9. *What is the scale for the plot plan and what is the distance from the nearest emission point in the plant to the plant boundary (Section V-7)?*

Table 5-1 of the Application provides the minimum distance from each emission point to the property boundary. The plot plan scale is 1" = 50'.

10. *Provide a copy of the MSDS data sheet for methylene chloride.*

Appendix 5-F provides copies of MSDS sheets for the methylene chloride and other typical chemical products used at the facility.

Please do not hesitate to contact me should you have any questions or comments concerning this information.

Sincerely,

Patricia Kay Rykowski

Joseph L. Tessitore, P.E.
Vice President

JLT/kp
Encl: a/s
cc: Charles Eavenson, Foamex, L.P.
Arthur Pereira, Foamex, L.P.
Clifford Schulman, Greenberg Traurig
R5211.Doc

APPLICATION TO CONSTRUCT AIR POLLUTION SOURCE

FOAMEX, L.P.
FOAM MANUFACTURING FACILITY
Orlando, Florida

December 3, 1992

prepared for:

Foamex, L.P.
1351 Gemini Boulevard
Orlando, Florida 32821

for submittal to:

Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Prepared by:
Cross/Tessitore & Associates, P.A.
4763 S. Conway Road
Orlando, Florida 32812
(407) 851-1484 FAX: (407) 855-0369
F03.816/R5211.Doc

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1.0 APPLICATION FORM

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

.IN TOWERS OFFICE BUILDING
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32301

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Flexible Polyurethane Foam Manufacturing [ ] New[1] [X] Existing[1]

APPLICATION TYPE: [X] Construction [ ] Operation [ ] Modification

COMPANY NAME: Foamex, L.P. COUNTY: Orange

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) See Attached

SOURCE LOCATION: Street 1351 Gemini Boulevard City Orlando

UTM: East 461,037 North 3,142,939

Latitude 28 ° 24 ' 15 "N Longitude 81 ° 23 ' 40 "W

APPLICANT NAME AND TITLE: Charles Eavenson, Plant Manager

APPLICANT ADDRESS: 1351 Gemini Boulevard, Orlando, FL 32821

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Foamex, L.P.

I certify that the statements made in this application for a Construction permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Charles Eavenson

Charles Eavenson, Plant Manager
Name and Title (Please Type)

Date: 12/2/92 Telephone No. 407-857-2510

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

[1] See Florida Administrative Code Rule 17-2.100(57) and (104)

FOAMEX, L.P.

Foam Manufacturing Facility
Orlando, Florida

Specific Emission Point Sources

I. Slabstock Polyurethane Foam Production

1) Foam Process Line Stack
2) Long Bun Storage Room Stack

II. Rebond Polyurethane Foam Production

3) Rooftop Vents

III. Tank Storage

4) Tank #10

IV. Steam Boiler

5) Boiler Stack

V. Environmental Heating

6) through 19)
13 Rooftop Heaters

VI. Foam Fabrication Operations

20) through 37)
17 Rooftop Vents

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources.

Signed ______________________

Joseph L. Tessitore, P.E.
Name (Please Type)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

4763 South Conway Rd., Orlando, FL 32812
Mailing Address (Please Type)

Florida Registration No. 23374 Date: 12/1/92 Telephone No. 407-851-1484

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

SEE SUPPLEMENTAL INFORMATION: SECTION II

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction Original - 1975 Proposed Modification 1993 Completion of Construction Original - 1976 Proposed Modification 1994

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

Modified Exhaust System = $200,000

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

Warning Letter April 13, 1992 Orange County EPD (John M. Bateman, P.E.)

Consent Order October 1, 1992 Orange County EPD (John M. Bateman, P.E.)

SEE SUPPLEMENTAL INFORMATION: SECTION II

Requested permitted equipment operating time: hrs/day_____; days/wk_____; wks/yr_____;

if power plant, hrs/yr_____; if seasonal, describe:_____

F. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? No
   a. If yes, has "offset" been applied? N/A
   b. If yes, has "Lowest Achievable Emission Rate" been applied? N/A
   c. If yes, list non-attainment pollutants. N/A
2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. Yes (1)
3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. No (2)
4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? No
5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? No

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? No

   a. If yes, for what pollutants? N/A
   b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

(1) For purposes of this application and based solely on the FDER letter of June 26, 1992 from Mr. C.H. Fancy requesting a BACT determination in the completed application, BACT is assumed to be applicable for this source. However, the applicant does not necessarily agree with that determination and reserves its rights to contest same, should that be required.

(2) There are no PSD requirements for methylene chloride and by statute and Departmental Rule, methylene chloride is not considered a volatile organic compound (VOC). However, for purposes of this application, an air quality analysis was conducted based on the request included in the FDER letter of June 26, 1992. This application estimates the maximum 8-hour, 24-hour and annual ambient air concentrations of methylene chloride. The air quality impact analysis is presented in Supplemental Information: Section VII of this application. The inclusion of this information does not indicate the applicant's agreement that PSD requirements are applicable to this source and the applicant reserves its rights to contest such a determination, should that be required.

I. SLABSTOCK POLYURETHANE FOAM PRODUCTION

(SEE SUPPLEMENTAL INFORMATION: SECTION III)

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

FOR COMPLETE BREAKDOWN, SEE ITEM 1, SUPPLEMENTAL INFORMATION: SECTION V

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Process Chemicals		--	38,805	
Blowing Agent	Methylene Chloride	100%	1,320	
TOTAL			40,125	See Figure 5-2

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 40,125

2. Product Weight (lbs/hr): 36,199

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

SEE ITEMS 2, 3 AND 5, SUPPLEMENTAL INFORMATION: SECTION V

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
FOAM LINE STACK:							
Methylene Chloride	955.8	152.04	N/A	N/A	955.8	152.04	See Fig 5-2
1,1,1 - Trichloroethane	1433.7	57.02	N/A	N/A	1433.7	57.02	See Fig 5-2
141-B	955.8	152.04	N/A	N/A	955.8	152.04	See Fig 5-2
Toluene Diisocyanate	0.37	0.12	N/A	N/A	0.37	0.12	See Fig 5-2

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard.

[4] Emission, if source operated without control (See Section V, Item 3).

I. SLABSTOCK POLYURETHANE FOAM PRODUCTION

(SEE SUPPLEMENTAL INFORMATION: SECTION III)

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

FOR COMPLETE BREAKDOWN, SEE ITEM 1, SUPPLEMENTAL INFORMATION: SECTION V

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Process Chemicals		—	38,805	
Blowing Agent	Methylene Chloride	100%	1,320	
TOTAL			40,125	See Figure 5-2

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 40,125
2. Product Weight (lbs/hr): 36,199

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

SEE ITEMS 2, 3 AND 5, SUPPLEMENTAL INFORMATION: SECTION V

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
LBSR STACK:							
Methylene Chloride	557.55	88.69	N/A	N/A	557.55	88.69	See Fig 5-2
1,1,1 Trichloroethane	836.33	33.26	N/A	N/A	836.33	33.26	See Fig 5-2
141-B	557.55	88.69	N/A	N/A	557.55	88.69	See Fig 5-2

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard.

[4] Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4) Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels NOT APPLICABLE

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: ________ Percent Ash: ________

Density: ________ lbs/gal Typical Percent Nitrogen: ________

Heat Capacity: ________ BTU/lb ________ BTU/gal

Other Fuel Contaminents (which may cause air pollution): ________

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

Liquid and/or solid waste generated by the plant are properly characterized as either hazardous or nonhazardous waste prior to disposal. Hazardous waste is disposed of in accordance with the RCRA regulations, for example, waste toluene diisocyanate is incinerated. Nonhazardous waste is disposed of in accordance with applicable federal, state and local requirements.

I. SLABSTOCK POLYURETHANE FOAM PRODUCTION

FOAM LINE STACK:

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 125 ft. Stack Diameter: 27.64 inches ~~xxx~~

Gas Flow Rate: 20,000 ACFM -- DSCFM Gas Exit Temperature: 80°F (Ambient) °F.

Water Vapor Content: Ambient % Velocity: 80 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste ______

Total Weight Incinerated (lbs/hr) ______ Design Capacity (lbs/hr) ______

Approximate Number of Hours of Operation per day ______ day/wk ______ wks/yr. ______

Manufacturer ______

Date Constructed ______ Model No. ______

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel Type	Fuel BTU/hr	Temperature (°F)
Primary Chamber					
Secondary Chamber					

Stack Height: ______ ft. Stack Diamter: ______ Stack Temp. ______

Gas Flow Rate: ______ ACFM ______ DSCFM* Velocity: ______ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) ______

I. SLABSTOCK POLYURETHANE FOAM PRODUCTION

LONG BUN STORAGE ROOM STACK:

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 125 ft. Stack Diameter: 39.09 inches ~~XXXX~~

Gas Flow Rate: 40,000 ACFM -- DSCFM Gas Exit Temperature: 80°F (Ambient) °F.

Water Vapor Content: ambient % Velocity: 80 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Patholog-ical)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Inciner-ated							
Uncon-trolled (lbs/hr)							

Description of Waste ____________________

Total Weight Incinerated (lbs/hr) __________ Design Capacity (lbs/hr) __________

Approximate Number of Hours of Operation per day ______ day/wk ______ wks/yr. ______

Manufacturer ____________________

Date Constructed __________ Model No. __________

	Volume (ft)^3	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: ______ ft. Stack Diamter: ______ Stack Temp. ______

Gas Flow Rate: ______ ACFM ______ DSCFM* Velocity: ______ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) ____________________

Brief description of operating characteristics of control devices: Not Applicable

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

Not Applicable

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

SEE SUPPLEMENTAL INFORMATION: SECTION V

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

SEE ITEM 1, SUPPLEMENTAL INFORMATION: SECTION V

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Scrap Foam	--	--	5,608	
Polyol	--	--	459	
Toluene Diisocyanate	--	--	164	
TOTAL			6,231	See Figure 5-3

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 6,231

2. Product Weight (lbs/hr): 6,231

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

SEE ITEMS 2, 3, AND 5, SUPPLEMENTAL INFORMATION: SECTION V

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
Toluene Diisocyanate	0.0046	0.009	N/A	N/A	0.0046	0.009	See Fig 5-3

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard.

[4] Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4) NOT APPLICABLE

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels NOT APPLICABLE

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: ______ Percent Ash: ______

Density: ______ lbs/gal Typical Percent Nitrogen: ______

Heat Capacity: ______ BTU/lb ______ BTU/gal

Other Fuel Contaminants (which may cause air pollution): ______

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

Liquid and/or solid waste generated by the plant are properly characterized as either hazardous or nonhazardous waste prior to disposal. Hazardous waste is disposed of in accordance with the RCRA regulations, for example, waste toluene diisocyanate is incinerated. Nonhazardous waste is disposed of in accordance with applicable federal, state and local requirements.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 41 ft. Stack Diameter: 2.5 ft.

Gas Flow Rate: 1000 ACFM ------- DSCFM Gas Exit Temperature: Ambient (80°F) °F.

Water Vapor Content: Ambient % Velocity: 3.4 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Patholog-ical)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Inciner-ated							
Uncon-trolled (lbs/hr)							

Description of Waste ______

Total Weight Incinerated (lbs/hr) ______ Design Capacity (lbs/hr) ______

Approximate Number of Hours of Operation per day ______ day/wk ______ wks/yr. ______

Manufacturer ______

Date Constructed ______ Model No. ______

	Volume (ft)^3	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: ______ ft. Stack Diamter: ______ Stack Temp. ______

Gas Flow Rate: ______ ACFM ______ DSCFM* Velocity: ______ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) ______

Brief description of operating characteristics of control devices:

NOT APPLICABLE

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOT APPLICABLE

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

SEE SUPPLEMENTAL INFORMATION: SECTION V

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

Raw Materials and Chemicals Used in your Process, if applicable:

(TANK #10) SEE ITEM 1, SUPPLEMENTAL INFORMATION: SECTION V

Description	Contaminants Type	Contaminants % Wt	Utilization Rate - lbs/hr	Relate to Flow Diagram
Methylene Chloride	--	--	506,800 lbs/yr	N/A

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 506,800 lbs/yr

2. Product Weight (lbs/hr): 506,800 lbs/yr

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

SEE ITEMS 2, 3, AND 5, SUPPLEMENTAL INFORMATION: SECTION V

Name of Contaminant	Emission[1] Maximum lbs/hr	Emission[1] Actual T/yr	Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission lbs/yr	Potential[4] Emission T/yr	Relate to Flow Diagram
Methylene Chloride	0.67	2.92	N/A	N/A	0.67	2.92	N/A

[1]See Section V, item 2.

[2]Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard.

[4]Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4) Not Applicable

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels NOT APPLICABLE

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: ______ Percent Ash: ______

Density: ______ lbs/gal Typical Percent Nitrogen: ______

Heat Capacity: ______ BTU/lb ______ BTU/gal

Other Fuel Contaminants (which may cause air pollution): ______

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

Liquid and/or solid waste generated by the plant are properly characterized as either hazardous or nonhazardous waste prior to disposal. Hazardous waste is disposed of in accordance with the RCRA regulations, for example, waste toluene diisocyanate is incinerated. Nonhazardous waste is disposed of in accordance with applicable federal, state and local requirements.

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 7 ft. Stack Diameter: 1.25 inches ~~ft.~~

Gas Flow Rate: N/A ACFM N/A DSCFM Gas Exit Temperature: 80°F (Ambient) °F.

Water Vapor Content: N/A % Velocity: N/A FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

Type of Waste	Type 0 (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Patholog-ical)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Inciner-ated							
Uncon-trolled (lbs/hr)							

Description of Waste ______

Total Weight Incinerated (lbs/hr) ______ Design Capacity (lbs/hr) ______

Approximate Number of Hours of Operation per day ______ day/wk ______ wks/yr. ______

Manufacturer ______

Date Constructed ______ Model No. ______

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: ______ ft. Stack Diamter: ______ Stack Temp. ______

Gas Flow Rate: ______ ACFM ______ DSCFM* Velocity: ______ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) ______

Brief description of operating characteristics of control devices: ____________

Not Applicable

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

Not Applicable

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

SEE SUPPLEMENTAL INFORMATION: SECTION V

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:
NOT APPLICABLE

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): N/A

2. Product Weight (lbs/hr): N/A

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

SEE ITEMS 2, 3 AND 5, SUPPLEMENTAL INFORMATION: SECTION V

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
Particulate	0.021	0.092	N/A	N/A	0.021	0.092	N/A
Sulfur Dioxide	0.0025	0.011	N/A	N/A	0.0025	0.011	N/A
Nitrogen Oxide	0.59	2.58	N/A	N/A	0.59	2.58	N/A
Carbon Monoxide	0.147	0.64	N/A	N/A	0.147	0.64	N/A
Total Hydrocarbons	0.013	0.55	N/A	N/A	0.013	0.55	N/A

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard.

[4]Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4) NOT APPLICABLE

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	4,200 cf	4,200 cf	4.2

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: N/A Percent Ash: N/A

Density: N/A lbs/gal Typical Percent Nitrogen: N/A

Heat Capacity: 1,000 BTU/lb N/A BTU/gal

Other Fuel Contaminants (which may cause air pollution): N/A

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

N/A

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

ack Height: 15.5 ft. Stack Diameter: 1.22 ft.

Gas Flow Rate: 70 ACFM 36 DSCFM Gas Exit Temperature: 450 °F.

Water Vapor Content: 6.0 % Velocity: 1.0 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Patholog-ical)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Inciner-ated							
Uncon-trolled (lbs/hr)							

Description of Waste ______

al Weight Incinerated (lbs/hr) ______ Design Capacity (lbs/hr) ______

Approximate Number of Hours of Operation per day ______ day/wk ______ wks/yr. ______

Manufacturer ______

Date Constructed ______ Model No. ______

	Volume (ft)^3	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: ______ ft. Stack Diamter: ______ Stack Temp. ______

Gas Flow Rate: ______ ACFM ______ DSCFM* Velocity: ______ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) ______

Brief description of operating characteristics of control devices: ____________________

NOT APPLICABLE

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOT APPLICABLE

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

SEE SUPPLEMENTAL INFORMATION: SECTION V

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

Raw Materials and Chemicals Used in your Process, if applicable:

NOT APPLICABLE

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): N/A

2. Product Weight (lbs/hr): N/A

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

SEE ITEMS 2, 3, AND 5, SUPPLEMENTAL INFORMATION: SECTION V

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
Particulate	0.00925	0.00185	N/A	N/A	0.00925	0.00185	N/A
Sulfur Dioxide	0.00111	0.000222	N/A	N/A	0.00111	0.000222	N/A
Nitrogen Oxide	0.259	0.0518	N/A	N/A	0.259	0.0518	N/A
Carbon Monoxide	0.06475	0.01295	N/A	N/A	0.06475	0.01295	N/A
Total Hydrocarbons	0.00555	0.00111	N/A	N/A	0.00555	0.00111	N/A

[1] See Section V, Item 2.

[2] Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3] Calculated from operating rate and applicable standard.

[4] Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4) NOT APPLICABLE

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	200 cf	1,650 cf	1.65

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: N/A Percent Ash: N/A

Density: N/A lbs/gal Typical Percent Nitrogen: N/A

Heat Capacity: 1,000 BTU/lb N/A BTU/gal

Other Fuel Contaminants (which may cause air pollution): N/A

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

N/A

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: 27.5 ft. Stack Diameter: 0.67 ft.

Gas Flow Rate: 174 ACFM 140 DSCFM Gas Exit Temperature: 190 °F.

Water Vapor Content: 1.0 % Velocity: 8.3 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste ______

Total Weight Incinerated (lbs/hr) ______ Design Capacity (lbs/hr) ______

Approximate Number of Hours of Operation per day ______ day/wk ______ wks/yr. ______

Manufacturer ______

Date Constructed ______ Model No. ______

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: ______ ft. Stack Diamter: ______ Stack Temp. ______

Gas Flow Rate: ______ ACFM ______ DSCFM* Velocity: ______ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) ______

Brief description of operating characteristics of control devices: ____________

NOT APPLICABLE

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOT APPLICABLE

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

SEE SUPPLEMENTAL INFORMATION: SECTION V

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Glue	1,1,1-Trichloroethane	81	3.1	See Figure 5-2

B. Process Rate, if applicable: (See Section V, Item 1)

1. Total Process Input Rate (lbs/hr): 36,199
2. Product Weight (lbs/hr): 36,199

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

SEE ITEMS 2, 3, AND 5, SUPPLEMENTAL INFORMATION: SECTION V

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
1,1,1-Trichloroethane	2.15	9.43	N/A	N/A	2.15	9.43	See Fig 5-2
Methylene Chloride	2.89	12.67	N/A	N/A	2.89	12.67	See Fig 5-2
141-B	0.72	3.17	N/A	N/A	0.72	3.17	See Fig 5-2

[1]See Section V, Item 2.

[2]Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard.

[4]Emission, if source operated without control (See Section V, Item 3).

D. Control Devices: (See Section V, Item 4) NOT APPLICABLE

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels NOT APPLICABLE

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: ____________________ Percent Ash: ____________________

Density: ____________________ lbs/gal Typical Percent Nitrogen: ____________________

Heat Capacity: ____________________ BTU/lb ____________________ BTU/gal

Other Fuel Contaminants (which may cause air pollution): ____________________

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average N/A Maximum N/A

G. Indicate liquid or solid wastes generated and method of disposal.

Liquid and/or solid waste generated by the plant are properly characterized as either hazardous or nonhazardous waste prior to disposal. Hazardous waste is disposed of in accordance with the RCRA regulations, for example, waste toluene diisocyanate is incinerated. Nonhazardous waste is disposed of in accordance with applicable federal, state and local requirements.

VI. FOAM FABRICATION OPERATIONS

17 ROOFTOP VENTS [EMISSION POINTS 7) - 24)]

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack):

Stack Height: Vents 7) - 23): 43 / Vent 24): 52 ft. Stack Diameter: 43.7 ft.

Gas Flow Rate: 50,000 @ ACFM -- DSCFM Gas Exit Temperature: 80°F (Ambient) °F.

Water Vapor Content: Ambient % Velocity: 80 FPS

SECTION IV: INCINERATOR INFORMATION

NOT APPLICABLE

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Pathological)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Incinerated							
Uncontrolled (lbs/hr)							

Description of Waste ________

Total Weight Incinerated (lbs/hr) ________ Design Capacity (lbs/hr) ________

Approximate Number of Hours of Operation per day ____ day/wk ____ wks/yr. ____

Manufacturer ________

Date Constructed ________ Model No. ________

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: ____ ft. Stack Diamter: ________ Stack Temp. ________

Gas Flow Rate: ________ ACFM ________ DSCFM* Velocity: ________ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) ________

VI. FOAM FABRICATION OPERATIONS

Brief description of operating characteristics of control devices: ____________

NOT APPLICABLE

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

NOT APPLICABLE

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

SEE SUPPLEMENTAL INFORMATION: SECTION V

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

SEE SUPPLEMENTAL INFORMATION: SECTION VI

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[ ] Yes [X] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

[ ] Yes [X] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration
Methylene Chloride	253.4 ton/yr
(See Footnote (1) on Page 3 of 12)	

D. Describe the existing control and treatment technology (if any). N/A

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:

*Explain method of determining

5. Useful Life: 6. Operating Costs:

7. Energy: 8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration
Methylene Chloride	316.75 ton/yr

10. Stack Parameters

a. Height: ft. b. Diameter: ft.

c. Flow Rate: ACFM d. Temperature: °F.

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary). SEE SUPPLEMENTAL INFORMATION: SECTION VI

1.

a. Control Device: b. Operating Principles:

c. Efficiency:[1] d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy [2] h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device: b. Operating Principles:

c. Efficiency:[1] d. Capital Cost:

e. Useful Life: f. Operating Cost:

g. Energy:[2] h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

[1]Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION

SEE SUPPLEMENTAL INFORMATION: SECTION VII

A. Company Monitored Data

1. ____________no. sites ____________ TSP ____________( ) SO2* ____________ Wind spd/di:

Period of Monitoring ______/______/______ to ______/______/______
month day year month day year

Other data recorded ____

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [ ] Yes [ ] No

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from ____/____/____ to ____/____/____
month day year month day year

2. Surface data obtained from (location)________________________________

3. Upper air (mixing height) data obtained from (location)________________

4. Stability wind rose (STAR) data obtained from (location)________________

C. Computer Models Used

1. ________________________________ Modified? If yes, attach description.

2. ________________________________ Modified? If yes, attach description.

3. ________________________________ Modified? If yes, attach description.

4. ________________________________ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	________________ grams/sec
SO^2	________________ grams/sec

E. Emission Data Used in Modeling

Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

2.0 SUPPLEMENTAL INFORMATION: SECTION II GENERAL PROJECT INFORMATION

Item A. Project Description

Introduction

The subject of this application is a flexible polyurethane foam manufacturing facility operated by Foamex, L.P. in Orlando, Florida. This facility was constructed in 1975-76 and has not previously been permitted by the Florida Department of Environmental Regulation (FDER). This application is submitted to fulfill two basic requirements which are detailed as follows.

On May 29, 1992, an application for a Construction Permit was submitted to FDER. This application documented the facility as an existing source and did not include any proposed modifications. FDER conducted a preliminary review of this submittal and issued a letter dated June 26, 1992 requesting additional information and requiring a BACT analysis to be conducted for proposed air pollution control systems. Subsequent to this activity, a Consent Order was executed on October 1, 1992 between Foamex, L.P. and the Orange County Environmental Protection Department (OCEPD). This order required submittal of an air permit application to FDER to complete settlement of the agreement. Thus, the current application is submitted to fulfill the requirements of both the comments issued by FDER on June 26, 1992, and the Consent Order issued by OCEPD on October 1, 1992. This application is submitted without prejudice to the applicant's belief that the PSD requirements do not apply to this source and, therefore, a BACT analysis is not required of this applicant.

As part of this application for a Construction Permit, Foamex proposes to install an enhanced exhaust system for the Slabstock process to optimize both capture of emissions inside the facility and dispersion of emissions to the atmosphere. In addition, Foamex proposes to reduce methylene chloride emissions through the use of alternative chemicals. This combination of measures, as evaluated in Section 7.0 of this application, is proposed as Best Available Control Technology for the current manufacturing process. The specific course of action proposed for implementation of these measures is described as follows.

(1) The current process system will be modified to significantly increase capture efficiency of methylene chloride emissions in the Slabstock process and the Long Bun Storage Room.

(2) Captured methylene chloride emissions will be dispersed with greater efficiency by increasing the Foam Line Stack and Long Bun Storage Room Stack heights to GEP levels.

(3) Methylene chloride emissions will be reduced approximately 20% through the use of 1,1,1-trichloroethane or 141-B as a substitute blowing agent.

(4) During the next eighteen (18) month period Foamex shall pursue the development of alternate processes which will eliminate and/or significantly reduce the use of blowing agents.

(5) After eighteen (18) months a decision will be made concerning the applicability and availability of alternate processes. If alternate processes do not appear to be applicable and/or available Foamex will proceed with the design and implementation of an add-on control system.

Process Description

The Foamex facility uses two basic processes to manufacture foam product: I) Slabstock Polyurethane Foam Production, and II) Rebond Polyurethane Foam Production. These processes are used to manufacture foam product of various density, color and thickness. While the basic processes remain the same, the proportions of raw materials are modified slightly for each batch to achieve the desired product specifications. In addition to these processes, support operations including tank storage of process chemicals, steam boiler operation, environmental heating, and foam fabrication operations also exist at the facility.

I. Slabstock Polyurethane Foam Production

In the Slabstock process, a high pressure mixing head and metering pumps are used to mix the specific raw materials required for each product. These raw materials include toluene diisocyanate (TDI), polyol, water, catalysts, surfactants, additives (such as pigments or flame retardants), and methylene chloride, an auxiliary blowing agent. The mixed raw materials are discharged into a trough where the mixture begins to react and flows down the tunnel area. At this point, heat generated by the exothermic reaction volatilizes the methylene chloride thus allowing the foam to reach a predetermined density. The methylene chloride serves to reduce the foam density, or soften it, and to provide cooling of the mixture as it discharges energy during the exothermic reaction. The foam slab, referred to as a bun, travels down the tunnel conveyor continuing to cure (and thus to release methylene chloride) until it reaches the Long Bun Storage Room. In this location the bun is removed from the conveyor and placed in the room for temporary storage and completion of the cure period.

Currently, the Slabstock process is equipped with an exhaust system and housing which covers part of the mixing head, trough and conveyor line to vent the emissions which occur during the initial stages of the process. This system maintains a negative pressure along the covered portion of the process and vents the methylene chloride vapors to the atmosphere through an existing stack. Emissions of methylene chloride which occur toward the end of the conveyor and inside the Long Bun Storage Room are currently vented to the interior of the facility, and are discharged to the atmosphere through general ventilation fans located in the ceiling.

This application proposes a modified exhaust system for the Slabstock process, including a complete enclosure of the trough and conveyor line and a system to maintain a negative pressure in the Long Bun Storage Room. In specific, the process line would be ventilated by two fans supplying 9,000 acfm each into the conveyor housing. One exhaust fan would continuously pull 20,000 acfm from the housing, thus maintaining a negative pressure. The exhaust would be discharged to the atmosphere through a proposed GEP stack. The Long Bun Storage Room would be ventilated by ten fans supplying approximately 3,000 acfm each for a total of 30,000 acfm. Two exhaust fans would each continuously pull 20,000 acfm from the room and discharge to the atmosphere through a proposed GEP stack. Details regarding the proposed exhaust systems are provided in Section 5.0 of this application.

II. Rebond Polyurethane Foam Production

In the Rebond process, scrap polyurethane foam, either purchased or recovered from the slabstock manufacturing process, is granulated into small pieces approximately 3/4 to one inch in size. This granulated foam is stored by grade, density, and/or by composition in large storage bins. The scrap pieces of polyurethane are combined into a blend tank where they are mixed with an adhesive binder. The binder is a mixture of toluene diisocyanate (TDI) and polyol. The mixture is then transferred from the blend tank to the mold where it is compressed under an air cylinder to a designated size. The product is steamed from the bottom of the mold, which cures the foam . This cylinder of foam is referred to as a log. The foam log is then peeled into a continuous length sheet of 1/4 to 3/4 inch thickness. The sheet product is finally bonded to a polyethylene film for packaging into small rolls as per customer order.

No modifications to this process are proposed in this application.

III. Tank Storage

The Foamex facility includes eleven above ground storage tanks for receiving and holding of various raw materials used in the foam production processes. The following provides a summary of the tanks, dimensions and products stored. Only one tank, #10, is used for storage of methylene chloride.

Tank Number	Product	Height (feet)	Diameter (feet)	Vent Diameter (inches)
1	Polyol	35	12	2
2	Polyol	35	12	2
3	TDI	35	12	2
4	Polyol	35	12	3
5	Polyol	35	12	3
6	TDI	35	12	1.75
7	Empty	16	10.5	2
8	Polymer	16	10.5	2
9	Empty	35	12	2
10	Methylene Chloride	37 (long)	7	1.25
11	Empty	30 (long)	7	1

IV. Steam Boiler

Foamex operates a natural gas fired industrial boiler rated at 100 HP. This boiler is used to convert an average of 1,570 gallons of water to steam each day for use in the Rebond process.

V. Environmental Heating

There are 13 indirect fired heaters existing at the Foamex facility. Of these, nine are used as needed during the winter months for heating the manufacturing and administrative areas of the facility. It is estimated that these heaters operate less than 400 hours per year. The remaining four heaters are not operational. The following provides a listing of the individual heaters and the rated capacity of each.

Heater No.	Manufacturer	Model Number	Maximum Heat Input (Btu/hr)
1	Bryant	200-341	200,000
2 *	Bryant	200-341	200,000
3	Hastings	GF200XE	200,000
4 *	Hastings	GF200XE	200,000
5	Hastings	GF200XE	200,000
6	Hastings	GF200XE	200,000
7	Hastings	GF200XE	200,000
8	Hastings	GF200XE	200,000
9	Hastings	GF200XE	200,000
11 *	Bryant	200-341	200,000
12 *	Bryant	200-341	200,000
13	Peereless	1067	250,000
		TOTAL	1,650,000 (operational heaters only)

* Not Operational

VI. Foam Fabrication Operations

During Foam Fabrication Operations, the foam buns manufactured during the Slabstock process are cut and glued according to customer specifications. Approximately 3.1 lbs/hr of glue is used during these operations.

Item E. Requested Permitted Operating Time

I. Slabstock Process

3 hrs/day; 4 days/wk; 52 wks/yr

II. Rebond Process

12 hrs/day; 6 days/wk; 52 wks/yr

III. Tank Storage

24 hrs/day; 7 days/wk; 52 wks/yr

IV. Steam Boiler

24 hrs/day; 7 days/wk; 52 wks/yr

V. Environmental Heating

400 hrs/yr

VI. Foam Fabrication Operations

12 hrs/day; 6 days/wk; 52 wks/yr

3.0 SUPPLEMENTAL INFORMATION: SECTION III AIR POLLUTION SOURCES AND CONTROL DEVICES

TABLE 3-1

EMISSIONS SUMMARY
(see Section 5.0 for detailed calculations)

		Max Hourly (lb/hr)	Max Annual (tons/yr)
I.	**Slabstock Polyurethane Foam Production**		
	a) Foam Line Stack		
	methylene chloride	955.8	152.04
	1,1,1-trichloroethane	1433.7	57.02
	141-B	955.8	38.01
	toluene diisocyanate	0.37	0.12
	b) Long Bun Storage Room Stack		
	methylene chloride	557.55	88.69
	1,1,1-trichloroethane	836.33	33.26
	141-B	557.55	22.17
II.	**Rebond Polyurethane Foam Production**		
	toluene diisocyanate	0.0046	0.009
III.	**Tank Storage**		
	methylene chloride	0.67	2.92
IV.	**Steam Boiler**		
	particulate	0.021	0.092
	sulfur dioxide	0.0025	0.011
	nitrogen oxide	0.59	2.58
	carbon monoxide	0.147	0.64
	total hydrocarbons	0.013	0.055
V.	**Environmental Heating**		
	particulate	0.00925	0.00185
	sulfur dioxide	0.00111	0.000222
	nitrogen oxide	0.259	0.0518
	carbon monoxide	0.06475	0.01295
	total hydrocarbons	0.00555	0.00111
VI.	**Foam Fabrication Operations**		
	methylene chloride	2.89	12.67
	1,1,1-trichloroethane	2.15	9.43
	141-B	0.72	3.17

4.0 SUPPLEMENTAL INFORMATION: SECTION IV INCINERATOR INFORMATION

(This section is not applicable to the subject facility)

5.0 SUPPLEMENTAL INFORMATION: SECTION V SUPPLEMENTAL REQUIREMENTS

Item 1: Process Input Rate/Product Weight

I. Slabstock Polyurethane Foam Production

The Slabstock process, as described in Section 2.0 of this application, involves the mixture of various raw materials, the exact proportions of which are determined according to the desired product specifications. This process is a batch operation; each batch is referred to as a "pour". Pours can be of various durations, ranging up to three hours each. The following mass balance data represents the process input and production rates for a typical pour.

Substance	Process Input Rate (lbs/hr)	Production Rate (lbs/hr)
Process Chemicals:		
Polyol	24,000	0
TDI	13,420	0
Amine Catalyst	79	0
Tin Catalyst	58	0
Water	1,068	0
Surfactant	180	0
Blowing Agent:		
Methylene Chloride	1,320	1,320 *
Product:		
Foam Product	0	36,199
Other Emissions:		
Carbon Dioxide	0	2,606

* 95% Emitted throughout pour and cure periods; Remaining 5% emitted after foam buns leave Long Bun Storage Room.

It is important to note that the process input rate of primary importance from a regulatory standpoint is that of methylene chloride. As part of this permit application, a 20% reduction in annual methylene chloride usage is proposed. Alternate blowing agents would be used to make up this percentage, including 1,1,1-trichloroethane and/or 141-B, (dichlorofluoroethane). Since the exact ratio of blowing agent input to foam product output may vary, it is not imperative to further characterize the foam production rate. Only the blowing agent usage itself is necessary for emissions calculations. While the values stated above represent a typical pour, the following analysis provides the basis for the maximum short term and long term blowing agent usage rates.

The maximum operating schedule of the Slabstock process is four pours per week. On a worst case basis, this schedule would consist of the following:

2 pours/week @ 2 hours each
1 pour/week @ 3 hours each
1 pour/week @ 2.5 hours each

Total: 9.5 hours/week

Based on production information for three foam product types which represent the annual range of methylene chloride usage rates, the following statistical values were developed to determine the current maximum annual usage.

Production Basis	Methylene Chloride Usage Rate (lbs/wk)
Product P120032NO - 5.25 hrs/week	6,930
Product P150035NO - 4 hrs/week	4,512
Product P110021NO - 0.25 hrs/week	739.5
TOTAL 9.5 hrs/week	12,181.5 lbs/wk

Maximum annual usage	=	(12,181.5 lbs/wk) x (52 wks/yr)
(Current)	=	633,500 lbs/yr
	=	(633,500 lbs/yr) ÷ (2000 lbs/ton)
	=	316.75 tons/yr

As stated previously, Foamex proposes to reduce methylene chloride usage by 20% on an annual basis, replacing this portion with alternate blowing agents. Thus the proposed maximum usage rates are calculated as follows:

Maximum annual usage	=	(316.75 tons/yr) x (0.80)
(Proposed)	=	253.4 tons/yr

The maximum usage rates of the alternate blowing agents can be calculated as follows:

1,1,1-trichloroethane

Current maximum methylene chloride usage	= 633,500 lbs/yr
1,1,1-trichloroethane substitution rate	= 20%
1,1,1-trichloroethane substitution ratio	= 1.5 lb/lb methylene chloride
Total annual 1,1,1-trichloroethane usage	= (633,500 lbs/yr) x (0.20) x (1.5 lb/lb)
	= 190,050 lbs/yr

141-B

Current maximum methylene chloride usage	= 633,500 lbs/yr
141-B substitution rate	= 20%
141-B substitution ratio	= 1 lb/lb methylene chloride
Total annual 141-B usage	= (633,500 lbs/yr) x (0.20) x (1 lb/lb)
	= 126,700 lbs/yr

To calculate the maximum hourly usage rate of each blowing agent it is necessary to define the "worst case" pour conditions. First, the longest pour period is three hours; the maximum quantity of methylene chloride which could be used during this period is as follows:

Production Basis	Methylene Chloride Usage Rate (lbs/hr)
Product P110021NO - 0.5 hours	2,958
Product P120032NO - 2.5 hours	1,320

The maximum hourly usage rate of methylene chloride is then calculated as follows:

(2,958 lbs/hr) x (0.5/3)	=	493 lbs/hr
(1,320 lbs/hr) x (2.5/3)	=	1100 lbs/hr
Maximum Hourly Usage (lbs/hr)	=	1593 lbs/hr

For the alternate blowing agents, the maximum hourly usage rates are calculated based on the worst case assumption of 100% substitution for a single pour. These values are calculated as follows:

1,1,1-trichloroethane

Maximum hourly methylene chloride usage	= 1593 lbs/hr
1,1,1-trichloroethane substitution ratio	= 1.5 lbs/lb methylene chloride
Maximum hourly 1,1,1-trichloroethane usage	= (1593 lbs/hr) x (1.5 lbs/lb) = 2389.5 lbs/hr

141-B

Maximum hourly methylene chloride usage	= 1593 lbs/hr
141-B substitution ratio	= 1 lb/lb methylene chloride
Maximum hourly 141-B usage	= (1593 lbs/hr) x (1 lb/lb) = 1593 lbs/hr

Current:

	Methylene Chloride	1,1,1-TCA	141-B
Maximum annual usage (lb/yr)	633,500	0	0
(ton/yr)	316.75	0	0
Maximum hourly usage (lb/hr)	1593.0	0	0

Proposed:

	Methylene Chloride	1,1,1-TCA	141-B
Maximum annual usage (lb/yr)	506,800	190,050	126,700
(ton/yr)	253.4	95.03	63.35
Maximum hourly usage (lb/hr)	1593.0	2389.5	1593.0

II. Rebond Polyurethane Foam Production

The typical material input and production rates for the Rebond process are estimated as follows:

Substance	Process Input Rate (lbs/hr)	Production Rate (lbs/hr)
Raw Materials:		
Scrap Foam	5,608	0
Polyol	459	0
TDI	164	0
Product:		
Rebond Foam Product	0	6,231

III. Tank Storage

As stated previously in Section 2.0 of this application, the Foamex facility includes eleven above ground storage tanks. The current estimated maximum annual material throughput for each tank is shown as follows.

Tank Number	Product	Height (feet)	Diameter (feet)	Throughput (lbs/yr)
1	Polyol	35	12	Note 1
2	Polyol	35	12	Note 1
3	TDI	35	12	Note 2
4	Polyol	35	12	Note 1
5	Polyol	35	12	Note 1
6	TDI	35	12	Note 2
7	Empty	16	10.5	0
8	Polymer	16	10.5	270,000
9	Empty	35	12	0
10	Methylene Chloride	37 (long)	7	633,500*
11	Empty	30 (long)	7	0

Note 1: Total Polyol Throughput = 8,800,000 lbs/yr

Note 2: Total TDI Throughput = 4,650,000 lbs/yr

* This value represents the current annual throughput. As part of this application, Foamex proposes to limit annual methylene chloride usage to 506,800 lb/yr.

IV. Steam Boiler

The industrial boiler used for steam production is rated at 100 hp and is fired by natural gas. The boiler is used to convert an average of 1,570 gallons of water to steam each day for the Rebond process. The maximum heat input for the boiler is 4.2 mmBtu/hr with an average and maximum natural gas consumption rate of 4,200 cf/hr. The maximum operating schedule for the boiler is 8760 hrs/yr.

V. *Environmental Heating*

There are 13 indirect natural gas fired heaters at the Foamex facility. Of these, nine are used as needed during the winter months for heating the manufacturing and administrative areas of the facility. It is estimated that these heaters operate less than 400 hours per year. The total maximum heat input for the heaters is 1.65 mmBtu/hr, with a maximum natural gas usage rate of 1560 cf/hr. On an average basis, the natural gas usage rate is 200 cf/hr. The following provides a listing of the individual heaters and heat input rates.

Heater No.	Manufacturer	Model Number	Maximum Heat Input (Btu/hr)
1	Bryant	200-341	200,000
2 *	Bryant	200-341	200,000
3	Hastings	GF200XE	200,000
4 *	Hastings	GF200XE	200,000
5	Hastings	GF200XE	200,000
6	Hastings	GF200XE	200,000
7	Hastings	GF200XE	200,000
8	Hastings	GF200XE	200,000
9	Hastings	GF200XE	200,000
11 *	Bryant	200-341	200,000
12 *	Bryant	200-341	200,000
13	Peereless	1067	250,000
		TOTAL	1,650,000 (operational heaters only)

* Not Operational

VI. *Foam Fabrication Operations*

During Fabrication Operations, the foam buns manufactured during the Slabstock process are cut and glued according to customer specifications. Approximately 3.1 lbs/hr of glue is used during these operations. Based on a maximum operating schedule of 12 hrs/day, 6 days/wk, and 52 wks/yr (3744 hrs/yr), the annual usage rate can be calculated as follows:

Annual glue usage rate = (3.1 lbs/hr) x (3744 hrs/yr)

= 11,606 lbs/yr
= (11,606 lbs/yr) ÷ (2000 lbs/ton)
= 5.8 tons/yr

Items 2, 3 and 5: Emissions Calculations

I. Slabstock Polyurethane Foam Production

A. Uncontrolled Emissions - Methylene Chloride

As stated in Section 3.0 of this application, methylene chloride is the only significant emissions associated with this process. Currently, it is the only blowing agent used. In this process, all of the blowing agent used is emitted to the atmosphere and does not end up in the foam product. Based on various industry and product information, Foamex estimates that approximately 60% of the blowing agent used in a batch or pour is released at a relatively constant rate along the foam process line. Approximately 35% is released as the foam buns cure over a 12 hour period. During this cure period, the buns are retained in the Long Bun Storage Room. The emission rate during this period decays exponentially until a steady state is reached with approximately 5% of the methylene chloride used retained in the foam buns until they are cut or processed for use by the customer. The total uncontrolled process emissions of methylene chloride on an annual basis can therefore be estimated directly from the current methylene chloride usage rates determined in Item 1 of this section.

Maximum annual usage	=	(12,181.5 lbs/wk) x (52 wks/yr)
	=	633,500 lbs/yr
Total maximum annual	=	(633,500 lbs/yr) ÷ (2000 lbs/ton)
emissions	=	316.75 tons/

The values shown above represent the total emissions from the Slabstock process. However, these emissions are distributed between each of the two stacks serving the process, the Foam Line Stack and the Long Bun Storage Room stack, and the rooftop vents serving the Foam Fabrication Operations area. Both short term and long term emission rates must be calculated for the Foam Line Stack and Long Bun Storage Room Stack; emissions calculations for the Foam Fabrication Operations are included under that heading later in this section. Long term or annual emissions from the Foam Line and Long Bun Storage Room can be calculated by multiplying the distribution factors for each (60% and 35% respectively) by the total maximum annual emissions specified above. Using this approach the following mass balance can be written:

Maximum Annual Usage (lb/yr)	**Maximum Emissions (lb/yr)**
633,500 *[(12,181.5 lbs/wk) x (52 wks/yr)]*	380,100 *(Foam Line)* 221,725 *(Long Bun Storage Room)* 31,675 *(Foam Fabrication rooftop vents)*
633,500 lb/yr	633,500 lb/yr

Converting from lb/yr to ton/yr, the annual emissions for the Foam Line Stack and Long Bun Storage Room Stack are as follows:

<u>Foam Line</u>

Maximum annual emissions = (380,100 lb/yr) ÷ (2000 lb/ton)
= 190.05 ton/yr

<u>Long Bun Storage Room</u>

Maximum annual emissions = (221,725 lb/yr) ÷ (2000 lb/ton)
= 110.86 ton/yr

The first step in developing an estimate of the maximum hourly emission rate for the Foam Line and Long Bun Storage Room is to define a methylene chloride mass balance for the "worst case" pour. For this purpose, the "worst case" pour is defined, as stated in Section 3.0 of this application, according to a methylene chloride usage rate of 1593 lbs/hr for a period of 3 hours. This means that a total of 4779 pounds of methylene chloride is used during the "worst case" pour. Considering that 60% of this quantity is assumed to be released during the pour period as the foam travels along the process line conveyor, this means that the foam process line emits a total of 2867.4 pounds of methylene chloride over the pour period.

As the buns are produced along the foam process line and begin entering the Long Bun Storage Room, the remaining methylene chloride which is contained in the foam material begins to be released. Considering that 35% of the methylene chloride used during the pour is released in the storage room, it can be stated that 1672.65 pounds are emitted. As stated previously, the Long Bun Storage Room emissions decay at an exponential rate over the foam cure period. Appendix 5-A provides a detailed analysis of the actual emission rate profile for the Long Bun Storage Room. However, for emission calculation purposes, a more simple approach representing a worst case scenario is used. This approach ignores the decay profile and the foam cure period and instead assumes that the total quantity of emissions is released at a steady rate during the pour period only. Because the pour period is of much shorter duration than the cure period, the resulting maximum short term emission rate is higher. Thus this approach represents a worst case scenario. The following provides a simple summary of this mass balance.

Maximum Usage (lbs)	**Maximum Emissions (lbs)**
4779 *[(1593 lbs/hr) x (3 hrs/pour)]*	2867.4 *(Foam Line)* 1672.65 *(Long Bun Storage Room)* 238.95 *(Foam Fabrication rooftop vents)*
4779 lbs	4779 lbs

Using the worst case assumption that the total emissions for both the Foam Line and Long Bun Storage Room occur during the pour period (3 hours), the maximum hourly emission rates are calculated as follows.

Foam Line

Maximum hourly emissions = (2867.4 lb) ÷ (3 hrs)
= 955.8 lb/hr

Long Bun Storage Room

Maximum hourly emissions = (1672.65 lb) ÷ (3 hrs)
= 557.55 lb/hr

As stated previously, emissions from the Foam Fabrication vents are included under the heading Foam Fabrication Operations in this section of the application.

B. Controlled Emissions - Methylene Chloride

As stated previously, methylene chloride is currently the only blowing agent used at the Foamex facility. However, as Best Available Control Technology (BACT) Foamex proposes to reduce methylene chloride usage by 20% on an annual basis and replace this portion with alternate blowing agents 1,1,1-trichloroethane and 141-B. The controlled methylene chloride annual emissions can be calculated by multiplying the uncontrolled annual emission rate by (1 - 0.20). On a short term basis, 100% methylene chloride could still be used as long as the annual limit is not violated. Thus, the maximum hourly controlled emission rate is the same as the uncontrolled rate. No modification is proposed for the Long Bun Storage Room Stack and Foam Fabrication roof vent emissions, thus the controlled emissions from these discharge points would be the same as the uncontrolled emissions. The following provides a summary of the calculated controlled emission rates for the Foam Line Stack and Long Bun Storage Room Stack. Again, emissions from the Foam Fabrication Operations roof vents are presented under that heading later in this section.

Maximum Controlled Emission Rates
(BACT control)

	Foam Line Stack	Long Bun Storage Room
Maximum hourly	955.8 lb/hr	557.55 lb/hr
8 hour average	358.43 lb/hr	209.08 lb/hr
24 hour average	119.48 lb/hr	69.69 lb/hr
Annual average	34.71 lb/hr	20.25 lb/hr
Maximum annual	152.04 tons/yr	88.69 tons/yr

The values shown above represent the maximum controlled emission rates with the proposed BACT measure of substituting alternate blowing agents to reduce the annual process emissions by 20%. The 8 hour, 24 hour and annual average emission rates specified above were calculated for dispersion modeling purposes. Calculation of these emission rates is presented as follows. Section 7.0 of this application provides an air quality impact analysis which demonstrates compliance with the FDER No Threat Levels for methylene chloride. This No Threat Level analysis should not be construed as the applicant's belief that such NTL's constitute either acceptable or achievable BACT levels for the calculated emissions. To the best of our knowledge the NTL's have not been adopted by Departmental rule or regulation and are not binding in these regards and may not accurately represent levels of emissions that present no threat to the environment.

Foam Line

8 hour average emissions	= (2867.4 lb) ÷ (8 hr) = 358.43 lb/hr
24 hour average emissions	= (2867.4 lb) ÷ (24 hr) = 119.48 lb/hr
Annual average emissions	= (152.04 ton/yr) x (2000 lb/ton) ÷ (8760 hr/yr) = 34.71 lb/hr

Long Bun Storage Room

8 hour average emissions	= (1672.65 lb) ÷ (8 hr) = 209.08 lb/hr
24 hour average emissions	= (1672.65 lb) ÷ (24 hr) = 69.69 lb/hr
Annual average emissions	= (88.69 ton/yr) x (2000 lb/ton) ÷ (8760 hr/yr) = 20.25 lb/hr

B. Uncontrolled/Controlled Emissions - 1,1,1-trichloroethane

1,1,1-trichloroethane is proposed for usage as an alternate blowing agent, substituting for up to 20% on an annual basis of the current maximum methylene chloride usage. Just as for methylene chloride, 100% of the 1,1,1-trichloroethane used in the Slabstock process is emitted. The 1,1,1-trichloroethane emissions are distributed among the Foam Line Stack, Long Bun Storage Room Stack and Foam Fabrication vents based on the same percentages as for methylene chloride (60%, 35% and 5% respectively). Thus the 1,1,1-trichloroethane emissions can be calculated directly from the usage rates established under Item 1 of this section. The annual emissions of 1,1,1-trichloroethane are calculated as follows:

Foam Line

Maximum annual emissions = (190,050 lb/yr) x (0.60) ÷ (2000 lb/ton)
= 57.02 ton/yr

Long Bun Storage Room

Maximum annual emissions = (190,050 lb/yr) x (0.35) ÷ (2000 lb/ton)
= 33.26 ton/yr

As stated previously, it is assumed for a worst case approach that 100% 1,1,1-trichloroethane may be used as the blowing agent for a single pour. As specified under Item 1 of this section, 1,1,1-trichloroethane is substituted for methylene chloride on a 1.5:1 mass basis. Using this substitution ratio along with the previously established mass balance for current short term methylene chloride usage, the following mass balance can be established to define short term 1,1,1-trichloroethane emissions for the worst case pour:

Maximum Usage (lbs)	**Maximum Emissions (lbs)**
7168.5 *[(2389.5 lbs/hr) x (3 hrs/pour)]*	4301.1 *(Foam Line)* 2508.98 *(Long Bun Storage Room)* 358.42 *(Foam Fabrication rooftop vents)*
7168.5 lbs	7168.5 lbs

Using the worst case assumption that the total emissions for both the Foam Line and Long Bun Storage Room occur during the pour period (3 hours) only, the maximum hourly emission rates are calculated as follows.

Foam Line

Maximum hourly emissions = (4301.1 lb) ÷ (3 hrs)
= 1433.7 lb/hr

Long Bun Storage Room

Maximum hourly emissions = (2508.98 lb) ÷ (3 hrs)
= 836.33 lb/hr

Emissions from the Foam Fabrication vents are included under this Foam Fabrication Operations in this section of the application.

C. Uncontrolled/Controlled Emissions - 141-B

141-B is proposed for usage as a second alternate blowing agent, substituting for up to 20% on an annual basis of the current maximum methylene chloride usage. As for methylene chloride, 100% of the 141-B used in the Slabstock process is emitted. The 141-B emissions are distributed among the Foam Line Stack, Long Bun Storage Room Stack and Foam Fabrication vents based on the same percentages as for methylene chloride (60%, 35% and 5% respectively). Thus the 141-B emissions can be calculated directly from the usage rates established under Item 1 of this section. The annual emissions of 141-B are calculated as follows:

Foam Line

Maximum annual emissions = (126,700 lb/yr) x (0.60) ÷ (2000 lb/ton)
= 38.01 ton/yr

Long Bun Storage Room

Maximum annual emissions = (126,700 lb/yr) x (0.35) ÷ (2000 lb/ton)
= 22.17 ton/yr

As stated previously, it is assumed for a worst case approach that 100% 141-B may be used as the blowing agent for a given pour. As specified under Item 1 of this section, 141-B is substituted for methylene chloride on a 1:1 mass basis. Using this substitution ratio along with the previously established mass balance for current short term methylene chloride usage, the following mass balance can be established to define short term 141-B emissions for the worst case pour:

Maximum Usage (lbs)	**Maximum Emissions (lbs)**
4779 *[(1593 lbs/hr) x (3 hrs/pour)]*	2867.4 *(Foam Line)* 1672.65 *(Long Bun Storage Room)* 238.95 *(Foam Fabrication rooftop vents)*
4779 lbs	4779 lbs

Using the worst case assumption that total emissions for both the Foam Line and Long Bun Storage Room occur during the pour period (3 hours), the maximum hourly emission rates are calculated as follows.

Foam Line

Maximum hourly emissions	= (2867.4 lb) ÷ (3 hrs) = 955.8 lb/hr

Long Bun Storage Room

Maximum hourly emissions	= (1672.65 lb) ÷ (3 hrs) = 557.55 lb/hr

Emissions from the Foam Fabrication vents are included under this Foam Fabrication Operations in this section of the application.

D. Uncontrolled/Controlled Emissions - TDI

As stated previously, the Slabstock process involves the mixture of various process chemicals along with an auxiliary blowing agent to produce polyurethane foam. The calculations presented above provide an estimate of the emissions of the auxiliary blowing agent, methylene chloride. All of the methylene chloride used is volatilized and thus emitted from the process. The remaining process chemicals listed in the mass balance, shown at the beginning of this section, combine to form the foam product. In 1991, Foamex conducted a stack test for emissions of methylene chloride and toluene diisocyanate (TDI). The test results, included in Appendix 5-B, revealed that a small quantity of TDI is emitted from the process. The following provides a summary of the results.

Emission Rate (lbs/hr)

	TDI Isomer		
	2,4-TDI	2,6-TDI	Total
Run 1	0.10	0.27	0.37
Run 2	0.04	0.10	0.14
Run 3	0.07	0.15	0.22
Average	0.07	0.17	0.24

Based on the highest results for a single run, the maximum TDI emissions are 0.37 lbs/hr. The maximum operating schedule of the Slabstock process is specified in Section 2.0 of this application as 3 hrs/day, 4 days/wk, 52 wks/yr. Thus the maximum annual hours during which TDI emissions occur are based on 3 hrs/day, 4 days/wk, 52 wks/yr, or 624 hrs/yr. The annual emissions of TDI can therefore be calculated as follows:

Maximum hourly emission rate	=	0.37 lbs/hr
Maximum annual emissions	=	(0.37 lbs/hr) x (624 hrs/yr) ÷ (2000 lbs/ton)
	=	0.12 tons/yr

II. Rebond Polyurethane Foam Manufacturing

A. Uncontrolled/Controlled Emissions - TDI

The TDI emissions estimated above for the Slabstock process are due to due evaporation of the chemical during its use. Although no testing has been conducted, it is assumed that similar emissions are generated from the Rebond process. To estimate the quantity of TDI emissions from the Rebond process, an emission factor was developed based on the maximum hourly emission rate and the typical TDI usage rate specified in Item 1 of this section for the Slabstock process. This emission factor can therefore be applied to the TDI usage rate for the Rebond process to obtain the emission rate. This is calculated as follows:

TDI emission factor	=	(0.37 lbs/hr emissions) ÷ (13,420 lbs/hr usage)
	=	0.000028 lbs/lb
Maximum hourly emission rate	=	(0.000028 lbs/lb) x (164 lbs/hr)
(Rebond process)	=	0.0046 lbs/hr

Using the maximum operating schedule for the Rebond process of 12 hrs/day, 6 days/wk, 52 wks/yr (3744 hrs/yr), the maximum annual emissions are calculated as follows:

Maximum annual emissions	=	(0.0046 lbs/hr) x (3744 hrs/yr)
	=	17.2 lbs/yr
	=	0.009 tons/yr

III. Tank Storage

A. Uncontrolled/Controlled Emissions - methylene chloride

Appendix 5-C provides detailed reports of emissions calculations for Tank #10, the methylene chloride storage tank. These reports were generated using EPA's TANKS Storage Tank Emissions Calculation Software, version 1.0, which is based on the calculation procedures specified in AP-42 section 12. The first report represents the current estimated methylene chloride throughput for the facility of 633,500 lb/yr, the second report represents the proposed throughput of 506,800 lb/yr. The calculations represented in Appendix 5-C were conducted based on the existing tank design, which includes a breather vent with no pressure setting. Thus breathing losses, also referred to as standing losses, are not limited in any way. The following provides a summary of the results of the calculations. However Foamex proposes to install a pressure relief vent for this tank such that standing losses would be minimized.

Current:

Total standing losses	=	4992.73 lbs/yr
Total working losses	=	1012.99 lbs/yr
Maximum annual emissions	=	(4992.73 lbs/yr) + (1012.99 lbs/yr)
	=	6005.72 lbs/yr
	=	(6005.72 lbs/yr) ÷ (2000 lbs/ton)
	=	3.0 tons/yr
Annual average emission rate	=	(6005.72 lbs/yr) ÷ (8760 hrs/yr)
	=	0.69 lbs/hr

Proposed:

Total standing losses	=	4992.73 lbs/yr
Total working losses	=	894.16 lbs/yr
Maximum annual emissions	=	(4992.73 lbs/yr) + (894.16 lbs/yr)
	=	5836.89 lbs/yr
	=	(5836.89 lbs/yr) ÷ (2000 lbs/ton)
	=	2.92 tons/yr
Annual average emission rate	=	(5836.89 lbs/yr) ÷ (8760 hrs/yr)
	=	0.67 lbs/hr

IV. Steam Boiler

A. Uncontrolled/Controlled Emissions

Emissions from the Steam Boiler are generated through natural gas combustion. Appendix 5-D provides calculations of the fuel combustion emissions based on the procedures specified in AP-42 section 1.4. A copy of this AP-42 section is also included in Appendix 5-D. The following provides a summary of the results of these calculations.

Compound	Maximum Hourly Emission Rate (lbs/hr)	Maximum Annual Emissions (tons/yr)
Particulate	0.021	0.092
Sulfur dioxide	0.0025	0.011
Nitrogen oxide	0.59	2.58
Carbon monoxide	0.147	0.64
Total hydrocarbons	0.013	0.055

V. Environmental Heating
A. Uncontrolled/Controlled Emissions

Emissions from Environmental Heating are generated through natural gas combustion. Appendix 5-E provides calculations of the fuel combustion emissions based on the procedures specified in AP-42 section 1.4. A copy of this AP-42 section is also included in Appendix 5-D. The following provides a summary of the results of these calculations.

Compound	Maximum Hourly Emission Rate (lbs/hr)	Maximum Annual Emissions (tons/yr)
Particulate	0.00925	0.00185
Sulfur dioxide	0.00111	0.000222
Nitrogen oxide	0.259	0.0518
Carbon monoxide	0.06475	0.01295
Total hydrocarbons	0.00555	0.00111

VI. Foam Fabrication Operations
A. Uncontrolled Emissions - methylene chloride

As stated previously after the foam bun cure period ends, 5% of the total methylene chloride used is still retained in the foam buns. This quantity is not released until the buns leave the Long Bun Storage Room and are cut or processed during Foam Fabrication operations. This remaining 5% is emitted from the foam into the facility room environment and discharged to the atmosphere through the 17 existing Rooftop Vents. Further, since an inventory of foam product is always present at the facility, these fugitive emissions are released at a constant rate throughout the year. The current maximum annual emissions and maximum hourly emission rates for the rooftop vents are calculated as follows.

Maximum annual emissions = (633,500 lbs/yr) x (0.05)
= 31675 lbs/yr
= 15.8 tons/yr

Maximum hourly emissions = (31675 lbs/yr) ÷ (8760 hr/yr)
= 3.62 lb/hr

B. Controlled Emissions - Methylene Chloride

As stated previously, methylene chloride is currently the only blowing agent used at the Foamex facility. However, as Best Available Control Technology (BACT) Foamex proposes to reduce methylene chloride usage by 20% on an annual basis and replace this portion with alternate blowing agents 1,1,1-trichloroethane and 141-B. The controlled methylene chloride emissions can be calculated by multiplying the uncontrolled emission rate by (1 - 0.20). The following provides a summary of the calculated controlled emission rates for the Foam Fabrication Operations.

Maximum annual emissions	= (506,800 lb/yr) x (0.05)
	= 25,340 lb/yr
	= 12.67 ton/yr
Maximum hourly emissions	= (25,340 lb/yr) ÷ (8760 hr/yr)
	= 2.89 lb/hr

C. Uncontrolled/Controlled Emissions - 1,1,1-trichloroethane

Glue Operations

In Item 1 of this section, the annual and hourly usage rates of glue used in these operations were calculated. Although various glue products are used in the process, Aldobond 120 was selected for purposes of calculating emissions as the product used which contains the highest concentration of 1,1,1-trichloroethane. Based on the Material Safety Data Sheet (MSDS) for this substance, the 1,1,1-trichloroethane concentration is 81%. Using the glue usage rate of 3.1 lbs/hr, the 1,1,1-trichloroethane emissions are therefore calculated as follows.

Maximum hourly emission rate	=	(3.1 lbs/hr) x (0.81)
	=	2.5 lbs/hr

Using the maximum operating schedule for these operations of 12 hrs/day, 6 days/wk, 52 wks/yr, (3744 hrs/yr), the annual emissions are calculated as follows.

Maximum annual emissions	=	(2.5 lbs/hr) x (3744 hrs/yr)
	=	9360 lbs/yr
	=	(9360 lbs/yr) ÷ (2000 lbs/ton)
	=	4.68 tons/yr

Blowing Agent Emissions

In addition to the emissions from gluing operations, 1,1,1-trichloroethane is also emitted in this area as the remaining 5% of the blowing agent is released from the foam buns during cutting and processing.

1,1,1-trichloroethane is proposed for usage as an alternate blowing agent, substituting for up to 20% on an annual basis of the current maximum methylene chloride usage. As for methylene chloride, 100% of the 1,1,1-trichloroethane used in the Slabstock process is emitted. The 1,1,1-trichloroethane emissions are distributed among the Foam Line Stack, Long Bun Storage Room Stack and Foam Fabrication vents based on the same percentages as for methylene chloride (60%, 35% and 5% respectively). Thus the 1,1,1-trichloroethane emissions can be calculated directly from the usage rates established under Item 1 of this section. The annual and hourly emissions of 1,1,1-trichloroethane are calculated as follows:

Maximum annual emissions = (190,050 lb/yr) x (0.05) ÷ (2000 lb/ton)
= 4.75 ton/yr

Maximum hourly emissions = (190,050 lb/yr) x (0.05) ÷ (8760 hrs)
= 1.08 lb/hr

C. Uncontrolled/Controlled Emissions - 141-B

141-B is proposed for usage as a second alternate blowing agent, substituting for up to 20% on an annual basis of the current maximum methylene chloride usage. As for methylene chloride, 100% of the 141-B used in the Slabstock process is emitted. The 141-B emissions are distributed among the Foam Line Stack, Long Bun Storage Room Stack and Foam Fabrication vents based on the same percentages as for methylene chloride (60%, 35% and 5% respectively). Thus the 141-B emissions can be calculated directly from the usage rates established under Item 1 of this section. The annual and hourly emissions of 141-B are calculated as follows:

Maximum annual emissions = (126,700 lb/yr) x (0.05) ÷ (2000 lb/ton)
= 3.17 ton/yr

Maximum hourly emissions = (126,700 lb/yr) x (0.05) ÷ (8760 hrs)
= 0.72 lb/hr

Item 4: Air Pollution Control Systems Design Details

Table 5–1

Summary of Proposed and Existing Exhuast System Stack Parameters

Proposed Stack Parameters

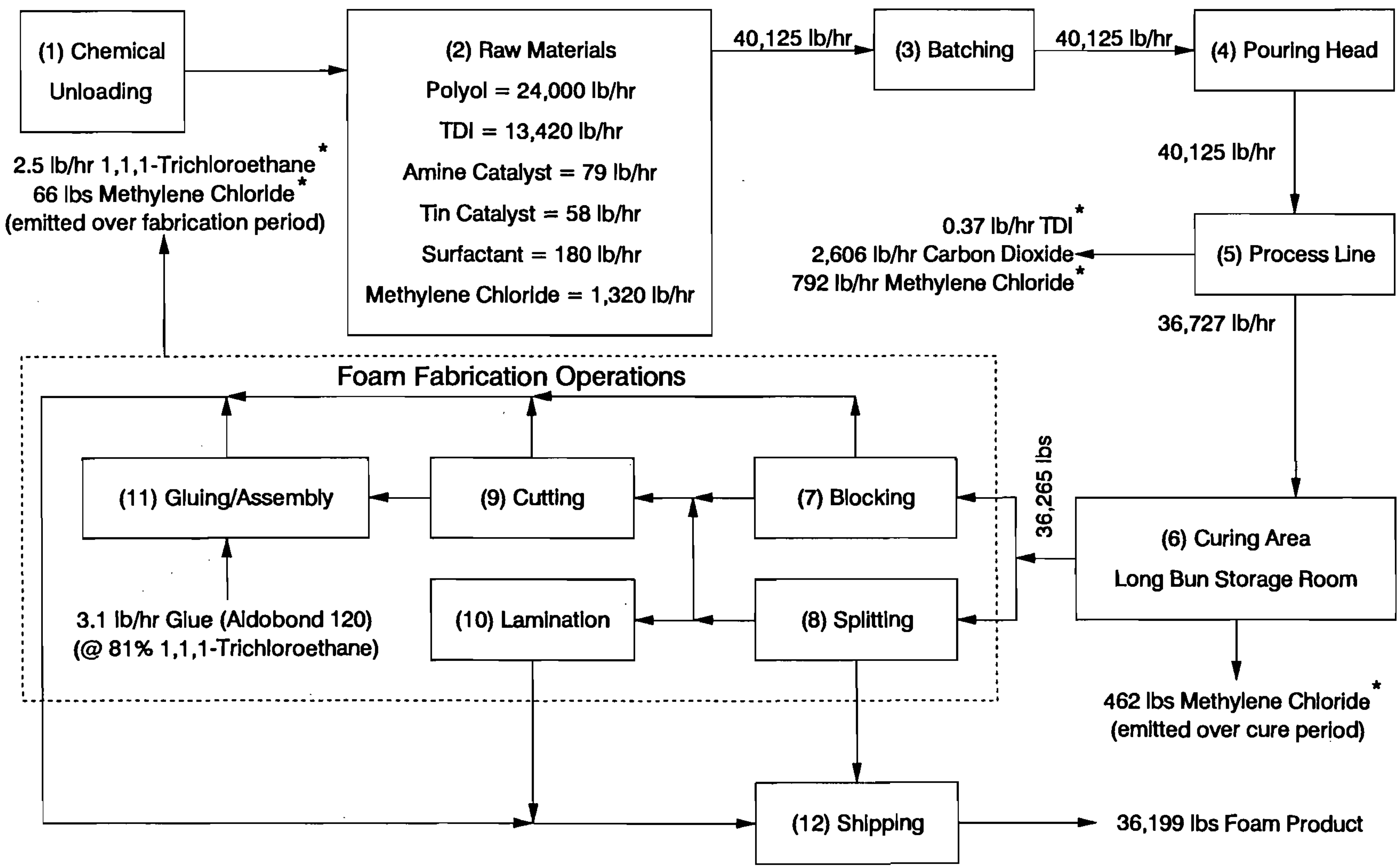
Source Number	Description	Stack Height (feet)	Stack Inside Diameter (inches)	Stack Gas Flow Rate (ACFM)	Stack Gas Exit Temp. (°F)	Stack Gas Exit Velocity (ft/sec)	Stack Location Coordinates (feet) (See Figure 7–2)		Minimum Distance to Property Boundary (feet)
							East	North	
1	Foam Line Stack	125	27.63953	20,000	80	80.000	577	393	123
2	Long Bun Storage Room Stack	125	39.0882	40,000	80	80.000	500	56	56
3	Exhaust Fan	43	43.70194	50,000	80	80.000	356	319	319
4	Exhaust Fan	43	43.70194	50,000	80	80.000	356	363	344
5	Exhaust Fan	43	43.70194	50,000	80	80.000	356	393	333
6	Exhaust Fan	43	43.70194	50,000	80	80.000	356	445	281
7	Exhaust Fan	43	43.70194	50,000	80	80.000	356	501	225
8	Exhaust Fan	43	43.70194	50,000	80	80.000	356	554	172
9	Exhaust Fan	43	43.70194	50,000	80	80.000	356	603	123
10	Exhaust Fan	43	43.70194	50,000	80	80.000	356	633	93
11	Exhaust Fan	43	43.70194	50,000	80	80.000	356	319	319
12	Exhaust Fan	43	43.70194	50,000	80	80.000	356	363	344
13	Exhaust Fan	43	43.70194	50,000	80	80.000	356	445	281
14	Exhaust Fan	43	43.70194	50,000	80	80.000	356	501	225
15	Exhaust Fan	43	43.70194	50,000	80	80.000	356	554	172
16	Exhaust Fan	43	43.70194	50,000	80	80.000	356	603	123
17	Exhaust Fan	43	43.70194	50,000	80	80.000	356	633	93
18	Exhaust Fan	43	43.70194	50,000	80	80.000	356	319	319
19	Exhaust Fan	52	43.70194	50,000	80	80.000	600	336.5	100

Existing Stack Parameters

Source Number	Description	Stack Height (feet)	Stack Inside Diameter (inches)	Stack Gas Flow Rate (ACFM)	Stack Gas Exit Temp. (°F)	Stack Gas Exit Velocity (ft/sec)	Stack Location Coordinates (feet) (See Figure 7–4)		Minimum Distance to Property Boundary (feet)
							East	North	
1	Foam Line Stack	42	43.2	28,863	80	47.260	533	518	167
2	Long Bun Storage Room Stack	Does Not Currently Exist							
3	Exhaust Fan	33	48	50,000	80	66.315	356	319	319
4	Exhaust Fan	33	48	50,000	80	66.315	356	363	344
5	Exhaust Fan	33	48	50,000	80	66.315	356	393	333
6	Exhaust Fan	33	48	50,000	80	66.315	356	445	281
7	Exhaust Fan	33	48	50,000	80	66.315	356	501	225
8	Exhaust Fan	33	48	50,000	80	66.315	356	554	172
9	Exhaust Fan	33	48	50,000	80	66.315	356	603	123
10	Exhaust Fan	33	48	50,000	80	66.315	356	633	93
11	Exhaust Fan	33	48	50,000	80	66.315	356	319	319
12	Exhaust Fan	33	48	50,000	80	66.315	356	363	344
13	Exhaust Fan	33	48	50,000	80	66.315	356	445	281
14	Exhaust Fan	33	48	50,000	80	66.315	356	501	225
15	Exhaust Fan	33	48	50,000	80	66.315	356	554	172
16	Exhaust Fan	33	48	50,000	80	66.315	356	603	123
17	Exhaust Fan	33	48	50,000	80	66.315	356	633	93
18	Exhaust Fan	33	48	50,000	80	66.315	356	319	319
19	Exhaust Fan	42	48	50,000	80	66.315	600	336.5	100
20	Exhaust Fan	52	48	50,000	80	66.315	500	79	79
21	Exhaust Fan	52	48	50,000	80	66.315	500	104	104
22	Exhaust Fan	52	48	50,000	80	66.315	500	129	129
23	Exhaust Fan	52	48	50,000	80	66.315	500	154	154
24	Exhaust Fan	52	48	50,000	80	66.315	500	179	179
25	Exhaust Fan	52	48	50,000	80	66.315	500	204	200
26	Exhaust Fan	52	48	50,000	80	66.315	500	229	200
27	Exhaust Fan	52	48	50,000	80	66.315	500	254	200

Item 6: Process Flow Diagram

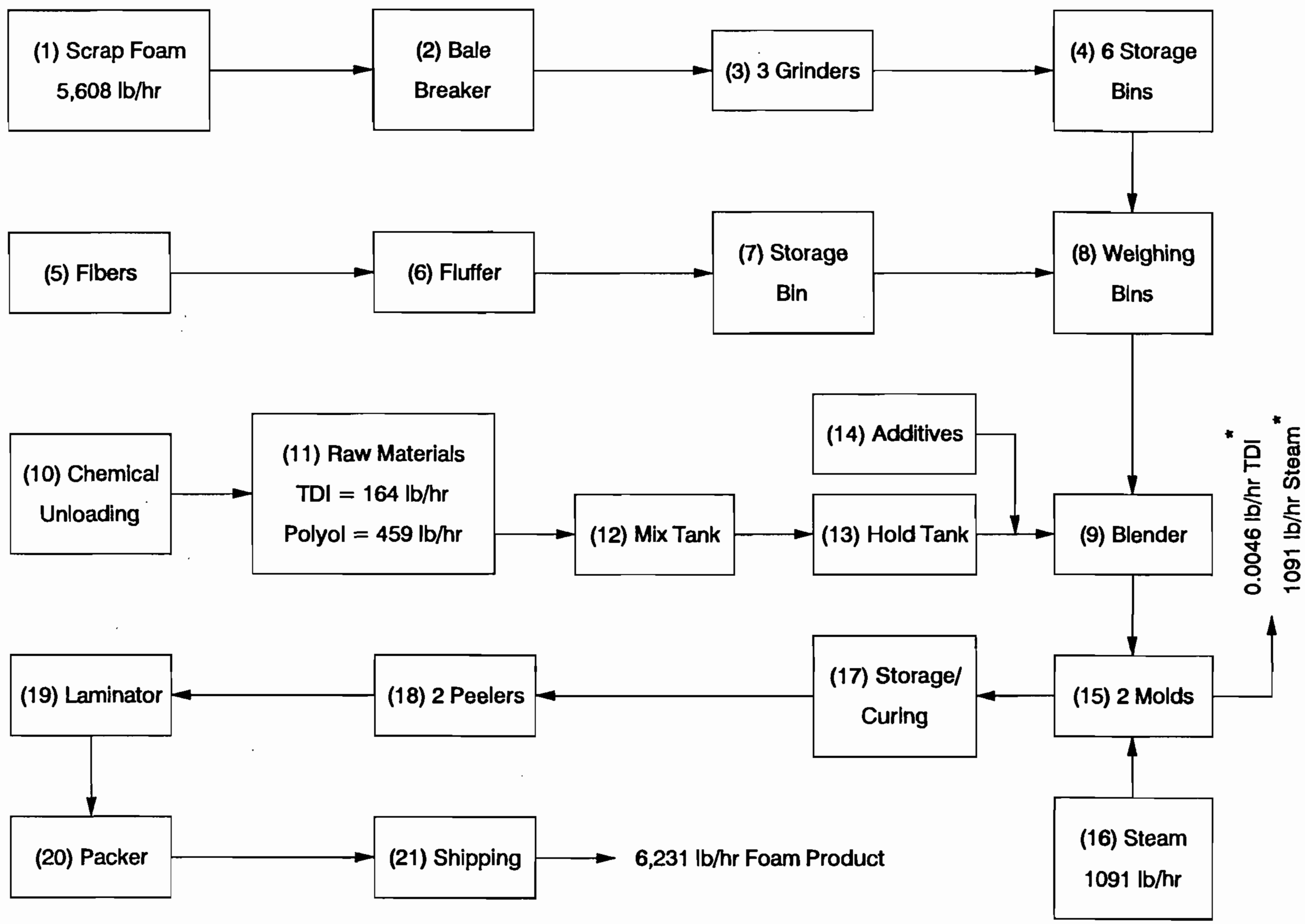
FIGURE 5-2
Typical Pour Slabstock Polyurethane Foam Production and Foam Fabrication Operations Process Flow Diagram



*See Emission Calculations

FIGURE 5-3

Rebond Polyurethane Foam Production Process Flow Diagram



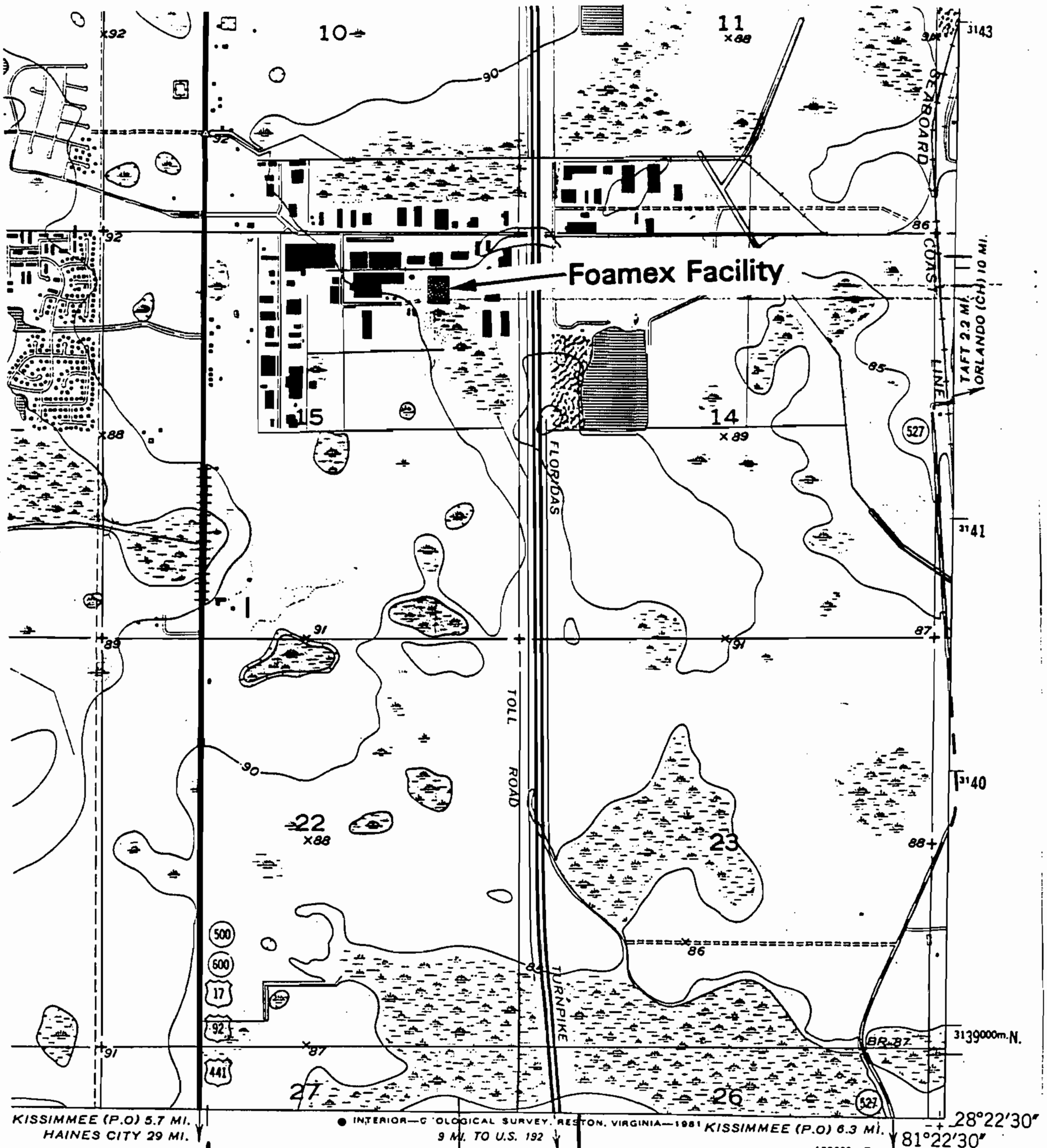
*See Emission Calculations

Item 7: Facility Plot Plan

Item 8: Facility Location

FIGURE 5-6

Foamex Facility Location



Lake Jessamine Quadrangle - Orange County, Florida

FMXLOCAT.DRW

Cross/Tessitore & Assoc., P.A.
Environmental Engineers Orlando, Florida

APPENDIX 5-A

Detailed Analysis of Slabstock Process Blowing Agent Emissions Profile

For the purpose of this analysis, the following assumptions have been made. The foam line emissions are released at a constant rate over the pour period. The storage room emissions are not released at a constant rate but can be characterized based on an exponential decay profile over the cure period of twelve hours. This decay profile specifies the rate at which the quantity of methylene chloride retained in the foam material decreases over time. Beginning twenty minutes after initiation of the pour period, the quantity of foam entering the storage room increases at a steady rate equivalent to the foam production rate from the process line. As each portion of foam enters the room, the methylene chloride remaining in the foam is released according to the decay profile until, after twelve hours, the equilibrium point is reached. Thus during the initial 3 hours and 20 minutes, two phenomena occur: 1) The total quantity of methylene chloride introduced to the storage room increases as the foam buns enter the Long Bun Storage Room, and 2) The quantity of methylene chloride contained in the foam buns decreases as it is released to the atmosphere according to the decay profile.

During the pour and cure periods, the quantity of methylene chloride contained in the foam inside the storage room at any given time can be approximated by a series of decay profile curves as shown in Figure 5-7. Using graphical methods to sum this series of profiles, Figure 5-8 was developed. Represented as C_t, this curve is shown again in Figure 5-9, along with a plot of M_t which indicates the total methylene chloride existing in the Long Bun Storage Room (including the quantity retained in the foam product and the quantity released to the room atmosphere) at any given time. By subtracting C_t from M_t, a plot of E_t is obtained, representing the quantity of methylene chloride emitted to the room atmosphere at any time over the pour and cure periods.

It should be noted that after the cure period ends, at time = 15 hours, 5% of the total methylene chloride used is still retained in the foam buns. As stated previously, this quantity is not released until the buns leave the Long Bun Storage Room and are cut or processed during Foam Fabrication Operations. Calculation of these emissions is thus included under Foam Fabrication Operations later in this section.

The analysis summarized in this Appendix was developed to approximate the actual conditions characteristic of the Slabstock process. For purposes of calculating emissions and conducting an air quality impact analysis, the more simple method included under Items 2,3 and 5 in Supplemental Information: Section V was used. This method represents a worst case approach which ignores the decay profile of the Long Bun Storage Room emissions and instead assumes that the total quantity of blowing agent from the Long Bun Storage Room is emitted during the pour period (3 hours).

FIGURE 5-7

Sample Foam Methylene Chloride Content Decay Profile

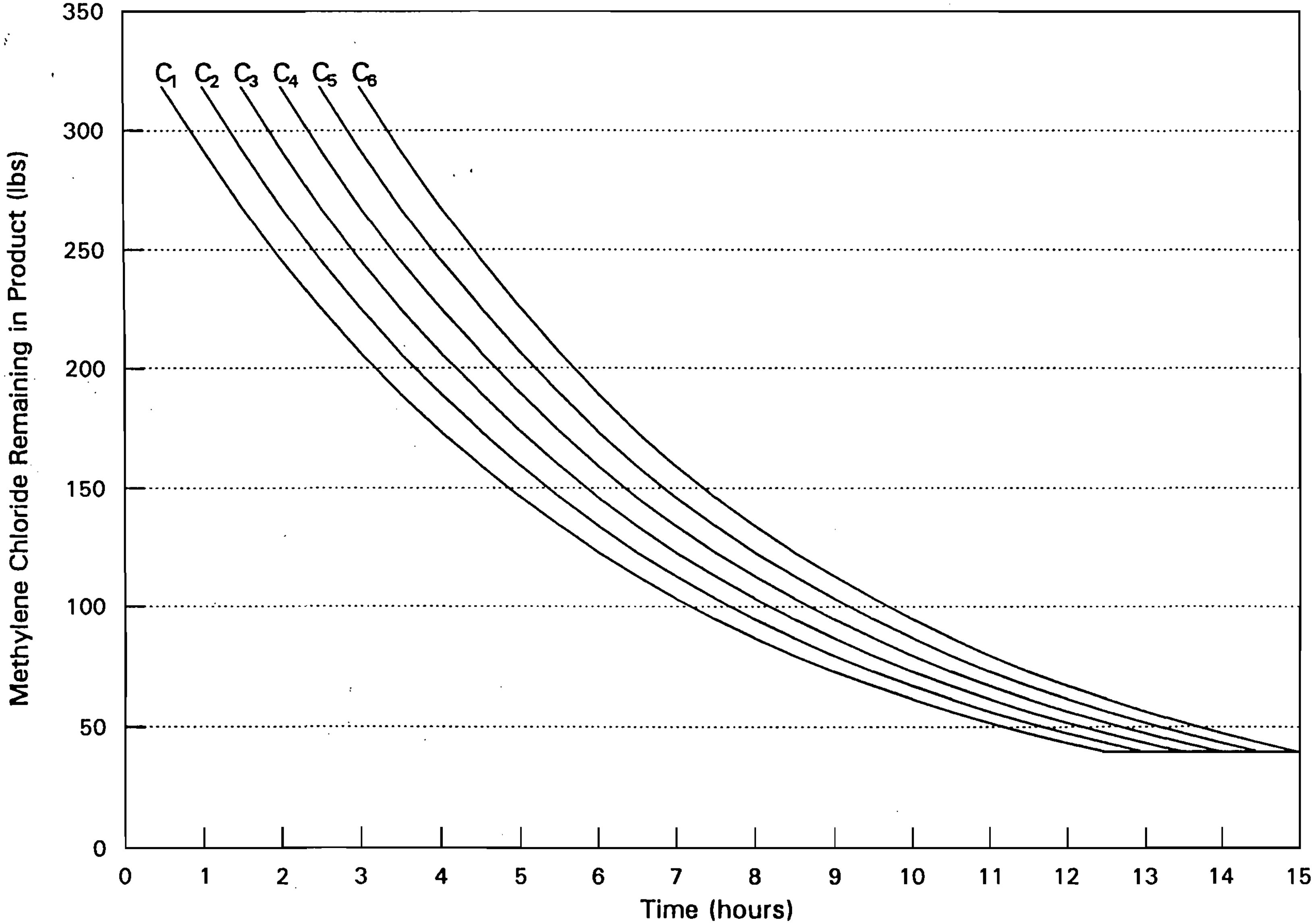


FIGURE 5-8

Sample Foam Methylene Chloride Content Decay Profile

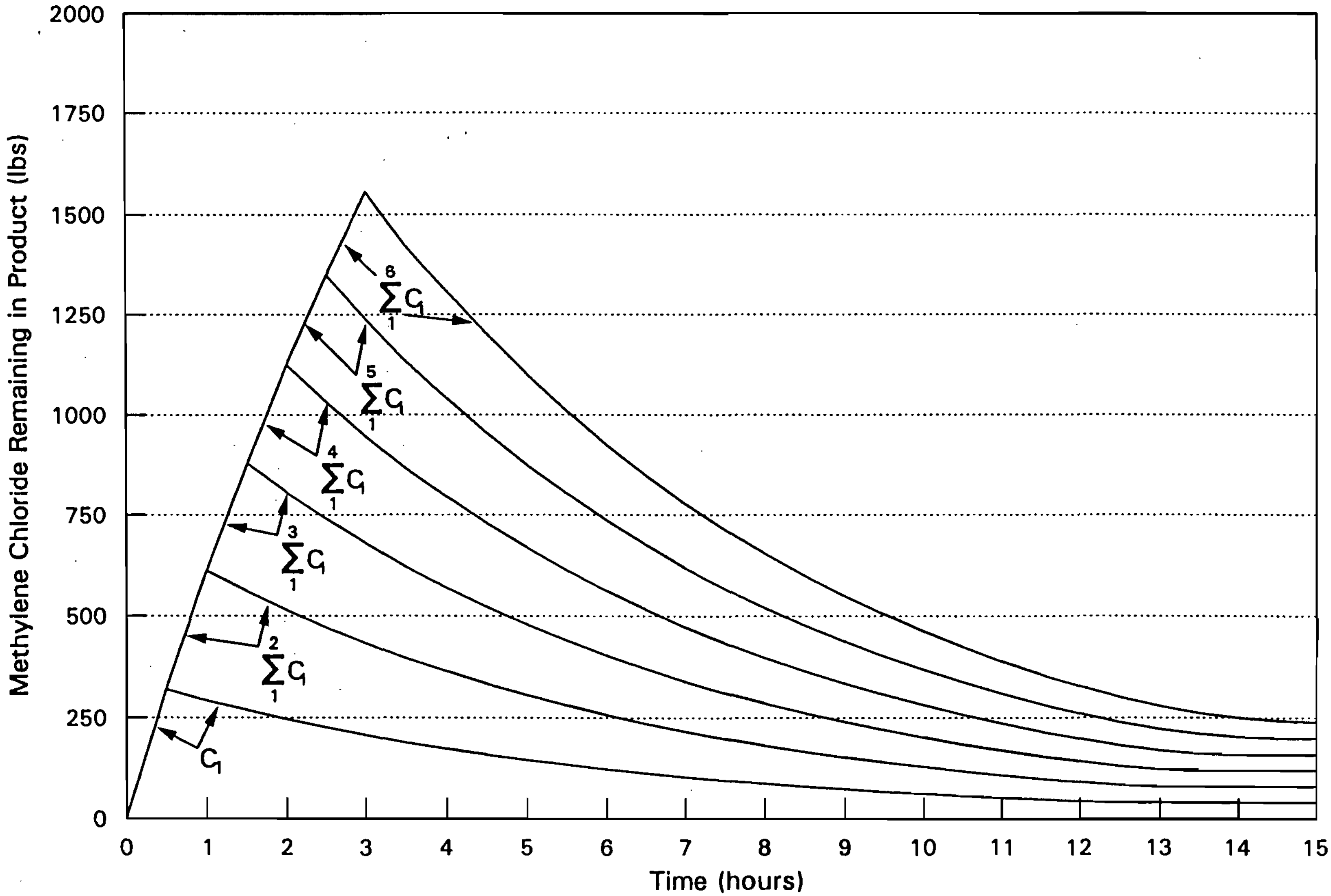
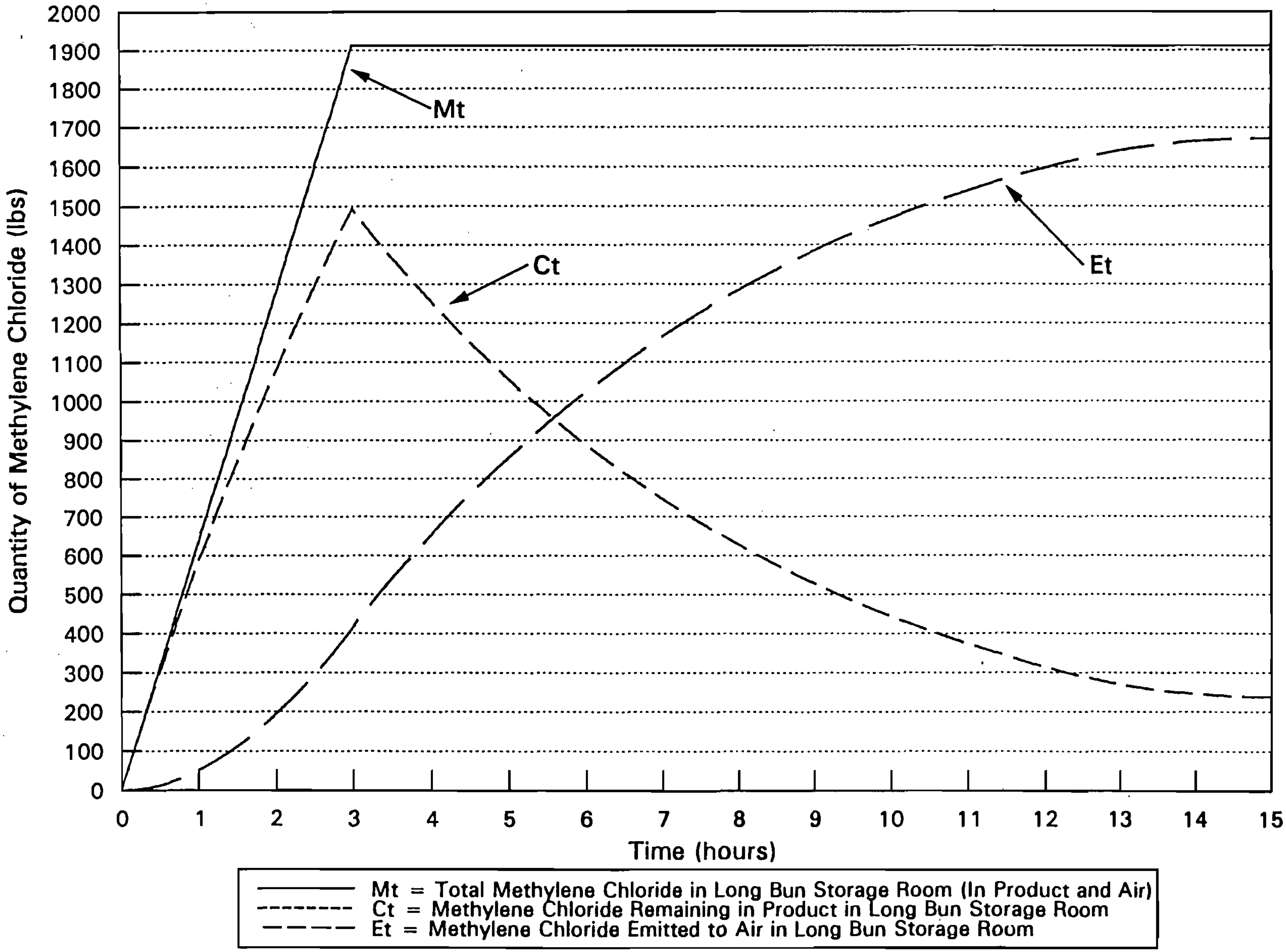


FIGURE 5-9

Long Bun Storage Room Methylene Chloride Mass Balance During 3 Hour Foam Production Pour and 12 Hour Cure Period



APPENDIX 5-B

CTA# F21.816 Foamex LP

DOW

The Dow Chemical Company

DATE

April 8, 1992

INDUSTRIAL HYGIENE REPORT

TITLE

EVALUATION OF EXHAUST STACK EMISSIONS FOR TOLUENE DIISOCYANATE (TDI) AND METHYLENE CHLORIDE DURING FLEXIBLE POLYURETHANE FOAM PRODUCTION AT FOAMEX LP, ORLANDO, FLORIDA, OCTOBER 10, 1991

AUTHOR

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DISTRIBUTION

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SUMMARY

An emission survey was conducted on October 10, 1991, at Foamex LP, Orlando, Florida, during the production of flexible polyurethane foam. Toluene diisocyanate (TDI; both 2,4- and 2,6-isomers) and methylene chloride emissions from one stack ventilating the production line were evaluated. A series of samples was collected from this stack during the manufacture of polyurethane foam over a 2.5 hour time period. Three distinct runs were monitored.

The exhaust air flow rate from one stack venting the production line (several stacks had been manifolded together to form a single emission point) was approximately 14,600 cfm. Average stack temperature was approximately 81°F and relative humidity was approximately 69%. The differences between actual and standard conditions were within the acceptable ranges established by the American Conference of Governmental Industrial Hygienists (ACGIH); therefore the volumetric flow rates were not corrected.

Run 1 was a 21-minute production period for Foam Grade 100-35. Estimated emissions were: 2,4-TDI - 0.10 lbs/hr; 2,6-TDI - 0.27 lbs/hr; methylene chloride - 278 lbs/hr.

Run 2 was a 19-minute period for Foam Grade 120-32. Estimated emissions were: 2,4-TDI - 0.04 lbs/hr; 2,6-TDI - 0.10 lbs/hr; methylene chloride - 405 lbs/hr.

Run 3 was a 110-minute period for Foam Grade 120-32 but with a different dimension than in Run 2. During this run, there were seven separate monitoring periods to minimize sampling breakthrough. Estimated emissions were: 2,4-TDI - 0.07 lbs/hr; 2,6-TDI - 0.15 lbs/hr; methylene chloride - 451 lbs/hr.

PURPOSE

An exhaust vent survey was conducted at Foamex LP, Orlando, Florida, on October 10, 1991, during the production of flexible polyurethane foam. The survey was conducted as a product stewardship service to estimate vent stack emissions of toluene diisocyanate (TDI; both 2,4- and 2,6-isomers) and methylene chloride. Measurements were taken over three distinct production periods (Runs) and segregated by grades or dimensions.

CONCLUSIONS

The following conclusions are based on conditions that existed the day of this survey, October 10, 1991. Changes in equipment, procedures, ventilation or other conditions may alter or invalidate these conclusions.

1. The exhaust air velocity was measured in the single foam line exhaust stack and the calculated volumetric flow rate was approximately 14,600 cubic feet per minute (cfm). The temperature of the exhaust air was approximately 81°F and the relative humidity was approximately 69%. The differences between actual conditions and standard conditions were within American Conference of Governmental Industrial Hygienist guidelines and therefore volumetric flow rates were not corrected to standard conditions.

2. Run 1 was a 21-minute production period for Foam Grade 100-35. Estimated emissions were: 2,4-TDI - 0.10 lbs/hr; 2,6-TDI - 0.27 lbs/hr; methylene chloride - 278 lbs/hr.

3. Run 2 was a 19-minute period for Foam Grade 120-32. Estimated emissions were: 2,4-TDI - 0.04 lbs/hr; 2,6-TDI - 0.10 lbs/hr; methylene chloride - 405 lbs/hr.

4. Run 3 was a 110-minute period for Foam Grade 120-32 but with a different dimension than in Run 2. During this run, there were seven separate monitoring periods to minimize sampling breakthrough. Estimated emissions were: 2,4-TDI - 0.07 lbs/hr; 2,6-TDI - 0.15 lbs/hr; methylene chloride - 451 lbs/hr.

EMISSION AIR FLOW MEASUREMENTS

Air velocities in the exhaust ventilation stack were measured using a standard pitot tube (Air Nerotronics Ltd. Extendable pitot-Static Tube Type 50-4) and an inclined manometer with a sensitivity of 0.01 inches of water pressure gauge. Ideally, the measurements made inside a round duct should be obtained approximately 8 duct diameter lengths downstream from a disturbance to airflow (such as a branch entry, elbow, etc.), and about 4 diameters away from the next upstream point of turbulence. In this round duct, two perpendicular 10 point traverses were made as close to ideal location along the duct as judged to be possible. This point was 11 feet above roof line which was reached with the use of a machine lift. Average face velocities measured in feet per minute (fpm) were multiplied by the appropriate cross-sectional area (ft^2) of the duct to yield the flow rate in cubic foot per minute (cfm) as described in Appendix 1.

The American Conference of Governmental Industrial Hygienists (ACGIH) Industrial Ventilation Manual (Section 5.13 in the 20th and 21st Editions or Chapter 9 in the 19th or earlier editions) recommends that air velocity measurements be corrected for temperature only if the temperature is greater than 30°F of the standard condition of 70°F. The stack exit temperature was approximately 81°F, therefore no correction was made.

The ACGIH also recommends that moisture corrections be made only when the dry bulb temperature exceeds 100°F and the specific humidity of the air was greater than 0.02 pounds of water per pound of dry air. The temperature did not exceed 100°F and the specific humidity, a function of the wet and dry bulb temperatures of air, did not exceed 0.02 pounds of water per pound of air. Therefore, corrections for moisture were not made.

SAMPLING, ANALYTICAL, AND QUALITY ASSURANCE METHODS

TDI

Average stack concentrations of TDI were evaluated using a modification of the OSHA Analytical Method No. 42. Airborne concentrations of TDI were measured by drawing air through 37-mm glass fiber filters coated with approximately 10 mg of 1-(2-pyridyl) piperazine (1-2 PP) and approximately 30 mg of diethyl phthalate (DEP). Two filters were placed in series in cassettes and connected by flexible tubing to small battery-operated air monitoring vacuum pumps, MSA Flow-Lite Portable Pump Model P/N 479680. The pumps were operated at a flow rate of approximately 1 liter per minute. Mean flow rates were determined before and after sampling either by a calibrated rotameter or by a bubble flow meter. Following the survey, the filters were returned to The Dow Chemical Company, Corporate Industrial Hygiene, Midland, Michigan, for analysis. Any TDI which reacted with the reagent to form the derivative was extracted with acetonitrile. The extract solution was then analyzed using high performance liquid chromatography (HPLC) with ultraviolet (UV) detection at 254 nm.

Methylene Chloride

Vapors of methylene chloride were collected on commercially available adsorption tubes containing 2.0 gram of activated carbon. The carbon in each tube was separated into two sections with the second section used to detect breakthrough. Air samples were collected through the adsorption tubes by connecting them with small battery powered vacuum pumps, Sipin Personal Sampler Pumps Model SP-13S and SP-103, operated at approximately 0.2 liters per minute. Each pump was calibrated before and after the survey. The sample tubes were labeled and returned to Corporate Industrial Hygiene of The Dow Chemical Company, Midland, Michigan, for analysis. The tubes were desorbed with carbon disulfide and the desorbing solution analyzed by gas chromatography using a flame ionization detector.

The results of 2,4-TDI and 2,6-TDI spiked samples had overall mean recoveries of 83% ± 0.707% and 83% ± 5.5% at a 4.88 microgram level. The results of methylene chloride spiked samples had a mean recovery of 92% at the 15920 µg level and a mean 114% ± 1.7% at the 66330 µg level. The samples were submitted blind (not identified as spikes) and no corrections were made to sample results. These results are summarized under the Quality Assurance section of this report and in Appendices 6 and 7.

QUALITY ASSURANCE

Three 37-mm glass fiber filters coated with approximately 10 mg of 1-(2-pyridyl) piperazine (1-2 PP) and approximately 30 mg of diethyl phthalate (DEP) were spiked with known amounts of 2,4- and 2,6-isomers of TDI. Two 37-mm glass fiber filters coated in the same manner but not spiked were submitted as blanks. Eight methylene chloride spikes were prepared by adding known amounts of methylene chloride to adsorption tubes containing 2.0 grams of activated carbon. Two blank adsorption tubes were transported, stored and analyzed in a similar manner to the field samples. Neither isomer of toluene diisocyanate, 2,4-TDI or 2,6-TDI, nor methylene chloride were detected in the blank samples submitted for analysis. The analytical detection limits for 2,4-TDI, 2,6-TDI and methylene chloride were 0.6 µg, 0.3 µg, and 20 µg, respectively. Spike results shown in Appendices VI and VII are summarized below:

Methylene Chloride

Number of samples spiked:	4
Spiking levels:	15920 µg
% Recovery Range:	92%
% Recovery Mean:	92% ± 0%
Number of samples spiked:	4
Spiking level:	66330 µg
% Recovery Range:	112% - 116%
% Recovery Mean:	114% ± 1.7%

Methylene chloride concentrations were not corrected for the mean % recovery.

2,4-TDI

Number of samples spiked:	3
Spiking level:	4.88 µg
% Recovery Range:	0%* - 84%
% Recovery Mean:	83% ± 0.707%

2,4-TDI concentrations were not corrected for the mean % recovery.

2,6-TDI

Number of samples spiked:	3
Spiking level:	4.88 µg
% Recovery Range:	78% - 89%
% Recovery Mean:	83% ± 5.5%

2,6-TDI concentrations were not corrected for the mean % recovery.

The amount of 2,4-TDI and 2,6-TDI and methylene chloride found in the backup section of the treated filters or the adsorbent charcoal was less than the analytical detection limit or 10% of that found in the front section, indicating that 2,4-TDI and 2,6-TDI and methylene chloride were not breaking through the collection medium in significant quantities.

PROCESS DESCRIPTION

The Foamex LP facility located in Orlando, Florida, produces slabstock flexible polyurethane foam from a flat block conveyor production line (Veri-Max machine). Two formulations were manufactured on the day of the survey. Raw materials including polyols, TDI, and methylene chloride were introduced at the head of the line and introduced at an overflow trough located at the head of the conveyor. The mix reacted quickly, heated up, and expanded to full size in approximately the first 30 feet of the conveyor. A continuous sheet of paper or plastic was being removed at the side take-off rolls. Following expansion, the foam was conveyed downstream on the line to a cut-off saw where the continuous foam bun of rectangular cross section was cut into specified lengths for transport to storage and further fabrication.

As the primary method of controlling the escape of TDI and blowing agent vapor into the work area, a ventilated tunnel covered the production line over the expansion tunnel. This tunnel had a roof and sides, and was almost completely enclosed. To capture process emissions, a series of five exhaust stacks were located over the tunnel and a portion of the production line following the cut-off saw station. The five vents were manifolded together to form a single exhaust stack and the exhaust fan was located below the roof line.

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* The recovery of the low spike level for 2,4-TDI was below the limit of detection and was not computed in the recovery mean. See Appendix VII.

RESULTS AND DISCUSSION

The single exhaust stack measured 40 inches in diameter and was equipped with a butterfly cap. Air monitoring (pitot tube measurements and air sampling) was conducted inside the exhaust stack at a point 11 feet above the roof line.

The estimated exhaust flow rate was approximately 14,600 cfm on the monitoring day, as shown in Table 1. Calculation methods are presented in the Appendices. The average stack temperature of the exhaust air was approximately 81°F and the relative humidity was approximately 69%. The differences between actual conditions and standard conditions were within American Conference of Governmental Industrial Hygienist guidelines and therefore volumetric flow rates were not corrected to standard conditions.

Monitoring was conducted for 2,4-TDI, 2,6-TDI, and methylene chloride over 2.5 hours of total production time. Run 1 produced Foam Grade 100-35 over a 21-minute period starting at 08:47. Run 2, producing Grade 120-32, started at 10:40 and finished 19 minutes later. There was a delay of 1.5 hours and the last and largest run (Run 3) started at 10:59 and lasted 110 minutes. Run 3 produced Grade 120-32 (the same as Run 2) but with a different bun dimension. Appendix V shows the details of the foam grade produced on this monitoring day.

Data generated for this survey are shown in Appendix I. Calculated emission rates are summarized in Table 2. Analytical and calculation results for the three materials are detailed in Tables 3, 4, and 5.

During Run 1, estimated emissions for Foam Grade 100-35 were: 2,4-TDI - 0.10 lbs/hr; 2,6-TDI - 0.27 lbs/hr; methylene chloride - 278 lbs/hr.

During Run 2, Foam Grade 120-32 estimated emissions were: 2,4-TDI - 0.04 lbs/hr; 2,6-TDI - 0.10 lbs/hr; methylene chloride - 405 lbs/hr.

For the final run, Run 3, Foam Grade 120-32, the dimension of the buns were changed and the estimated emissions were: 2,4-TDI - 0.07 lbs/hr; 2,6-TDI - 0.15 lbs/hr; methylene chloride - 451 lbs/hr.

APPENDICES

Supplementary information may be found in Appendices I through VIII. The appendices contain additional information regarding measurements and calculations. The appendices are located after the data tables. The set of appendices include the stack calculation data sheets, an explanation of the flow rate and emission calculations, and the criteria and correction methods to convert data at actual conditions to standard conditions.

NOTICE

Signature: D N Jones (Author)

Date: 4/7/92

Signature: [signature] (Author)

Date: 4/7/92

Signature: Roger W. Ball (Reviewer)

Date: April 8, 1992

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Table 1. AIR FLOW RATE MEASUREMENTS FROM A SINGLE EXHAUST STACK DURING FLEXIBLE POLYURETHANE FOAM PRODUCTION AT FOAMEX, ORLANDO, FLORIDA, ON OCTOBER 10, 1991

Sample Location	Cross-Sectional Area (ft^2)	Average Velocity (ft/min)	Calculated Flow Rate (ft^3/min)
Stack 1	8.73	1670	14,600

Table 2. ESTIMATED EMISSION RATES OF 2,4-TOLUENE DIISOCYANATE, 2,6-TOLUENE DIISOCYANATE, AND METHYLENE CHLORIDE DURING THREE DISTINCT PERIODS OF POLYURETHANE FOAM PRODUCTION, FOAMEX, ORLANDO, FLORIDA, OCTOBER 10, 1991

	Approximate Emission Rate (lbs/hr)		
Chemical	Run 1	Run 2	Run 3
2,4-Toluene Diisocyanate	0.10	0.04	0.07
2,6-Toluene Diisocyanate	0.27	0.10	0.15
Methylene Chloride	278	405	451

Note: Refer to Appendices I, III for emission calculations.

Table 3. ESTIMATED EMISSION RATES AND TOTAL EMISSION OF 2,4-TOLUENE DIISOCYANATE (TDI) FROM A SINGLE EXHAUST STACK, USING THE TREATED FILTER METHOD, DURING FLEXIBLE POLYURETHANE FOAM PRODUCTION AT FOAMEX, ORLANDO, FLORIDA, OCTOBER 10, 1991

Run #/ Foam Grade	Monitoring Period	Sample Duration (min)	2,4-TDI Concentration mg/m^3	lbs/ft^3	Calculated 2,4-TDI Emission Rate (lbs/hr)	Pounds (lbs)	Total 2,4-TDI Emission (lbs)
Run #1/ P100-35	8:49- 9:10	21	1.87	1.2×10^{-7}	0.102	0.04	0.04
Run #2/ P120-32	10:40-10:59	19	0.78	4.9×10^{-8}	0.042	0.01	0.01
Run #3/ P120-32	10:59-11:15	16	1.040	6.5×10^{-8}	0.057	0.02	
	11:15-11:30	15	0.900	5.6×10^{-8}	0.049	0.01	
	11:30-11:46	16	0.960	6.0×10^{-8}	0.053	0.01	
	11:46-12:00	14	0.850	5.3×10^{-8}	0.046	0.01	
	12:00-12:15	15	1.370	8.5×10^{-8}	0.075	0.02	
	12:15-12:30	15	1.910	1.2×10^{-7}	0.104	0.03	
	12:30-12:49	19	1.150	7.2×10^{-8}	0.063	0.02	0.12
			Average for Run #3 =		0.066		

Table 4. ESTIMATED EMISSION RATES AND TOTAL EMISSION OF 2,6-TOLUENE DIISOCYANATE (TDI) FROM A SINGLE EXHAUST STACK, USING THE TREATED FILTER METHOD, DURING FLEXIBLE POLYURETHANE FOAM PRODUCTION AT FOAMEX, FLORIDA, OCTOBER 10, 1991

Run #/ Foam Grade	Monitoring Period	Sample Duration (min)	2,6-TDI Concentration mg/m^3	2,6-TDI Concentration lbs/ft^3	Calculated 2,6-TDI Emission Rate (lbs/hr)	Calculated 2,6-TDI Emission Pounds (lbs)	Total 2,6-TDI Emission (lbs)
Run #1/ P100-35	8:49- 9:10	21	4.89	$3.1x10^{-7}$	0.270	0.09	0.09
Run #2/ P120-32	10:40-10:59	19	1.920	$1.2x10^{-7}$	0.100	0.03	0.03
Run #3/ P120-32	10:59-11:15	16	2.340	$1.5x10^{-7}$	0.130	0.03	
	11:15-11:30	15	2.530	$1.6x10^{-7}$	0.140	0.04	
	11:30-11:46	16	2.480	$1.5x10^{-7}$	0.140	0.04	
	11:46-12:00	14	1.990	$1.2x10^{-7}$	0.100	0.03	
	12:00-12:15	15	2.090	$1.3x10^{-7}$	0.110	0.03	
	12:15-12:30	15	3.840	$2.4x10^{-7}$	0.210	0.05	
	12:30-12:49	19	2.750	$1.7x10^{-7}$	0.150	0.05	0.27
			Average for Run #3 =		0.150		

Table 5. ESTIMATED EMISSION RATES AND TOTAL EMISSION OF METHYLENE CHLORIDE ($MeCl_2$) FROM A SINGLE EXHAUST STACK, USING THE CHARCOAL TUBE METHOD, DURING FLEXIBLE POLYURETHANE FOAM PRODUCTION AT FOAMEX, ORLANDO, FLORIDA, OCTOBER 10, 1991

Run #/ Foam Grade	Monitoring Period	Sample Duration (min)	$MeCl_2$ Concentration ppm	$MeCl_2$ Concentration lbs/ft^3	Calculated $MeCl_2$ Emission Rate (lbs/hr)	Calculated $MeCl_2$ Emission Pounds (lbs)	Total $MeCl_2$ Emission (lbs)
Run #1/ P100-35	8:49- 9:10	21	1465	$3.2x10^{-4}$	277.6	97.1	97.1
Run #2/ P120-32	10:40-10:59	19	2135	$4.6x10^{-4}$	404.5	128	128
Run #3/ P120-32	10:59-11:15	16	2229	$4.8x10^{-4}$	422	112.6	
	11:15-11:30	15	2511	$5.4x10^{-4}$	475.7	118.9	
	11:30-11:46	16	2337	$5.1x10^{-4}$	442.8	118.1	
	11:46-12:00	14	2383	$5.2x10^{-4}$	451.5	105.4	
	12:00-12:15	15	2186	$4.7x10^{-4}$	414.1	103.5	
	12:15-12:30	15	2550	$5.5x10^{-4}$	482.1	120.8	
	12:30-12:49	19	2225	$4.8x10^{-4}$	421.5	133.5	813
				Average for Run #3 =	451		

APPENDICES

Appendix I through IV contain additional information for measurements and calculations regarding stack ventilation and emission estimations. The set of appendices includes the stack calculation data sheets, an explanation of the flow rate and emission calculations, and the criteria and correction methods to convert data at actual conditions to standard conditions.

Appendix I provides a complete set of ventilation and sampling measurements collected during the survey. The top portion of the data sheet contains the sampling site and sample locations, survey date, industrial hygienist performing the survey, the environmental parameters, and the ventilation stack profile and calculations. The second half of the data sheet lists the exhaust emission measurements and data calculation results. Totals for the period monitored (min) and quantity of material emitted (lbs) have also been provided. Separate data sheets have been prepared for each sample location and chemical species monitored.

Appendix II contains two sections which address the ventilation calculations and guidelines for correction of data to standard conditions. In the first part of Appendix II, a description of the ventilation calculations has been provided. This section explains each calculation made on the top portion of the stack calculation data sheets, located in Appendix I. The second part of Appendix II provides a list of the criteria used to determine if sampling data should be corrected to standard conditions, as described in the American Conference of Governmental Industrial Hygienists (ACGIH) Industrial Ventilation Manual, 20th edition. Following ACGIH recommendations, ventilation measurements were not corrected to standard conditions because the recommended environmental parameters, which would require these corrections were not exceeded. All emission calculations have been made for actual conditions on the day of the survey unless otherwise specified.

Appendix III describes the lower section of the stack calculation data sheets, which have been provided in Appendix I. A step-by-step explanation of the emission rate and total emission calculations has been provided. Calculations may be made when air concentrations have been provided in mg/m^3 or ppm.

In the event that there was a need to correct to standard conditions, an example of the necessary calculations have been provided in Appendix IV. In most cases, environmental conditions will not cause a significant bias of the estimated exhaust flow rates. The calculations, however have been provided for the customer's convenience.

Appendix V is a summary of production runs by foam grade. Appendix VI and Appendix VII present the analytical results for the blank and spiked samples submitted to the Industrial Hygiene Lab, The Dow Chemical Company, Midland, Michigan. Appendix VIII is a map of the Foamex LP facility, Orlando, Florida.

Appendix I

STACK CALCULATION DATA SHEET (mg/m3)

LOCATION:	FOMEX, ORLANDO, FLORIDA		
SURVEY DATE :	10-Oct-91	INDUSTRIAL HYGIENIST :	JAMES/CHAMBERS

Dry Bulb Temp. :	81 F		
Wet Bulb Temp. :	73 F	Duct Diameter (inches) =	40.0
Rel. Humidity :	69 %	Duct Area (ft2) =	8.73

Sample Point	Traverse 1		Traverse 2	
	VP (" wg)	V (fpm)	VP (" wg)	V (fpm)
1	0.17	1651	0.10	1266
2	0.19	1746	0.13	1444
3	0.21	1835	0.16	1602
4	0.24	1946	0.18	1699
5	0.25	2003	0.21	1835
6	0.20	1791	0.25	2003
7	0.21	1835	0.18	1699
8	0.19	1746	0.21	1835
9	0.06	981	0.21	1835
10	0.05	896	0.18	1699
		AVERAGE (1)		AVERAGE (2)
		1643 fpm		1692 fpm

Average Velocity	1667 fpm
Flow Rate	14,551 acfm

Compound = 2,4-TDI
Molecular Wt. = 174

Exhaust Emission Calculations :

Sample Description (# / Monitoring Period)	Concentration (mg/m3)	Sample Duration (min)	Emission Conc. (lbs/ft3)	Emission Rate (lbs/hr)	Amount Emitted (lbs/Sample)
#1 (8:49-9:10)	1.870	21	1.2E-07	0.102	0.036
#3 (10:40-10:59)	0.779	19	4.9E-08	0.042	0.013
#4 (10:59-11:15)	1.040	16	6.5E-08	0.057	0.015
#5 (11:15-11:30)	0.896	15	5.6E-08	0.049	0.012
#6 (11:30-11:46)	0.964	16	6.0E-08	0.053	0.014
#7 (11:46-12:00)	0.847	14	5.3E-08	0.046	0.011
#8 (12:00-12:15)	1.369	15	8.5E-08	0.075	0.019
#9 (12:15-12:30)	1.909	15	1.2E-07	0.104	0.026
#10(12:30-12:49)	1.148	19	7.2E-08	0.063	0.020
			0.0E+00	0.000	0.000

Duration of Monitoring	150 min	Total Emission During Monitoring Period (lbs)	0.17 lbs

NOTES :
Sample Number 2 was not analyzed due to an temporary line shut down and equipment maintenance.

* MEANS BREAKTHROUGH GREATER THAN 10 %

Appendix I

STACK CALCULATION DATA SHEET (mg/m3)

LOCATION:	FOMEX, ORLANDO, FLORIDA		
SURVEY DATE :	10-Oct-91	INDUSTRIAL HYGIENIST :	JAMES/CHAMBERS

Dry Bulb Temp. :	81 F		
Wet Bulb Temp. :	73 F	Duct Diameter (inches) =	40.0
Rel. Humidity :	69 %	Duct Area (ft2) =	8.73

Sample Point	Traverse 1		Traverse 2	
	VP (" wg)	V (fpm)	VP (" wg)	V (fpm)
1	0.17	1651	0.10	1266
2	0.19	1746	0.13	1444
3	0.21	1835	0.16	1602
4	0.24	1946	0.18	1699
5	0.25	2003	0.21	1835
6	0.20	1791	0.25	2003
7	0.21	1835	0.18	1699
8	0.19	1746	0.21	1835
9	0.06	981	0.21	1835
10	0.05	896	0.18	1699
		AVERAGE (1)		AVERAGE (2)
		1643 fpm		1692 fpm

Average Velocity	1667 fpm
Flow Rate	14,551 acfm

Compound = 2,6-TDI

Molecular Wt. = 174

Exhaust Emission Calculations :

Sample Description (# / Monitoring Period)	Concentration (mg/m3)	Sample Duration (min)	Emission Conc. (lbs/ft3)	Emission Rate (lbs/hr)	Amount Emitted (lbs/Sample)
#1 (8:49-9:10)	4.890	21	3.1E-07	0.267	0.093
#3 (10:40-10:59)	1.923	19	1.2E-07	0.105	0.033
#4 (10:59-11:15)	2.336	16	1.5E-07	0.127	0.034
#5 (11:15-11:30)	2.533	15	1.6E-07	0.138	0.035
#6 (11:30-11:46)	2.476	16	1.5E-07	0.135	0.036
#7 (11:46-12:00)	1.993	14	1.2E-07	0.109	0.025
#8 (12:00-12:15)	2.090	15	1.3E-07	0.114	0.028
#9 (12:15-12:30)	3.844	15	2.4E-07	0.210	0.052
#10(12:30-12:49)	2.748	19	1.7E-07	0.150	0.047
			0.0E+00	0.000	0.000

Duration of Monitoring	150 min	Total Emission During Monitoring Period (lbs)	0.38 lbs

NOTES :
Sample Number 2 was not analyzed due to an unscheduled shut down and equipment maintenance.

● MEANS BREAKTHROUGH GREATER THAN 10 %

Appendix I

STACK CALCULATION DATA SHEET (ppm)

LOCATION: FOMEX, ORLANDO, FLORIDA

SURVEY DATE : 10-Oct-91 **INDUSTRIAL HYGIENIST :** JAMES/CHAMBERS

Dry Bulb Temp. : 81 F
Wet Bulb Temp. : 73 F
Rel. Humidity : 69 %

Duct Diameter (inches) = 40
Duct Area (ft2) = 8.73

Sample Point	Traverse 1		Traverse 2	
	VP (" wg)	V (fpm)	VP (" wg)	V (fpm)
1	0.17	1651	0.10	1266
2	0.19	1746	0.13	1444
3	0.21	1835	0.16	1602
4	0.24	1946	0.18	1699
5	0.25	2003	0.21	1835
6	0.20	1791	0.25	2003
7	0.21	1835	0.18	1699
8	0.19	1746	0.21	1835
9	0.06	981	0.21	1835
10	0.05	896	0.18	1699
		AVERAGE (1) 1643 fpm		AVERAGE (2) 1692 fpm

Average Velocity 1667 fpm
Flow Rate 14,551 acfm

Compound = Methylene Chloride
Molecular Wt. = 85

Exhaust Emission Calculations :

Sample Description (# / Monitoring Period)	Concentration (ppm)	Sample Duration (min)	Emission Conc. (lbs/ft3)	Emission Rate (lbs/hr)	Amount Emitted (lbs/Sample)
#1/ (8:49-9:10)	1465.00	21	3.2E-04	277.551	97.143
#3 /(10:40-10:59)	2136.00	19	4.6E-04	404.674	128.147
#4 /(10:59-11:15)	2229.00	16	4.8E-04	422.294	112.612
#5 /(11:15-11:30)	2511.00	15	5.4E-04	475.720	118.930
#6 /(11:30-11:46)	2337.00	16	5.1E-04	442.755	118.068
#7 /(11:46-12:00)	2383.00	14	5.2E-04	451.470	105.343
#8 /(12:00-12:15)	2186.00	15	4.7E-04	414.147	103.537
#9 / (12:15-12:30)	2550.00	15	5.5E-04	483.108	120.777
#10/(12:30-12:49)	2225.00	19	4.8E-04	421.536	133.486
			0.0E+00	0.000	0.000

Duration of Monitoring	150 min	Total Emission During Monitoring Period (lbs)	1038.04 lbs

NOTES :
Sample #2 was not analyzed due to an unscheduled line shut down and equipment maintenance

STACK CALCULATION DATA SHEET (mg/m3)

LOCATION: FOMEX ORLANDO, FLORIDA

SURVEY DATE : 10-Oct-91 **INDUSTRIAL HYGIENIST :** JAMES/CHAMBERS

Dry Bulb Temp. :	81 F			
Wet Bulb Temp. :	73 F		**Duct Diameter (inches) =**	40.0
Rel. Humidity :	69 %		**Duct Area (ft2) =**	8.73

	Traverse 1		Traverse 2	
Sample Point	VP (" wg)	V (fpm)	VP (" wg)	V (fpm)
1	0.17	1651	0.10	1266
2	0.19	1746	0.13	1444
3	0.21	1835	0.16	1602
4	0.24	1946	0.18	1699
5	0.25	2003	0.21	1835
6	0.20	1791	0.25	2003
7	0.21	1835	0.18	1699
8	0.19	1746	0.21	1835
9	0.06	981	0.21	1835
10	0.05	896	0.18	1699
		AVERAGE (1)		**AVERAGE (2)**
		1643 fpm		1692 fpm

Average Velocity	1667 fpm
Flow Rate	14,551 acfm

Compound = METHYLENE CHLORIDE

Molecular Wt. = 85

Exhaust Emission Calculations :

Sample Description (# / Monitoring Period)	Concentration (mg/m3)	Sample Duration (min)	Emission Conc. (lbs/ft3)	Emission Rate (lbs/hr)	Amount Emitted (lbs/Sample)
#1 (8:49-9:10)	5093.000	21	3.2E-04	277.589	97.156
#3 (10:40-10:59)	7421.000	19	4.6E-04	404.474	128.083
#4 (10:59-11:15)	7750.000	16	4.8E-04	422.406	112.642
#5 (11:15-11:30)	8733.000	15	5.5E-04	475.983	118.996
#6 (11:30-11:46)	8125.000	16	5.1E-04	442.845	118.092
#7 (11:46-12:00)	8285.000	14	5.2E-04	451.565	105.365
#8 (12:00-12:15)	7600.000	15	4.7E-04	414.230	103.558
#9 (12:15-12:30)	8866.000	15	5.5E-04	483.232	120.808
#10(12:30-12:49)	7736.000	19	4.8E-04	421.643	133.520
			0.0E+00	0.000	0.000

Duration of Monitoring	150 min		**Total Emission During Monitoring Period (lbs)**	1038.22 lbs

NOTES :

Sample Number 2 was not analyzed due to an unscheduled line shut down and equipment maintenance

* MEANS BREAKTHROUGH GREATER THAN 10 %

APPENDIX II

EXHAUST VENTILATION CALCULATIONS FOR AIR FLOW MEASUREMENTS

1. Duct Area (A) $= \frac{\pi d^2}{4}$ (Round Duct); L x W (Rectangular Duct)

2. Velocity (V)† = $4005\sqrt{VP}$

3. Average Velocity (V_a) = $\dfrac{\text{Average V Traverse 1} + \text{Average V Traverse 2}}{2} = V_a$ (FPM)

4. Air Volume Rate at Ambient Conditions (Q_{acfm}) = (V_a) x (A)

Corrections for Temperature, Moisture, and Altitude are recommended by ACGIH when any of the following conditions exist††

A. Duct air temperature is outside the range of (40° F - 100° F).

B. The elevation is greater than 1000 ft above sea level.

C. When air temperature is greater than 100° F and the moisture content of the atmosphere is greater than 0.02 lbs of H_2O/pound of dry air.

---

d = Duct Diameter (ft)
L = Length of Duct (ft)
W = Width of Duct (ft)
VP = Velocity Pressure ("wg)
V = Velocity (FPM)
"wg = Inches of water gauge
Q_{acfm}= Actual Cubic Feet Per Minute - flow rate for actual environmental conditions in CFM
FPM = Feet Per Minute
CFM = Cubic Feet Per Minute

† Tables converting from velocity pressure (VP) to velocity (V) are available in Table 5-4 ACGIH Industrial Ventilation Manual, 20th Edition or Table 6-17 in the 19th or earlier editions. Velocity units are in feet per minute (FPM).

††Guidelines for Temperature, Moisture, and Altitude corrections are summarized in the ACGIH Industrial Ventilation Manual, (Chapter 5.13) 20th Edition or (Section 9) 19th or earlier editions.

APPENDIX III

EXHAUST EMISSION CALCULATIONS

1. Conversions for Weight or Volume

A. $mg = (lbs) \times (2.20462 \times 10^{-6})$

B. $m^3 = (ft^3) \times (35.31)$

C. One gram-mole of an ideal gas will occupy 24.45 liters of volume at 70° F (room temperature), most vapors exhibit the properties of an ideal gas at low concentrations in air.

2. Conversions for Emission Concentration (EC)

A. To convert EC in mg/m^3 to EC in lbs/ft^3:

$$EC\ (lbs/ft^3) = \left(\frac{mg}{m^3}\right) \times \left(\frac{2.2 \times 10^{-6}\ lbs}{mg}\right) \times \left(\frac{m^3}{35.31\ ft^3}\right)$$

B. To convert EC in PPM to EC lbs/ft^3:

$$PPM \times \left(\frac{\text{Molecular Weight}}{24.45}\right) = \left(\frac{mg}{m^3}\right)$$

$$EC\ (lbs/ft^3) = \left(\frac{mg}{m^3}\right) \times \left(\frac{2.2 \times 10^{-6}\ lbs}{mg}\right) \times \left(\frac{m^3}{35.31\ ft^3}\right)$$

3. Emission Rate (ER) in lbs/hr

$$ER\ (lbs/hr) = EC\ (lb/ft^3) \times \text{Air Flow Rate}\ (ft^3/min) \times 60\ (min/hr)$$

4 Emission (E) in lbs (per source or vent)

A. Amount of material emitted from a source per given air sample time or monitoring period.

$$E\ (lbs) = ER\ (lbs/hr) \times \left(\frac{\text{Sample Duration (min)}}{60\ (min/hr)}\right)$$

5. Total Emission over a given time period (lbs)

$\Sigma E = E_1 + E_2 \bullet\bullet\bullet E_n$ (sum of all sources and vents monitored)

APPENDIX IV

TEMPERATURE, HUMIDITY AND ELEVATION CORRECTIONS FOR STANDARD CONDITIONS†

1. Temperature Correction (C_t)

$$C_t = \frac{530}{T + 460}$$

Where: T = °F

2. Moisture/Humidity Correction (C_h)

C_h = Density Factor (air/water - mixture)††

Where: Dry Bulb (DB) = °F
Wet Bulb (WB) = °F

3. Elevation Correction(C_e)

$$C_e = [\,1-(6.73 \times 10^{-6})\,Z\,]^{5.258}$$

Where: Z = Elevation (ft)

4. Density Corrected for Standard Condition (ρ_c)

$$\rho_c = 0.075 \times (C_t) \times (C_h) \times (C_e)$$

Where: ρ_c = air density corrected

5. Velocity at Standard Conditions (V_s)

$$V_s = 1096 \sqrt{\frac{VP_m}{\rho_c}}$$

Where: VP_m = Velocity Pressure Measured

6. Volumetric Air Flow at Standard Conditions (Q_s)

$$Q_s = (V_s) \times (A)$$

Where: A = Cross Section Area of Stack in ft^2

† Guidelines for Temperature, Humidity and Elevation corrections are located in the ACGIH Ventilation Manual, (Chapter 9.7.2) 20th Edition or (Page 9-28) in 19th or earlier editions.

††The humidity density correction factor (C_h) may be obtained in the ACGIH Industrial Ventilation Manual, (Figure 5-24) 20th Edition or (Figure 6-24) 19th or earlier editions.

APPE[illegible] V

REQUIRED FORMULATION INFORMATION
(to be filled out day of run)

DATE : 10-10-91
FILLED OUT BY: V. Delk

Time Mins.	Grade of foam	Water pphp	Water lb/min	Index	TDI lb/min	BA type	BA pphp	BA lb/min
19.15	P100-35	5.4	17.28	112	218.2	MeCl2	7.5	24.0
22.23	P120-32	4.15	15.8	110	203.97	"	6.5	24.7
110.00	P120-32*	4.15	16.60	110	214.70	MeCl2	6.5	26.0

TIME RUN COMPLETED: 12:47 PM

BA = blowing agent
formdata.tbl

*Same grade as Run 2 but different demensions

APPENDIX VI

RESULTS OF TWO BLANK AND EIGHT SPIKE SAMPLES OF METHYLENE CHLORIDE ($MeCl_2$) PREPARED FOR FOAMEX LP, ORLANDO, FLORIDA, OCTOBER 10, 1991, AND ANALYZED BY THE INDUSTRIAL HYGIENE LABORATORY, THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

Sample Number	Measured Weight of $MeCl_2$ (µg)	Actual Weight of $MeCl_2$ (µg)	% Reference Value
11	ND	Blank	0
12	61,000	66,330	92
13	18,500	15,920	116
14	18,100	15,920	114
15	18,300	15,920	115
16	61,000	66,330	92
17	61,000	66,330	92
18	17,900	15,920	112
19	61,000	66,330	92
20	ND	Blank	0

ND = not detected at the analytical detection limits

$$\% \text{ Reference Value} = \frac{\text{Measured Weight of Methylene Chloride}}{\text{Actual Weight of Methylene Chloride}} \times 100$$

APPENDIX VII

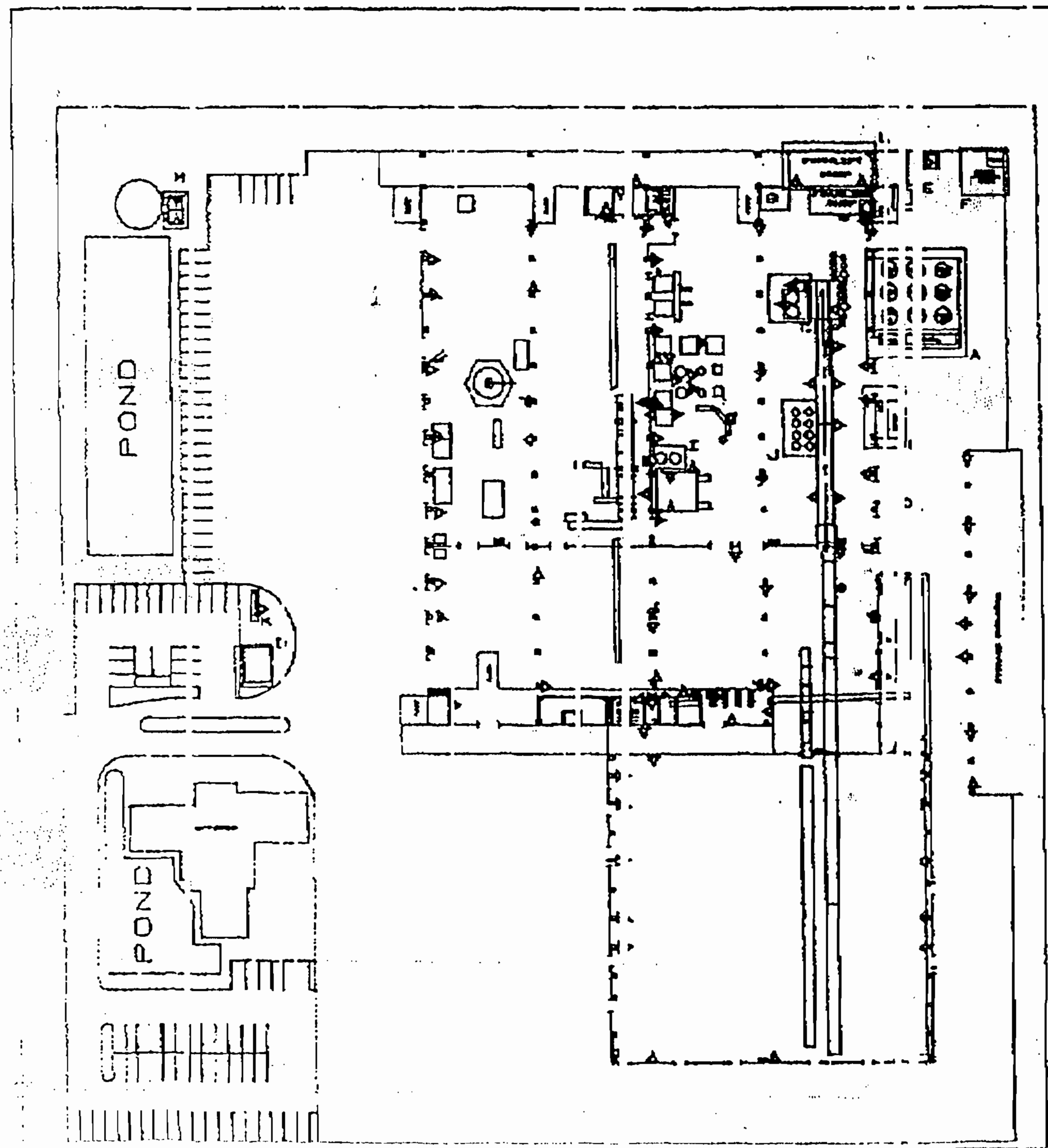
RESULTS OF TWO BLANK AND THREE SPIKE SAMPLES OF 2,4-TOLUENE DIISOCYANATE AND 2,6-TOLUENE DIISOCYANATE PREPARED FOR FOAMEX LP, ORLANDO, FLORIDA, OCTOBER 10, 1991, AND ANALYZED BY THE INDUSTRIAL HYGIENE LABORATORY, THE DOW CHEMICAL COMPANY, MIDLAND, MICHIGAN

Sample	Actual Weight of		Measured Weight of		% of Ref. Value	
Number	2,4-TDI (μg)	2,6-TDI (μg)	2,4-TDI (μg)	2,6-TDI	2,4-TDI	2,6-TDI
11	Blank	Blank	ND	ND	0	0
12	Blank	Blank	ND	ND	0	0
13	4.88	4.88	4.05	4.35	83	89
17	4.88	4.88	4.10	3.8	84	78
19	4.88	4.88	ND	4.03	–	83

ND = not detected at the analytical detection limits for 2,4-TDI and 2,6-TDI of 1 μg

$$\% \text{ Reference Value} = \frac{\text{Measured Weight of Methylene Chloride}}{\text{Actual Weight of Methylene Chloride}} \times 100$$

APPENDIX VIII



LEGEND

AREA A - TANK FARM
AREA B - SILICONE TANK
AREA C - BATCH TANK AREA
AREA D - TRANSFORMER
AREA E - WASTE OIL
AREA F - HAZARDOUS WASTE DRUM STORAGE
AREA G - RAW MATERIALS DRUM STORAGE
AREA H - BOILER HOUSE
AREA I - BINDER STORAGE TANK (REBOND DEPARTMENT)
AREA J - BINDER STORAGE TANKS (CEMENT TANKS)
AREA K - PROPANE TANK
AREA L - TRUCK SHOP
AREA M - PUMP HOUSE AREA

- FIRE EXTINGUISHER
- FIRE HOSE REEL
- SCOTT AIR PACKS
- WHEELED ANSUL FIRE EXT.
- 3000 GPM, 360° FULL ROTATION HYDRANT MOUNTED MONITORS

APPENDIX 5-C

Current Emissions

Storage Tank
Emission Report
Tuesday, November 17
1992
5:42 PM

---- Tank Characteristics ----

Identification

Identification No.:	Tank #10
City:	Orlando
State:	Florida
Company:	Foamex

Input Parameters

Type of Tank:	Horizontal Fixed Roof

Tank Dimensions

Shell Length (ft):	37
Diameter (ft):	7
Liquid Height (ft):	0
Volume (gallons):	10651
Turnovers:	6
Net Throughput (bbl/yr):	63906
Is tank underground? (Y/N):	N

Paint Characteristics

Paint Color:	White
Paint Shade:	White
Condition:	Good

Breather Vent Settings

Vacuum Setting(psig):	0.00
Pressure Setting(psig):	0.00

---- Storage Tank Contents Temperature Data ----

Daily Average Ambient Temperature (Degrees Farenheit) =
72.40
Daily Minimum Ambient Temperature (Degrees Farenheit) =
62.00
Daily Maximum Ambient Temperature (Degrees Farenheit) =
82.80
Daily Ambient Temperature Range =
20.80
Solar Insolation Factor =
1487.00
Alpha (Shell) =
0.17
Liquid Bulk Temperature (Degrees Farenheit) =
72.42
Average Liquid Surface Temperature (Degrees Farenheit) =
74.41

Daily Maximum Liquid Surface Temperature (Degrees Farenheit)
= 79.92
Daily Minimum Liquid Surface Temperature (Degrees Farenheit)
= 68.90
Daily Vapor Temperature Range =
22.05

---- Storage Tank Vapor Pressure Information ----
Speciation Option: None
Chemical Liquid: Methylene Chloride

Vapor Pressure of total mixture =	7.837953
Minimum Vapor Pressure of total mixture =	6.923928
Maximum Vapor Pressure of total mixture =	8.848535
Vapor Molecular Weight of Mixture =	84.940000

Tuesday, November 17 1992

Storage Tank Emission Report

Page 2
Vapor pressure range = 1.924607

---- Storage Tank Standing Loss Information (AP-42) ----
Effective Diameter = 18.14

Roof Outage =	0.00
Vapor Space Outage =	3.50
Vapor Space Volume =	904.65
Vapor Density =	0.1162
Breather Vent Range =	0.000000
Vapor Space Expansion Factor =	0.319417
Vented Vapor Saturation Factor =	0.407508
Total Standing Losses =	4992.73

---- Storage Tank Working Loss Information (AP-42) ----

Net Throughput (gal/year) =	63906
Liquid Volume (cubic feet) =	1424
Turnovers =	6
Turnover Factor =	1.0000
Working Loss Product Factor =	1.00
Total Working Losses =	1012.99

---- Storage Tank Total Losses (AP-42) ----
Total losses = 6005.72

Proposed Emissions
Storage Tank
Emission Report
Tuesday, December 1
1992
5:57 PM

---- Tank Characteristics ----

Identification

Identification No.:	Tank #10
City:	Orlando
State:	Florida
Company:	Foamex, L.P.

Input Parameters

Type of Tank:	Horizontal Fixed Roof

Tank Dimensions

Shell Length (ft):	37
Diameter (ft):	7
Liquid Height (ft):	0
Volume (gallons):	10651
Turnovers:	5
Net Throughput (bbl/yr):	53255
Is tank underground? (Y/N):	N

Paint Characteristics

Paint Color:	White
Paint Shade:	White
Condition:	Good

Breather Vent Settings

Vacuum Setting(psig):	0.00
Pressure Setting(psig):	0.00

---- Storage Tank Contents Temperature Data ----

Daily Average Ambient Temperature (Degrees Farenheit) =
72.40
Daily Minimum Ambient Temperature (Degrees Farenheit) =
62.00
Daily Maximum Ambient Temperature (Degrees Farenheit) =
82.80
Daily Ambient Temperature Range =
20.80
Solar Insolation Factor =
1487.00
Alpha (Shell) =
0.17
Liquid Bulk Temperature (Degrees Farenheit) =
72.42
Average Liquid Surface Temperature (Degrees Farenheit) =
74.41

Daily Maximum Liquid Surface Temperature (Degrees Farenheit)
= 79.92
Daily Minimum Liquid Surface Temperature (Degrees Farenheit)
= 68.90
Daily Vapor Temperature Range =
22.05

---- Storage Tank Vapor Pressure Information ----
Speciation Option: None
Chemical Liquid: Methylene Chloride

Vapor Pressure of total mixture =	7.837953
Minimum Vapor Pressure of total mixture =	6.923928
Maximum Vapor Pressure of total mixture =	8.848535
Vapor Molecular Weight of Mixture =	84.940000

Tuesday, December 1 1992

Storage Tank Emission Report

Page 2
Vapor pressure range = 1.924607

---- Storage Tank Standing Loss Information (AP-42) ----
Effective Diameter = 18.14

Roof Outage =	0.00
Vapor Space Outage =	3.50
Vapor Space Volume =	904.65
Vapor Density =	0.1162
Breather Vent Range =	0.000000
Vapor Space Expansion Factor =	0.319417
Vented Vapor Saturation Factor =	0.407508
Total Standing Losses =	4992.73

---- Storage Tank Working Loss Information (AP-42) ----

Net Throughput (gal/year) =	53255
Liquid Volume (cubic feet) =	1424
Turnovers =	5
Turnover Factor =	1.0000
Working Loss Product Factor =	1.00
Total Working Losses =	844.16

---- Storage Tank Total Losses (AP-42) ----
Total losses = 5836.89

APPENDIX 5-D

FUEL COMBUSTION CALCULATION INPUT PARAMETERS   DATE: 20-Nov-92

HOURS OF OPERATION

STEAM BOILER

hrs/day =
days/wk =
wks/yr =

hrs/yr = 8,760

FUEL CONSUMPTION

Natural Gas Consumption = 36.792 Million cu.ft./yr

EMISSION FACTORS

Emission factors Natural Gas are from AP-42, Table 1.4-1.

Particulates (Uncontrolled)

lbs/1,000,000 cu.ft. of Natural Gas = 5 lbs/1,000,000 cu.ft.

Sulfur Dioxide

lbs/1,000,000 cu.ft. of Natural Gas = 0.6 lbs/1,000,000 cu.ft.

Nitrogen Oxide

lbs/1,000,000 cu.ft. of Natural Gas = 140 lbs/1,000,000 cu.ft.

Carbon Monoxide

lbs/1,000,000 cu.ft. of Natural Gas = 35 lbs/1,000,000 cu.ft.

Hydrocarbon

lbs/1,000,000 cu.ft. of Natural Gas = 3 lbs/1,000,000 cu.ft.

ADDITIONAL DATA

Efficiency of Air Pollution Control = 0 %

CALCULATION OF EMISSIONS

PARTICULATES

Natural Gas Consumption

$$\frac{36.792 \text{ million cu. ft./yr} \times 5.0 \text{ lb/million cu.ft.}}{2{,}000 \text{ lbs/ton}}$$

= 0.09198 tons/yr

Air Pollution Control Efficiency = 0 %

Total Controlled Particulates =

0.09198 tons/yr x (1 - 0.000000) = 0.09198 tons/yr

$$\frac{0.09198 \text{ tons/yr} \times 2{,}000 \text{ lbs/ton}}{8{,}760 \text{ hrs/yr}} = 0.021 \text{ lbs/hr}$$

SULFUR DIOXIDE (SO_2)

Natural Gas Consumption

$$\frac{36.792 \text{ million cu. ft./yr} \times 0.6 \text{ lb/million cu.ft.}}{2{,}000 \text{ lbs/ton}}$$

= 0.011038 tons/yr

$$\frac{0.011038 \text{ tons/yr} \times 2{,}000 \text{ lbs/ton}}{8{,}760 \text{ hrs/yr}} = 0.00252 \text{ lbs/hr}$$

NITROGEN OXIDE (NOX)

Natural Gas Consumption

$$\frac{36.792 \text{ million cu. ft./yr} \quad \times \quad 140.0 \text{ lb/million cu.ft.}}{2{,}000 \text{ lbs/ton}}$$

= 2.57544 tons/yr

$$\frac{2.57544 \text{ tons/yr} \times 2{,}000 \text{ lbs/ton}}{8{,}760 \text{ hrs/yr}} = 0.588 \text{ lbs/hr}$$

CARBON MONOXIDE (CO)

Natural Gas Consumption

$$\frac{36.792 \text{ million cu. ft./yr} \quad \times \quad 35.0 \text{ lb/million cu.ft.}}{2{,}000 \text{ lbs/ton}}$$

= 0.64386 tons/yr

$$\frac{0.64386 \text{ tons/yr} \times 2{,}000 \text{ lbs/ton}}{8{,}760 \text{ hrs/yr}} = 0.147 \text{ lbs/hr}$$

HYDROCARBONS (HC)

Natural Gas Consumption

$$\frac{36.792 \text{ million cu. ft./yr} \quad \times \quad 3.0 \text{ lb/million cu.ft.}}{2{,}000 \text{ lbs/ton}}$$

= 0.055188 tons/yr

$$\frac{0.055188 \text{ tons/yr} \times 2{,}000 \text{ lbs/ton}}{8{,}760 \text{ hrs/yr}} = 0.0126 \text{ lbs/hr}$$

FUEL COMBUSTION EMISSION CALCULATIONS SUMMARY

POLLUTANT	EMISSION RATE (LB/HR)	EMISSION RATE (TON/YR)
PARTICULATES	0.021	0.09198
SULFUR DIOXIDE	0.00252	0.011038
NITROGEN OXIDE	0.588	2.57544
CARBON MONOXIDE	0.147	0.64386
HYDROCARBONS	0.0126	0.055188

1.4 NATURAL GAS COMBUSTION

1.4.1 General[1-2]

Natural gas is one of the major fuels used throughout the country. It is used mainly for power generation, for industrial process steam and heat production, and for domestic and commercial space heating. The primary component of natural gas is methane, although varying amounts of ethane and smaller amounts of nitrogen, helium and carbon dioxide are also present. Gas processing plants are required for recovery of liquefiable constitutents and removal of hydrogen sulfide (H_2S) before the gas is used (see Natural Gas Processing, Section 9.2). The average gross heating value of natural gas is approximately 9350 kilocalories per standard cubic meter (1050 British thermal units/standard cubic foot), usually varying from 8900 to 9800 kcal/scm (1000 to 1100 Btu/scf).

1.4.2 Emission And Controls[3-26]

Even though natural gas is considered to be a relatively clean fuel, some emissions can occur from the combustion reaction. For example, improper operating conditions, including poor mixing, insufficient air, etc., may cause large amounts of smoke, carbon monoxide and hydrocarbons. Moreover, because a sulfur containing mercaptan is added to natural gas to permit detection, small amounts of sulfur oxides will also be produced in the combustion process.

Nitrogen oxides are the major pollutants of concern when burning natural gas. Nitrogen oxide emissions are functions of combustion chamber temperature and combustion product cooling rate. Emission levels vary considerably with the type and size of unit and with operating conditions.

In some large boilers, several operating modifications may be used for NO_x control. Staged combustion, for example, including off-stoichiometric firing and/or two stage combustion, can reduce emissions by 5 to 50 percent.[26] In off-stoichiometric firing, also called "biased firing", some burners are operated fuel rich, some fuel lean, and others may supply air only. In two stage combustion, the burners are operated fuel rich (by introducing only 70 to 90 percent stoichiometric air), with combustion being completed by air injected above the flame zone through second stage "NO ports". In staged combustion, NO_x emissions are reduced because the bulk of combustion occurs under fuel rich conditions.

Other NO_x reducing modifications include low excess air firing and flue gas recirculation. In low excess air firing, excess air levels are kept as low as possible without producing unacceptable levels of unburned combustibles (carbon monoxide, volatile organic compounds and smoke) and/or other operating problems. This technique can reduce NO_x emissions 5 to 35 percent, primarily because of lack of oxygen during combustion. Flue gas recirculation into the primary combustion zone, because the flue gas is relatively cool and oxygen deficient, can also lower NO_x emissions 4 to 85 percent, depending on the amount of gas recirculated. Flue gas recirculation is best suited for new boilers. Retrofit application would require extensive burner modifications.

TABLE 1.4-1. UNCONTROLLED EMISSION FACTORS FOR NATURAL GAS COMBUSTION[a]

Furnace size & type (10^6 Btu/hr heat input)	Particulate[h]		Sulfur dioxide[c]		Nitrogen oxides[d]		Carbon monoxide[e]		Volatile organics			
									Nonmethane		Methane	
	$kg/10^6 m^3$	$lb/10^6 ft^3$	$kg/10^6 m^3$	$lb/10^6 ft^3$	$kg/10^6 m^3$	$lb/10^6 ft^3$	$kg/10^6 m^3$	$lb/10^6 ft^3$	$kg/10^6 m^3$	$lb/10^6 ft^3$	$kg/10^6 m^3$	$lb/10^6 ft^3$
Utility boilers (> 100)	16 - 80	1 - 5	9.6	0.6	8800[h]	550[h]	640	40	23	1.4	4.8	0.3
Industrial boilers (10 - 100)	16 - 80	1 - 5	9.6	0.6	2240	140	560	35	44	2.8	48	3
Domestic and commercial boilers (< 10)	16 - 80	1 - 5	9.6	0.6	1600	100	320	20	84	5.3	43	2.7

[a]Expressed as weight/volume fuel fired.
[b]References 15-18.
[c]Reference 4. Based on avg. sulfur content of natural gas, 4600 $g/10^6 Nm^3$ (2000 $gr/10^6$ scf).
[d]References 4-5, 7-8, 11, 14, 18-19, 21.
[e]Expressed as NO_2. Tests indicate about 95 weight % NO_x is NO_2.
[f]References 4, 7-8, 16, 18, 22-25.
[g]References 16, 18. May increase 10 - 100 times with improper operation or maintenance.
[h]For tangentially fired units, use 4400 $kg/10^6 m^3$ (275 $lb/10^6 ft^3$). At reduced loads, multiply factor by load reduction coefficient in Figure 1.4-1. For potential NO_x reductions by combustion modification, see text. Note that NO_x reduction from these modifications will also occur at reduced load conditions.

Studies indicate that low NO_x burners (20 to 50 percent reduction) and ammonia injection (40 to 70 percent reduction) also offer NO_x emission reductions.

Combinations of the above combustion modifications may also be employed to reduce NO_x emissions further. In some boilers, for instance, NO_x reductions as high as 70 to 90 percent have been produced by employing several of these techiques simultaneously. In general, however, because the net effect of any of these combinations varies greatly, it is difficult to predict what the reductions will be in individual applications.

Although not measured, all particulate has been estimated to be less than 1 micrometer in size.[27] Emission factors for natural gas combustion are presented in Table 1.4-1, and factor ratings in Table 1.4-2.

TABLE 1.4-2. FACTOR RATINGS FOR NATURAL GAS COMBUSTION

Furnace type	Particulate	Sulfur oxides	Nitrogen oxides	Carbon monoxide	Volatile organics	
					Nonmethane	Methane
Utility boiler	B	A	A	A	C	C
Industrial boiler	B	A	A	A	C	C
Commercial boiler	B	A	A	A	D	D
Residential furnace	B	A	A	A	D	D

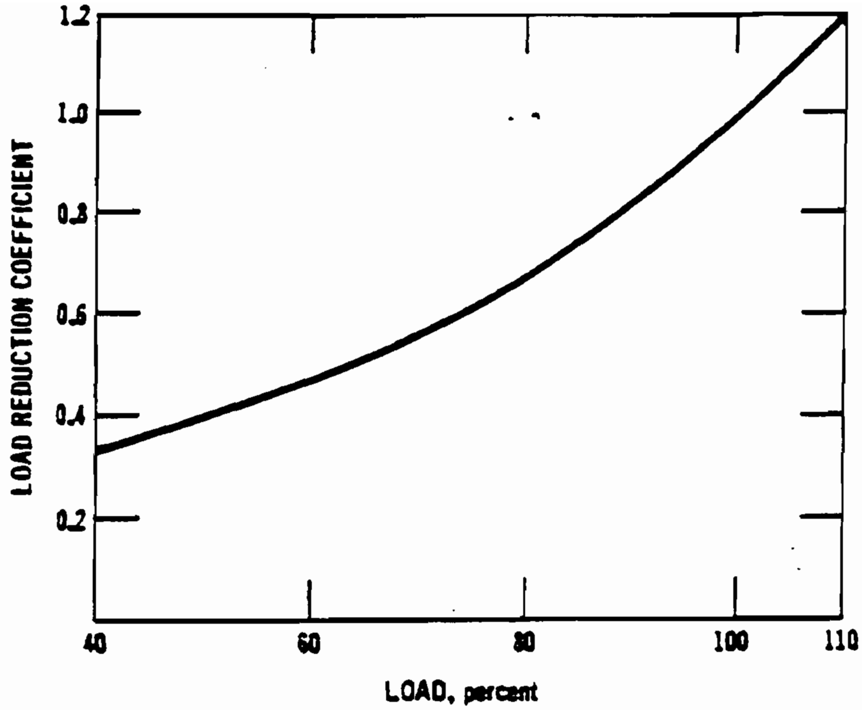


Figure 1.4-1. Load reduction coefficient as function of boiler load. (Used to determine NO_x reductions at reduced loads in large boilers.)

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APPENDIX 5-E

FUEL COMBUSTION CALCULATION INPUT PARAMETERS DATE: 02-Dec-92

HOURS OF OPERATION Environmental Heating

hrs/day =
days/wk =
wks/yr =

hrs/yr = 400

FUEL CONSUMPTION

Natural Gas Consumption = 0.74 Million cu.ft./yr

EMISSION FACTORS

Emission factors Natural Gas are from AP-42, Table 1.4-1.

Particulates (Uncontrolled)

lbs/1,000,000 cu.ft. of Natural Gas = 5 lbs/1,000,000 cu.ft.

Sulfur Dioxide

lbs/1,000,000 cu.ft. of Natural Gas = 0.6 lbs/1,000,000 cu.ft.

Nitrogen Oxide

lbs/1,000,000 cu.ft. of Natural Gas = 140 lbs/1,000,000 cu.ft.

Carbon Monoxide

lbs/1,000,000 cu.ft. of Natural Gas = 35 lbs/1,000,000 cu.ft.

Hydrocarbon

lbs/1,000,000 cu.ft. of Natural Gas = 3 lbs/1,000,000 cu.ft.

ADDITIONAL DATA

Efficiency of Air Pollution Control = 0 %

CALCULATION OF EMISSIONS

PARTICULATES

Natural Gas Consumption

$$\frac{0.74 \text{ million cu. ft./yr} \quad \times \quad 5.0 \text{ lb/million cu.ft.}}{2{,}000 \text{ lbs/ton}}$$

= 0.00185 tons/yr

Air Pollution Control Efficiency = 0 %

Total Controlled Particulates =

0.00185 tons/yr x (1 - 0.000000) = 0.00185 tons/yr

$$\frac{0.00185 \text{ tons/yr} \times 2{,}000 \text{ lbs/ton}}{400 \text{ hrs/yr}} = 0.00925 \text{ lbs/hr}$$

SULFUR DIOXIDE (SO2)

Natural Gas Consumption

$$\frac{0.74 \text{ million cu. ft./yr} \quad \times \quad 0.6 \text{ lb/million cu.ft.}}{2{,}000 \text{ lbs/ton}}$$

= 0.000222 tons/yr

$$\frac{0.000222 \text{ tons/yr} \times 2{,}000 \text{ lbs/ton}}{400 \text{ hrs/yr}} = 0.00111 \text{ lbs/hr}$$

NITROGEN OXIDE (NOX)

Natural Gas Consumption

$$\frac{0.74 \text{ million cu. ft./yr} \quad x \quad 140.0 \text{ lb/million cu.ft.}}{2{,}000 \text{ lbs/ton}}$$

= 0.0518 tons/yr

$$\frac{0.0518 \text{ tons/yr x } 2{,}000 \text{ lbs/ton}}{400 \text{ hrs/yr}} = 0.259 \text{ lbs/hr}$$

CARBON MONOXIDE (CO)

Natural Gas Consumption

$$\frac{0.74 \text{ million cu. ft./yr} \quad x \quad 35.0 \text{ lb/million cu.ft.}}{2{,}000 \text{ lbs/ton}}$$

= 0.01295 tons/yr

$$\frac{0.01295 \text{ tons/yr x } 2{,}000 \text{ lbs/ton}}{400 \text{ hrs/yr}} = 0.06475 \text{ lbs/hr}$$

HYDROCARBONS (HC)

Natural Gas Consumption

$$\frac{0.74 \text{ million cu. ft./yr} \quad x \quad 3.0 \text{ lb/million cu.ft.}}{2{,}000 \text{ lbs/ton}}$$

= 0.00111 tons/yr

$$\frac{0.00111 \text{ tons/yr x } 2{,}000 \text{ lbs/ton}}{400 \text{ hrs/yr}} = 0.00555 \text{ lbs/hr}$$

FUEL COMBUSTION EMISSION CALCULATIONS SUMMARY

POLLUTANT	EMISSION RATE (LB/HR)	EMISSION RATE (TON/YR)
PARTICULATES	0.00925	0.00185
SULFUR DIOXIDE	0.00111	0.000222
NITROGEN OXIDE	0.259	0.0518
CARBON MONOXIDE	0.06475	0.01295
HYDROCARBONS	0.00555	0.00111

APPENDIX 5-F

Post-it™ brand Fax Transmittal Memo 7672

To KAY RYKOWSKI
Company
Location
Fax # 8550329 Telephone #
Comments

No. of Pages 26 Today's Date 11/19/92 Time 11:00AM
From JACK WANAT
Company FOAMEX
Location ORLANDO Dept. Charge
Fax # Telephone # 857-2510
Original Disposition ☐ Destroy ☐ Return ☐ Call for pickup

MILES

MATERIAL SAFETY DATA SHEET

MILES INC.
POLYMERS DIVISION
Mobay Road
Pittsburgh, PA 15205-9741

TRANSPORTATION EMERGENCY		NON-TRANSPORTATION	
CALL CHEMTREC:	800-424-9300	MILES EMERGENCY PHONE...:	(412) 923-1800
DISTRICT OF COLUMBIA:	202-483-7616	MILES INFORMATION PHONE.:	(800) 662-2927

I. PRODUCT IDENTIFICATION:

PRODUCT NAME........: Mondur TD-80 Grade A
PRODUCT CODE........: E-002
CHEMICAL FAMILY.....: Aromatic Isocyanate
CHEMICAL NAME.......: Toluene Diisocyanate (TDI)
SYNONYMS............: Benzene; 1,3-diisocyanato methyl-
CAS NUMBER..........: 26471-62-5
FORMULA.............: C9H6N2O2

II. HAZARDOUS INGREDIENTS:

INGREDIENT NAME /CAS NUMBER	EXPOSURE LIMITS		CONCENTRATION (%)
2,4-Toluene Diisocyanate (TDI) 584-84-9	OSHA :	.005 ppm TWA	80%
		.040 mg/m3 TWA	
		.020 ppm STEL	
		.150 mg/m3 STEL	
	ACGIH:	.005 ppm TWA	
		.036 mg/m3 TWA	
		.020 ppm STEL	
		.140 mg/m3 STEL	
2,6-Toluene Diisocyanate (TDI) 91-08-7	OSHA :	Not Established	20%
	ACGIH:	Not Established	

III. PHYSICAL PROPERTIES:

PHYSICAL FORM.............: Liquid
COLOR.....................: Water white to pale yellow
ODOR......................: Sharp, pungent
ODOR THRESHOLD............: Greater than TLV of 0.005 ppm

Continued on next page

III. PHYSICAL PROPERTIES (Continued)

MOLECULAR WEIGHT..........: 174
BOILING POINT.............: Approx. 484 F (251 C) for TDI
MELTING/FREEZING POINT....: Approx. 55 F (13 C) for TDI
SOLUBILITY IN WATER ......: Reacts slowly with water at normal room temperature to liberate CO_2 gas.
SPECIFIC GRAVITY ....: 1.22 @ 77 F (25 C)
BULK DENSITY..............: 10.18 lbs/gal
% VOLATILE BY VOLUME......: Negligible
VAPOR PRESSURE ....: Approx. 0.025 mmHg @ 77 F (25 C) for TDI
VAPOR DENSITY ....: 6.0 for TDI (Air = 1)

IV. FIRE AND EXPLOSION DATA:

FLASH POINT.....................: 260.0 F (126.6 C) Pensky-Martens Closed Cup (ASTM D-93)
FLAMMABLE LIMITS:
UPPER EXPLOSIVE LIMIT (UEL)(%): 9.5%
LOWER EXPLOSIVE LIMIT (LEL)(%): 0.9%
EXTINGUISHING MEDIA.............: Dry Chemical; Carbon Dioxide; Foam; Water
SPECIAL FIRE FIGHTING PROCEDURES: Full emergency equipment with self-contained breathing apparatus and full protective clothing (such as rubber gloves, boots, bands around legs, arms and waist) should be worn by firefighters. No skin surface should be exposed. During a fire, TDI vapors and other irritating, highly toxic gases may generated by thermal decomposition or combustion. (See Section VIII). At temperatures greater than 350 F (177 C) TDI forms carbodiimides with the release of CO_2 which can cause pressure build-up in closed containers. Explosive rupture is possible. Therefore, use cold water to cool fire-exposed containers.
UNUSUAL FIRE / EXPLOSION HAZARDS: CAUTION: Reaction between water or foam and hot TDI can be vigorous.

V. HUMAN HEALTH DATA:

ROUTE(S) OF ENTRY.......: Inhalation. Skin contact from liquid, vapors or aerosols.

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:
ACUTE INHALATION................: TDI vapors or mist at concentrations above the TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV with similar symptoms as well as asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). These

 Continued on next page

V. HUMAN HEALTH DATA (Continued)

effects are usually reversible. Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure.

CHRONIC INHALATION..............: As a result of previous repeated overexposures or a single large dose, certain individuals may develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanate has also been reported to cause lung damage (including decrease in lung function) which may be permanent. Sensitization can either be temporary or permanent.

ACUTE SKIN CONTACT............: Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Cured material is difficult to remove.

CHRONIC SKIN CONTACT..........: Prolonged contact can cause reddening, swelling, rash, scaling, blistering, and, in some cases, skin sensitization. Individuals who have developed a skin sensitization can develop these symptoms as a result of contact with very small amounts of liquid material or as a result of exposure to vapor.

ACUTE EYE CONTACT.............: Liquid, aerosols or vapors are severely irritating and can cause pain, tearing, reddening and swelling. If left untreated, corneal damage can occur and injury is slow to heal. However, damage is usually reversible. See Section VI for treatment.

CHRONIC EYE CONTACT...........: Prolonged vapor contact may cause conjunctivitis.

ACUTE INGESTION...............: Can result in irritation and corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea.

CHRONIC INGESTION.............: None Found

CARCINOGENICITY...............: No carcinogenic activity was observed in lifetime inhalation studies in rats and mice (International Isocyanate Institute). NTP: The National Toxicology Program reported that TDI caused an increase in the number of tumors in exposed rats over those counted in non-exposed rats. The TDI was administered in corn-oil and introduced into the stomach through a tube. Based on this study, the NTP has listed TDI as a substance that may reasonably be anticipated to be a carcinogen in its Fourth Annual Report on Carcinogens. IARC: IARC has announced that it will list TDI as a substance for which there is sufficient evidence for its carcinogenicity in experimental animals but inadequate evidence for the carcinogenicity of TDI to humans (IARC Monograph 39). OSHA: Not listed.

NTP.........................: See Carcinogenicity Text.
IARC........................: See Carcinogenicity Text.
OSHA........................: Not regulated.

V. HUMAN HEALTH DATA (Continued)

MEDICAL CONDITIONS
AGGRAVATED BY EXPOSURE......: Asthma, other respiratory disorders (bronchitis, emphysema, bronchial hyperreactivity), skin allergies, eczema.

VI. EMERGENCY AND FIRST AID PROCEDURES:

FIRST AID FOR EYES......: Flush with copious amounts of water, preferably lukewarm for at least 15 minutes holding eyelids open all the time. Refer individual to physician or an ophthalmologist for immediate follow-up.

FIRST AID FOR SKIN......: Remove contaminated clothing immediately. Wash affected areas thoroughly with soap and water for at least 15 minutes. Tincture of green soap and water is also effective in removing isocyanates. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, then get medical attention. For lesser exposures, seek medical attention if irritation develops or persists after the area is washed.

FIRST AID FOR INHALATION: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Consult physician.

FIRST AID FOR INGESTION.: Do not induce vomiting. Give 1 to 2 cups of milk or water to drink. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Consult physician.

NOTE TO PHYSICIAN.......: EYES: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision. SKIN: This compound is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns. INGESTION: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound. RESPIRATORY: This compound is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

VII. EMPLOYEE PROTECTION RECOMMENDATIONS:

EYE PROTECTION REQUIREMENTS........: Liquid chemical goggles or full-face shield. Contact lenses should not be worn. If vapor exposure is causing irritation, use a full-face, air-supplied respirator.

SKIN PROTECTION REQUIREMENTS.......: Chemical resistant gloves (butyl rubber, nitrile rubber, polyvinyl alcohol). However, please note that PVA degrades in water. Cover as much of the exposed skin area as possible with appropriate clothing. If skin creams are used, keep the area covered only by the cream to a minimum.

Continued on next page

VII. EMPLOYEE PROTECTION (Continued)

RESPIRATOR REQUIREMENTS............: An approved positive pressure air-supplied respirator is required whenever TDI concentrations are not known or exceed the Short-Term Exposure Limit of 0.02 ppm or exceed the 8-hour Time Weighted Average TLV of 0.005 ppm. An approved air-supplied respirator with full facepiece must also be worn during spray application, even if exhaust ventilation is used. For emergency and other conditions where the exposure limits may be greatly exceeded, use an approved, positive pressure self-contained breathing apparatus. TDI has poor warning properties since the odor at which TDI can be smelled is substantially higher than 0.02 ppm. Observe OSHA regulations for respirator use (29 CFR 1910.134).

VENTILATION REQUIREMENTS...........: Local exhaust should be used to maintain levels below the TLV whenever TDI is handled, processed, or spray-applied. At normal room temperatures (70 F) TDI levels quickly exceed the TLV unless properly ventilated. Standard reference sources regarding industrial ventilation (e.g., ACGIH Industrial Ventilation) should be consulted for guidance about adequate ventilation.

MONITORING.........................: TDI exposure levels must be monitored by accepted monitoring techniques to ensure that the TLV is not exceeded. (Contact Miles Inc. Product Safety for guidance). See Volume 1 (Chapter 17) and Volume 3 (Chapter 3) in Patty's Industrial Hygiene and Toxicology for sampling strategy.

MEDICAL SURVEILLANCE...............: Medical supervision of all employees who handle or come in contact with TDI is recommended. These should include preemployment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum). Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with TDI. Once a person is diagnosed as sensitized to TDI, no further exposure can be permitted.

ADDITIONAL PROTECTIVE MEASURES.....: Safety showers and eyewash stations should be available. Educate and train employees in safe use of product. Follow all label instructions.

VIII. REACTIVITY DATA:

STABILITY..........................: This is a stable material.

HAZARDOUS POLYMERIZATION...: May occur; May occur if in contact with moisture or other materials which react with isocyanates. Self-reaction may occur at temperatures over 350 F (177 C) or at lower temperatures if sufficient time is involved. See Section IV.

INCOMPATIBILITIES..........: Water, amines, strong bases, alcohols. Will cause some corrosion to copper alloys and aluminum. Reacts with water to form heat, CO_2 and insoluble ureas.

INSTABILITY CONDITIONS.....: Not Noted

DECOMPOSITION PRODUCTS.....: By high heat and fire: carbon monoxide, oxides of nitrogen, traces of HCN, TDI vapors and mist.

Continued on next page

BEST AVAILABLE COPY

IX. SPILL AND LEAK PROCEDURES:

SPILL OR LEAK PROCEDURES....: Evacuate and ventilate spill area; dike spill to prevent entry into water system; wear full protective equipment, including respiratory equipment during clean-up. (See Section VII). Major Spill: Call Miles Inc. at 412/923-1800. If transportation spill, call CHEMTREC 800/424-9300. If temporary control of isocyanate vapor is required, a blanket of protein foam (available at most fire departments) may be placed over the spill. Large quantities may be pumped into closed, but not sealed, container for disposal. Minor Spill: Absorb isocyanate with sawdust or other absorbent, shovel into suitable unsealed containers, transport to well-ventilated area (outside) and treat with neutralizing solution: mixture of water (80%) with non-ionic surfactant Tergitol TMN-10 (20%), or; water (90%), concentrated ammonia (3-8%) and detergent (2%). Add about 10 parts or neutralizer per part of isocyanate, with mixing. Allow to stand uncovered for 48 hours to let CO2 escape. Clean-up: Decontaminate floor with decontamination solution letting stand for at least 15 minutes.

WASTE DISPOSAL METHOD.......: Follow all federal, state or local regulations. TDI must be disposed of in a permitted incinerator or landfill. Incineration is the preferred method for liquids. Solids are usually incinerated or landfilled.

EMPTY CONTAINER PRECAUTIONS.: Empty containers must be handled with care due to product residue. Decontaminate containers prior to disposal. Empty decontaminated containers should be crushed to prevent reuse. DO NOT HEAT OR CUT EMPTY CONTAINER WITH ELECTRIC OR GAS TORCH. (See Sections IV and VIII). Vapors and gases may be highly toxic.

X. SPECIAL PRECAUTIONS & STORAGE DATA:

STORAGE TEMPERATURE(MIN/MAX): 70 F (21 C)/90 F (32 C)

SHELF LIFE..................: 12 months

SPECIAL SENSITIVITY.........: If container is exposed to high heat, 350 F (177 C) it can be pressurized and possibly rupture. TDI reacts slowly with water to form polyureas and liberates CO2 gas. This gas can cause sealed containers to expand and possibly rupture.

HANDLING/STORAGE PRECAUTIONS: Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected. Prevent all contact. Do not breathe the vapors. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent chronic overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Exposure to vapors of heated TDI can be extremely dangerous. Employee education and training in safe handling of this product are required under the OSHA Hazard Communication Standard.

Continued on next page

XI. SHIPPING INFORMATION:

TECHNICAL SHIPPING NAME........: Toluene Diisocyanate (TDI)
FREIGHT CLASS BULK............: Toluene Diisocyanate
FREIGHT CLASS PACKAGE..........: Chemicals, NOI (Toluene Diisocyanate), NMFC 60000
PRODUCT LABEL.................: Product Label Established

DOT (HM-181)

PROPER SHIPPING NAME...........: Toluene Diisocyanate
HAZARD CLASS OR DIVISION ......: 6.1
UN/NA NUMBER..................: UN2078
PACKAGING GROUP ....: PG II, POISON
DOT PRODUCT RQ lbs (kgs).......: 100 lbs (45.4 kgs)
HAZARD LABEL(s)................: Poison
HAZARD PLACARD(s)..............: Poison

IMO / IMDG CODE

PROPER SHIPPING NAME...........: Toluene Diisocyanate
HAZARD CLASS DIVISION NUMBER...: 6.1
UN NUMBER......................: UN2078
PACKAGING GROUP................: II
HAZARD LABEL(s)................: Poison
HAZARD PLACARD(s)..............: Poison

ICAO / IATA

PROPER SHIPPING NAME...........: Toluene Diisocyanate
HAZARD CLASS DIVISION NUMBER...: 6.1
UN NUMBER......................: UN2078
SUBSIDIARY RISK................: None
PACKING GROUP..................: II
HAZARD LABEL(s)................: Poison
RADIOACTIVE?...................: Non-Radioactive
PASSENGER AIR - MAX. QTY. .....: 5 Liters
PASSENGER INSTRUCTION NUMBER...: 609
CARGO AIR - MAX. QTY. ....: 60 Liters
CARGO AIR INSTRUCTION NUMBER...: 611

XII. ANIMAL TOXICITY DATA:

TOXICITY DATA FOR: Toluene Diisocyanate
ACUTE TOXICITY

Continued on next page

XII. ANIMAL TOXICITY DATA (Continued)

ORAL LD50..........: Range of 4130-6170 (Rats and Mice)
DERMAL LD50........: Greater than 10,000 mg/kg (Rabbits)
INHALATION LC50....: Range of 16-50 ppm (Rat), 10 ppm (Mouse), 11 ppm (Rabbit), 13 ppm (Guinea Pig).
EYE EFFECTS........: Severe eye irritant capable of inducing corneal opacity.
SKIN EFFECTS.......: Moderate skin irritant. Primary dermal irritation score; 4.12/8.0 (Draize). However, repeated or prolonged contact may culminate in severe skin irritation and/or corrosion.
SENSITIZATION......: Skin sensitizer in guinea pigs. One study using guinea pigs reported that repeated skin contact with TDI caused respiratory sensitization. Although poorly defined in experimental animal models, TDI is known to be a pulmonary sensitizer in humans. In addition, there is some evidence that cross-sensitization between different types of diisocyanates may occur.

CHRONIC TOXICITY......: Sub-chronic and chronic animal studies show that the primary effects of inhaling vapors and/or aerosols of TDI are restricted to the pulmonary systems. Emphysema, pulmonary edema, pneumonitis and rhinitis are common pathologic effects. Extended exposures to as low as 0.1 ppm TDI have induced pulmonary inflammation.

CARCINOGENICITY.......: The NTP conducted carcinogenesis studies of a commercial grade TDI using rats and mice in which the test material was diluted in corn oil and administered by gavage. The investigators concluded that TDI was carcinogenic in male and female rats (fibrosarcomas, pancreatic adenomas, neoplastic liver nodules and mammary gland fibrosarcomas) and female mice (hemangiosarcomas and hepatocellular adenomas). However, chronic inhalation studies in which rats and mice were exposed to 0.05 and 0.15 ppm TDI (10-30 times recommended TLV, 8-hr level) induced no treatment-related tumorigenic effects. In these studies, both exposure levels produced extensive irritation to the nasal passages and upper respiratory system of the test animals indicating that suitable effective exposures were administered.

MUTAGENICITY..........: TDI is positive in the Ames assay with activation. However, mammalian cell transformation assays using human lung cells and Syrian hamster kidney cells were negative, as were micronucleus tests using rats and mice.

TERATOGENICITY........: Rats were exposed to an 80:20 mixture of 2,4- and 2,6-toluene diisocyanate vapor at analytical concentrations of 0.021 , 0.12 and 0.48 ppm. Minimal fetotoxicity was observed at a maternally toxic concentrations of 0.48 ppm. The NOEL for maternal and developmental toxicity was 0.12 ppm. No embryotoxicity or teratogenicity was observed.

AQUATIC TOXICITY......: LC50 - 96 hr (static): 165 mg/liter (Fathead minnow) LC50 - 96 hr (static): Greater than 508 mg/liter (Grass shrimp) LC50 - 24 hr (static): Greater than 500 mg/liter (Daphnia magna)

Continued on next page

XIII. FEDERAL REGULATORY INFORMATION:

OSHA STATUS.................: This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA STATUS.................: On TSCA Inventory

CERCLA REPORTABLE QUANTITY..: 2,4-Toluene Diisocyanate = 100 lbs.; 2,6-Toluene Diisocyanate = 100 lbs.

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES..: 2,4-Toluene Diisocyanate (TDI), CAS# 584-84-9, 80%; 2,6-Toluene Diisocyanate (TDI), CAS# 91-08-7, 20%

SECTION 311/312 HAZARD CATEGORIES.....: Immediate Health Hazard; Delayed Health Hazard; Reactive Hazard

SECTION 313 TOXIC CHEMICALS........: 2,4-Toluene Diisocyanate (TDI), CAS# 584-84-9, 80%, 2,6-Toluene Diisocyanate (TDI), CAS# 91-08-7, 20%

RCRA STATUS.................: TDI is listed as a hazardous waste (No. U-223) under Title 40 Code of Federal Regulations, Section 261.33 (f). The residue from decontaminating a TDI spill is also classified as a hazardous waste under Section 261.3 (c)(2) of RCRA.

XIV. OTHER REGULATORY INFORMATION:

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

COMPONENT NAME /CAS NUMBER	CONCENTRATION	STATE CODE
2,4-Toluene Diisocyanate (TDI) 584-84-9	80%	PA1, PA2, CA, FL, IL, MA, RI, NJ1, NJ2, NJ4, CN2, NY
2,6-Toluene Diisocyanate (TDI) 91-08-7	20%	PA1, CA, IL, MA, NJ1, NJ2, NJ4, CN2, NY

Continued on next page

XIV. OTHER REGULATORY INFORMATION (Continued)

CA = California Proposition 65
FL = Florida Substance List
IL = Illinois Toxic Substances List
MA = Massachusetts Hazardous Substance List
NJ1 = New Jersey Hazardous Substance List
NJ2 = New Jersey Environmental Hazardous Substance List
NJ4 = New Jersey Other - included in 5 predominant ingredients > 1%
NY = New York Hazardous Substance List
PA1 = Pennsylvania Hazardous Substance List
PA2 = Pennsylvania Special Substances List
RI = Rhode Island List of Designated Substances
CN2 = Canada WHMIS Ingredient Disclosure List over 0.1%.

NFPA 704M RATINGS:

Health	Flammability	Reactivity	Other
3	1	1	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

HMIS RATINGS:

Health	Flammability	Reactivity
4*	1	1

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe
*=Chronic Health Hazard

Miles' method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by Miles as a customer service.

XV. APPROVALS;

REASON FOR ISSUE..........: Revising HM-181 Packing Group; Section 15 of the MSDS.
PREPARED BY...............: G. L. Copeland
APPROVED BY...............: J. H. Chapman
APPROVAL DATE.............: 02/06/92
SUPERSEDES DATE...........: 01/13/92
MSDS NUMBER...............: 01794

this one

HARCROS CHEMICALS INC
KANSAS CITY, KANSAS

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MATERIAL SAFETY DATA SHEET

PRODUCT NAME: METHYLENE CHLORIDE DATE: 07/11/89 PAGE 01
PRODUCT CODE: 16-10394-08

CAS # 000075-09-2

FORMULA: CH(2)Cl(2)

CHEMICAL FAMILY: Chlorinated Hydrocarbons

CHEMICAL NAME AND SYNONYMS: Dichloromethane, Grades:-Tech.; Reagent; Urethane; Inhibited; Semiconductor (Low Particle) Particulo-LO(TM) and M-Clene (TM); Freon 30; Methylene Chloride

SUPPLIERS NAME: Harcros Chemicals Inc
5200 Speaker Rd
Kansas City Ks 66106
SUPPLIERS PHONE NUMBER: 913-321-3131
TRANSPROTATION EMERGENCY PHONE NUMBER: 1-800-424-9300

S.A.R.A. INFORMATION

HAZARDS: Fire: Pressure: Reactivity: Acute: Yes Chronic:Yes
PHYSICAL DATA: Mixture:Yes Pure: Solid: Liquid:Yes Gas:

SECTION I Hazardous Ingredients

Ingredient	Percent	TLV
Methylene Chloride (Stabilized) (CAS # 75-09-2)<>	>99	PEL=500ppm 8Hr TWA PEL=1000ppm Ceiling (ACC) PEL=2000ppm Peak 5 mins. in any 2 Hrs OSHA (MAC) 10 hr TWA 75 ppm REL NIOSH 15 min Ceiling 500 ppm REL NIOSH
Propylene Oxide * (CAS # 75-56-9)<>	<0.5%	TLV=50 ppm A-2 8Hr TWA ACGIH PEL/TLV/TWA 8Hr 20 ppm OSHA/ACGIH

* Propylene oxide is described as an animal carcinogen by IARC. It is proposed for addition in NTP's Fifth Annual Report on Carcinogens.

**OSHA PEL under review, NIOSH REL and ACGIH TLV should be observed. REL Ref (1) Sec IX.

<>-This chemical is subject to S.A.R.A. Title III section 313 part 372 reporting.

SECTION II Health Hazards

Threshold Limit Value: As Indicated in Section I. Odor threshold approximately 200-300 ppm, causes olfactory fatigue.

Potential Effects of Exposure:

Eyes: Liquid contact causes pain, tearing and temporary corneal injury. Vapors may irritate eyes.

Skin: Mildly irritating, may produce a burning sensation. Defatting by prolonged or repeated contact may cause skin to become reddened, rough and dry, and may result in dermatitis. Extensive skin contact wtih methylene chloride, such as immersion, may cause an intense burning sensation followed by a cold, numb feeling which will subside after contact. Is

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HARCROS CHEMICALS INC
KANSAS CITY, KANSAS

MATERIAL SAFETY DATA SHEET

RODUCT NAME: METHYLENE CHLORIDE DATE: 07/11/89 PAGE 02
RODUCT CODE: 16-10394-08

SECTION II Health Hazards CONTINUED
rapidly absorbed through the skin, which can aggravate effects of exposure by other routes. LD(Lo)(Rabbit): 2700 mg/kg

Inhalation: Major route of potential exposure. Methylene chloride depresses the central nervous system. Concentrations between 900-1,000 ppm may cause dizziness. Nausea, headache, and vomiting can occur at concentrations above 2,000 ppm. At 7,00 ppm, numbness and tingling in arms and legs and rapid heartbeat have occurred. Loss of consciousness and death have occurred at levels above 9,000 ppm, if exposure is prolonged. These high levels may also cause cardiac arrythmias (irregular heartbeats). For further effects see Note (B), Section IX and Note at end of this section.

Ingestion: Discomfort and possible aspiration pneumonitis if vomited. Gastrointestinal bleeding may follow. Absorption through the gastrointestinal tract may produce symptoms of central nervous system depression ranging from light headedness to unconsciousness. Some of the symptoms of inhalation in Note (B) Section IX, may occur. Oral LD(50) (rat): 1500 to 2400 mg/kg.

Studies indicate that anesthetic deaths occurred shortly after oral dosing, indicating rapid absorption from the gastrointestinal tract.

PRIMARY ROUTES OF EXPOSURE:
Inhalation, Ingestion.
TARGET ORGANS:
Skin, cardiovascular system, eyes, central nervous system.

Medical Conditions Aggravated by Exposure

Alcoholism, acute and chronic liver and kidney disease, chronic lung disease, anemia, coronary disease or rhythm disorders of the heart. Consumption of alcoholic beverages may increase the potential for development of toxic effects resulting from exposure to this product.

First aid:

Eyes: Immediately flush with water, continuing for 15 minutes, lifting eyelids frequently. Get medical assistance. Contact lenses should not be worn when working with this chemical.

Skin: Wash contaminated area with soap and water. A soothing ointment may be applied to irritated skin after cleansing. Remove contaminated clothing and footwear and wash clothing before reuse. Discard footwear which cannot be decontaminated. Seek medical attention.

Inhalation: Get person out of contaminated area to fresh air. If breathing has stopped artificial respiration should be started, Oxygen may be administered, if readily available. Seek medical attention immediately.

Ingestion: If swallowed DO NOT induce vomiting. If vomiting occurs spontaneously, keep person's head below hips to prevent inhalation. Never give anything by mouth to an unconscious person. Seek medical assistance immediately.

Other Information: Note to physician:

SKIN: If burns present, treat as any thermal burn, after

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MATERIAL SAFETY DATA SHEET

RODUCT NAME: METHYLENE CHLORIDE DATE: 07/11/89 PAGE 03
RODUCT CODE: 16-10394-08

SECTION II Health Hazards CONTINUED

decontamination.

RESPIRATORY: Anesthetic or narcotic effect may occur. Administer oxygen if available. Bronchodilators, expectorants, and antitussives may be of help.

ORAL: May cause chemical pneumonia if aspirated into lungs. Danger of chemical pneumonia must be weighed against toxicity when considering emptying stomach. If lavage is performed, suggest endotracheal and/or esophagoscopic control. Moderately toxic.

SYSTEMIC: May cause increase in carboxyhemoglobin levels. May increase myocardial irritability. Avoid epinephrine or similar drugs if at all possible. Consult standard literature. No specific antidote. Treatment based on the sound judgment of the physician and the individual reactions of the patient.

*Employees working with methylene chloride should be aware of the increased hazard from simultaneous exposure to carbon monoxide. This effect is "additive" in nature with the risk being greater for smokers. Employees with a history of cardiovascular disease should not be allowed to work with methylene chloride unless approved by a physician. See Note (B), Sec. IX.

CHRONIC TOXICITY:
Chronic overexposures to methylene chloride have caused liver and kidney disease in experimental animals.

See Section IX for further data on carcinogenicity of methylene chloride and propylene oxide, also reproductive toxicity (negative) for methylene chloride.

CTION III Special Protection Information

Respiratory Protection: Above REL/TLV limitations and up to 750 ppm use self-contained breathing apparatus as recommended by NIOSH. For alternate protection at this level and coverage with higher exposures see Ref. (1) Section IX.

Ventilation Required: Use in a complete ventilated enclosure (e.g. in an exhausted hood), otherwise provide for sufficient air velocity to maintain concentrations below TLV limitation, taking into account the high volatility of methylene chloride.

Protective Clothing:

Eyes: For material used normally wear safety glasses with no sideshield perforations; for emergencies wear chemical safety goggles. Contact lenses should be avoided.

Skin: In handling wear impervious gloves. In an emergency or where there is any possibility of splashing causing repeated or prolonged contact, wear full impervious clothing. Preferred materials: polyvinyl alcohol or N-type rubber. (Polyvinyl alcohol will not stand long exposure to water). Polyfluorinated polyethylene also has been suggested.

Additional Protective Measures:

CONTINUED ON PAGE 04

HARCROS CHEMICALS INC
KANSAS CITY, KANSAS

MATERIAL SAFETY DATA SHEET

PRODUCT NAME: METHYLENE CHLORIDE DATE: 07/11/89 PAGE 04
PRODUCT CODE: 16-10394-08

SECTION III Special Protection Information CONTINUED

Safety shower, eye bath and washing facilities should be available.

To determine exposure levels monitoring should be performed regularly.

MONITORING EXPOSURE

BIOLOGICAL: Reports indicate that 33 ppm Methylene Chloride in breath during exposure is equivalent to an exposure of about 100 ppm in air. Blood analyzed for carboxyhemoglobin (COHb) may show 7 to 10% saturation following exposure to 250 and 500 ppm respectively. Amount of exertion, duration of exposure, and time sampled effect these ratios.

PERSONAL/AREA: The NIOSH P&CAM (Method) Numbers 127, S329 are applicable.

SECTION IV Fire & Explosion Hazard Data

Flash Point (Method): None

Flammable Limits (% Volume in Air): at 77 deg F

Upper: 19

Lower: 12

Extinguishing Media: Fires involving methylene chloride are unlikely, but, should one occur, it may be controlled by carbon dioxide, foam, dry chemicals or water fog.

Special Fire Fighting Procedures: Wear self-contained breathing apparatus approved by NIOSH, goggles if eye protection not provided. Use water spray on fire-exposed containers to prevent pressure build-up, and to flush spills away from exposed vessels. Forms flammable vapor - air mixture at approximately 212 deg. F or higher. Lower temperatures increase the difficulty of getting it to ignite.

Unusual Fire and Explosion Hazards: Methylene chloride is non-flammable and non-explosive under normal conditions of use. Vapors concentrated in a confined or poorly ventilated area can be ignited upon contact with a high energy spark, flame, or high intensity source of heat. This can occur at concentrations ranging between 12-19% by volume. At high temperatures, decomposition may produce hydrochloric acid gas and other toxic and irritating vapors such as phosgene, hence need to cool containers to prevent over-pressurization.

SECTION V Physical Data

Boiling Point: 103-104 deg. F

Specific Gravity (H(2)O=1): 1.32-1.33 @ 68 deg. F

Vapor Pressure (MM HG.): 350-352 @ 68 deg. F

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RODUCT NAME: METHYLENE CHLORIDE DATE: 07/11/89 PAGE 05
RODUCT CODE: 16-10394-08

SECTION V Physical Data CONTINUED

Vapor Density (AIR=1): 2.9

Evaporation Rate (Ethyl Ether=1): 0.71

Solubility in Water: 2% by weight @ 77 deg. F.

Percent Volatile by Volume: 100

pH: Neutral

Appearance and Odor: Clear, colorless liquid with ether-like odor at concentrations over 100 ppm.

CTION VI Reactivity Data

Stability: Stable

Incompatibility: Strong oxidants, alkali metals, amines; pure oxygen, open flames, electric arcs, aluminum and aluminum spray equipment. Aromatic solvents or 1,1,1-trichlorethane should not be mixed with methylene chloride in contact with aluminum because of a possible decomposition reaction. May react violently or explode upon contact with alkali or chemically active metals such as finely powdered aluminum, magnesium, potassium and sodium.

Industry usage for cleaning aluminum parts with methylene chloride is apparently without risk. The danger is confined to pressurized systems with dirty, wet, hot methylene chloride where reactivity with aluminum metal surface can become appreciable.

Prolonged exposure to water may cause noticeable hydrolysis above 140 deg. F, producing small amounts of hydrochloric Acid.

Hazardous Decomposition Products: Hydrogen chloride, chlorine, and phosgene at high temperatures, eg in open flames and welding arcs.

Hazardous Polymerization: Will not occur.

CTION VII Spill and Leak Procedures

Steps to be taken if material is released or spilled:

Immediately evacuate the area and provide maximum ventilation. If spill occurs indoors turn off air conditioning and/or heating system, to prevent vapors from contaminating entire building. Unprotected personnel should move upwind of spill. Only personnel equipped with proper respiratory and skin/eye protection (See Section III) should be permitted in area. Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Pump liquid into containers for recovery or disposal. Recover residual spilled material on absorbents, such as sawdust or vermiculite, and sweep into closed containers for disposal. After all visible traces, including ignitable vapors, have been

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HARCROS CHEMICALS INC
KANSAS CITY, KANSAS

MATERIAL SAFETY DATA SHEET

RODUCT NAME: METHYLENE CHLORIDE DATE: 07/11/89 PAGE 06
RODUCT CODE: 16-10394-08

SECTION VII Spill and Leak Procedures CONTINUED

removed, thoroughly wet vacuum the area. DO NOT flush to sewer. If area of spill is porous, remove as much contaminated earth, gravel, etc. as necessary and place in closed containers for disposal.

Waste Disposal Method:

Contaminated sawdust, vermiculite or porous surface material must be disposed in a permitted hazardous waste management facility. Recovered liquids may be reprocessed or incinerated or must be treated in a permitted hazardous waste management facility. Care must be taken when using or disposing of chemical materials and/or their containers to prevent environmental contamination. It is your duty to dispose of the chemical materials and/or their containers in accordance with the Clean Air Act, the Clean Water Act, as well as any other relevant federal, state, or local laws/regulations regarding disposal.

EPA - Resource Conservation and Recovery Act (RCRA) Regulations As produced, this material is a product and not a waste. If discarded or intended to be discarded as is, it is a hazardous waste as defined in RCRA (40 CFR 261.33). The EPA hazardous waste number is U080. Spent solvent has a hazardous waste ID No. F002.

TION VIII D.O.T. Shipping Information

Proper Shipping Name:	HAZARDOUS SUBSTANCE NOS (CONTAINS METHYLENE CHLORIDE)
Hazard Class:	ORM-E
ID Number:	NA9188
Label Requirements:	NO LABEL REQUIRED
Reportable Quantity:	SHIPMENTS OF 01000 LBS OR MORE ARE REPOR TABLE
Other Information:	

CTION IX Additional Information

This information may be of importance to you:

NOTES:

(A)
CARCINOGENICITY: Methylene chloride has been evaluated for possible cancer causing effects in laboratory animals. Inhalation studies at concentrations of 2,000 and 4,000 ppm increased the incidence of malignant liver and lung tumors in mice. Three inhalation studies of rats have shown increased incidence of benign mammary gland tumors in males at concentrations of 1,500 ppm and above. Rats exposed to 50 and 200 ppm via inhalation showed no increased incidence of tumors. Mice and rats exposed by ingestion at levels up to 250

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MATERIAL SAFETY DATA SHEET

RODUCT NAME: METHYLENE CHLORIDE DATE: 07/11/89 PAGE 07
RODUCT CODE: 16-10394-08

SECTION IX Additional Information CONTINUED

mg/kg/day lifetime and hamsters exposed via inhalation to concentrations up to 3,500 ppm life-time did not show an increased incidence of tumors.

The International Agency for Research on Cancer (IARC) has concluded that there is sufficient evidence for the carcinogenicity of methylene chloride to experimental animals, and inadequate evidence for the carcinogencity of methylene chloride to humans, resulting in a classification as a 2B animal carcinogen on the IARC list. The NTP has identified methylene chloride as an animal carcinogen, but it is not on the OSHA or NTP lists as of February 28, 1988. For further data see Ref (2) Sec IX.

Epidemiology studies of 751 humans chronically exposed to methylene chloride in the workplace for a minimum of 20 years did not demonstrate any increase in deaths caused by cancer or cardiac problems. A second study of 2,227 workers confirmed these results.

Propylene oxide has caused increased incidence of nasal tumors in rats exposed by inhalation, forestomach tumors in rats exposed by gavage (forced-fed in oil) and injection site tumors when injected under the skin of rats.

REPRODUCTIVE TOXICITY: Reproductive toxicity tests have been conducted to evaluate the potential adverse effects methylene chloride may have on reproduction and offspring of laboratory animals. The results indicate that birth defects are unlikely. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in animals; other effects were seen in the fetus only at doses which cause toxic effects to the mother. In animal studies, has been shown not to interfere with reproduction. Negative or equivocal results have been obtained in mutagenicity tests using mammalian cells or animals. This is consistent with the lack of interaction with DNA in rats and hamsters. Although results of Ames bacterial tests have generally been positive, overall the data suggest that genotoxic potential doses not appear to be a significant factor in the toxicity of methylene chloride.

(B)
Gross overexposure may cause serious problems including respiratory arrest. Animal studies show that metabolism of methylene chloride results in a release of carbon monoxide in the blood, causing an increase of carboxyhemoglobin. The latter decreases the ability of the blood to carry oxygen to the body tissues. There is no significant impairment at concentrations of methylene chloride below the ACGIH TLV. The vapor from methylene chloride is capable of producing potentially fatal cardiac arrhythmia in laboratory animals. The minimum level at which this was found to occur with a five minute exposure was 50,000 ppm in the monkey and 400,000 ppm in the mouse. As indicated in Section II, persons with angina or heart disease should not be exposed to this product.

(C)
Methylene chloride vapors are heavier than air and will collect in low areas. Keep container closed when not in use.

Store only in closed, properly labeled containers. Do not store or stack aluminum in contact with methylene chloride to prevent possible solvent decomposition (stacking corrosion).

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HARCROS CHEMICALS INC
KANSAS CITY, KANSAS

MATERIAL SAFETY DATA SHEET

RODUCT NAME: METHYLENE CHLORIDE DATE: 07/11/89 PAGE 08
RODUCT CODE: 16-10394-08

SECTION IX Additional Information CONTINUED

Under normal conditions methylene chloride may be stored satisfactorily in galvanized black iron or steel. Aluminum is not generally recommended for storage and handling.

Caution should be taken not to use in pressurized or totally enclosed system of aluminum construction. (Example: paint or adhesive spray system.)

A chlorinated solvent used as a flashpoint suppressant must be added in sufficient quantity or the resultant mixture may have a flashpoint lower than the flammable component.

Do not use cutting or welding torches on drums that contained methylene chloride unless properly purged and cleaned.

Containers of this material may be hazardous when emptied. "Empty" containers retain product residues. Observe all hazard precautions outlined in this sheet.

No smoking where material is used or stored.

Minimize skin contact. Wash with soap and water before eating, drinking, smoking or using toilet facilities.

Safety shower, eye bath and washing facilities should be available.

Store in tightly sealed, labeled containers in a cool, dry, well-ventilated area. Prevent water or moist air from entering storage tanks or containers.

References:

(1) NIOSH/OSHA Pocket Guide to Chemical Hazards DHHS (NIOSH) Publication No. 85-114.

(2) Identification and classification of carcinogens ACGIH 86

NPCAHMIS 310 H

********* E N D O F R E P O R T *********

NAME: GENE TURNER DATE ISSUED: 11/22/1985
DATE REVISED: 05/12/1989

< = LESS THAN N/A = NOT APPLICABLE UNK = UNKNOWN
> = MORE THAN N/D = NOT DETERMINED
N/E = NOT ESTABLISHED

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MATERIAL SAFETY DATA SHEET

Page

BASF CORPORATION
1419 BIDDLE AVENUE

WYANDOTTE, MI 48192
(313) 246-5246

Original Date: 11/14/19[illegible]
Revision Date: 11/14/19[illegible]

Emergency Telephone: (800) 424-9300 (CHEMTREC)
(800) 832-HELP (BASF Hotline)

BOTH NUMBERS ARE AVAILABLE DAYS, NIGHTS, WEEKENDS, & HOLIDAYS.

SECTION 1 - PRODUCT INFORMATION

Product ID: NPU 583541 **Name:** PLURACOL®POLYOL 924

Tradename:
PLURACOL®POLYOL 924

Common Chemical Name:
POLYETHER POLYOL

Synonyms:
CONVENTIONAL POLYOL

Molecular Formula:
CONVENTIONAL POLYOL

Molecular Wt.: NOT ESTABLISHED

Chemical Family: Polyether polyol

SECTION 2 - INGREDIENTS

Chemical Name:	CAS Number:	Amount:	PEL/TLV Data:
PLURACOL Polyol 924	9082-00-2	100.0 %	NOT ESTABLISHED

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Product ID: NPU 583541 Name: PLURACOL-POLYOL 924 Page

SECTION 3 - PHYSICAL PROPERTIES

Color: Water White
Form/Appearance: Liquid
Odor: Polyol
Odor Intensity: Low

	Typical	Low-RANGE-High	Unit of Measure	
Spc. Gravity:	1.020			
Bulk Density:	8.5100		LB/GAL	
Viscosity:	565.000		CP	@ 25.0 DEG.
pH:	NOT AVAILABLE			

	Typical	Low-RANGE-High	Deg.	@ Pressure
Boiling Pt:	NOT AVAILABLE			
Freezing Pt:	NOT AVAILABLE			
Decomp. Tmp:	NOT AVAILABLE			

lubility in Water Description: Slightly Soluble
..por Density: LOW, NO DATA

pH: Neutral

SECTION 4 - FIRE AND EXPLOSION DATA

	Typical	Low-RANGE-High	Deg.	Method
Flash Point:	400.0		F	PENSKY-MARTINS CLOSED
Autoignition:	NOT AVAILABLE			

Extinguishing Media:
Use water fog, foam, CO2 or dry chemical extinguishing media.

Fire Fighting Procedures:
Firefighters should be equipped with self-contained breathing apparatus and turn out gear.

Unusual Hazards:
None known.

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SECTION 5 - HEALTH EFFECTS

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gasses include inhalation and eye and skin contact.

PLURACOL Polyol 924 - Low hazard liquid

Acute Overexposure Effects:

Contact with the eyes and skin may result in irritation. Inhalation of the vapors or mists may result in respiratory irritation. Ingestion of the liquid may result in gastric disturbances. There are no other known acute effects associated with this material.

Chronic Overexposure Effects:

There are no other known chronic effects associated with this material.

First Aid Procedures - Skin:

Wash affected areas with soap and water. Remove and launder contaminated clothing before reuse. Get immediate medical attention.

First Aid Procedures - Eyes:

Immediately wash eyes with running water for 15 minutes. Get immediate medical attention.

First Aid Procedures - Ingestion:

If swallowed, dilute with water and immediately induce vomiting. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Get immediate medical attention.

First Aid Procedures - Inhalation:

Move to fresh air. Aid in breathing, if necessary, and get immediate medical attention.

First Aid Procedures - Notes to Physicians:

None known.

First Aid Procedures - Aggravated Medical Conditions:

No data is available which addresses medical conditions that are generally recognized as being aggravated by exposure to this product. Please refer to Section 5 (Effects of Overexposure) for effects observed in animals.

Product ID: **NPU 583541** Name: **PLURACOL POLYOL 924**

SECTION 5 - HEALTH EFFECTS (Cont.)

First Aid Procedures - Special Precautions:
None

SECTION 6 - REACTIVITY DATA

Reactivity - Stability Data:
Stable

Reactivity - Incompatability:
Avoid moisture to protect product quality.

Reactivity - Conditions/Hazards to Avoid:
Exposure to moisture and temperatures > 80F.

Reactivity - Hazardous Decomposition/Polymerization:
Hazardous decomposition products: CO and CO_2.

Reactivity - Corrosive Properties:
Not Corrosive.

Reactivity - Oxidizer Properties:
Not an oxidizer

Other Reactivity Data:
None known.

SECTION 7 - PERSONAL PROTECTION

Personal Protection - Clothing:
Gloves, coveralls, apron, boots as necessary to prevent skin contact.

Personal Protection - Eyes:
Chemical goggles; also wear a face shield if splashing hazard exists.

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SECTION 7 - PERSONAL PROTECTION (Cont.)

Personal Protection - Respiration:
Approved organic vapor mist respirator as necessary.

Personal Protection - Ventilation:
Use local exhaust to control vapors/mists.

Personal Protection - Explosion Proofing:
None required.

Other Personal Protection Data:
Avoid contact with skin as required by good normal hygiene practices.

SECTION 8 - SPILL-LEAK/ENVIRONMENTAL

Spill/Leak Procedures - General:
Spills should be contained, solidified and placed in suitable containers for disposal at a licensed facility.

Spill/Leak Procedures - Waste Disposal:
Incinerate or bury in a licensed facility. Do not discharge into waterways or sewer systems without proper authority.

Spill/Leak Procedures - Container Disposal:
Steel drums must be emptied (as defined by RCRA, Section 261.7 or state regulations that may be more stringent) and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer or an approved landfill. Drums destined for a scrap dealer or landfill must be punctured or crushed to prevent reuse.

SECTION 9 - STORAGE AND HANDLING

Storage and Handling - General:
Store in a ventilated storage area between 70-80F. Avoid excessive

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Product ID: NPU 583541 Name: PLURACOL POLYOL 924

SECTION 9 - STORAGE AND HANDLING (Cont.)

temperatures, low or high. Avoid moisture.

Other Storage and Handling Data:
No other specific storage requirements.

SECTION 10A - FEDERAL REGULATORY INFORMATION

TSCA Inventory Status:
Listed on Inventory: YES

RCRA Haz. Waste No.: N/A
CERCLA: NO Reportable Qty.: (If YES)

SARA TITLE III; SECTION 313: NOT LISTED

SECTION 10B - STATE REGULATORY INFORMATION

State Regulatory Information: (By Component)		NJ/PA/MA RTK
CAS #: 9082-00-2	Name: PLURACOL Polyol 924	YES

SECTION 10C - OTHER REGULATORY INFORMATION

Hazard Ratings:

	Health:	Fire:	Reactivity:	Special:
HMIS	1	0	0	

FEMA Approved: NO No: X
RIFM Approved: NO No: X
IFRA Guidline: NO
Product Grades: USP: NF: FCC:
FDA Approved: NO Use:

Product ID: **NPU 583541** Name: **PLURACOL POLYOL 924** **Page**

SECTION 10D - ADDITIONAL REGULATORY TEXT

This product contains a chemical known to the State of California to cause cancer, birth defects and/or reproductive harm.

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Product ID: NPU 583541 Name: PLURACOL®POLYOL 924 Page

SECTION 11 - TRANSPORTATION INFORMATION

DOT Proper Shipping Name:

NONE

DOT Technical Name:

NONE

DOT Primary Hazard Class:

NONE

DOT Secondary Hazard Class:

NONE

DOT Label Required:

NONE

DOT Placard Required:

NONE

DOT Poison Constituent:

NONE

BASF Commodity Codes: 344

UN/NA Code: N/A **E/R Guide:** NA

Bill of Lading Description:

POLYPROPYLENE GLYCOL

® is a registered trademark of BASF Corporation.

™ is a trademark of BASF Corporation.

WHILE BASF CORPORATION BELIEVES THE DATA SET FORTH HEREIN ARE ACCURATE AS THE DATE HEREOF, BASF CORPORATION MAKES NO WARRANTY WITH RESPECT THERETO AND EXPRESSINGLY DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. SUCH DATA ARE OFFERED SOLELY FOR CONSIDERATION, INVESTIGATION, AND VERIFICATION.

END OF DATA SHEET

RECEIVED
JAN 16 1992

MATERIAL SAFETY DATA SHEET
FOR COATINGS, RESINS, AND RELATED MATERIALS

REPLACES NPCA 1-82

New

ALDO Products Co. Inc.
1604 N. Main Street
Kannapolis, North Carolina 28081

EMERGENCY TELEPHONE NO.
(704) 788-9405

INFORMATION TELEPHONE NO.
(704) 932-3054

DATE OF PREPARATION
6-14-90

SECTION I — PRODUCT IDENTIFICATION

PRODUCT NUMBER 120
PRODUCT NAME ALDOBOND
PRODUCT CLASS RESIN SOLUTION

SECTION II — HAZARDOUS INGREDIENTS

INGREDIENT	CAS NO.	PERCENT	OCCUPATIONAL EXPOSURE LIMIT TLV	OCCUPATIONAL EXPOSURE LIMIT PEL	VAPOR PRESSURE
1,1,1-Trichloroethane	71-55-6	81.0	350 PPM	350 PPM	100 mmHg @20° C
1,4 Diethylene dioxide	123-91-1	3.0	25 PPM	25 PPM	100 mmHg @20° C

NOTE:
1. This product contains the following chemicals which are subject to reporting under Section 313 of Title III: <u>1,1,1-Trichloroethane, 1,4 Diethylene dioxide</u>
2. All other chemicals in this product are Trade Secret and are not regulated as hazardous by any state Right-to-Know law.

SECTION III — PHYSICAL DATA

BOILING RANGE 162-191° F

VAPOR DENSITY ☒ HEAVIER ☐ LIGHTER THAN AIR

EVAPORATION RATE ☐ FASTER ☒ SLOWER THAN ETHER

% VOLATILE VOLUME 75.0%

WT/GAL 10.1 lbs.

SECTION IV — FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CLASSIFICATION OSHA ~~Combustible~~ DOT ~~Liquid UN2831~~ FLASH POINT N/A LEL N/A

EXTINGUISHING MEDIA:

☒ FOAM ☐ "ALCOHOL" FOAM ☒ CO2 ☐ DRY CHEMICAL ☒ WATER FOG ☐ OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS – Sealed containers may burst under intense heat.

SPECIAL FIREFIGHTING PROCEDURES – Use self contained positive pressure respiratory equipment in enclosed areas.

SECTION V — HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE – Dizziness, drunkeness, drowsiness, unconsciousness, death at extreme doses.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE – Not known

PRIMARY ROUTE(S) OF ENTRY: ☒ DERMAL ☒ INHALATION ☒ INGESTION

EMERGENCY AND FIRST AID PROCEDURES – EYES AND SKIN: Remove contaminated clothing and flush areas with water for 5-15 minutes. INHALATION: Remove to fresh air. If breathing stopped, administer respiration or oxygen. Call a physician. INGESTION: Do not induce vomiting. Call a physician.

SECTION VI — REACTIVITY DATA

STABILITY ☐ UNSTABLE ☒ STABLE

HAZARDOUS POLYMERIZATION ☐ MAY OCCUR ☒ WILL NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS – Hydrogen Chloride, Carbon Monoxide

CONDITIONS TO AVOID – Open flames, hot surfaces or electric arcs.

INCAMPATIBILITY (MATERIALS TO AVOID) – Water – Long term contact can produce corrosive acid. Avoid prolonged contact with or storage in aluminum or its alloys.

SECTION VII — SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Small spills: Remove with absorbent material.

Large spills: Recover free liquid, put in closed containers. Clean up area with absorbent material. Avoid breathing vapors. Ventilate enclosed areas or wear self contained breathing apparatus. Keep out of sewers and water courses.

WASTE DISPOSAL

Dispose of absorbed material at an approved disposal site or facility.

SECTION VIII — SAFE HANDLING AND USE INFORMATION

RESPIRATORY PROTECTION - Use vapor canister or supplied-air respiratory protection in confined or enclosed spaces that are not ventilated.

VENTILATION - Use adequate ventilation to keep concentration of vapors below exposure limits.

PROTECTIVE GLOVES - Use protective gloves if needed to avoid skin irriation.

EYE PROTECTION - Use goggles or face shield if eye contact may occur.

OTHER PROTECTIVE EQUIPMENT - Not needed

HYGIENIC PRACTICES: Keep solvent concentration in working atmosphere below TLV.

SECTION IX — SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING - Store in cool, dry place. Keep containers tightly closed.

OTHER PRECAUTIONS - Prevent prolonged or repeated breathing of vapor or mist. Do not take internally. Keep out of reach of children.

6.0 SUPPLEMENTAL INFORMATION: SECTION VI BEST AVAILABLE CONTROL TECHNOLOGY

6.1 Introduction

The purpose of this section is to provide an evaluation of Best Available Control Technology (BACT) options for reduction of methylene chloride emissions from the Slabtock Polyurethane Foam Production process. Based on previous informal communications, it is C/TA's understanding that FDER interprets the current regulations under Rule 17.2, F.A.C. to include this compound as a Volatile Organic Compound (VOC). The applicant disagrees with this Departmental interpretation, based upon the clear and specific provisions of Rule 17-2.100(238), F.A.C., which specifically recognizes that methylene chloride is not a VOC. Because the total maximum annual emission rate of methylene chloride is 316.75 tons/yr, the significant emission criteria for VOCs of 250 tons/yr is exceeded. Thus, based on FDER's interpretation of the current regulations, the Foamex facility is classified as a major source. This BACT analysis is therefore submitted as required for a major source and to support the air pollution control system proposed. As previously noted, the applicant does not agree that such a BACT determination is warranted or necessary for this source and reserves its rights to question such a determination should it become necessary.

In FDER Section 17-2.630. the evaluation of BACT is defined to include consideration of the following:

a) Any EPA determination of BACT and any emission limitation contained in 40 CFR Part 60 or 61;

b) All scientific, engineering, and technical material and other information available to FDER;

c) The emission limiting standards or BACT determinations of any other state; and

d) The social and economic impact of the application of such technology.

The following paragraphs provide detailed discussion addressing each of these requirements.

6.2 Emission Limits

There are no applicable emission limits specified in FDER Section 17.2, or 40 CFR Parts 60 and 61 for VOC or methylene chloride emissions from foam manufacturing facilities. The only applicable requirement for this emission are the No Threat Levels specified in the FDER Air Toxics Permitting Strategy guideline document. This No Threat Level "requirement" should not be construed as the applicant's belief that such NTL's constitute either a required, acceptable or achievable BACT level for the calculated emissions. To the best of our knowledge the NTL's have not been adopted by Departmental rule or regulation and are not binding in these regards and may not accurately represent levels of emissions that present no threat to the environment. Compliance with these maximum ambient concentration levels is demonstrated in Supplemental Information: Section VII of this application.

6.3 *Review of Similar Sources*

As an initial step in conducting this BACT analysis, various information on existing similar sources was reviewed. None of the facilities listed in identified were equipped with add-on systems for control of methylene chloride emissions. In addition, no previously issued EPA BACT determinations have been identified through the current BACT/LAER clearinghouse.

6.4 *Evaluation of BACT Options*

There are basically two methods for reducing methylene chloride emissions from the Slabstock foam production process. These include 1) the addition of an air pollution control device and 2) substitution of alternate blowing agents. In evaluating these options, various factors must be considered. Currently there are chemical modifiers under development that will reduce or eliminate the amount of auxiliary blowing agent required for the production of flexible polyurethane foam. Several options are under development which include the following: modified polyols, and additives such as Ortegol 310 and Geolite technology. At present, use of these additives can reduce the amount of methylene chloride needed by approximately 25 to 30%, but they cannot entirely replace auxiliary blowing agents. Once available for cost effective replacement of blowing agents, the use of such additives would reduce the need for emission control systems. Foamex will continue to work closely with chemical suppliers to take advantage of the latest developments in this area.

In addition, it is expected that several upcoming regulations to be implemented by both OSHA and EPA may affect the availability, cost and feasibility of using methylene chloride as an auxiliary blowing agent. At the current time the specific details of the regulations as well as how and when they will be implemented is unclear. However, such regulations would impact the entire foam manufacturing industry thus forcing broad changes in the processes used and in the economic market. For this reason there is much research and development activity with the goal of optimizing foam manufacturing processes which use water based chemicals or eliminate the need for hydrocarbon based blowing agents. In Appendix 6-A, as part of the document entitled "Flexible Polyurethane Foam Manufacture - An Assessment of Emission Control Options", sections 6 and 7 provide general descriptions of several equipment and process modifications which reduce emissions from foam manufacturing. As stated in the document, some of these modifications have already been installed in commercial operations, but others are relatively untested. Foamex has committed to use of the Variable Pressure Foaming System (VPF), which is similar to the Vacuum-Molded system described in Appendix 6-A and is among the latest technology. However this system is currently in the experimental stage. Foamex is also attempting to familiarize themselves with other experimental technologies, such as Envirocure, E-Max and the General Foam Rapid Cure system, all of which appear to be appropriate for some product mixes. Estimated costs for these systems range from 2.5 to 5 million dollars, depending on the product mix. Just as for the use of additives discussed above, the future implementation of such innovative process modifications would likely eliminate the need for add-on emission control systems.

To properly analyze BACT options for the Foamex facility the future impact of both foam manufacturing industry developments and new regulations were taken into account. In addition to considering the feasibility of implementing each option at the current time, the possibility of the control equipment becoming obsolete in the near future with the advent of new process technology were also evaluated. The following paragraphs provide detailed discussions of each option considered.

1) Add-on Air Pollution Control Device

As stated previously, of the facilities reviewed, none currently use add-on control devices for reduction of methylene chloride emissions. For purposes of this BACT analysis, a survey was conducted to identify various control technologies which could be used to limit methylene chloride emissions from the Foamex process operations. Sources of information used include the report published by the Center for Emissions Control and contained in Appendix 6-A entitled "Flexible Polyurethane Foam Manufacture - An Assessment of Emission Control Options" (October, 1991), the EPA Handbook entitled "Control Technologies for Hazardous Air Pollutants" (June, 1991), and various information from equipment manufacturers. The options considered include absorption, condensation, carbon adsorption, and thermal incineration. In addition, the current process configuration was evaluated for opportunities to optimize capture and dispersion of methylene chloride, thus limiting the resulting ambient impact levels. The following provides a discussion of the options evaluated as well as design and cost analyses for those options considered feasible.

A. <u>Optimize Capture/Dispersion</u>

In order to optimize the current system and enhance the effectiveness of any future add-on air pollution control device, Foamex proposes to modify the exhaust configuration of the Slabstock process. This modification consists of 1) the installation of a housing to completely cover the Foam Line, (currently it is only partially covered); 2) the installation of a centralized ventilation and exhaust plenums in the Long Bun Storage Room; and 3) the addition of GEP stacks for both the Foam Line and Long Bun Storage Room. Although this modification by itself would not reduce emissions, it would serve to lower the air quality impact from the facility. The ventilation, exhaust and stack systems would also likely be usable for any process modifications implemented in the near future.

B. <u>Absorption</u>

Absorption, or the use of a packed tower scrubber for removal of methylene chloride from the Foam Line Stack exhaust stream was evaluated as a BACT option. This technology uses a liquid solution for contact with the gas stream and absorption of the emissions. The efficiency of this process is highly dependent on the solubility of the emissions in the scrubbing liquid. Because methylene chloride is highly insoluble in water, an organic solvent would be required. During the absorption process, some quantity of the scrubbing liquid is normally evaporated to become part of the gas flow. The use of an organic solvent then would result in emissions of that compound to the atmosphere. Due apparently to the difficulty in identifying an appropriate scrubbing liquid, C/TA was unable to locate a scrubber manufacturer willing to apply this technology to the subject exhaust stream. This option was therefore considered unfeasible.

C. Condensation

Condensation was also considered as a BACT system for control of methylene chloride emissions from the Foam Line Stack. While this technology is widely used for VOC control, recovery of methylene chloride requires refrigeration to temperatures below -100°F. EPA's design and costing procedures as outlined in the handbook for HAP control systems referenced above do not provide for such extreme conditions. Based on various communications with equipment manufacturers, the Foam Line Stack conditions are not suitable for efficient condensation. Thus, this option was determined unfeasible.

D. Carbon Adsorption

Carbon adsorption was evaluated as a third BACT option. Based on discussions with equipment manufacturers, this technology has been used in other industries for control of methylene chloride emissions. At the maximum emission rate of 1200 lbs/hr, the use of a carbon adsorption system should achieve an estimated 95% control efficiency. A summary of the design and economic analyses conducted for evaluating this option are provided in Appendix 6-B.

E. Thermal Incineration

Thermal incineration was the fourth technology considered as a BACT option. Again, based on discussions with equipment manufacturers, thermal incineration has been widely used in the pharmaceutical industry for control of methylene chloride emissions. However, the use of an incineration system would necessitate an absorber for removal of hydrogen chloride emissions generated through combustion of methylene chloride. It is estimated that the use of a thermal incinerator would result in a 98% methylene chloride control efficiency. A summary of the design and economic analyses conducted for evaluation of this option are provided in Appendix 6-C.

2) Substitution of Alternative Blowing Agent

There are two chemicals which are suitable for use as alternative blowing agents at the Foamex facility. These include 1,1,1-trichloroethane and 141-B, a tradename chemical. Material Safety Data Sheets for each are included in Appendix 5-F. Either of these chemicals can be used to substitute 20% of the methylene chloride used on an annual basis. However, it should be noted that the use of both 1,1,1-trichloroethane and 141-B will be limited by the requirements included in the Clean Air Act Amendments of 1990. These include provisions to freeze production at 1989 levels and begin a phase-out of 1,1,1 Trichloroethane production in 1995. This fact makes the use of either 1,1,1 Trichloroethane or 141-B unfeasible for long term production. In the short term, Foamex will continue to evaluate the proper implementation of a permanent process modification such as the VPF system described above. Appendix 6-D provides a cost evaluation for substitution of each alternative blowing agent.

6.5 Summary and Conclusions

The following provides a summary of results of the cost analyses conducted for each control option considered feasible.

Summary of BACT Cost Evaluations

	Capital Cost ($)	Total Annualized Cost ($)
Optimize Capture/ Dispersion	200,000.00	32,560.00
Alternative Blowing Agent:		
a) 20% 1,1,1-trichloroethane	0.00	33,258.75
b) 20% 141-B	0.00	181,814.50
Carbon Adsorption	1,713,921	515,986
Thermal Incineration/ Absorption	1,101,995	350,161

Based on these results as well as the technical issues discussed in the previous paragraphs, Foamex proposes a combination of optimizing capture and dispersion and using an alternative blowing agent.

In conclusion, Foamex proposes the following course of action to comply with BACT requirements:

(1) The current process system will be modified to significantly increase capture efficiency of methylene chloride emissions in the Slabstock process and the Long Bun Storage Room.

(2) Captured methylene chloride emissions will be dispersed with greater efficiency by increasing the Foam Line Stack and Long Bun Storage Room Stack heights to GEP levels.

(3) methylene chloride emissions will be reduced approximately 20% through the use of 1,1,1-trichloroethane or 141-B as a substitute blowing agent.

(4) During the next eighteen (18) month period Foamex shall pursue the development of alternate processes which will eliminate and/or significantly reduce the use of blowing agents.

(5) After eighteen (18) months a decision will be made concerning the applicability and availability of alternate processes If alternate processes do not appear to be applicable and/or available Foamex will proceed with the design and implementation of an add-on control system.

APPENDIX 6-A

Center for Emissions Control

FLEXIBLE POLYURETHANE FOAM MANUFACTURE

An Assessment of Emission Control Options

October 1991
Washington, D.C.

Printed on recycled paper.

Center
for
Emissions
Control

FLEXIBLE POLYURETHANE FOAM MANUFACTURE

An Assessment of Emission Control Options

October 1991
Washington, D. C.

The Center for Emissions Control is an independent not-for-profit organization established in October 1990 to provide and act as a clearinghouse for information about, and to encourage the development and safe use of, safe and effective work practices, process modifications, control technologies, and other methods to reduce emissions of chlorinated solvents. As part of its activities, the Center is developing control options documents for the following solvent applications: adhesives, aerosols, chemical intermediates, coatings, dry cleaning, electronics, flexible polyurethane foam, food industry, paint removal, pharmaceuticals, solvent cleaning (degreasing), and textiles.

The Center also may undertake and support research and development projects intended to result in the creation or application of new technologies or products that will reduce emissions of chlorinated solvents.

This document is intended to serve as a general source of information on emission control options for various chlorinated compound applications. In publishing this document, neither the Center for Emissions Control, Inc. (CEC), the CEC member company representatives, nor the member companies –

- o endorse the performance, safety, or environmental acceptability of any of the technologies or products discussed. Those employing control technologies should consider the safety and proper disposal of contaminants and waste products generated from processes used.
- o purport to be an exclusive source of current information regarding control options. Over time more information may become available regarding the health and safety effects of the technologies or products described. Readers are encouraged to consult other sources.
- o make any warranty or representation, either express or implied, with respect to the accuracy, completeness, or utility of the information provided.
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duction controls placed on 1,1,1-trichloroethane,[4] increased use may be limited to those areas of the country where methylene chloride use is restricted.

* * * * *

4 Under the Clean Air Act Amendments of 1990, CFC-11 production will be phased out in 2000, and 1,1,1-trichloroethane production will be phased out in 2002. The Clean Air Act, as amended, also imposes interim production cuts between 1990 and the phase-out date.

Description of Process

The flexible foam manufacturing process produces a urethane polymer by reacting an isocyanate (i.e., toluene diisocyanate) with a polyol. A subsequent reaction of the isocyanate and water produces urea and carbon dioxide (CO_2). The CO_2 formed in this reaction expands the cells of the foam, thereby reducing its density. The urea gives the foam its rigidity or firmness.[5] In higher density foams (densities greater than 1.5 pounds per cubic foot, or lbs/ft^3),[6] carbon dioxide often is the sole blowing agent.[7] These "water-blown" foams compose about 40 percent of the total amount of slabstock foam that is produced (EPA, 1991).

While increasing the amount of water in the foam formula can produce less dense foam, it also will increase the foam's firmness. To produce lower density, soft foams, an auxiliary blowing agent like methylene chloride is used to further expand the cells of the foam without simultaneously making it stiff or rigid (**Figure 1**). The auxiliary agent also helps to control the reaction temperature. Otherwise the temperature could reach sufficiently high levels (>165°C) to result in combustion or scorching of the foam interior (UNEP, 1989).

Several process control agents also are necessary in the foam formulation. These include amine catalysts to increase the isocyanate/water reaction, tin catalysts for the polyol/isocyanate reaction, and surfactants to control the size of the foam cells and to stabilize the foam as it rises (Sayad and Williams, 1979a; 1979b). In addition, melamine, graphite, or alumina trihydrate is added to combustion-resistant foams to improve their performance in fire tests (UNEP, 1989).

Slabstock flexible foam is produced as a large continuous bun

5 Foam firmness is expressed as the indentation force deflection, or IFD. IFD is a measure of the force, expressed in pounds or newtons, required to compress the original foam height by 25 or 65 percent.

6 Equivalent to about 24 kilograms per cubic meter (kg/m^3).

7 In the case of soft foams (25% IFD< 30 pounds), an auxiliary blowing agent may be required regardless of the density.

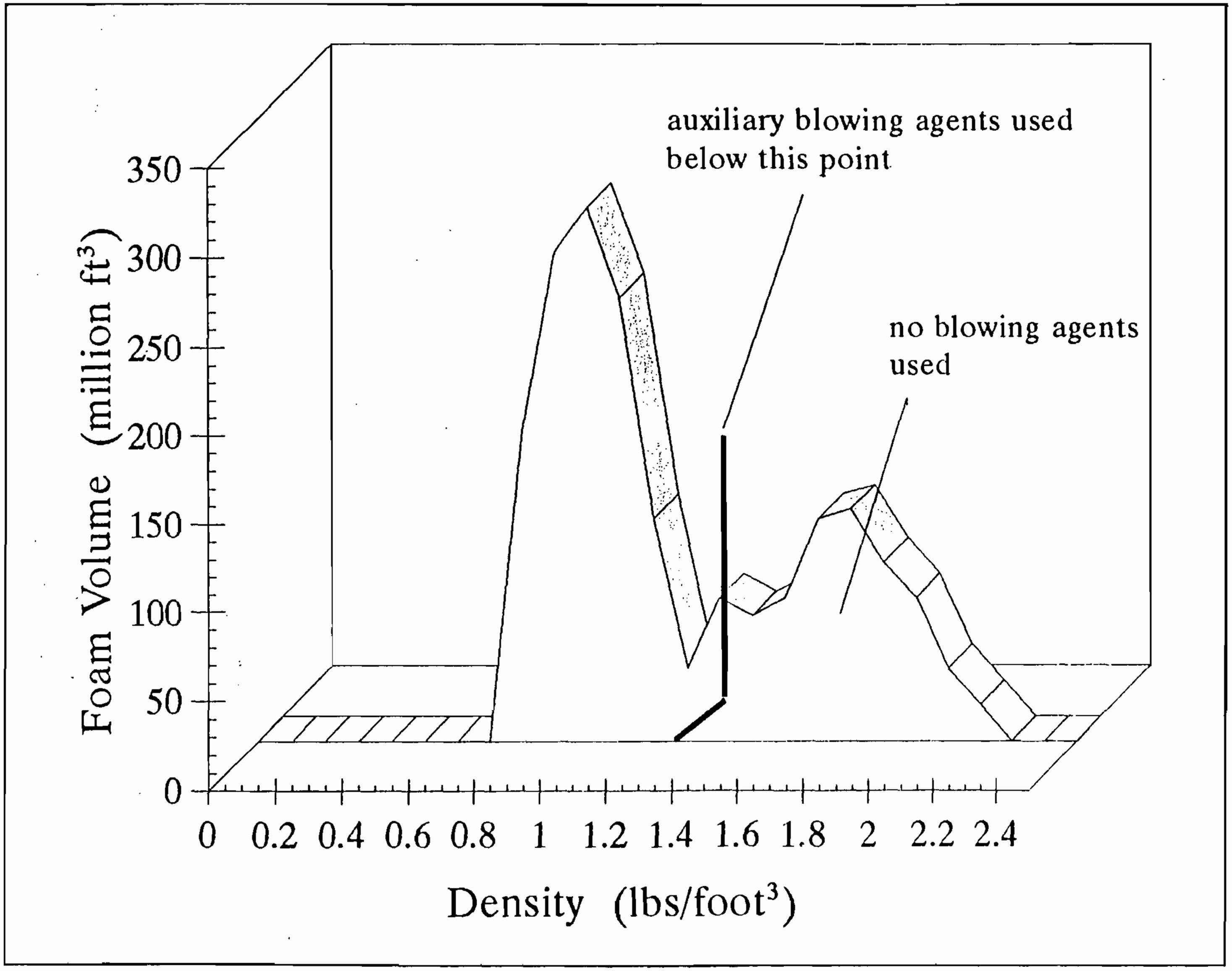

Figure 1. Density Distribution of Flexible Slabstock Polyurethane Foam in 1990 (Simmons, 1990).

that is cut into pieces with desirable dimensions (**Figure 2**). The ingredients of the foam formulation are pumped to a mixing head and discharged through the nozzle onto the front of a conveyor belt, called the foam line. The conveyor first passes through an enclosed, ventilated section, or tunnel, where the ingredients react quickly to form the foam "bun." From its maximum expansion, the foam begins to release blowing agent and unreacted chemicals. These emissions are exhausted from the enclosed section. As the bunstock leaves the conveyor, it is sawed into sections and transported to a curing and storing area.

* * * * *

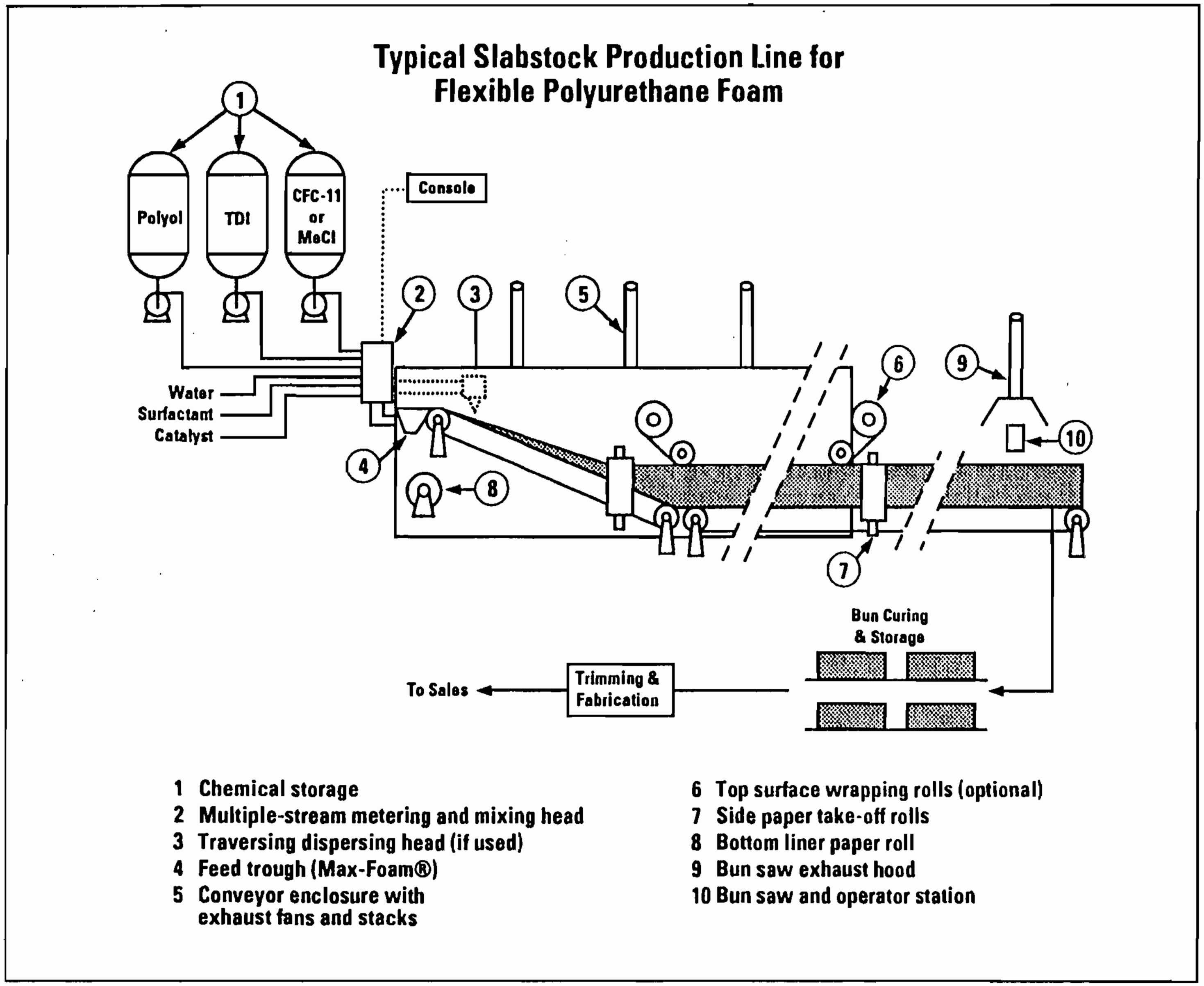

Figure 2. Typical Slabstock Production Line for Flexible Polyurethane Foam (EPA, 1991).

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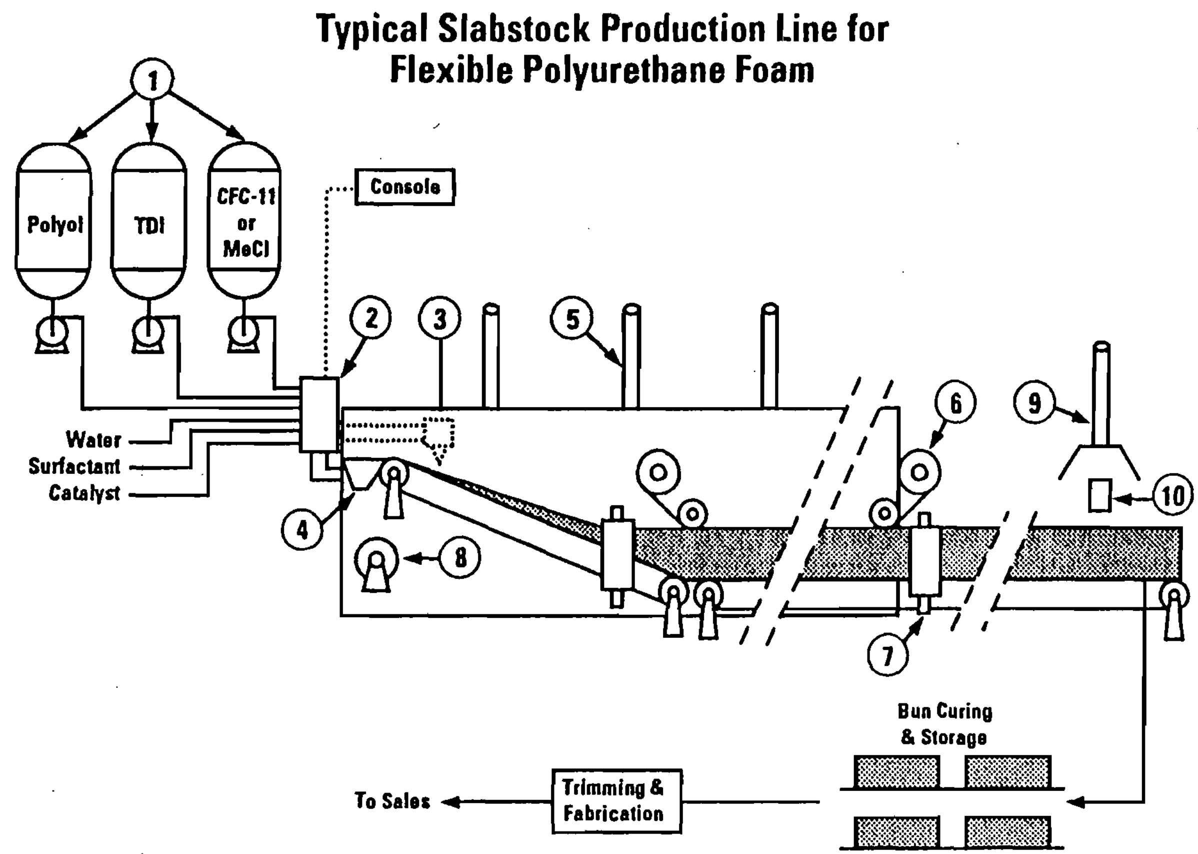
Emission Control

The bulk of losses of auxiliary blowing agent in the foam production process occur as atmospheric emissions. For operations using methylene chloride, the largest quantity of emissions will occur in the first 2 to 4 minutes (at "blow-off") and about half of the emissions will occur within 10 to 20 minutes (Simmons, 1990). The remainder of the emissions occur in the curing area over the next 12 to 24 hours (**Figure 3**). Several options have been suggested for reducing losses of methylene chloride to the atmosphere including work practice changes, vapor recovery or treatment, equipment and process modification, and chemical substitution. In addition, recovery of the quantity of the substance used as a solvent for cleaning operations has been suggested. Each of these options is discussed below.

Work Practice

Methylene chloride emissions cannot be greatly reduced by changes in the work practices in flexible foam production, but certain housekeeping and maintenance activities will help to minimize blowing agent emissions. These activities include the routine maintenance of pumps, pipe fittings and flanges, pressure relief devices, sampling and delivery connections, storage tanks, and dispensing lines to detect and fix leaks (SRRP, 1990).

In addition, work practices have been implemented to minimize the use of methylene chloride for maintenance flushing of the mixing head, delivery hoses, and trough of the foam machine (Leggett and Platt, 1990; SRRP, 1990). For example, use of a disposable liner can eliminate



1 Chemical storage
2 Multiple-stream metering and mixing head
3 Traversing dispersing head (if used)
4 Feed trough (Max-Foam®)
5 Conveyor enclosure with exhaust fans and stacks
6 Top surface wrapping rolls (optional)
7 Side paper take-off rolls
8 Bottom liner paper roll
9 Bun saw exhaust hood
10 Bun saw and operator station

Figure 2. Typical Slabstock Production Line for Flexible Polyurethane Foam (EPA, 1991).

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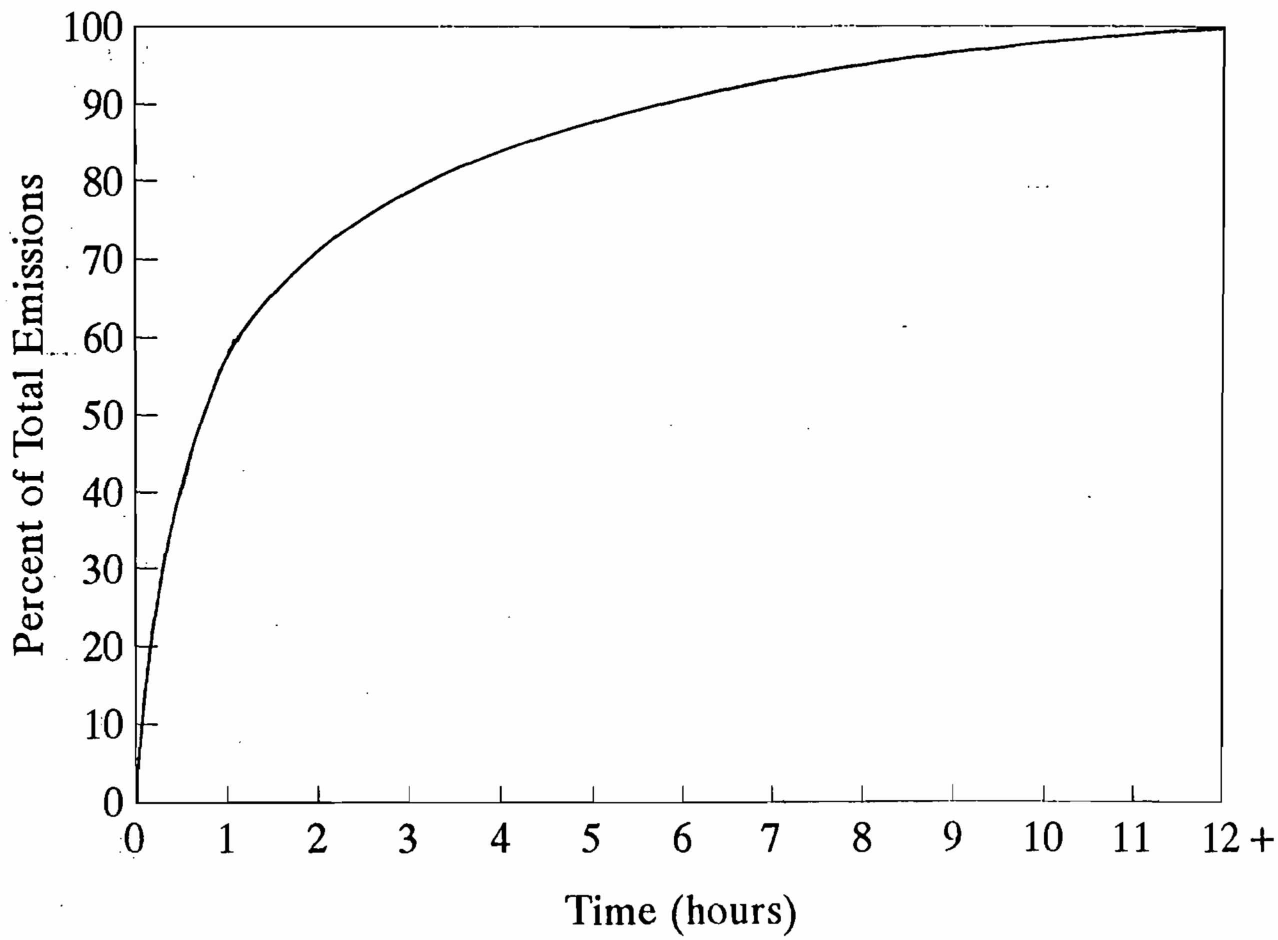

This graph is intended to provide a general indication of methylene chloride emissions. It does not reflect actual measurements.

Figure 3. General Emission Profile for Foam Production and Curing.

solvent cleaning of the foam trough. Solvent used to flush the mixing head and delivery hoses can be collected, distilled, and returned to the system for reuse rather than being allowed to evaporate to the atmosphere.

Storage Tank Controls

While data are not available for the flexible foam industry, estimates from pharmaceutical manufacture indicate that storage tank emissions comprised three percent of total emissions, or about 5,000 pounds annually (EPA, 1986). These losses, while not a major contributor to total emissions, can be controlled effectively through the application of available control technology.

Storage tanks for organic liquids are categorized into five basic designs: fixed roof, external floating roof, internal floating roof, variable vapor space, and pressure (high and low). For the purposes of this document variable vapor space and pressure tanks are assumed to have insignificant emissions (EPA, 1986).

Because of changes in temperature and solvent level, the volume of air in a fixed-roof storage tank is almost constantly changing. These change can result in solvent emissions when vapors are released from the tank to relieve excess pressure. These losses can be controlled with either floating roofs or vapor condensation (**Figure 4**).

Floating roof tanks have a floating deck which rests on the surface of the organic liquid and adjusts according to the pressure within the tank. The floating deck may be the roof of the tank (external floating roof tanks) or the tank may have a permanent roof with a floating deck inside (internal floating roof). For internal floating roof tanks, the space between the floating deck and permanent roof is vented to the outside to prevent the possibility of explosion. The internal floating deck either floats directly on the liquid surface or rests on pontoons several inches above the liquid surface.

The floating deck restricts the evaporation of the organic liquid. Evaporation losses may occur, however, between deck fittings, seams, and the space between the deck and the tank wall. Consequently, the floating roof generally is equipped with primary and secondary seals.

Floating roofs can reduce emissions from fixed roof tanks by as much as 85 percent, but are more cost effective in larger tanks with frequent changes in fluid level (EPA, 1986). In smaller tanks, refrigerated condensation (discussed below) is estimated to be a more cost-effective option (EPA, 1986; Waldrop, 1990).

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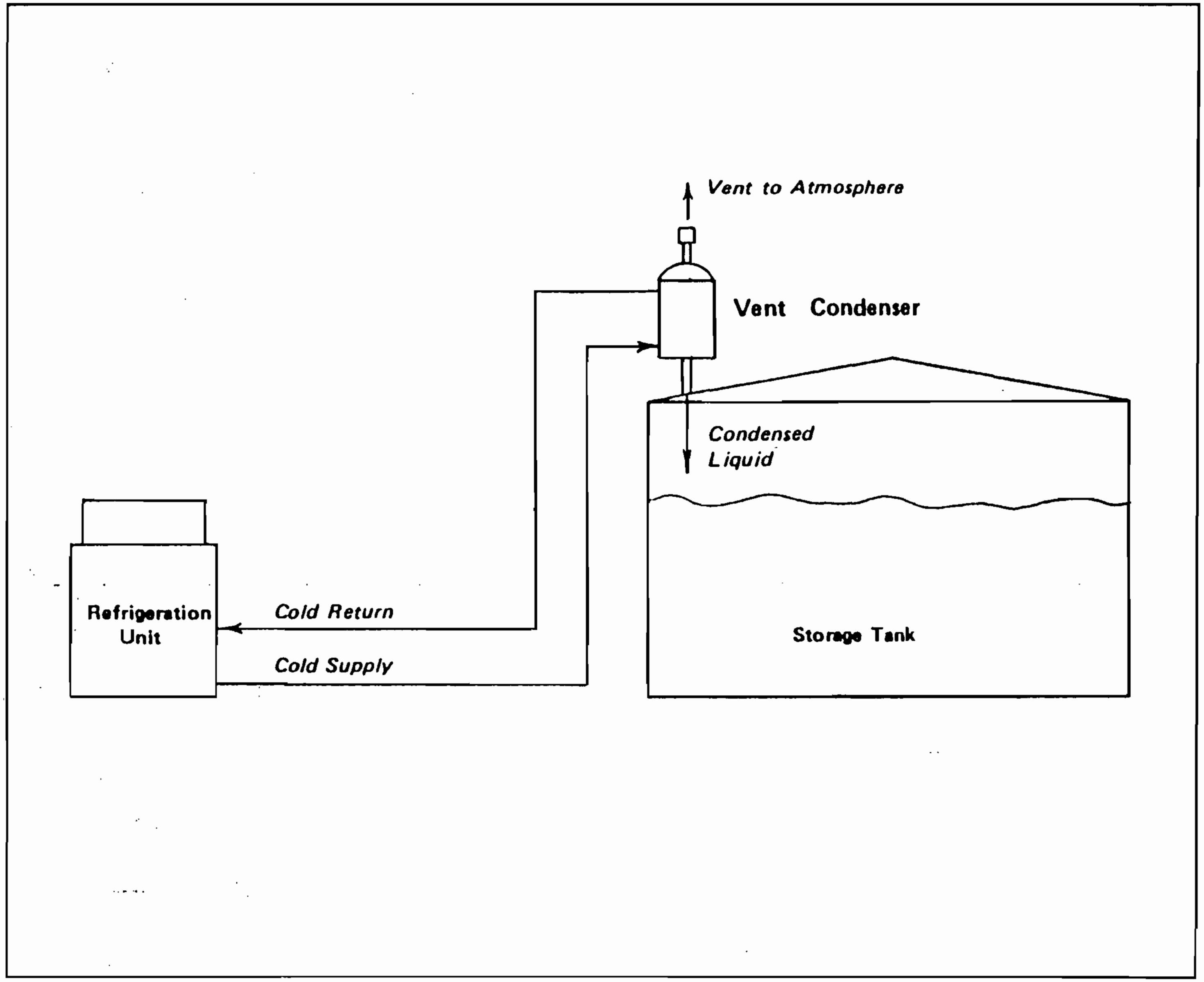

Figure 4. Control of Fixed-Roof Storage Tank Emissions (Waldrop, 1990).

Vapor Recovery

Auxiliary blowing agent emissions from flexible foam production are divided about equally between the actual production process and the curing phase. Concentrations are low in the production area, because of the high volumes of air required to achieve the workplace standards for toluene diisocyanate (TDI), used to produce the polyurethane (SRRP, 1990). While air volumes are lower in the curing area, concentrations likely also are lower.

In assessing the applicability of available add-on emissions control equipment, these concentrations and air volume constraints must be taken into consideration. For vapor recovery techniques, the amount of blowing agent that is potentially recoverable is a function of the total emissions and the efficiency of the exhaust system of the particular facility (UNEP, 1989).

Carbon Adsorption

Granular activated carbon has been employed for several years in industrial processes to trap organic compound vapors from air streams. As the air stream from the process passes through the carbon bed, the compound molecules adsorb to the surface of the carbon granules. The compound is then stripped, or desorbed, from the carbon bed using steam. Carbon adsorption systems generally employ multiple carbon beds to allow for continuous operation (**Figure 5**).

The generally high air flows in foam production plants would require relatively large quantities of carbon (Leggett and Platt, 1990). In addition, the presence of TDI and amine catalysts can deactivate the carbon bed, such that regeneration of the carbon may not be feasible (SRRP, 1990). One suggested solution to this problem is to

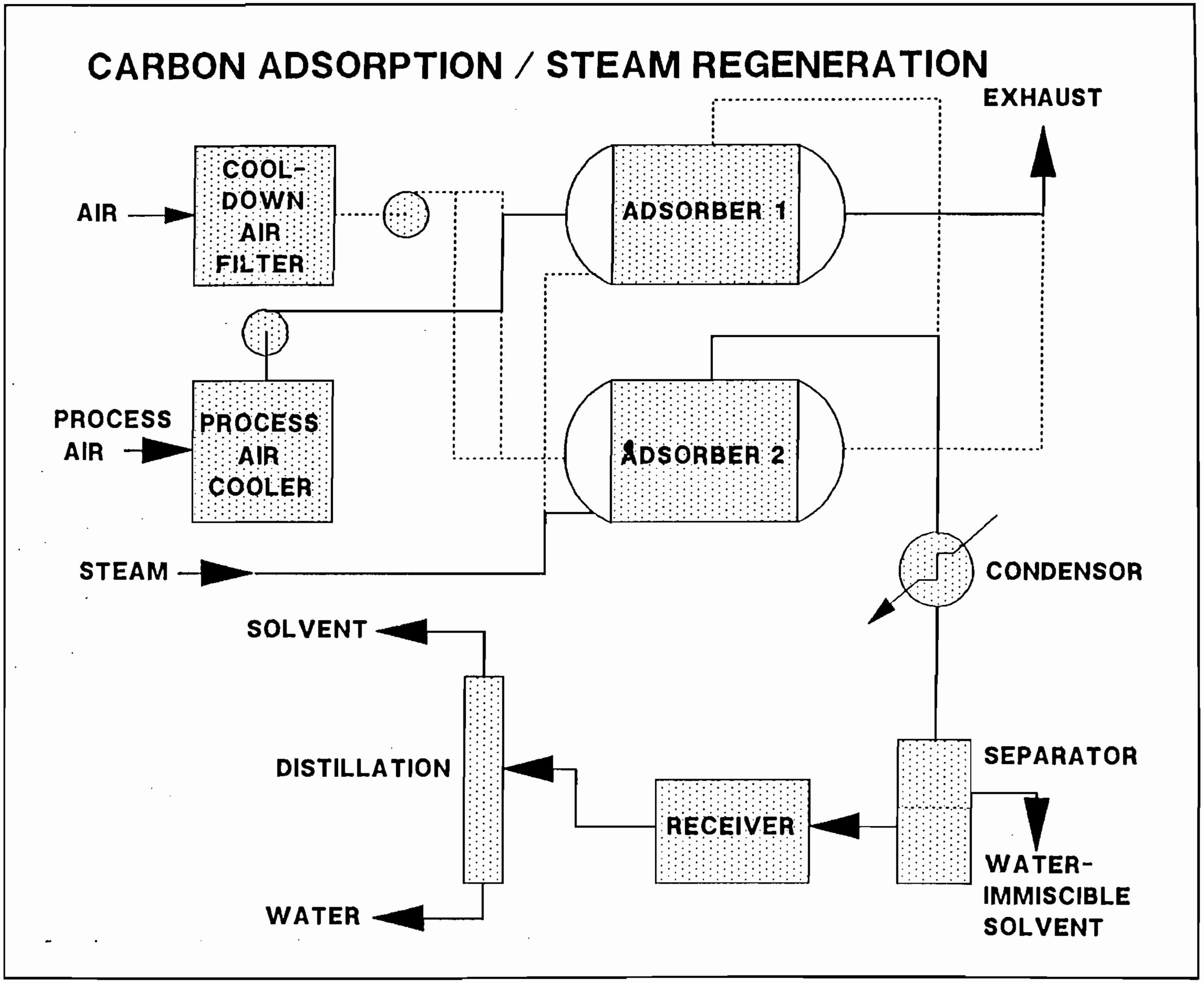

Figure 5. Carbon Adsorption System Using Dual Beds and Steam Regeneration.

use a sacrificial carbon bed between the foam tunnel and the main carbon beds to adsorb the TDI. The methylene chloride would bypass this bed and adsorb to the carbon in the main bed. While the air volumes and TDI levels are lower in the curing area, the lower concentrations and the challenge of enclosing the space make effective carbon adsorption difficult in the curing area (SRRP, 1990).

Recovery of auxiliary blowing agent from the foam tunnel can result in an emission reduction of about 30 to 40 percent or less, since only about half of the emissions occur in the tunnel (Sporon-Fielder, 1986; Nutt and Skidmore, 1987). Some increased efficiency can be achieved by extending the foam tunnel to increase the residence time and by better enclosing the tunnel to prevent fugitive emissions (Leggett and Platt, 1990).

Additional considerations in the use of carbon adsorption are the requirement for steam production on-site, and the potential for hydrolysis of the methylene chloride or 1,1,1-trichloroethane in the presence of moisture (SRRP, 1990). Alternative stripping methods do exist, however, and are described below.

Vapor Condensation

Direct condensation of methylene chloride vapors can be accomplished by cooling the air stream below the condensation point of the compound (**Figure 6**). This technology is particularly applicable when concentrations in the gas stream are relatively high (i.e., greater than one percent). As a consequence, the recovery efficiency of a vapor condensation system in a flexible foam operation likely would be low (Leggett and Platt, 1990).

Recovery of methylene chloride requires condenser temperatures of -100 °F (-73°C) or less. These temperatures can be achieved with either CFC refrigeration or liquid nitrogen (N_2) systems.

Condensation of the vapor stream from a flexible foam plant will produce methylene chloride and water. In addition, however, TDI and trace amines may be condensed with the water. Stabilizers present in the methylene chloride formulation may not be condensed, on the other hand, and reblending of the reclaimed material may be necessary.

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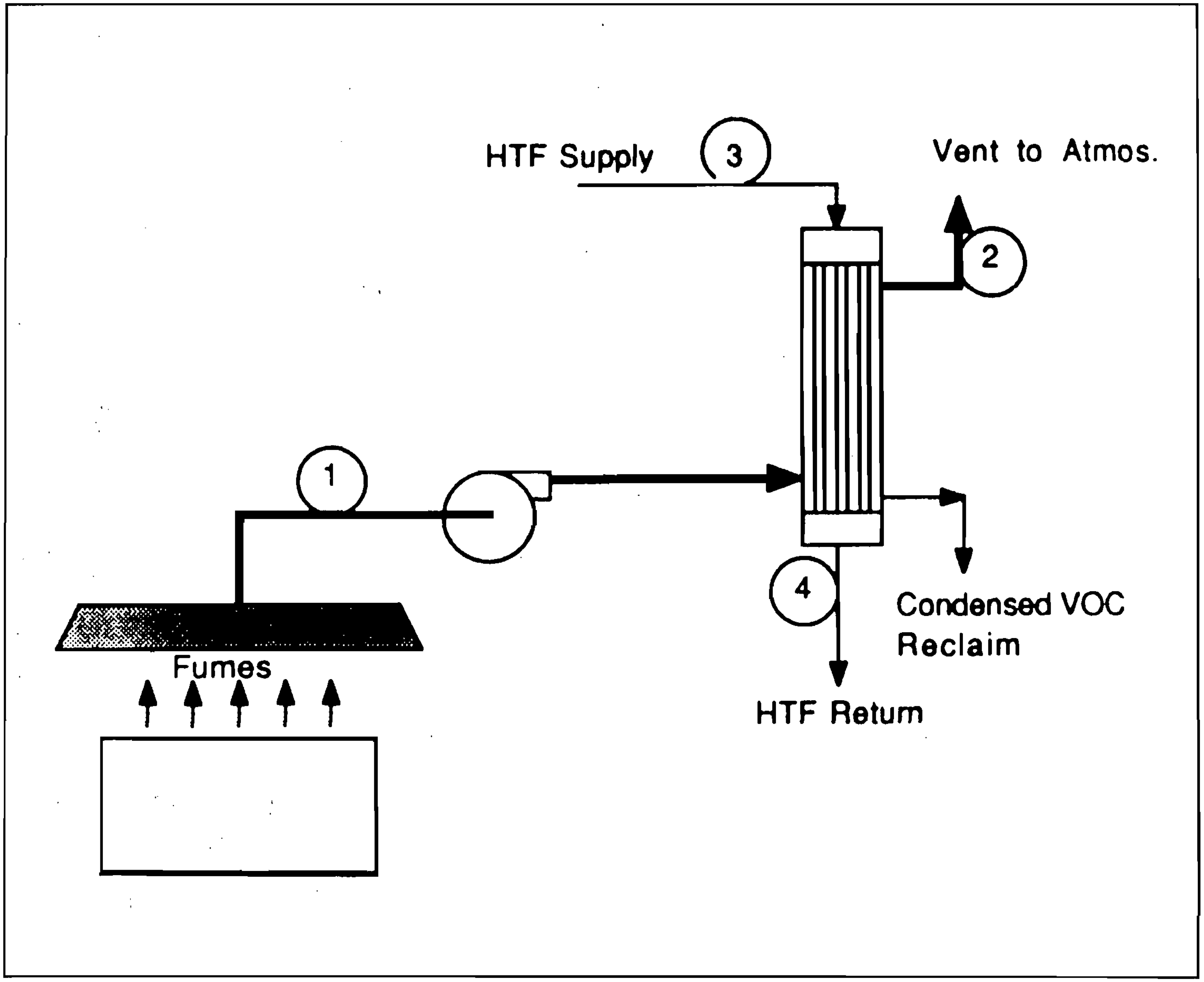


Figure 6. The Vapor Condensation Process (Hall, 1990).

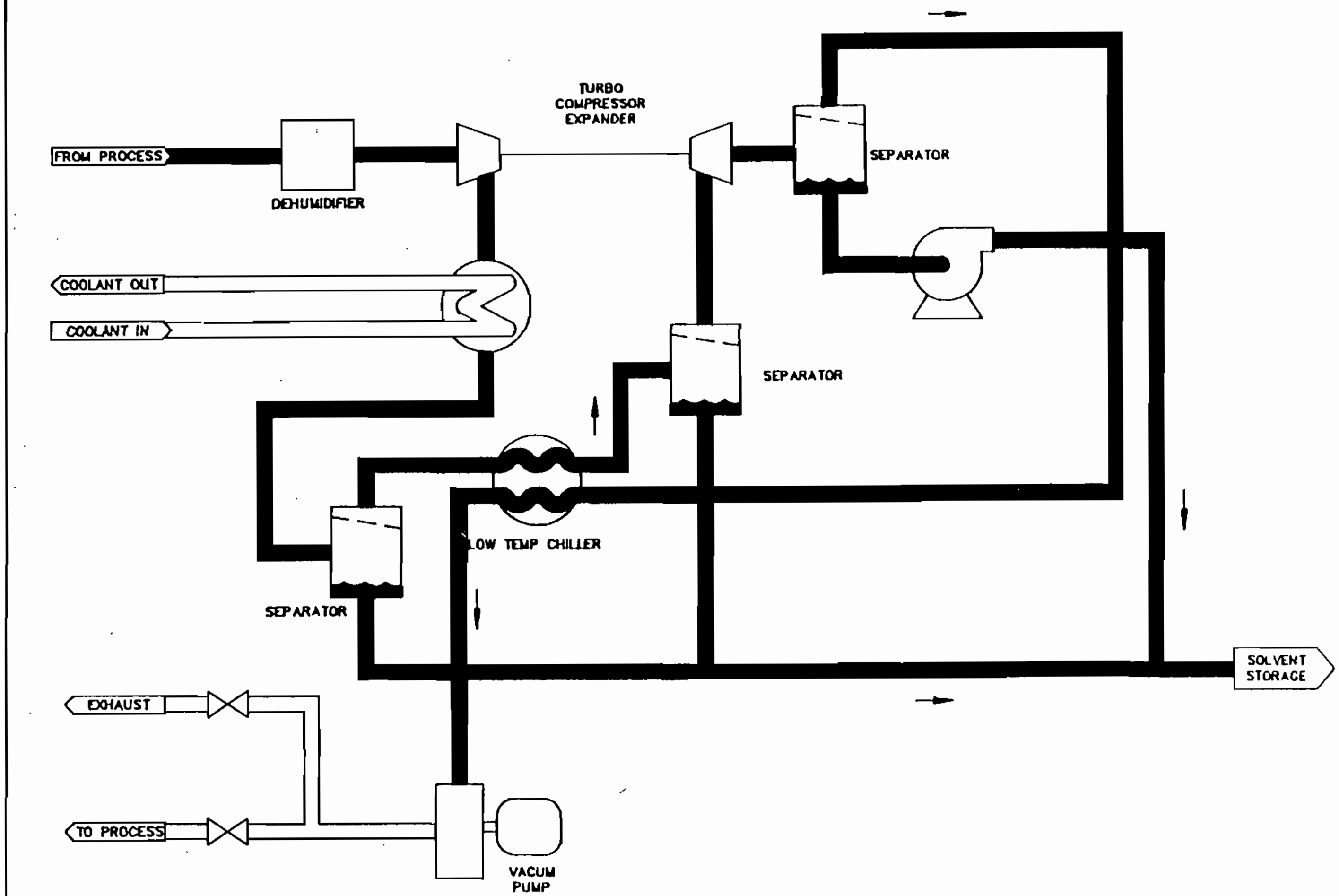
Brayton Cycle Heat Pump (BCHP)

A newer vapor condensation technique employs the Brayton cycle heat pump to achieve a lower temperature (-150°F, or -101°C) to condense the organic vapors (Priebe, 1989). The BCHP technology has been used historically for cabin temperature control in virtually all commercial, business, and military airplanes. It uses a reverse Brayton refrigeration cycle to achieve very low temperatures, providing two thermodynamic advantages over more traditional condensation methods (DOE/OIP, 1990). First, it operates under increased pressure, thus increasing the condensation temperature of the substance to be recovered (**Figure 7**). As a result, the recovery efficiency is significantly higher compared to condensation at atmospheric pressure. Second, by combining the compression and expansion equipment onto one spindle, it reduces the amount of energy required (Kovach, 1990).

The BCHP technology also can be used in conjunction with standard carbon adsorption methods to remove emissions from a gas stream (**Figure 8**). In such a configuration, hot nitrogen replaces steam for desorbing the organic compound and regenerating the carbon bed. The compound-laden inert gas is cooled, compressed, and cooled further. The condensed material is separated and the inert gas is heated and returned to the carbon bed.

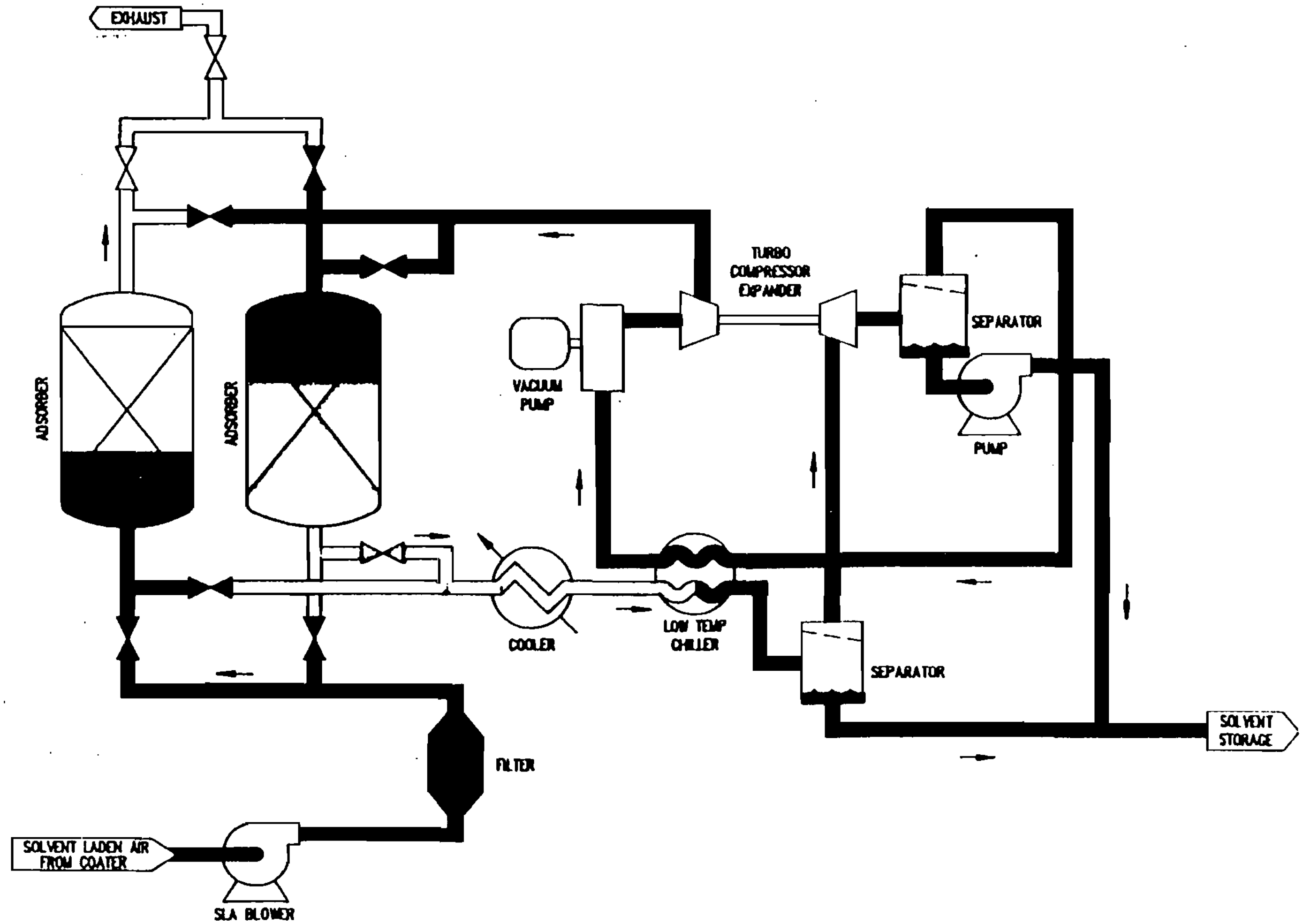
The Brayton cycle provides several advantages to traditional methods of vapor recovery for methylene chloride and 1,1,1-trichloroethane (Kovach, 1990). These advantages stem from the virtual elimination of water from the process, either by completely eliminating the adsorption step or by removing the need for steam regeneration of the adsorption bed. Trace quantities of water vapor, however, likely will condense from the stream (SRRP, 1990).

The production of "dry" quantities of the compound can significantly reduce the need for the water separation step, and may reduce the need for restabilization of the recovered material. The elimination of water and oxygen from the process can significantly reduce any decomposition that can occur at elevated temperatures. Use of regenerated inert gases at elevated temperatures also may greatly reduce the amount of the organic compound remaining on the adsorption medium after regeneration, and may permit a significant size reduction of adsorbent beds. Since water can



Source: Nucon International, Inc.

Figure 7. Vapor Condensation Using Brayton Cycle Heat Pump Technology.



Source: Nucon International, Inc.

Figure 8. Use of Brayton Cycle Technology for Desorption of Carbon Beds.

be virtually eliminated by employing the BCHP process, it may be possible to use less expensive materials for many system components (Leggett and Platt, 1990).

Liquid Absorption

The liquid absorption technique, in which the soluble component in a gas mixture is transferred into a liquid absorbent, has been used to remove particular substances from certain gas streams. The absorbent is placed in a packed or tray-type column, and the stream is bubbled through it. The quantity of organic compound recovered is removed from the liquid using heat or reduced pressure. 1-Hexanol has been found to be relatively effective for recovering methylene chloride (SRRP, 1990). The recovered material, however, would need to be restabilized before reuse.

A significant obstacle to the application of this technology to the foam industry is that the dilute methylene chloride concentrations from the production area would require large scrubbing columns (Leggett and Platt, 1990). In addition, the presence of TDI in the gas stream may foul the absorbent column. Emissions of the liquid absorbent also may produce a significant odor problem (Leggett and Platt, 1990).

Membrane Technology

This relatively new technology uses a semipermeable composite membrane to separate the organic compound from the air stream. Several membranes are rolled into modules to increase the surface area in contact with the air stream (**Figure 9**). As the air moves through the center of the module, the organic compound is preferentially drawn through the membrane by a vacuum pump. As it travels through the membrane, it is condensed and removed as a liquid.

The data that have been collected indicate that the membrane system works best for low volume air streams with relatively high concentrations of 5,000 parts per million (ppm) or more (Wijmans and others, 1990). In order to be effectively applied to flexible foam production, the methylene chloride emissions would need to be concentrated before the air stream enters the membrane module (Wijmans and others, 1990).

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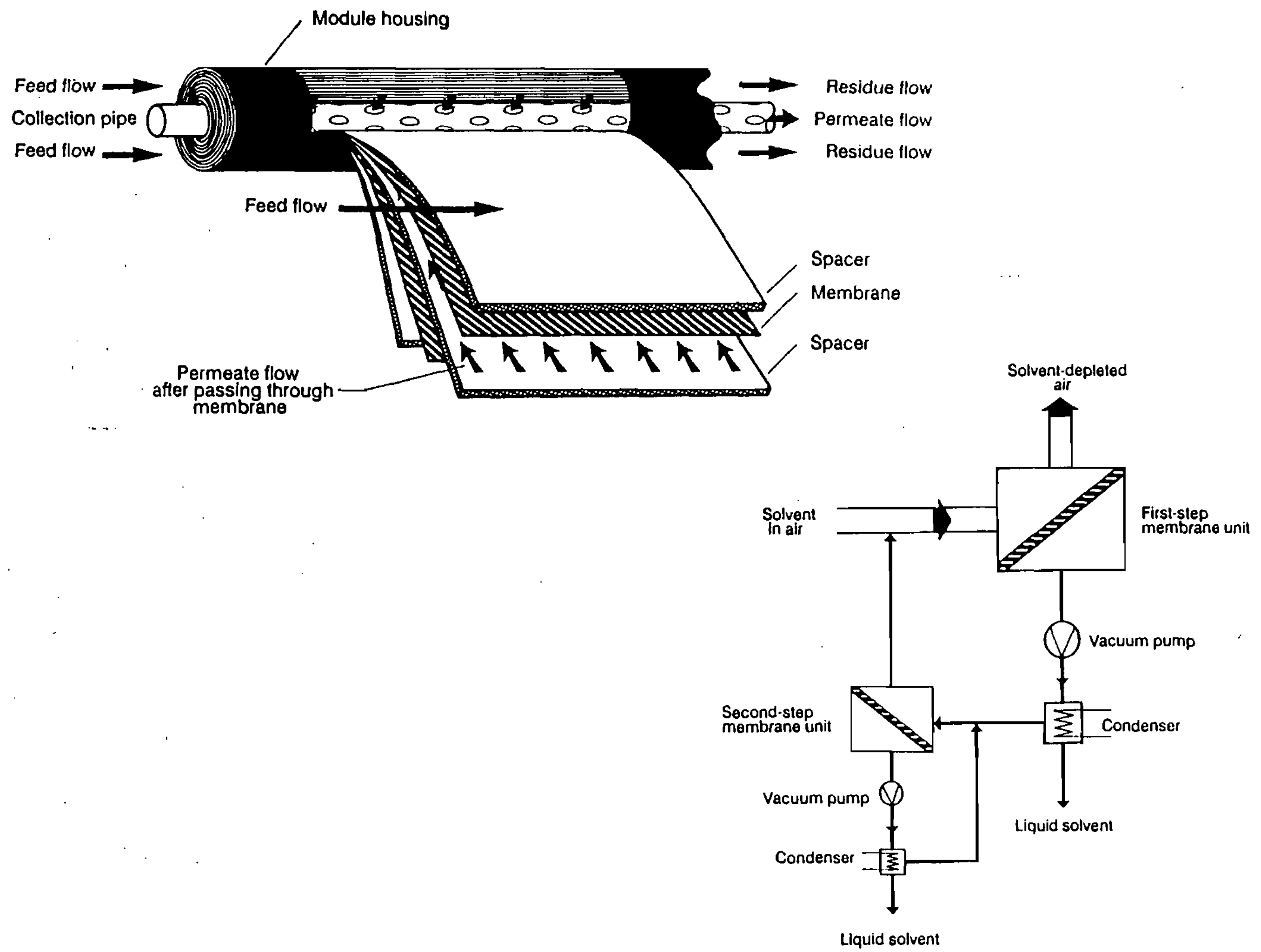

Source: Membrane Technology & Research, Inc.

Figure 9. Expanded View of a Membrane Module and Two-Step Membrane Separation System.

Vapor Treatment

The TDI and amines in the air stream from the foam line present several technical and economic obstacles for recovery of the methylene chloride. Consequently, it may be more efficient to destroy the organic vapors than to collect them. Thermal oxidation, or incineration, is a common method for the disposal of industrial gas waste.

Like other chlorinated hydrocarbons, methylene chloride's low heat of combustion requires considerable supplemental fuel to raise the waste stream to the temperatures required for thermal destruction. The development of catalysts designed for exposure to chlorinated compounds, however, may improve the cost effectiveness of such thermal treatment.

In addition, a newer technology, biological treatment, is available and may have application in the flexible foam operations.

Thermal Oxidation (Incineration)

Thermal oxidation has been recommended by EPA to control air emissions of methylene chloride and other substances in some industrial processes. In such an operation, the waste air stream containing methylene chloride or other chlorinated hydrocarbons passes into the reactor where the substance is oxidized to carbon dioxide (CO_2) and hydrogen chloride (HCl). Although it has been found to be effective for controlling emissions in continuous manufacturing operations, its application in batch or intermittent operations like flexible foam manufacture may be limited (Leggett and Platt, 1990).

Application of thermal oxidation to foam production would require that large volumes of exhaust air be processed. This would increase both the cost of the equipment required and the energy costs necessary to effectively destroy the methylene chloride (Leggett and Platt, 1990). Additional equipment also may be required to neutralize the HCl emissions. Another concern is the potential production of chlorine (Cl_2) gas as the result of the oxidation of HCl (Welden and Senkan, 1986).

Catalytic Oxidation

While destruction of methylene chloride requires considerable energy, catalysts can be used to increase the rate of the combustion reaction, allowing combustion to occur at lower temperatures and reducing the need for supplemental fuel (**Figure 10**). The use of catalytic oxidation faces many of the same constraints as thermal oxidation. It can, however, improve the cost effectiveness of oxidation in operations with concentrated waste streams (Chemical Engineering, 1991a).[8]

The presence of chlorine or other halogens in a waste stream containing chlorinated hydrocarbons tends to poison traditional semi-precious metal catalysts (**Figure 11**), however, and to quickly deactivate them (Burns, 1990). Such deactivation occurs, not because of the reaction of the halogen with the metals in the catalyst, but because of the reaction with the catalyst carrier, or "wash coat," which is commonly composed of alumina (Chemical Engineering, 1991a).

Chlorinated compounds also can greatly reduce the conversion efficiency of other hydrocarbons that may be present in the air stream (van der Vaart and others, 1991). While alternative reactor designs (i.e., packed bed, fluidized bed) can alleviate some of these problems, they tend to have other undesirable effects or are large and costly (van der Vaart and others, 1991).

In recent years, several companies have developed poison-resistant catalysts that demonstrate high activity and stability and that appear to be highly selective in producing only HCl and CO_2 (Welden and Senkan, 1986; Hung and Pfefferle, 1989; Lester, 1989; Kittrell and others, 1991) (**Figure 12**). As noted above, the HCl emissions resulting from the oxidation process can be readily converted to brine by reaction with caustic soda (Kittrell and others, 1991).

8 The combination of vapor capture and oxidation systems, while representing a higher capital expenditure, may significantly reduce energy costs by reducing the air volumes requiring handling.

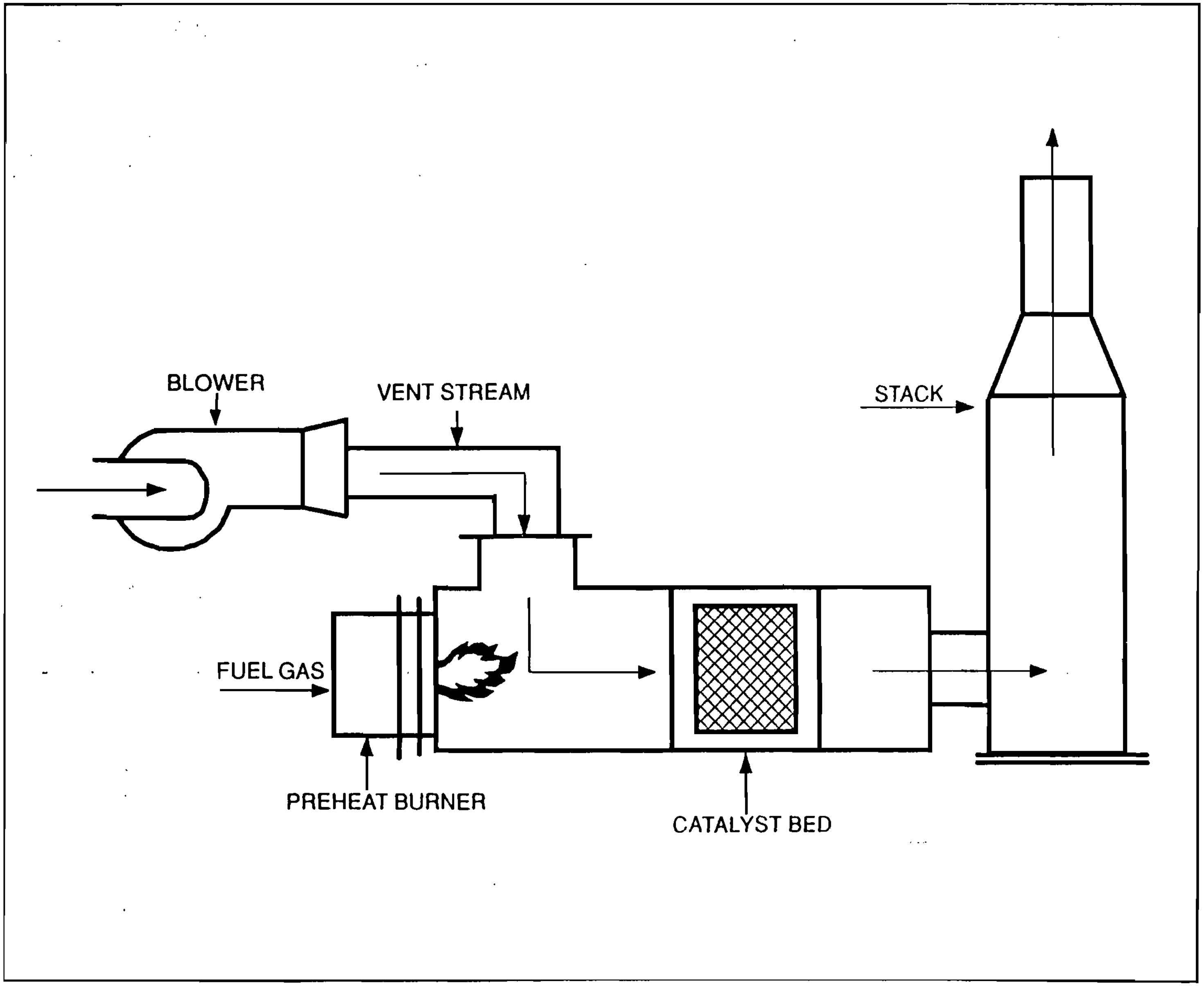

Figure 10. Diagram of Catalytic Oxidation Process.

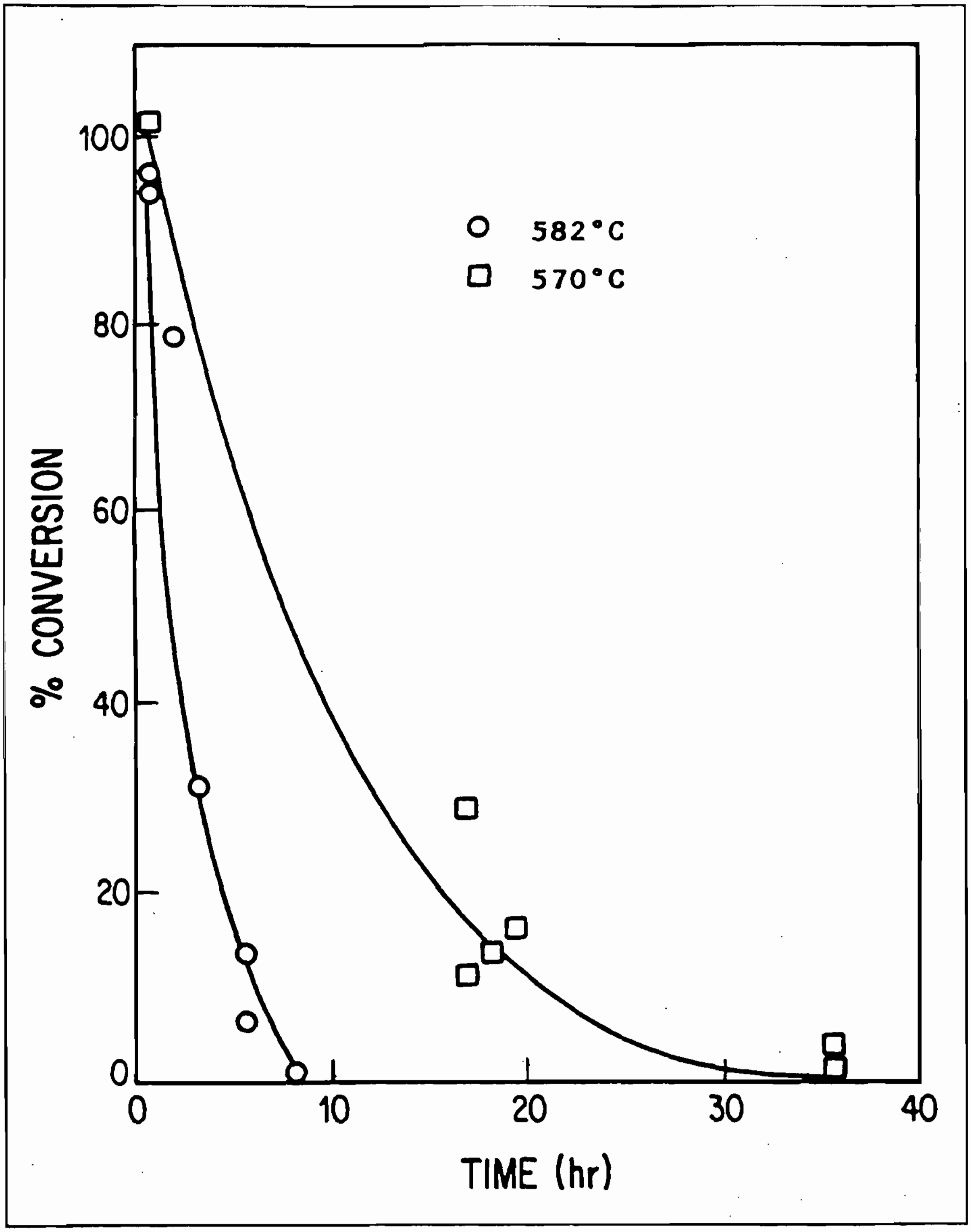

Figure 11. Deactivation of Typical Catalyst During Halogen Oxidation (Kittrell and others, 1991).

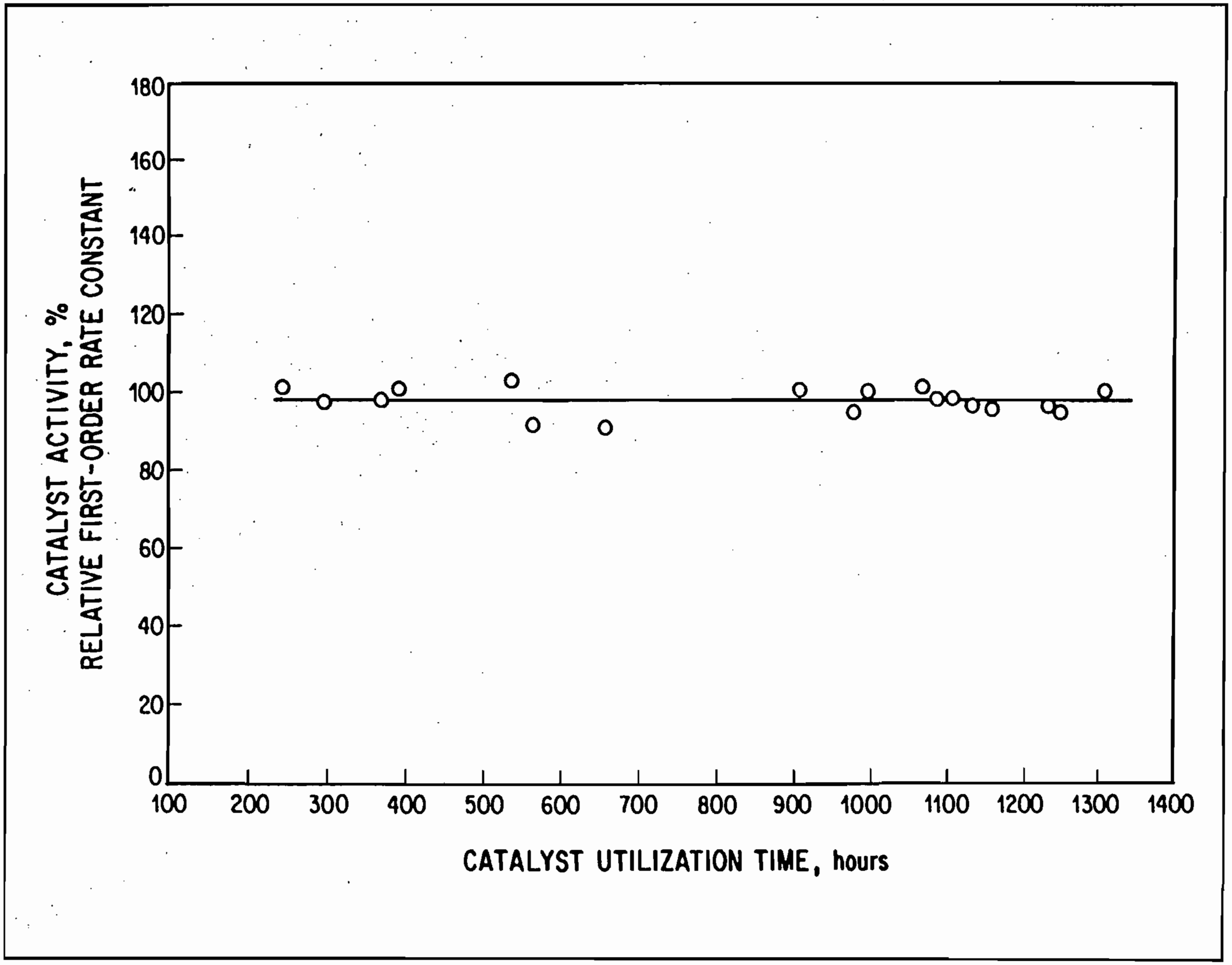

Figure 12. Stability of Catalyst Designed for Halogen Conversion (Kittrell and others, 1991).

Biotreatment

While still relatively new, the use of selected microbes to treat effluents from industrial processes has found favor in recent years. In these systems, specifically developed microorganisms are placed in a controlled environment, or bioreactor, where they can purify a liquid waste stream relatively rapidly. Such systems have been developed for treating effluents containing methylene chloride, and at least one has been adapted for the treatment of waste air streams.

Such a biotreatment system couples the bioreactor with a vapor collector. The collector is necessary to recover the substance from the air stream. The substance then enters the bioreactor where it is converted to water, CO_2, and salt. While the process requires an additional concentration step, it does not require the energy input necessary for thermal or catalytic destruction (Environmental Manager, 1991).

* * * * *

Recovery from Waste

Waste solvent produced during cleaning operations in the foam industry can be recycled for reuse. While the quantities of solvent are small, recycling practices can be implemented at relatively low cost. Solvent recovery can be conducted either on-site or by a commercial recycler.

On-Site Distillation

A few foam plants currently practice on-site recovery using an off-the-shelf distillation unit with a plastic liner. The methylene chloride is separated from the polyurethane and other contaminants for reuse in the cleaning process. It also may be possible to use the recycled methylene chloride in the blowing agent formulation, reducing the need for virgin solvent (SRRP, 1990). The residual sludge from the distillation process would need to be sent off-site for disposal.

Off-Site Recycling[9]

Depending on the quantity of solvent requiring reclamation, the use of a licensed commercial recycler may be more cost-effective than on-site distillation (SRRP, 1990). The spent methylene chloride could be sent off-site and recycled quantities of the substance purchased instead of virgin material. The presence of polyurethane contamination in the spent solvent may pose processing problems for the recycler, however, and increase the cost (SRRP, 1990).

* * * * *

9 Appendix 1 contains a list of available commercial recyclers.

Equipment Modification

Several equipment modifications have been developed to reduce emissions from the foam production process. While some of these modifications already have been installed in commercial operations, others are still relatively untested.

Many foamers have adopted the MAXFOAM™ process in their operations (EPA, 1991). Consequently the potential for emissions reduction in the industry may be small. In addition, the amount of methylene chloride that can be saved may be relatively low.

MAXFOAM™

In the MAXFOAM™ process, the methylene chloride and other ingredients are pre-mixed and introduced at the bottom of the production trough, at the entry of the foam tunnel (**Figure 13**). This configuration produces a flat-topped foam, or bunstock, that requires less trimming and minimizes trim waste. The process also increases the gas efficiency of the blowing agent by introducing the mixture at the bottom of the trough (Leggett and Platt, 1990).

VERTIFOAM™

The VERTIFOAM™ process reconfigures the foam production line to a totally enclosed, vertical (rather than horizontal) expansion chamber. Premixed feed is introduced at the bottom and the rising foam is drawn up through the chamber. Because the methylene chloride emissions move upward through the forming bunstock, the gas efficiency is improved over a horizontal arrangement (Leggett and Platt, 1990). In addition, the blowing agent emissions are more con-

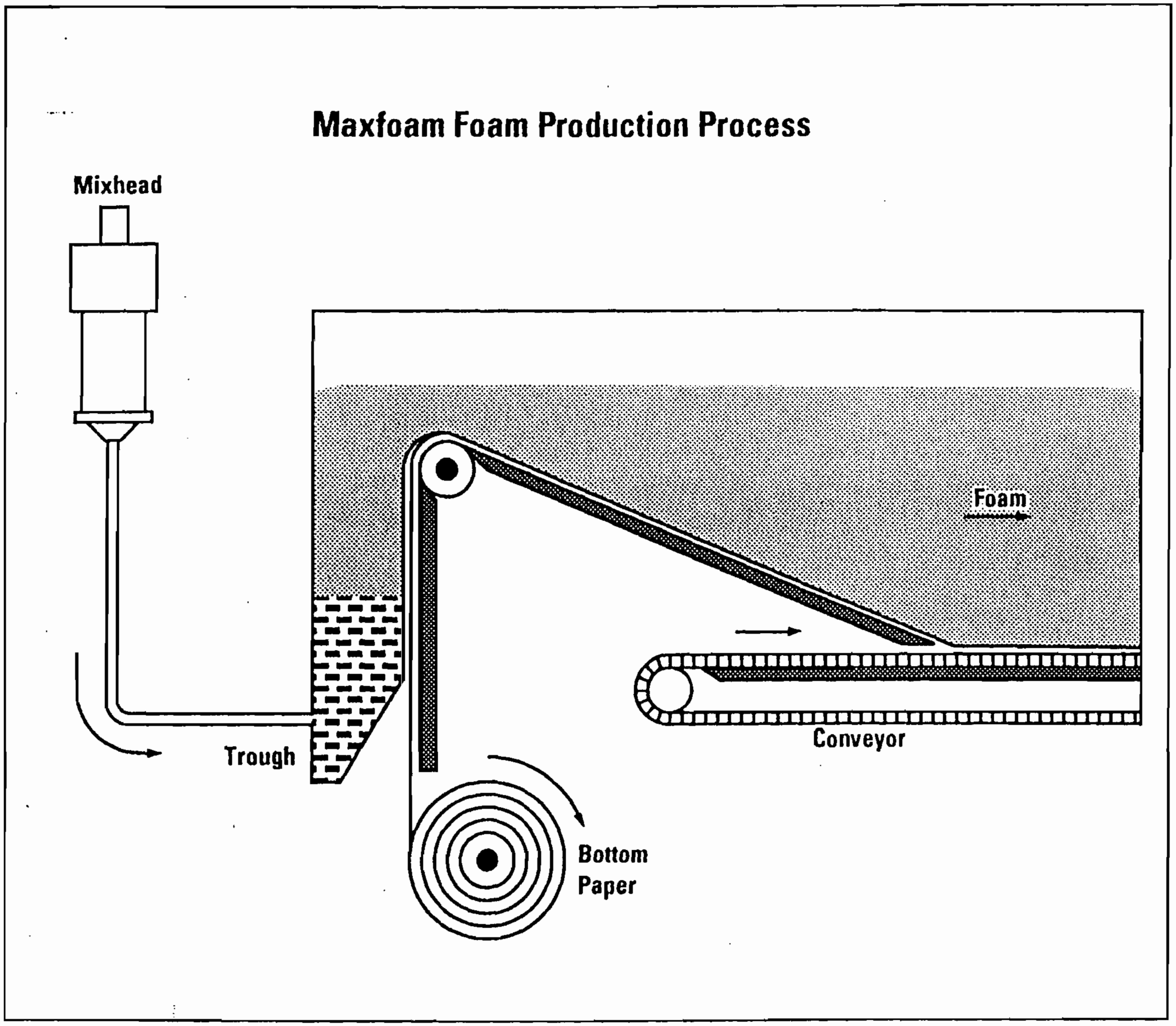

Figure 13. The MAXFOAM™ Production Process (EPA, 1991).

fined in the vertical chamber and can be captured more easily by vapor recovery equipment. The foam produced also has a thin, porous skin that allows the auxiliary blowing agent to be emitted more rapidly (EPA, 1991).

VERTIFOAM™ units have been installed in a few plants in the United States (Webb and Griffiths, 1987). The unit is mechanically and structurally more complex than the horizontal system. While it occupies less floor space, the equipment, which can be forty-feet high, requires considerably higher ceilings. The height also limits the length of bunstock that can be produced.

Vacuum-Molded

Some potential exists for the reduction of emissions by producing the foam under vacuum conditions. As the air pressure within the mold is reduced, a given amount of blowing agent will occupy a greater space than under normal pressure. The "vacuum-molded" process, therefore, may result in the production of greater foam volume with less blowing agent. For certain density foams, in fact, it may be possible to eliminate auxiliary blowing agent use. While this technology has been employed in Europe for batch production, it has not been practically applied in a continuous foam line (Creyf and Veenendaal, 1990).

ENVIROCURE™

The ENVIROCURE™ process is designed to accelerate the foam curing by decreasing the cooling time (i.e., from full bun expansion to cure completion) from 10 to 12 hours or more to less than 40 minutes. In so doing, the process also consolidates the emissions, and may reduce the quantity of auxiliary blowing agent required (Ricciardi, 1990).

The ENVIROCURE™ process is designed to "add-on" to the VERTIFOAM™ system described above, and uses a set of three vacuum boxes in the foam tunnel to recirculate air through the bunstock. The recirculating air accelerates the cooling of the foam. The process also may include a carbon adsorption unit to collect blowing agent.

E-MAX™

The E-MAX™ process combines the production and curing steps by encapsulating the developing bunstock in a mold as the foaming mixture is introduced to the foam line (SRRP, 1990). The foam mold allows for all emissions from the process to be controlled and collected. Before the premixed foaming material is introduced, the bottom and sides of the foam tunnel are lined with a polyethylene film. As the foaming material enters the tunnel, the foam mold is enclosed with a PVC-coated fabric at the top (Leggett and Platt, 1990). Once the mold has been completely filled with foam, it is sealed. The mold is then ventilated to a vapor recovery system to collect the emissions.

As a result of the enclosure of the foam, the organic vapors can be drawn to a collection device in a concentrated form. This allows for more economical handling, because the reduced air flow and higher concentrations require smaller reduction/ recovery units (Leggett and Platt, 1990). To date, the industry has had very little commercial experience with this technology (Leggett and Platt, 1990). It has been demonstrated on a pilot scale, however, achieving 85 percent recovery of CFC-11. In addition, the system requires new equipment and does not allow for retrofitting (Creyf and Veenendaal, 1989).

* * * * *

Process Modification

Several modifications to the basic framework of the polyurethane foam production reaction have been developed or proposed. These modifications would substitute or add new materials or ingredients to the basic production reactions to improve the effectiveness of CO_2 as the primary blowing agent. In so doing, they potentially could reduce the need for auxiliary blowing agents.

Alternative Blowing (AB™) Process

The AB™ process uses formic acid, instead of water, in the reaction with isocyanate to reduce the amount of auxiliary blowing agent that is necessary. While the isocyanate/water reaction produces only carbon dioxide, the reaction of isocyanate and formic acid produces equal volumes of carbon dioxide and carbon monoxide. Because twice as much blowing agent is produced in the formic acid reaction, the requirement for an auxiliary blowing agent is reduced, but not eliminated. Use of this process is expected to replace about 8 parts of auxiliary blowing agent (Creyf and Veenendaal, 1989).[10]

Some concern has been expressed about the inferior physical properties of the foam produced with the AB™ process, and it appears that some catalyst adjustment may need to be made (Creyf and Veenendaal, 1989). In addition, the use of formic acid, and the production of carbon monoxide (CO), may create workplace exposure concerns. Much of the CO is emitted after the foam has left the foam tunnel (EPA, 1991). The AB™ process also appears limited in its ability to produce low-density foams (UNEP, 1989; Leggett and Platt, 1990).

10 The amount of an ingredient used in a particular formulation generally is expressed in parts per hundred polyol, or php.

Extended-Range Polyol Systems

Foam plants generally use polyols based on diols or triols in the reaction with isocyanate to produce the urethane polymer. Several firms have developed alternative polyol systems that can soften the foam, thereby reducing or eliminating the need for an auxiliary blowing agent (Consoli and others, 1984; Thomas, 1989).[11] These "soft" polyols either replace the conventional polyol or are blended with it (Creyf and Veenendaal, 1989). They do not help to lower the density, however, and require that additional water be used in the formulations (EPA, 1991).

While extended-range polyols have been developed to produce most foam grades, no one polyol can produce all grades (Thomas, 1989; EPA, 1991).

High-Resilience (HR) Polyols

Alternative polyol systems have been developed for the production of high-resilience (HR) foams. These foams primarily are used for higher quality commercial furniture, and compose only a small percentage of U.S. production of flexible foam (SRRP, 1990). While some process changes may allow the use of HR polyols to account for a somewhat larger fraction of the foam produced, it does not appear promising for the production of low-density foams (Creyf and Veenendaal, 1989).

Examples of these HR polyol systems are the ULTRACEL™ and RESTEASY PLUS™ technologies. Both employ higher molecular-weight, blended polymer polyols, but the ULTRACEL™ process includes the addition of diethanolamine which acts as a softening agent and stabilizer. Both technologies can be used to produce foams of 1.3 to 1.5 lbs/ft^3 (21 to 24 kg/m^3) or greater (Leggett and Platt, 1990; EPA, 1991).

Softening Additives

A few additives have been developed to modify the chemistry of the foam production process to reduce the density and hardness of the foam with less auxiliary blowing agent.

ORTEGOL™ 310 has been shown to be effective for decreasing foam hardness and may be able to replace 6 to 8 parts of auxiliary blowing agent (EPA, 1991). It provides no cooling effect, however, and tends to be scorch-prone (Creyf and Veenendaal,

11 The amount of auxiliary blowing agent that potentially can be replaced depends on the specific polyol system and the foam grade produced.

1989). Its use is limited, therefore, to foam densities of about 1.3 lbs/ft^3 (21 kg/m^3) or higher.

GEOLITE™ is a recently introduced technology that may allow the production of soft foams without auxiliary blowing agents. Preliminary trials indicate, however, that lower-density foams produced with this process were of inferior quality (Leggett and Platt, 1990). Use of GEOLITE™ may require some auxiliary blowing agent to produce these foams.

Minimum Density Limits

Eliminating the production of low density foams would reduce the amount of auxiliary blowing agent required. The reduction in methylene chloride emissions that would be achieved depends on the density limit specified, and could be enhanced with the further commercial development of the polyol modifications and production additives described above. Elimination of the low-density foams, which compose the bulk of flexible foam production, however, would substantially increase costs (Simmons, 1990).

* * * * *

Alternative Chemicals

A few substances have been suggested as alternatives to methylene chloride as auxiliary blowing agents using conventional foam production techniques. Of these, only acetone appears to have potential for significantly greater use (**Table 1**). In addition, there may be some limited potential for replacing methylene chloride in solvent cleaning operations.

Acetone

Acetone is considered to be a technically suitable blowing agent, and is currently used by at least one foam plant. Its molecular weight is much lower than that of methylene chloride and, therefore, about 30 percent less chemical would be required to produce an equivalent amount of foam (Sullivan, 1990). The major drawback to using acetone is its flammability, which could cause a particular problem in the curing area where as much as half of the blowing agent emissions occur (Leggett and Platt, 1990). In addition, acetone is photochemically reactive, and its use would be restricted in most urban areas (SRRP, 1990).

Acetone does appear to have limited application, however, if certain precautions are taken, including special storage and handling procedures, and additional fire protection measures (EPA, 1991). The use of acetone as an auxiliary blowing agent is subject to a licensing arrangement for the technology.

Hydrochlorofluorocarbons (HCFCs)

Two of the hydrochlorofluorocarbons (HCFCs) under development as CFC replacements appear to have suitable properties for use as an auxiliary blowing agent. These two substances,

	Molecular Weight	Boiling Point[1]	Vapor Pressure[2]	Flash Point[1]	Heat of Vaporization[3]
CFC-11	137.4	23.8	792	none	43.1
Methylene Chloride	84.9	39.8	352	none	78.7
1,1,1-Trichloro-ethane	133.4	74.1	104	none	56.7
Acetone	58.1	56.2	227	-20	122.4
HCFC-123	152.9	28.7	685	none	41.1
HCFC-141b	116.9	32.0	600	none	52.8
Isopropyl Chloride[a]	78.5	33-36	533	-32	87.3

1 - Units are °C. 2 - Units are millimeters Hg. 3 - Units are calories/gram.
a - Isopropyl chloride is being used as a blowing agent for rigid foams in Europe (Chemical Engineering, 1991b). Its applicability to flexible foam production is unknown.

Table 1. Properties of Current and Proposed Blowing Agents.

HCFC-123 and HCFC-141b, have stratospheric ozone depletion potentials (ODPs) that are considerably lower than CFC-11.[12] Under the Clean Air Act Amendments of 1990, however, use of HCFCs for non-insulating foams, except for foams used for motor vehicle safety purposes, is prohibited after January 1, 1994.

Both HCFCs are available in limited quantities, as are constant boiling blends of the two substances. Both currently are undergoing toxicity testing, but a preliminary assessment by EPA's Office of Toxic Substances concluded that neither substance appears to present a significant health concern (EPA, 1990).[13]

While HCFC use is prohibited in foam production, they may have limited applicability in the cleaning of foam equipment and molds. The most likely candidates are an HCFC-123 formulation or a mixture of HCFC-123 and HCFC-141b. The addition of

12 ODP is a measure of the compound's potential to deplete stratospheric ozone, relative to CFC-11, which is assigned a value of 1.0. Under this system, HCFC-123 and HCFC-141b have been assigned ODPs of 0.02 and 0.1-0.15.

13 Recent evidence of benign tumors in a 2-year bioassay has led some HCFC-123 manufacturers to recommend an occupational exposure limit of 10 ppm for an 8-hour time-weighted average (IRTA, 1991; Chemical Week, 1991).

HCFC-123 lowers the ozone depletion potential of HCFC-141b.

Other Solvents

Dibasic esters (DBE) and n-methyl-pyrrolidone (NMP) appear to be technically feasible substitutes for methylene chloride and other chlorinated solvents in certain solvent cleaning applications. Neither DBE or NMP appear to have applicability for solvent cleaning uses in the foam industry (SRRP, 1990). Neither substance likely would be a sufficiently strong solvent to remove the polyurethane and other contaminants from the foam heads, molds, and other equipment.

* * * * *

Summary

The control of auxiliary blowing agent emissions presents a difficult challenge to flexible polyurethane foam manufacturers. While several emission control options are potentially available, none are without drawbacks. The potential for reducing emissions of each of these options is summarized in **Table 2.** In some cases, the emission reduction will depend on the characteristics of the foam produced.

In addition, **Table 2** contains information on the commercial availability of the control options, and the applicability of each to manufacture of the full range of foam densities. The information was collected from several sources (Leggett and Platt, 1990; SRRP, 1990; EPA, 1991).

OPTION	EMISSION REDUCTION	AVAILA-BILITY	APPLICA-BILITY
WORK PRACTICE			
Leak Detection & Repair	2%	good	good
Storage Tank Control	3%	good	good
VAPOR RECOVERY			
Carbon Adsorption	40-50%	good	good
Vapor Condensation	10-30%	good	poor
Brayton Cycle	30-50%	fair	good
Liquid Absorption	30-45%	fair	fair
Membrane Technology	10-30%	fair	poor
VAPOR TREATMENT			
Thermal Oxidation	40-50%	good	poor
Catalytic Oxidation	40-50%	good	fair
Biotreatment	40-50%	fair	poor
RECOVERY FROM WASTE			
On-Site/Off-Site	5-10%	good	fair

Table 2. Qualitative Analysis of Emission Control Options

OPTION	EMISSION REDUCTION	AVAILA-BILITY	APPLICA-BILITY
EQUIPMENT MODIFICATION			
MAXFOAM	10%	good	good
VERTIFOAM	50%	good	good
Vacuum-Molded	~75%	poor	fair
ENVIROCURE	85-90%	fair	fair
E-MAX	~85%	poor	fair
PROCESS MODIFICATION			
AB Process	-	fair	poor
Modified Polyol	-	fair	fair
HR Polyols	-	fair	poor
Additives			
ORTEGOL 310	-	good	fair
GEOLITE	-	fair	fair
Minimum Density	100%	good	poor
ALTERNATIVE CHEMICALS			
Acetone	30%	good	fair

Table 2. Qualitative Analysis of Emission Control Options (continued)

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Appendix I

Commercial Solvent Recycling Companies[1]

Alabama

Attala
Oldver Corp.
Birmingham
Allworth
Emmelle
Chemical Waste Management

Arizona

Chandler
Romic Chemical Corp.

California

Azusa
Oil and Solvent Process Co.
East Palo Alto
Romic Chemical Corp.
Inglewood
Rho-Chem Corp.
Los Angeles
Detrex Corp.
Newark
Baron-Blakeslee/Genesolv
Reedley
Safety Kleen Corp.
San Diego
Baron-Blakeslee/Genesolv
San Jose
USPCI/Hydrocarbon Recycling Services

Canada

Edmonton, Alberta
Allied Environmental
Mississauga, Ontario
Anachemia Solvents
Surrey, Vancouver
Allied Environmental

Colorado

Henderson
Chemical Waste Management

Florida

Bartow
Laidlaw Environmental Services

1 List of Active Members of the National Association of Chemical Recyclers (Washington, D.C.), as of March 1991.

Georgia

Atlanta
M & J Solvents Company
Norcross
Southeastern Chemical and Solvent

Illinois

Chicago
Safety Kleen Corp.
Cicero
Baron-Blakeslee/Genesolv
Dolton
Safety Kleen Corp.
Sauget
Clayton Chemical Company

Indiana

Indianapolis
Detrex Corp.
Reclaimed Energy Company
South Bend
Industrial Fuels and Resources
Terre Haute
Avganic Industries

Louisiana

Lake Charles
Chemical Waste Management

Michigan

Detroit
Detrex Corp.
Nortru
Roseville
City Environmental

Missouri

Scott City
Industrial Fuels and Resources

New York

Model City
Chemical Waste Management
West Babylon
Pride Solvents and Chemicals

New Jersey

Clayton
Safety Kleen Corp.
Linden
Safety Kleen Corp.
Middlesex
Marisol

North Carolina

Charlotte
Detrex Corp.

Ohio

Avon
Chemtron Corp.
Bedford
Hukill Chemical Corp.
Cleveland
Chemical Solvents
Hebron
Safety Kleen Corp.

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West Carrollton
CWM Resource Recovery

Oklahoma

Tulsa
USPCI/Hydrocarbon Recycling Services

Oregon

Portland
Baron-Blakeslee/Genesolv

Puerto Rico

Safety Kleen Corp.

Rhode Island

Cranston
Chem Pak Corp.

South Carolina

Holy Hill
Safety Kleen Corp.
Lexington
Safety Kleen Corp.
Sumter
Southeastern Chemical and Solvent

Tennessee

Memphis
Bryson Recovery Service

Texas

Arlington
Detrex Corp.
Avalon
Chemical Reclamation Services
Denton
Safety Kleen Corp.
San Antonio
USPCI/Hydrocarbon Recycling Services
Winona
Gibraltar Chemical Resources

Washington

Washougal
Burlington Environmental/Chempro

Wisconsin

Butler
Milsolv Company
Cottage Grove
Avganic Industries
Eau Claire
Waste Research and Reclamation

* * * * *

Center
for
Emissions
Control

1225 19th Street, N.W.
Suite 300
Washington, D.C. 20036-2411
1-800-835-5520

6-A-56

APPENDIX 6-B

Calculation Sheet for Carbon Adsorption

.6.1 Data Required

HAP Emission Stream Characteristics

If carbon adsorption approach is applicable (Yes, or No)(1)	=	Yes	
Maximum flow rate	Q_e =	20000	scfm
Temperature	T_e =	70	^{0}F
Relative humility,	R_{hum} =	40	%
HAP	=	Methylene Chloride	
Maximum HAP content,	HAP_e =	6043	ppmv
Required VOC removal efficiency	RE =	90	%
Number of beds Adsorbing	NA =	1	
Number of beds desorbing	ND =	1	
Emission stream velocity through the bed (Default =85)	U_e =	85	ft/min
Cycle time for drying & cooling the bed	$Ø_{reg} - Ø_{dry-cool}$ =	0.25	hrs

(1) If HAPe is greater than 10,000 ppmv, carbon adsorption may not be applicable

4.6.2 Adsorption Theory

1. Partial pressure of HAP, P

$P = (HAP_e) \times 14.696 \times 10^{-6}$ psia P = 0.0888 psia

2. Equilibrium and working capacity, W_e and W_c

$W_e = kP^m$

Obtain k and m from Table 4.6-1 or appropriate reference

k (adsorption isotherm) =	=	
m (adsorption isotherm) =	=	
W_e =	=	0.1000 lb HAP/lb carbon
$W_c = 0.5 \times W_e$ (if no other data available)	=	0.0500 lb HAP/lb carbon

4.6.4 Pretreament of the Emission Stream

Cooling

Is pretreatment required for the emission stream	=	No
T_e =	=	70 ^{0}F

If the temperature of the emission streams is higher than 130 F, a heat exchanger is needed to cool it to 130 F or less.

Dehumidification

Is pretreatment required for the emission stream	=	No
R_{hum} =	=	40 %

Calculation Sheet for Carbon Adsorption

If the relative humidity level is above 50 % and the HAP concentration is less than 1000 ppmv, a condenser may be required to cool and condense the water vapor in the emission stream. Refer to Section 4.8

High VOC concentration

Is pretreatment required for the emission stream	=	No
HAP_e =	=	6043 ppmv
LEL =	=	82000 ppmv
25% of LEL =	=	20500 ppmv

If flammable vapors are present in the emission stream, the VOC content should be limited to below 25% of the LEL (from Table 4.2-1)

4.6.6 Fixed Bed Regenerative Systems

4.6.6.1 Fixed Bed Design

a. Calculate the required carbon amount C_{req}

C_{req} =	$M_{hap} \times Ø_{ad} \times (1+ND/NA) / W_c$	=	127326.38 lbs
C'_{req} =	$C_{req} / (1+ND/NA)$	=	63663.19 lbs

b. Obtain M_{hap} if not given

M_{hap} =	$6 \times 10^{-5} \times HAP_e \times Q_e \times D_{hap}$	=	1592 lb HAP/hr
Where	D_{hap} = PM/RT	=	0.22 lb/ft^3
	P = System pressure, (usually 1.0)	=	1 atm
	M = HAP molecular weight	=	84.94 lb/lb-mole R
	R = Gas constant	=	0.7302
	T = Temperature	=	530 °R

Obtain the vessel diameter, D_v, and the vessel length L_v, and the vessel size, S :

D_v = $0.127 \times C'_{req} \times U_e / Q'_{e,a}$

Where

Diameter of vessel	D_v =	34.82 ft
Carbon required per vessel	C'_{req} =	63663 lb
Emissionstream bed velocity	U_e =	85 ft/min
Emission stream flow rate = $Q_e (T_e+460)/537$	$Q_{e,a}$ =	19739 acfm
Flow rate per adsorbing bed = $Q_{e,a}$ / NA	$Q'_{e,a}$ =	19739 acfm

L_v = $7.87 \times (Q'_{e,a}/U_e)^2/C'_{req}$ = 6.67 ft

Calculation Sheet for Carbon Adsorption

$S =$	$3.14 \times D_v \times (L_v + D_v/2)$	=	2633.24 ft^2

4.6.6.2 Carbon Adsorber Efficiency

Use Table 4.6.2 to determine the adsorption time, regeneration time , and steam requirement S_t, for a given outlet concentration.

	Outlet concentration	=	604 ppmv
*	$Ø_{ad}$ =	=	2 hr
*	$Ø_{reg}$ =	=	2 hr
*	S_t =	=	0.30 lb steam/lb carbon

4.6.6.3 Steam Required for Regeneration

Calculate steam requirements

$Q_s = NA\ [\ S_t \times C'_{req}/(Ø_{reg} - Ø_{dry-cool})]\ /\ 60$	=	181.89 lbs/min
Assume $Ø_{reg} - Ø_{dry-cool}$ =	=	0.25 hrs

Calculate Q_s / A_{bed}

$A_{bed} = Q'_{e,a} / U_e$	=	232.23 sq ft
(2) Q_s / A_{bed} =	=	0.783 lb steam/min-ft^2

(2) if As/A_{bed} is greater than 4 lb steam/min-ft^2, fluidization of the carbon bed may occur bed may occur

4.6.8 Capital and Annual Costs of Fixed Bed Regenerative Adsorbers

Required Data Input

Vessel material	=	304 stainless steel
Cost for ductwork and dampers	=	$200,000
Site preparation cost (SP)	=	$0
Buildings cost (Bldg.)	=	$0
Annual operating hours (HRS)	=	624 hr
Value of HAP	=	0 $/lb
Construction factor, F_m = (from Table 4.6-4)	=	1
H = Required head (usually 100 ft of water at 60 F)	=	100 ft
S_g = Specific gravity of fluid relative to water (usually 1)	=	1
n = Combined pump motor efficiency (usually 0.65)	=	0.65
System fan horsepower	=	195 hp

Calculation Sheet for Carbon Adsorption

.6.8.1 Costs of Carbon

Obtain the carbon costs, C_c

$C_c = 2 \times C_{req}$	=	$254,653

4.6.8.2 Vessel Costs

Obtain the vessel costs, C_v

$C_v = 271 \times S^{0.778}$	=	$124,197

If necessary, multiply C_v by the appropriate construction factor F_m given in Table 4.6−4

$F_m =$	=	1
$C_v = F_m \times C_v$	=	$124,197

4.6.8.3 Purchased Equipment Cost, PEC

Obtain the equipment costs, EC

$EC = R_c[\, C_c + C_v(NA + ND)] +$ Ductwork and dampers

Where $R_c = 5.82 \times Q_{e,a}{}^{-0.133}$	=	1.56
Thus, EC =	=	$985,692

Use the factors provided in Table 4.6−5 to obtain the purchased equipment cost, PEC

PEC = 1.08 EC	=	$1,064,547

4.6.8.4 Total Capital Cost, TCC

Use the factors provided in Table 4.6−5 to obtain the total capital cost, TCC

TCC = 1.61 PEC + SP + Bldg. =

TOTAL CAPITAL COSTS	$1,713,921

4.6.8.5 Fixed Bed Carbon Adsorption Annual Cost Estimates

The annual cost estimate consists of the sum of direct and indirect costs, as well as recovery credits.

Direct Annual Costs

1. Steam costs, C_s

$C_s = Q_s \times 60 \times HRS \times P_s / 1000$	=	$40,861

Calculation Sheet for Carbon Adsorption

Where, P_s (steam price)	=	\$6 /1000 lb steam
2. Cooling water costs, C_{cw}		
$C_{cw} = 3.43 \times (C_s/P_s) \times (P_{cw})$	=	\$4,672
Where, P_{cw} (cooling water price)	=	\$0.2 /1000 gal
3. Electricity cost, AEC		
a. Pressure drop through the bed, P_b		
$P_b = [0.03679U_e + 1.107 \times 10^{-4}U_e^2][0.0333 \times C'_{req}/ L_vD_v]$ $P_b =$	=	35.87 in water
b. System fan horsepower, hp_{sf}		
$hp_{sf} =$	=	195 hp
c. Bed drying /cooling fan		
Operating time $Ø_{dcf}$ $Ø_{dcf} = 0.4\ Ø_{reg} \times NA \times HRS / Ø_{ad}$	=	250 hr/yr
Flow rate, FR_{dcf} $FR_{dcf} = 100 \times (C_{req}) / Ø_{dry-cool}$	=	848843 cfm
Power requirement, P_{dcf} $P_{dcf} = 1.86 \times 10^{-4} \times FR_{dcf} \times (P_b+1) \times Ø_{dcf}$	=	1452864 Kwh/yr
d. Cooling water pump horsepower, hp_{cwp}		
$hp_{cwp} = 2.52 \times 10^{-4} \times q_{cw} \times H \times S_g / n$	=	24.19
Where		
Cooling water flow rate (= $3.43Q_s$)	q_{cw} =	623.90 gal/min
Required head (usually 100 ft of water at 60 F)	H =	100 ft
Specific gravity of fluid relative to water	S_g =	1
Combined pump motor efficiency	n =	0.65
e. Electricity usage, F_p		
$F_p = 0.746\ [hp_{sf} + hp_{cwp}] \times HRS + P_{dcf}$	=	1554897 KWh/yr

Calculation Sheet for Carbon Adsorption

f. Annual electricity cost, AEC

AEC = 0.059 x F_p = $91,739

4. Carbon replacement cost, CRC_c

$CRC_c = CRF_c\,(1.08C_c + C_{cl})$

$CRC_c = 0.2638 \times (1.08\,C_c + 0.05\,C_{req})$ = $74,231

5. Operating costs

Operating labor costs = [(0.5 hr/shift)/(8 hr/shift)](HRS)($12.98/hr)

Operating labor costs = $506

Supervisory costs = 0.15 x Operating labor costs

Supervisory costs = $76

6. Maintenance costs

Maintenance labor costs = [(0.5 hr/shift)/(8 hr/shift)](HRS)($14.26/hr)

Maintenance labor costs = $556

Maintenance materials = 1.0 x Maintenance labor costs

Maintenance materials = $556

Total Direct Costs = $213,197

Indirect Annual Costs

These costs are obtained from factors given in Table 4.6-7

Overhead =0.60 x (operating labor and maintenance costs) = $1,017

Adminstrative = 2% of TCC = $34,278

Property taxes = 1% of TCC = $17,139

Insurance = 1% of TCC = $17,139

Capital recovery = $0.1628\,(TCC - 0.05C_{req} - 1.08C_c)$ = $233,216

Total Indirect Costs = $302,789

Recovery credit

Estimate the quantity of recovered HAP (Q_{rec})

$Q_{rec} = M_{hap} \times HRS \times (RE/100)$ = 893831 lb/hr

Calculation Sheet for Carbon Adsorption

To obtain the value of recovery credits, multiply Q_{rec} by the value of the recovered HAP

Recovered credits = Q_{rec} x Value of HAP = $0

Total Annual Costs = **Total Direct cost + Total Indirect cost − Recovery cost =**	**$515,986**

APPENDIX 6-C

Calculation Sheet for Thermal Incineration

4.2.1 Data Required

HAP Emission Stream Characteristics (after dilution)

Maximum flow rate	Q_e =	20000 scfm
Temperature of emission stream entering the incinerator		
(a). No heat recovery	T_e =	70 ^{0}F
(b). Heat exchanger used	T_{he} =	^{0}F
Heat content	h_e =	0.69 Btu/scf
Oxygen content	O_2 =	20.9 %
Halogenated organics: (Yes or No)	=	Yes
Required VOC destruction efficiency	DE =	98 %
Heat exchanger efficiency (assume 70% if no data available)	HR =	70 %
Lower heating value of natural gas (assume 21600 Bt/lb if no data available)	h_f =	21600 Btu/lb
Density of flue gas stream, (usually 0.0739)	D_e =	0.0739 lb/scf
Density of fuel gas, (usually 0.0408 for methane)	D_f =	0.0408 lb/scf

4.2.2 Pretreatment Of The Emissions Stream : Dilution Air Requirements

Typically, dilution will not be required. However, if the emission stream heat content (h_e) is greater than 176 btu/lb or 13 btu/scf with an oxygen concentration less than 20%.

Is pretreatment required for the emission stream	=	No
Emission stream desired heat content,	h_d =	Btu/scf
Dilution stream volume	$Q_d = [h_e/h_d) - 1]Q_e$ =	0 scfm

4.2.3 Design Variables, Destruction Efficiency, And Typical Operation Problems

Base on the required DE, select appropriate values for Tc and tr from Table 4.2−2

T_c =   = 2000 ^{0}F *

t_r =   = 1 sec *

(Note: if DE is less than 98%, obtain information from literature and incinerator vendors to determine appropriate values for Tc and tr*)

4.2.4 Determination Of Incinerator Operation Variables

4.2.4.1 Supplementary Fuel Requirements

To estimate the supplementary fuel flow rate (Q_f)

Calculation Sheet for Thermal Incineration

$Q_f =$ $D_e \times Q_e \times [(Cp_{air})(1.1T_c - T_{he} - 0.1T_r) - h_e] / D_f [h_f - 1.1Cp_{air} (T_c - T_r)]$

Where

D_e =	Density of flue gas stream, (usually 0.0739)	0.0739	lb/scf
D_f =	Density of flue gas, (usually 0.0408 for methane)	0.0408	lb/scf
h_f =	If no other data is available, assume 21600	21600	Btu/lb
Cp_{air} =	See Table C.8-1 for values at various temperatures	0.0198	Btu/scf-°F *
		0.272	Btu/lb-°F
T_c =	Combustion temperature	2000	^{0}F
T_{he} =	Use the following equation if the value for T_{he} is not specified : T_{he} = (HR/100)T_c + [1-(HR/100)]T_e	1421	^{0}F
HR =	Where HR = (heat recovery in heat exchanger in % assume a value of 70% if no data available)	70	%
T_r =	Reference temperature	77	^{0}F
Q_f =	Natural gas flow rate	361	scfm

4.2.4.2 Flue Gas Flow Rate

For dilute emission streams (Q_{fg})

$Q_{fg} = Q_e + Q_f + Q_d$ = 20361 scfm

4.2.4.3 Combustion Chamber Volume

$Q_{fg,a} = Q_{fg}[(T_c+460)/537]$ = 93272 acfm

$V_c = [(Q_{fg,a} / 60) \times t_r] \times 1.05$ = 1632.25 ft^3

4.2.6 Capital And Annual Costs Of Thermal Incinerators

Required Data Input		
Auxiliary equipment cost (see Section 4.12) includes		$200,000
a. Fan purchase cost	=	
b. Ductwork purchase cost	=	
c. Stack purchase cost	=	
d. Damper purchase cost	=	
e. Cyclone purchase cost	=	
Site preparation cost (SP)	=	$0
Building cost (Bldg.)	=	$0
Annual operating hours (HRS)	=	624 hrs
System fan horsepower	=	195 hp

70% heat exchanger

Calculation Sheet for Thermal Incineration

4.2.6.1 Thermal Incinerator Capital Costs

Use the appropriate Equation in Table 4.2–5 to obtain the thermal incinerator cost, TC.

TC =		=	$254,937 *

Use factors given in Table 4.2–6 and the auxiliary equipment cost provided in Section 4.12 to obtain the purchased equipment cost, PEC

EC =	TC + Auxiliary Equipment	=	$454,937
PEC =	TC + Auxiliary Equipment + Sales Tax + Freight		
PEC =	1.18 x EC	=	$536,825

After estimating the PEC, use the factors given in Table 4.2–7 to obtain the total capital cost (TCC) estimate

TCC = 1.61 PEC + SP + Bldg.

TOTAL CAPITAL COSTS	$864,289

4.2.6.2 Thermal Incinerator Total Annual Cost, TAC

The TAC consist of direct and indirect annual costs. Direct annual costs include feul, electricity, operating and supervisory labor, and maintenance labor and materials. Indirect annual costs include overhead, administrative, property taxes, insurance, and capital recovery costs.

Direct Annual Costs

1. Fuel usage

The fuel usage is calculated in Section 4.2.4.1. Take this quantity (in scfm) and multiply by 60 to obtain scfh and multiply this by the annual operating hours and the fuel cost.

Annual fuel cost = Q_f x 60 x HRS x \$3.30/1000 ft^3

Annual fuel cost = $44,541

70% heat exchanger

Calculation Sheet for Thermal Incineration

2. Electricity costs

Estimate the fan power requirement, F_p

F_p =			195 hp
F_p =	0.746 x hp x HRS	=	90773 KWh/yr
Electricity costs =	\$0.059 X F_p	=	\$5,356

3. Operating costs

Operating labor costs = [(0.5 hr/shift)/(8 hr/shift)](HRS)(\$12.98/hr)

Operating labor costs = \$506

Supervisory costs = 0.15 x Operating labor costs

Supervisory costs = \$76

4. Maintenance costs

Maintenance labor costs = [(0.5 hr/shift)/(8 hr/shift)](HRS)(\$14.26/hr)

Maintenance labor costs = \$556

Maintenance materials = 1.0 x Maintenance labor costs

Maintenance materials = \$556

Total Direct Costs = \$51,591

Indirect Annual Costs

These costs are obtained from factors given in Table 4.2−8

Overhead =0.60 x (operating labor and maintenance costs)	=	\$1,017
Adminstrative = 2% of TCC	=	\$17,286
Property taxes = 1% of TCC	=	\$8,643
Insurance = 1% of TCC	=	\$8,643
Capital recovery = 0.1628 of TCC	=	\$140,706

Total Indirect Costs = \$176,294

Total annual costs = Total direct costs + Total indirect costs

TOTAL ANNUAL COSTS	\$227,885

Calculation Sheet for Absorption
(After incineration)

4.7.1 Data Required

HAP Emission Stream Characteristics

Maximum flow rate		Q_e =	20361 scfm
Temperature		T_e =	200 °F
HAP		=	Hydrogen Chloride
Maximum HAP content,		HAP_e =	5945 ppmv
Pressure,		P_e =	760 mmHg
Required VOC removal efficiency		RE =	90 %
Absorption factor usually between 1.25 and 2		AF =	1.6
Molecular weight of emission stream		MW_e =	28.8 lb/lb-mole
Solvent Used		=	Water
Slope of the equilibuirm curve,		m =	50
Type of packing used		=	Berl saddle 1.5 in
Value of ordinate (ORD) @ flooding condition		ORD =	0.012
Assume fraction of flooding velocity (0.6-0.75)		f =	0.7
Packing constant		a =	28
Packing constant		e =	0.74
Packing constant	(Tables C.7-1 & C.7-2)	b =	5.05
Packing constant	(Tables C.7-1 & C.7-2)	c =	0.32
Packing constant	(Tables C.7-1 & C.7-2)	d =	0.45
Packing constant	(Tables C.7-1 & C.7-2)	Y =	0.00625
Packing constant	(Tables C.7-1 & C.7-2)	s =	0.28
Packing constant	(Table C.7-5)	g =	5.66
Packing constant	(Table C.7-5)	r =	0.00225

4.7.3 Determination of Absorber System Design and Operating Variables

4.7.3.1 Solvent Flow Rate

a. Assume a value for AF — AF = 1.6

Determine "m" from the equilibrium data for the HAP/solvent system under consideration (see Reference 1, 3, and 6 in Section 4.7)

m = — = 50

Q_e = — = 20361 scfm

G_{mol} = $0.155 \times Q_e$ — = 3156 lb moles/hr

b. Use Equation 4.7-2

L_{mol} = $1.6 \times m \times G_{mol}$ (EQUATION 4.7-2) = 252470 lb-moles/hr

70% heat exchanger

Calculation Sheet for Absorption
(After incineration)

c. Use Equation 4.7−5

L_{gal} =	$0.036 \times L_{mol}$ (EQUATION 4.7−5)	=	9089 gal/min

4.7.3.2 Column Diameter

a. Use Figure 4.7−2

$MW_{solvent}$ =		=	18 lb/lb−mole
L =	$L_{mol} \times MW_{solvent}$	=	4544464 lb/hr
MW_e =		=	28.8 lb/lb−mole
G =	$G_{mol} \times MW_e$	=	90889 lb/hr
D_G =	PM/RT	=	0.060 lb/ft^3
D_L =		=	60.13 lb/ft^3
Abscissa (ABS) =	$(L/G)(D_G/D_L)^{0.5}$	=	1.576

b. From Figure 4.7−2, determine the value of the ordinate (ORD) at flooding conditions.

ORD =	=	0.012

c. For the type of packing used, determine the packing constants from Reference 11, Section 4.7

a =	=	28
e =	=	0.74
μ_L =	=	0.30 cp
g_c =	=	32.2 ft/sec^2

d. Use the following equation to calculate $G_{area,f}$

$G_{area,f}$ =	$\{(ORD \times D_G \times D_L \times g_c)/((a/e^3)(\mu_L)^{0.2})\}^{0.5}$	=	0.16 $lb/sec{-}ft^2$

e. Assume a value for the fraction of flooding velocity for the proposed design

Assume f (usually between 0.6−0.75)		=	0.7
G_{area} =	$f \times G_{area,f}$	=	0.11 $lb/sec{-}ft^2$

f. Calculate the column cross−section area (A_{column})

A_{column} =	$G / (3600 \times G_{area})$	=	225.57 ft^2

g. Calculate the column diameter (D_{column})

Calculation Sheet for Absorption
(After incineration)

D_{column} =	$1.13 \times A_{column}^{0.5}$	=	16.97 ft

4.7.3.3 Column Height

a. Calculate N_{og}

HAP_e =		=	5945 ppmv
HAP_o =	$HAP_e\,(1-RE/100)$	=	594
N_{og} =	$Ln\{(HAP_e/HAP_o)[1-(1/AF)]+(1/AF)\}/[1-(1/AF)]$		
N_{og} =		=	3.94

b. Calculate H_G, H_L, and H_{og}
Determine the packing constants using Tables C.7–1, and C.7–2

b =	=	5.05
c =	=	0.32
d =	=	0.45
Y =	=	0.00625
s =	=	0.28

Determine Sc_G and Sc_L using Tables C.7–3 and C.7–4

Sc_G =	=	2
Sc_L =	=	381

L" =	L / A_{column}	=	20146.26 lb/hr–ft²
μ_L" =	$2.42 \times \mu_L$	=	0.73 lb/hr–ft

Calculate H_G and H_L

H_G =	$[b \times (3600G_{area})^c/(L")^d](Sc_g)^{0.5}$	=	0.56 ft
H_L =	$Y \times (L"/\mu_{L"})^s(Sc_L)^{0.5}$	=	2.14 ft

c. Calculate H_{og} and Ht_{column}

H_{og} =	$H_G + (1/AF) \times H_L$	=	1.90 ft
Ht_{column} =	$N_{og} \times H_{og}$	=	7.48 ft

d. Calculate Ht_{total}

Ht_{total} =	$Ht_{column} + 2 + (0.25 \times D_{column})$	=	13.72 ft

e. Calculate $V_{packing}$

Calculation Sheet for Absorption
(After incineration)

$V_{packing} =$ $0.785 \times (D_{column})^2 \times Ht_{column}$ = 1691.47 ft^3

4.7.3.4 Pressure Drop Through the Column

a. Calculate P_a

Determine the constants using Table C.7−5

g=		= 5.66
r =		= 0.00225
$P_a =$	$g \times 10^{-8}[10^{(rL''/D_L)}](3600G_{area})^2/D_G$	= 0.87 lb/ft^2-ft

b. Calculate P_{total}

$P_{total} =$	$P_a \times (Ht_{column})$	= 6.53 lb/ft^2
$P_{total} / 5.2 =$		= 1.26 in water

4.7.5 Capital and Annual Costs of Absorbers

Required Data Input

Site preparation cost (SP)	= $0
Building cost (Bldg.)	= $0
Annual operating hours (HRS)	= 624
Absorber tower costs (use Figure 4.7−4)	= $70,000
Unit cost (see Table 4.7−2)	= $18.00
System fan horsepower	= 195 hp

4.7.5.1 Capital Costs of Absorbers

1. Absorber tower costs (use Figure 4.7−4) = $70,000

2. Packing cost = $21,566

   Unit cost (see Table 4.7−2) = $18.00 $\$/ft^3$

   Total packing volume, $V_{packing}$ = 1691.47 ft^3

3. Auxiliary equipment cost (see Section 4.12) includes $0
   a. Fan purchase cost = $0
   b. Ductwork purchase cost = $0
   c. Stack purchase cost = $0
   d. Damper purchase cost = $0
   e. Cyclone purchase cost = $0

Calculation Sheet for Absorption
(After incineration)

4. Equipment cost, EC = Items 1 +2 +3 = $91,566

The purchase equipment cost, PEC, is obtained from the equipment cost calculated above and the factors provided in Table 4.7−3

PEC = EC + Instrumentation + Sales tax + Freight
PEC = 1.18 EC = $108,048

The total capital cost (TCC) is estimated using the PEC and the factors given in Table 4.7−3

TCC = 2.2 x PEC + SP + Bldg. =

TOTAL CAPITAL COSTS	$237,706

4.7.5.2 Annual Costs for Absorbers

The annual costs of an absorber system consists of direct and indirect annual costs. Assume recovery credits are zero.

Direct Costs.

1. Electricity cost

A. Calculate the fan power requirements, F_p

F_p = 195 hp
F_p = hp x 0.746 x HRS = 90773 KWh/hr

B. The annual electricity cost is then

Annual electricity cost = $0.059 x F_p = $5,356

2. Solvent cost

Annual solvent requirement = 60 x L_{gal} x HRS = 340289461 gal/yr
Unit solvent cost (from Table 4.7−5) = $0.20 /1000 gal
Annual solvent cost = $68,058

3. Operating costs

Calculation Sheet for Absorption
(After incineration)

Operating labor costs = [(0.5 hr/shift)/(8 hr/shift)](HRS)($12.98/hr)		
Operating labor costs	=	$506
Supervisory costs = 0.15 x Operating labor costs		
Supervisory costs	=	$76

4. Maintenance costs

Maintenance labor costs = [(0.5 hr/shift)/(8 hr/shift)](HRS)($14.26/hr)		
Maintenance labor costs	=	$556
Maintenance materials = 1.0 x Maintenance labor costs		
Maintenance materials	=	$556
Total Direct Costs	=	$75,108

Indrect Costs

These costs are obtained from factors given in Table 4.7−5

Overhead = 0.60 x (operating labor and maintenance costs)	=	$1,017
Adminstrative = 2% of TCC	=	$4,754
Property taxes = 1% of TCC	=	$2,377
Insurance = 1% of TCC	=	$2,377
Capital recovery = 0.1628 (TCC)	=	$36,643
Total Indirect Costs	=	$47,168
Total annual cost = Total direct cost + Total indirect cost		

TOTAL ANNUAL COSTS	$122,276

APPENDIX 6-D

Alternative Blowing Agent
Cost Evaluation

A. 1,1,1-trichloroethane

Total annual methylene chloride usage	= 633,500 lbs/yr
1,1,1-trichloroethane substitution rate	= 20%
1,1,1-trichloroethane substitution ratio	= 1.5 lb/lb methylene chloride
Total annual 1,1,1-trichloroethane usage	= (633,500 lbs/yr) x (0.20) x (1.5 lb/lb) = 190,050 lbs/yr
1,1,1-trichloroethane unit cost	= $0.34/lb
Methylene Chloride unit cost	= $0.165/lb
Annual cost for 1,1,1-trichloroethane substitution	= (190,050 lbs/yr) x (0.34 - 0.165 $/lb) = $33,258.75 per year

B. 141-B

Total annual methylene chloride usage	= 633,500 lbs/yr
141-B substitution rate	= 20%
141-B substitution ratio	= 1 lb/lb methylene chloride
Total annual 141-B usage	= (633,500 lbs/yr) x (0.20) x (1 lb/lb) = 126,700 lbs/yr
141-B unit cost	= $1.60/lb
Methylene Chloride unit cost	= $0.165/lb
Annual cost for 141-B substitution	= (126,700 lbs/yr) x (1.60 - 0.165 $/lb) = $181,814.50 per year

7.0 SUPPLEMENTAL INFORMATION: SECTION VII AIR QUALITY IMPACT ANALYSIS

7.1 Introduction

This Air Quality Impact Analysis was conducted by Cross/Tessitore & Associates, P.A. (C/TA) of Orlando, Florida, to assess the impact of emissions from the Foamex facility located in Orlando, Florida. The facility location is shown in Figure 7-1. This analysis was conducted in support of the Foamex facility's permit application to the Florida Department of Environmental Regulation (FDER). The goal of the analysis was to estimate the maximum ground level concentrations resulting from the facility's emissions and compare them to the FDER Air Toxics No Threat Levels. The results of this analysis are presented in this section along with the methodology used in this analysis.

7.2 Methodology

This analysis examines the emissions from the Foamex facility with the proposed Foam Line and Long Bun Storage Room ventilation system. A description of the facility's processes can be found in Section 2.0 of this application. A discussion of the proposed ventilation system for the Foam Line and the Long Bun Storage Room is also presented in Section 2.0.

The sources modeled include the Foam Line Stack, the Long Bun Storage Room Stack, and the seventeen (17) 50,000 CFM exhaust fans not located in the Long Bun Storage Room. The compounds to be modeled are the foam blowing agents (methylene chloride, 141b, and 1,1,1-trichloroethane) and the 1,1,1-trichloroethane emitted from the gluing process. The calculation of the modeled emission rates for each of the sources is presented in Table 7-1. The calculated short term exhaust fan emission rates used in the modeling represent worst case emissions. A detailed discussion of the emission calculations is presented in Section 5.0 along with the methodology used in the calculation procedure. It was assumed that the emissions through the exhaust fans are equally distributed through all of the exhaust fans.

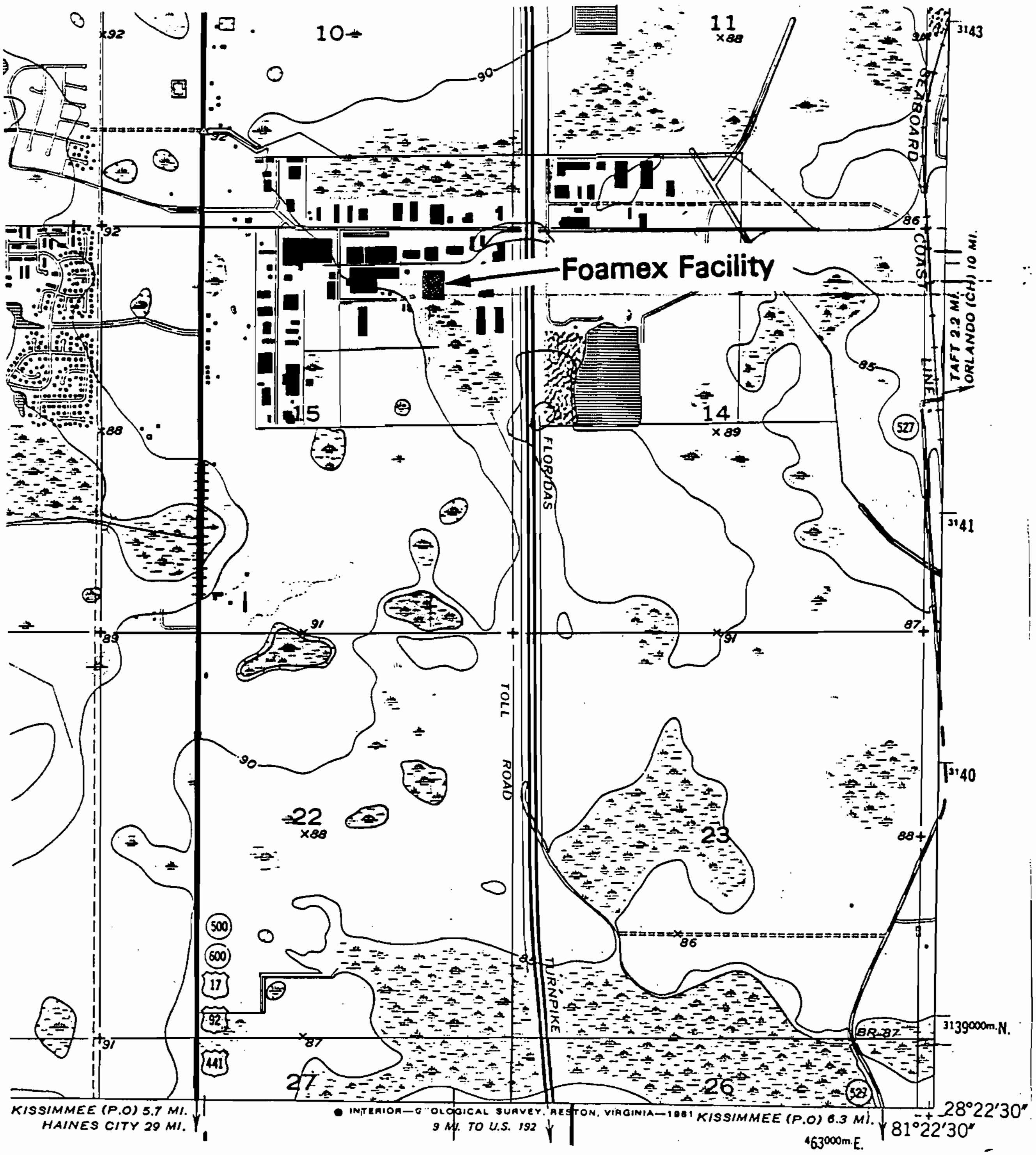
The facility's emissions were modeled for each compound and averaging time using the EPA Industrial Source Complex - Short Term (version 92062) model (ISCST2). The modeling was conducted using only one (1) year of hourly meteorological data with the overall maximum concentrations used as the final result. A list of the input parameters used in this analysis are presented in Table 7-2. The source input parameters are presented in Table 7-3 and the source locations are shown in Figure 7-2. A discussion of the downwash analysis is given in Table 7-4. The source locations, building dimensions, and property boundary location were obtained from the Facility Plot Plan/Elevation Drawing (Figure 7-4).

7.3 Results

The results of the ISCST2 modeling for each compound and averaging time are compared with the appropriate FDER No Threat Levels in Table 7-5. This No Threat Level analysis should not be construed as the applicant's belief that such No Threat Levels constitute either acceptable or achievable BACT levels for the calculated emissions. To the best of our knowledge the No Threat Levels have not been adopted by Department rule or regulation and are not binding in these regards and may not accurately represent levels of emissions that present no threat to the environment. The results show that for all averaging times the maximum off property ground level concentrations are below the FDER No Threat Levels. The ISCST2 output listings can be found in Appendix 7-B.

Figure 7-1

Foamex Facility Location



Lake Jessamine Quadrangle - Orange County, Florida

FMXLOCAT.DRW

Cross/Tessitore & Assoc., P.A.
Environmental Engineers Orlando, Florida

Table 7-1

Foamex ISCST2 Modeling
Emission Rates Calculations and Assumptions

Compounds to be Modeled: Methylene Chloride (Blowing Agent)
141b (Blowing Agent)
1,1,1-Trichloroethane (Blowing Agent and Glue)

Blowing Agent Emission Distribution:

Foam Line Stack	= 60%
Long Bun Storage Room Stack	= 35%
17 Exhaust Fans not located in Long Bun Storage Room	= 5%

1,1,1-Trichloroethane from Gluing Process is emitted through 17 Exhaust Fans not located in Long Bun Storage Room.

The exhaust fans emissions are equally distributed through all 17 exhaust fans.

Maximum Annual Blowing Agent Emissions:

Methylene Chloride	= 506,800 lb/yr
141b	= 126,700 lb/yr
1,1,1-Trichloroethane	= 190,050 lb/yr

Annual Average Blowing Agent Emission Rates:

Methylene Chloride	= 506,800 lb/yr ÷ 8,760 hr/yr =	57.854 lb/hr
141b	= 126,700 lb/yr ÷ 8,760 hr/yr =	14.463 lb/hr
1,1,1-Trichloroethane	= 190,050 lb/yr ÷ 8,760 hr/yr =	21.695 lb/hr

Maximum Hourly Blowing Agent Emission Rates:

Methylene Chloride	= 1,593 lb/hr
141b	= 1,593 lb/hr
1,1,1-Trichloroethane	= 2,389.5 lb/hr

Maximum Daily Foam Production Hours of Operation = 3.0 hr/day

Maximum Daily Blowing Agent Emissions:

Methylene Chloride	= 1,593 lb/hr x 3.0 hr/day	= 4,779 lb/day
141b	= 1,593 lb/hr x 3.0 hr/day	= 4,779 lb/day
1,1,1-Trichloroethane	= 2,389.5 lb/hr x 3.0 hr/day	= 7,168.5 lb/day

8-hour Average Blowing Agent Emission Rates:

Methylene Chloride	= 4,779 lb/day ÷ 8 hr/day	= 597.375 lb/hr
141b	= 4,779 lb/day ÷ 8 hr/day	= 597.375 lb/hr
1,1,1-Trichloroethane	= 7,168.5 lb/day ÷ 8 hr/day	= 896.0625 lb/hr

Table 7-1 (continued)

Foamex ISCST2 Modeling
Emission Rates Calculations and Assumptions

24-hour Average Blowing Agent Emission Rates:

Methylene Chloride	= 4,779 lb/day ÷ 24 hr/day	= 199.125 lb/hr
141b	= 4,779 lb/day ÷ 24 hr/day	= 199.125 lb/hr
1,1,1-Trichloroethane	= 7,168.5 lb/day ÷ 24 hr/day	= 298.6875 lb/hr

Maximum Hourly 1,1,1-Trichloroethane Emission Rate from Gluing Process:

3.08 lb Glue/hr x 0.81 lb 1,1,1-Trichloroethane/lb Glue = 2.5 lb/hr

Maximum Gluing Process Hours of Operation: 12 hr/day
6 days/wk
52 wk/yr
3,744 hr/yr

Maximum Annual 1,1,1-Trichloroethane Emissions from Gluing Process:

2.5 lb/hr x 3,744 hr/yr = 9,360 lb/yr

1,1,1-Trichloroethane Emission Rates from Gluing Process:

Annual Average	= 9,360 lb/yr ÷ 8,760 hr/yr	= 1.068493 lb/hr
8-hour Average	= 2.5 lb/hr x 8 hr/day ÷ 8 hr/day	= 2.5 lb/hr
24-hour Average	= 2.5 lb/hr x 12 hr/day ÷ 24 hr/day	= 1.25 lb/hr

Methylene Chloride Annual Average Emission Rates:

Foam Line Stack	= 57.854 lb/hr x 60%	= 34.7124 lb/hr
Long Bun Storage Room Stack	= 57.854 lb/hr x 35%	= 20.2489 lb/hr
17 Exhaust Fans	= 57.854 lb/hr x 5%	= 2.8927 lb/hr
Each Exhaust Fan	= 2.8927 lb/hr ÷ 17	= 0.170159 lb/hr

Methylene Chloride 8-hour Average Emission Rates:

Foam Line Stack	= 597.375 lb/hr x 60%	= 358.425 lb/hr
Long Bun Storage Room Stack	= 597.375 lb/hr x 35%	= 209.08125 lb/hr
17 Exhaust Fans	= 597.375 lb/hr x 5%	= 29.86875 lb/hr
Each Exhaust Fan	= 29.86875 lb/hr ÷ 17	= 1.756985 lb/hr

Methylene Chloride 24-hour Average Emission Rates:

Foam Line Stack	= 199.125 lb/hr x 60%	= 119.475 lb/hr
Long Bun Storage Room Stack	= 199.125 lb/hr x 35%	= 69.69375 lb/hr
17 Exhaust Fans	= 199.125 lb/hr x 5%	= 9.95625 lb/hr
Each Exhaust Fan	= 9.95625 lb/hr ÷ 17	= 0.58566 lb/hr

Table 7-1 (continued)

Foamex ISCST2 Modeling
Emission Rates Calculations and Assumptions

141b Annual Average Emission Rates:

Foam Line Stack	= 14.463 lb/hr x 60%	= 8.6778 lb/hr
Long Bun Storage Room Stack	= 14.463 lb/hr x 35%	= 5.06205 lb/hr
17 Exhaust Fans	= 14.463 lb/hr x 5%	= 0.72315 lb/hr
Each Exhaust Fan	= 0.72315 lb/hr ÷ 17	= 0.042538 lb/hr

141b 8-hour Average Emission Rates:

Foam Line Stack	= 597.375 lb/hr x 60%	= 358.425 lb/hr
Long Bun Storage Room Stack	= 597.375 lb/hr x 35%	= 209.08125 lb/hr
17 Exhaust Fans	= 597.375 lb/hr x 5%	= 29.86875 lb/hr
Each Exhaust Fan	= 29.86875 lb/hr ÷ 17	= 1.756985 lb/hr

141b 24-hour Average Emission Rates:

Foam Line Stack	= 199.125 lb/hr x 60%	= 119.475 lb/hr
Long Bun Storage Room Stack	= 199.125 lb/hr x 35%	= 69.69375 lb/hr
17 Exhaust Fans	= 199.125 lb/hr x 5%	= 9.95625 lb/hr
Each Exhaust Fan	= 9.95625 lb/hr ÷ 17	= 0.58566 lb/hr

1,1,1-Trichloroethane Annual Average Emission Rates:

Foam Line Stack	= 21.695 lb/hr x 60%	= 13.017 lb/hr
Long Bun Storage Room Stack	= 21.695 lb/hr x 35%	= 7.59325 lb/hr
17 Exhaust Fans	= (21.695 lb/hr x 5%) + 1.068493 lb/hr	
	= 2.153243 lb/hr	
Each Exhaust Fan	= 2.153243 lb/hr ÷ 17	= 0.126661 lb/hr

1,1,1-Trichloroethane 8-hour Average Emission Rates:

Foam Line Stack	= 896.0625 lb/hr x 60%	= 537.6375 lb/hr
Long Bun Storage Room Stack	= 896.0625 lb/hr x 35%	= 313.621875 lb/hr
17 Exhaust Fans	= (896.0625 lb/hr x 5%) + 2.5 lb/hr	
	= 47.303125 lb/hr	
Each Exhaust Fan	= 47.303125 lb/hr ÷ 17	= 2.7825368 lb/hr

1,1,1-Trichloroethane 24-hour Average Emission Rates:

Foam Line Stack	= 298.6875 lb/hr x 60%	= 179.2125 lb/hr
Long Bun Storage Room Stack	= 298.6875 lb/hr x 35%	= 104.540625 lb/hr
17 Exhaust Fans	= (298.6875 lb/hr x 5%) + 1.25 lb/hr	
	= 16.184375 lb/hr	
Each Exhaust Fan	= 16.184375 lb/hr ÷ 17	= 0.952022 lb/hr

The calculated short term exhaust fan emission rates used in the modeling represent worst case emissions.

Table 7-2

Foamex ISCST2 Modeling Input Parameters and Assumptions

Source Data: See Table 7-3 and Figure 7-2.

Meteorological Data: 1 year, 1986, of hourly data
Surface Station #12815, Orlando, Florida
Mixing Height Station #12842, Tallahassee, Florida

Dispersion Mode: Rural Mode. Determined by a review of aerial photographs and land use data obtained from Orange County which showed that less than 50% of the land use within 3.0 km of the facility is of the type I1, I2, C1, R2, and R3.

Regulatory Default Option: Tape/file meteorological input
Final plume rise at all receptor locations
Stack-tip downwash
Buoyancy-induced dispersion
Default wind profile coefficients
Default vertical potential temperature gradients
Calm wind processing
A decay half life of 4 hours for SO_2, urban; otherwise the half life is set to infinity
Revised wake effects procedures

Compounds Modeled: Methylene Chloride, 141b, 1,1,1-Trichloroethane

Concentrations Calculated: 8-hour, 24-hour, and Annual Average (Period)

Discrete Receptors: Cartesian Coordinate System
Origin located at SW corner property line.
58 Discrete Receptors located along the property line of the Foamex facility; one receptor every 50 ft and at the corners of the property boundary. See Figure 7-2.

Receptor Grid: Polar Coordinate System.
Origin located at center of Foamex property (350 ft, 363 ft).
612 total grid points (See Figure 7-3). 36 radials (one every 10° starting at 10°) and 17 rings (one every 50 meters starting at 150 meters out to 1000 meters).

Receptor Terrain Elevations Input: No, terrain assumed to be flat.

Receptor Heights Above Ground Input: No, all concentrations calculated are ground level.

Wind Direction-Specific Building Dimensions: Input as calculated by BREEZE WAKE program developed by Trinity Consultants, Inc., Dallas, Texas. See Table 7-4, BREEZE WAKE Downwash Analysis.

Table 7-3
Foamex ISCST2 Modeling Source Input Parameters

Source Number	Description	Methylene Chloride Emission Rates (lb/hr) 8-hour Average	Methylene Chloride 24-hour Average	Methylene Chloride Annual Average	141b Emission Rates (lb/hr) 8-hour Average	141b 24-hour Average	141b Annual Average	1,1,1-Trichloroethane Emission Rates (lb/hr) 8-hour Average	1,1,1-Trichloroethane 24-hour Average	1,1,1-Trichloroethane Annual Average
1	Foam Line Stack	358.425	119.475	34.7124	358.425	119.475	8.6778	537.6375	179.2125	13.0167
2	Long Bun Storage Room Stack	209.0813	69.69375	20.2489	209.0813	69.69375	5.06205	313.6219	104.5406	7.59325
3	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
4	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
5	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
6	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
7	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
8	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
9	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
10	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
11	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
12	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
13	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
14	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
15	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
16	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
17	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
18	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666
19	Exhaust Fan	1.756985	0.58566	0.170159	1.756985	0.58566	0.042538	2.782537	0.952022	0.12666

Source Number	Description	Stack Height (feet)	Stack Inside Diameter (inches)	Stack Gas Flow Rate (ACFM)	Stack Gas Exit Temp. (°F)	Stack Gas Exit Velocity (ft/sec)	Stack Location Coordinates (feet) (See Figure 7-2) East	North
1	Foam Line Stack	125	27.63953	20,000	80	80.000	577	393
2	Long Bun Storage Room Stack	125	39.0882	40,000	80	80.000	500	56
3	Exhaust Fan	43	43.70194	50,000	80	80.000	356	319
4	Exhaust Fan	43	43.70194	50,000	80	80.000	356	363
5	Exhaust Fan	43	43.70194	50,000	80	80.000	356	393
6	Exhaust Fan	43	43.70194	50,000	80	80.000	356	445
7	Exhaust Fan	43	43.70194	50,000	80	80.000	356	501
8	Exhaust Fan	43	43.70194	50,000	80	80.000	356	554
9	Exhaust Fan	43	43.70194	50,000	80	80.000	356	603
10	Exhaust Fan	43	43.70194	50,000	80	80.000	356	633
11	Exhaust Fan	43	43.70194	50,000	80	80.000	356	319
12	Exhaust Fan	43	43.70194	50,000	80	80.000	356	363
13	Exhaust Fan	43	43.70194	50,000	80	80.000	356	445
14	Exhaust Fan	43	43.70194	50,000	80	80.000	356	501
15	Exhaust Fan	43	43.70194	50,000	80	80.000	356	554
16	Exhaust Fan	43	43.70194	50,000	80	80.000	356	603
17	Exhaust Fan	43	43.70194	50,000	80	80.000	356	633
18	Exhaust Fan	43	43.70194	50,000	80	80.000	356	319
19	Exhaust Fan	52	43.70194	50,000	80	80.000	600	336.5

Figure 7-2
Foamex ISCST2 Modeling Source Locations and Property Line Receptor Locations

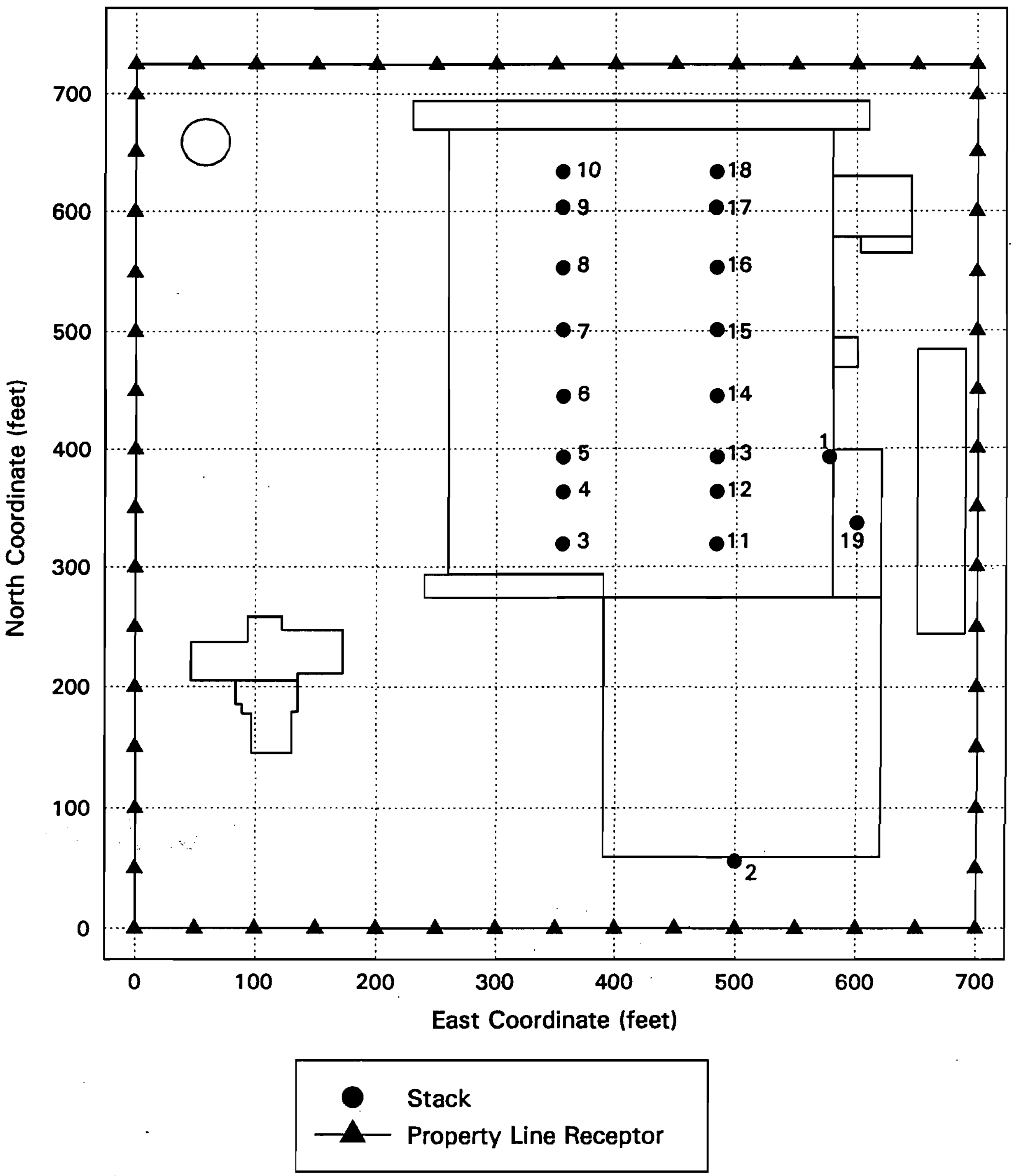


Figure 7-3
Foamex ISCST2 Modeling Polar Receptor Grid

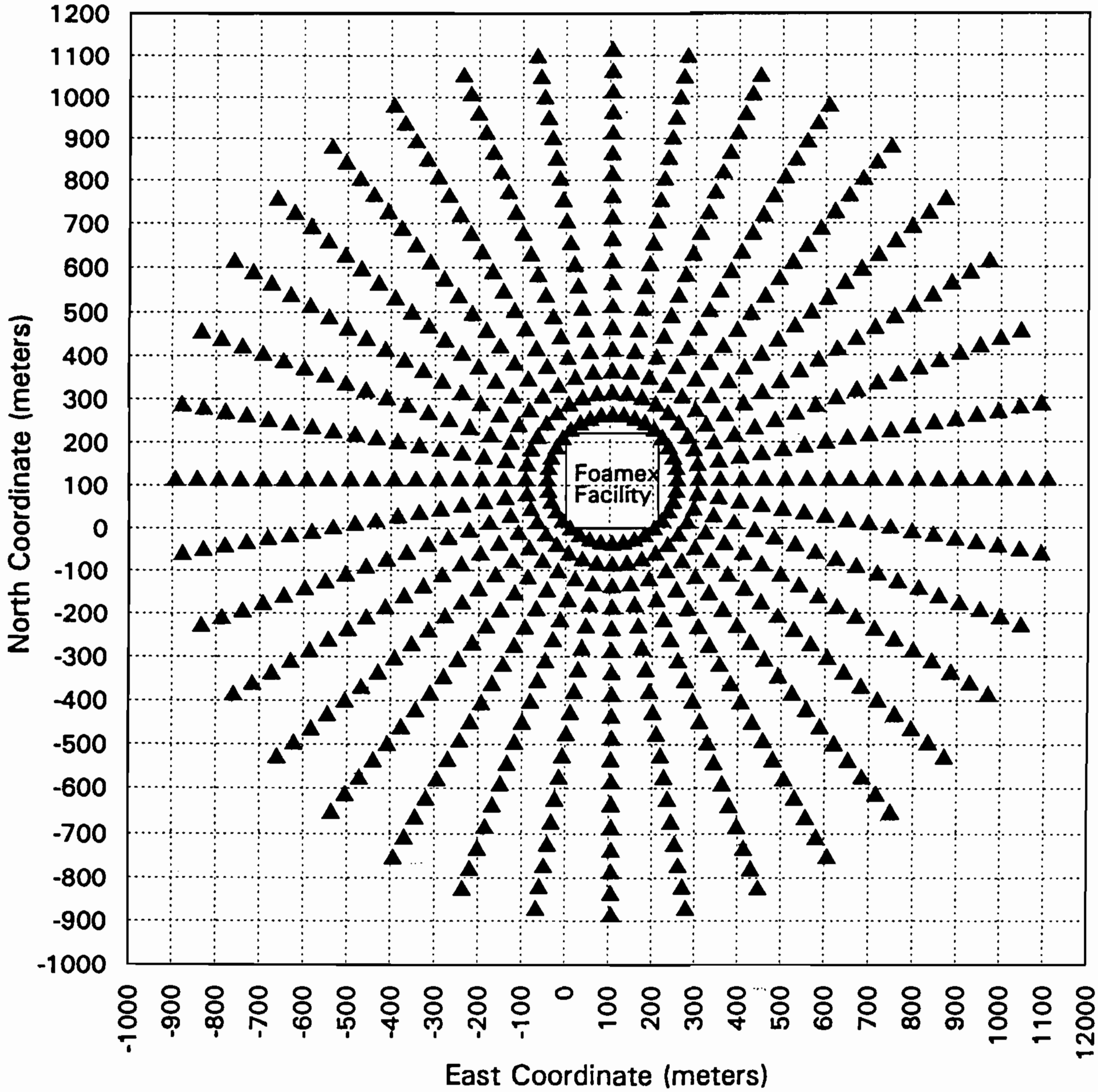


Table 7-4

Foamex BREEZE WAKE Downwash Analysis

The wind direction-specific building dimensions for each source used in this analysis were determined by the BREEZE WAKE program developed by Trinity Consultants. The steps used in this analysis are listed below.

1) A review of the Facility Plot Plan/Elevation Drawing (see Figure 7-4) was conducted. All structures were included in the downwash analysis.

2) Given the complexity of the building configurations, with numerous tiers of varying heights and irregular shapes, the structures identified for analysis were divided into several smaller structures with no more than 10 corners. A total of 12 structures were determined to be used as input to BREEZE WAKE.

3) The heights and coordinates of the corners of each of the structures were entered into the BREEZE WAKE program. The heights and locations of the stacks were also entered. The origin of the coordinate system is the SW corner of the property line (See Figure 7-2).

4) The BREEZE WAKE program processed the data and combined nearby structures according to EPA guidelines.

5) For each structure, the program calculated a "zone of impact" for each of 36 wind directions (10° intervals). The zone of impact is a box that extends 5L in the downwind direction (measured from the downwind edge of the building), 2L in the upwind direction, and 0.5L in the crosswind direction, where L equals the lesser of the height or projected width of the structure. The program then determined if a source is contained within the zone of impact of a given structure for each wind direction.

6) The program then identified which structures affect each source for each of the 36 wind directions. If more than one structure affected a source for any given direction, the structure that yielded the highest GEP stack height was assumed to be the dominant structure. The building dimensions were then determined using the height and actual crosswind projection of the dominant structure for that wind direction.

7) The results of the BREEZE WAKE analysis list the name and dimensions of all structures considered in the downwash analysis, the source locations and heights, and which structures were combined. In addition, the output contains a summary of the dominant downwash structure for each source (considering all wind directions) along with the wind direction-specific building dimensions, heights and projected widths, for all 36 wind directions for each source. The BREEZE WAKE output listings can be found in Appendix 7-A.

8) The resulting wind direction-specific building dimension for each source were then used as inputs to the ISCST2 model.

Table 7-5

Foamex ISCST2 Modeling Results and Comparison with FDER Methylene Chloride No Threat Levels

Compound	Averaging Time	Maximum Off Property Ground Level Concentration ($\mu g/m^3$)	FDER No Threat Level ($\mu g/m^3$)
Methylene Chloride	8-hour	566.923	1,740
	24-hour	88.024	417.6
	Annual	2.023	2.1
141b*	8-hour	566.923	70,800
	24-hour	88.024	16,992
	Annual	0.506	N/A
1,1,1-Trichloroethane	8-hour	1,242.027	38,200
	24-hour	180.791	9,168
	Annual	0.873	N/A

* The chemical name for 141b is 1,1-Dichloro-1-fluoroethane, which is not listed in the FDER Air Toxics No Threat Levels. Based on conversations with John Glunn, FDER Tallahassee, the No Threat Levels for Freon should be used in analyzing 1,1-Dichloro-1-fluoroethane. Since Freon is also not specifically list in the FDER Air Toxics No Threat Levels, it was cross referenced by synonym using the Hazardous Chemicals Desk Reference, Sax and Lewis, 1987. The synonym given for Freon is Monochlorodifluoromethane, or Chlorodifluoromethane, which is listed in the No Threat Levels. Therefore the No Threat Levels Chlorodifluoromethane were used to compare with the estimated maximum off property ground level concentrations for 141b.

Figure 7-4

Facility Plot Plan/Elevation Drawing

Appendix 7-A

BREEZE WAKE Output Listing

1

RBRZWAKE
IBM-PC VERSION (2.1)

SERIAL NUMBER 6681 SOLD TO CROSS TESSITORE
RUN NAME: Foamex
RUN BEGAN ON 11-19-92 AT 19:32:43

1

BREEZE WAKE DOWNWASH ANALYSIS

The following options have been chosen:

(1) Calculations are made for the ISCST model.
(2) All stacks must be within 5L to be considered for direction specific downwash.
(3) Downwash is calculated in 360 radial directions.
(4) Buildings are combined.

Note: This analysis determines the direction specific downwash parameters for the flow vector pointing in the direction listed.

Round figures are converted into 8-sided figures for the downwash analysis.

Algorithms:

0 = No Downwash
1 = Huber-Snyder Downwash
2 = Schulman-Scire Downwash

1

Input Buildings

Description	Bldg #	Bldg Ht(m)	# of Corners	X(m)	Y(m)
Office A	1	4.27	10		
				29.57	44.20
				39.62	44.20
				39.62	54.56
				41.15	54.56
				41.15	62.49
				25.60	62.49
				25.60	56.39
				27.13	56.39
				27.13	53.95
				29.57	53.95

Offices B	2	4.27	10		
				14.33	62.49
				41.15	62.49
				41.15	64.31
				52.43	64.31
				52.43	75.29
				37.19	75.29
				37.19	78.64
				28.65	78.64
				28.65	72.24
				14.33	72.24
Tank	3	9.75	8		
				21.99	204.87
				23.78	200.56
				21.99	196.25
				17.68	194.46
				13.37	196.25
				11.58	200.56
				13.37	204.87
				17.68	206.66
Long Bun Storage Rm	4	15.24	4		
				118.87	17.98
				188.98	17.98
				188.98	83.52
				118.87	83.52
East Section 40 ft	5	12.19	4		
				176.79	83.52
				188.98	83.52
				188.98	121.62
				176.79	121.62
Loading Dock	6	4.88	4		
				73.15	83.52
				118.87	83.52
				118.87	89.61
				73.15	89.61
Main Roof 35 ft	7	10.67	6		
				79.25	89.61
				118.87	89.61
				118.87	83.52
				176.79	83.52
				176.79	203.91
				79.25	203.91
East Section 12 ft	8	3.66	4		
				176.79	142.95
				182.88	142.95
				182.88	150.57
				176.79	150.57
Storage Tanks	9	10.97	4		
				176.79	176.48
				196.60	176.48
				196.60	191.72
				176.79	191.72

North Section 16 ft	10	4.88	4		
				70.11	203.91
				185.93	203.91
				185.93	211.53
				70.11	211.53
Storge Bldg	11	6.71	4		
				198.12	74.37
				210.32	74.37
				210.32	147.53
				198.12	147.53
Methylene Chloride	12	3.05	4		
				183.80	172.52
				196.60	172.52
				196.60	176.48
				183.80	176.48

1

Input Stacks

Stack ID #	Stack #	Stack Ht(m)	X(m)	Y(m)
1	1	38.10	175.87	119.79
2	2	38.10	152.40	17.07
3	3	13.11	108.51	97.23
4	4	13.11	108.51	110.64
5	5	13.11	108.51	119.79
6	6	13.11	108.51	135.64
7	7	13.11	108.51	152.71
8	8	13.11	108.51	168.86
9	9	13.11	108.51	183.80
10	10	13.11	108.51	192.94
11	11	13.11	147.53	97.23
12	12	13.11	147.53	110.64
13	13	13.11	147.53	119.79
14	14	13.11	147.53	135.64
15	15	13.11	147.53	155.45
16	16	13.11	147.53	168.86
17	17	13.11	147.53	183.80
18	18	13.11	147.53	192.94
19	19	15.85	182.88	102.57

```
1
                 Downwash Structures

Structure   1:  Ht=  15.24 m, MPW=   95.97 m, GEP=  38.10 m
 ____________________________________________________________
      Contains the following buildings:
            Building #  4:  Long Bun Storage Rm
      The following stacks are within 5L:
            Stack #  1:   1
            Stack #  2:   2
            Stack #  3:   3
            Stack #  4:   4
            Stack #  5:   5
            Stack #  6:   6
            Stack #  7:   7
            Stack # 11:  11
            Stack # 12:  12
            Stack # 13:  13
            Stack # 14:  14
            Stack # 15:  15
            Stack # 19:  19

Structure   2:  Ht=  12.19 m, MPW=  125.12 m, GEP=  30.48 m
 ____________________________________________________________
      Contains the following buildings:
            Building #  4:  Long Bun Storage Rm
            Building #  5:  East Section 40 ft
      The following stacks are within 5L:
            Stack #  1:   1
            Stack #  2:   2
            Stack #  3:   3
            Stack #  4:   4
            Stack #  5:   5
            Stack #  6:   6
            Stack # 11:  11
            Stack # 12:  12
            Stack # 13:  13
            Stack # 14:  14
            Stack # 15:  15
            Stack # 16:  16
            Stack # 19:  19

Structure   3:  Ht=  10.97 m, MPW=   25.00 m, GEP=  27.43 m
 ____________________________________________________________
      Contains the following buildings:
            Building #  9:  Storage Tanks
      The following stacks are within 5L:
            Stack # 14:  14
            Stack # 15:  15
            Stack # 16:  16
            Stack # 17:  17
            Stack # 18:  18
```

```
Structure   4:  Ht=  10.67 m, MPW=  215.90 m, GEP=  26.67 m
-----------------------------------------------------------------------
      Contains the following buildings:
            Building #  4:  Long Bun Storage Rm
            Building #  5:  East Section 40 ft
            Building #  7:  Main Roof 35 ft
            Building #  9:  Storage Tanks
      The following stacks are within 5L:
            Stack #  1:   1
            Stack #  2:   2
            Stack #  3:   3
            Stack #  4:   4
            Stack #  5:   5
            Stack #  6:   6
            Stack #  7:   7
            Stack #  8:   8
            Stack #  9:   9
            Stack # 10:  10
            Stack # 11:  11
            Stack # 12:  12
            Stack # 13:  13
            Stack # 14:  14
            Stack # 15:  15
            Stack # 16:  16
            Stack # 17:  17
            Stack # 18:  18
            Stack # 19:  19

Structure   5:  Ht=   9.75 m, MPW=   12.19 m, GEP=  24.38 m
-----------------------------------------------------------------------
      Contains the following buildings:
            Building #  3:  Tank
      The following stacks are within 5L:
```

Structure 6: Ht= 6.71 m, MPW= 215.90 m, GEP= 16.76 m

Contains the following buildings:

Building # 4: Long Bun Storage Rm
Building # 5: East Section 40 ft
Building # 7: Main Roof 35 ft
Building # 9: Storage Tanks
Building # 11: Storge Bldg

The following stacks are within 5L:

Stack # 1: 1
Stack # 2: 2
Stack # 3: 3
Stack # 4: 4
Stack # 5: 5
Stack # 6: 6
Stack # 7: 7
Stack # 8: 8
Stack # 9: 9
Stack # 10: 10
Stack # 11: 11
Stack # 12: 12
Stack # 13: 13
Stack # 14: 14
Stack # 15: 15
Stack # 16: 16
Stack # 17: 17
Stack # 18: 18
Stack # 19: 19

```
Structure    7:  Ht=    4.88 m, MPW=  227.14 m, GEP=  12.19 m
```

```
      Contains the following buildings:
            Building #  4:  Long Bun Storage Rm
            Building #  5:  East Section 40 ft
            Building #  6:  Loading Dock
            Building #  7:  Main Roof 35 ft
            Building #  9:  Storage Tanks
            Building # 10:  North Section 16 ft
            Building # 11:  Storge Bldg
      The following stacks are within 5L:
            Stack #  1:   1
            Stack #  2:   2
            Stack #  3:   3
            Stack #  4:   4
            Stack #  5:   5
            Stack #  6:   6
            Stack #  7:   7
            Stack #  8:   8
            Stack #  9:   9
            Stack # 10:  10
            Stack # 11:  11
            Stack # 12:  12
            Stack # 13:  13
            Stack # 14:  14
            Stack # 15:  15
            Stack # 16:  16
            Stack # 17:  17
            Stack # 18:  18
            Stack # 19:  19
```

```
Structure    8:  Ht=    4.27 m, MPW=   40.19 m, GEP=  10.67 m
```

```
      Contains the following buildings:
            Building #  1:  Office A
            Building #  2:  Offices B
      The following stacks are within 5L:
```

```
Structure   9:  Ht=   3.66 m, MPW=  227.14 m, GEP=   9.14 m
```

```
      Contains the following buildings:
            Building #  4:  Long Bun Storage Rm
            Building #  5:  East Section 40 ft
            Building #  6:  Loading Dock
            Building #  7:  Main Roof 35 ft
            Building #  8:  East Section 12 ft
            Building #  9:  Storage Tanks
            Building # 10:  North Section 16 ft
            Building # 11:  Storge Bldg
      The following stacks are within 5L:
            Stack #  1:   1
            Stack #  2:   2
            Stack #  3:   3
            Stack #  4:   4
            Stack #  5:   5
            Stack #  6:   6
            Stack #  7:   7
            Stack #  8:   8
            Stack #  9:   9
            Stack # 10:  10
            Stack # 11:  11
            Stack # 12:  12
            Stack # 13:  13
            Stack # 14:  14
            Stack # 15:  15
            Stack # 16:  16
            Stack # 17:  17
            Stack # 18:  18
            Stack # 19:  19
```

```
Structure  10:  Ht=   3.05 m, MPW=  227.14 m, GEP=   7.62 m
```

```
       Contains the following buildings:
             Building #  4:  Long Bun Storage Rm
             Building #  5:  East Section 40 ft
             Building #  6:  Loading Dock
             Building #  7:  Main Roof 35 ft
             Building #  8:  East Section 12 ft
             Building #  9:  Storage Tanks
             Building # 10:  North Section 16 ft
             Building # 11:  Storge Bldg
             Building # 12:  Methylene Chloride
       The following stacks are within 5L:
             Stack #  1:   1
             Stack #  2:   2
             Stack #  3:   3
             Stack #  4:   4
             Stack #  5:   5
             Stack #  6:   6
             Stack #  7:   7
             Stack #  8:   8
             Stack #  9:   9
             Stack # 10:  10
             Stack # 11:  11
             Stack # 12:  12
             Stack # 13:  13
             Stack # 14:  14
             Stack # 15:  15
             Stack # 16:  16
             Stack # 17:  17
             Stack # 18:  18
             Stack # 19:  19

NUMBER OF SOURCES =  19
```

1 Stack ID # 1, Stack # 1

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	1	15.24	84.68	38.10	1
20	1	15.24	91.23	38.10	1
30	1	15.24	95.01	38.10	1
40	1	15.24	95.96	38.10	1
50	1	15.24	95.84	38.10	1
60	1	15.24	93.53	38.10	1
70	0	.00	.00	.00	0
80	0	.00	.00	.00	0
90	0	.00	.00	.00	0
100	0	.00	.00	.00	0
110	0	.00	.00	.00	0
120	0	.00	.00	.00	0
130	0	.00	.00	.00	0
140	0	.00	.00	.00	0
150	1	15.24	93.84	38.10	1
160	1	15.24	90.70	38.10	1
170	1	15.24	83.88	38.10	1
180	0	.00	.00	.00	0
190	0	.00	.00	.00	0
200	1	15.24	91.23	38.10	1
210	1	15.24	95.01	38.10	1
220	1	15.24	95.96	38.10	1
230	1	15.24	95.84	38.10	1
240	1	15.24	93.53	38.10	1
250	0	.00	.00	.00	0
260	0	.00	.00	.00	0
270	0	.00	.00	.00	0
280	0	.00	.00	.00	0
290	0	.00	.00	.00	0
300	0	.00	.00	.00	0
310	0	.00	.00	.00	0
320	0	.00	.00	.00	0
330	1	15.24	93.84	38.10	1
340	1	15.24	90.70	38.10	1
350	1	15.24	83.88	38.10	1
360	1	15.24	75.55	38.10	1

1 Stack ID # 2, Stack # 2

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	1	15.24	84.68	38.10	1
20	1	15.24	91.23	38.10	1
30	1	15.24	95.01	38.10	1
40	1	15.24	95.96	38.10	1
50	1	15.24	95.84	38.10	1
60	1	15.24	93.53	38.10	1
70	1	15.24	88.38	38.10	1
80	1	15.24	80.55	38.10	1
90	1	15.24	71.39	38.10	1
100	1	15.24	81.44	38.10	1
110	1	15.24	89.02	38.10	1
120	1	15.24	93.89	38.10	1
130	1	15.24	95.91	38.10	1
140	1	15.24	95.96	38.10	1
150	1	15.24	94.77	38.10	1
160	1	15.24	90.70	38.10	1
170	1	15.24	83.88	38.10	1
180	1	15.24	75.55	38.10	1
190	1	15.24	84.68	38.10	1
200	1	15.24	91.23	38.10	1
210	1	15.24	95.01	38.10	1
220	1	15.24	95.96	38.10	1
230	1	15.24	95.84	38.10	1
240	1	15.24	93.53	38.10	1
250	1	15.24	88.38	38.10	1
260	1	15.24	80.55	38.10	1
270	1	15.24	71.39	38.10	1
280	1	15.24	81.44	38.10	1
290	1	15.24	89.02	38.10	1
300	1	15.24	93.89	38.10	1
310	1	15.24	95.91	38.10	1
320	1	15.24	95.96	38.10	1
330	1	15.24	94.77	38.10	1
340	1	15.24	90.70	38.10	1
350	1	15.24	83.88	38.10	1
360	1	15.24	75.55	38.10	1

1 Stack ID # 3, Stack # 3

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	4	10.67	154.11	26.67	2
20	4	10.67	178.03	26.67	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	2	12.19	103.26	30.48	2
80	2	12.19	104.35	30.48	2
90	1	15.24	71.39	38.10	2
100	1	15.24	81.44	38.10	2
110	1	15.24	89.02	38.10	2
120	1	15.24	93.89	38.10	2
130	1	15.24	95.91	38.10	2
140	1	15.24	95.96	38.10	2
150	1	15.24	94.77	38.10	2
160	1	15.24	90.70	38.10	2
170	1	15.24	83.88	38.10	2
180	1	15.24	74.51	38.10	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	4	10.67	215.24	26.67	2
240	4	10.67	215.89	26.67	2
250	2	12.19	103.26	30.48	2
260	2	12.19	104.35	30.48	2
270	1	15.24	71.39	38.10	2
280	1	15.24	81.44	38.10	2
290	1	15.24	89.02	38.10	2
300	1	15.24	93.89	38.10	2
310	1	15.24	95.91	38.10	2
320	1	15.24	95.96	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	74.51	38.10	2

1 Stack ID # 4, Stack # 4

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	4	10.67	154.11	26.67	2
20	4	10.67	178.03	26.67	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	2	12.19	104.35	30.48	2
90	2	12.19	109.35	30.48	2
100	1	15.24	81.44	38.10	2
110	1	15.24	89.02	38.10	2
120	1	15.24	93.89	38.10	2
130	1	15.24	95.91	38.10	2
140	1	15.24	95.96	38.10	2
150	1	15.24	94.77	38.10	2
160	1	15.24	90.70	38.10	2
170	1	15.24	83.88	38.10	2
180	1	15.24	74.51	38.10	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	4	10.67	215.24	26.67	2
240	4	10.67	215.89	26.67	2
250	4	10.67	214.49	26.67	2
260	2	12.19	104.35	30.48	2
270	2	12.19	109.35	30.48	2
280	1	15.24	81.44	38.10	2
290	1	15.24	89.02	38.10	2
300	1	15.24	93.89	38.10	2
310	1	15.24	95.91	38.10	2
320	1	15.24	95.96	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	74.51	38.10	2

1 Stack ID # 5, Stack # 5

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	4	10.67	154.11	26.67	2
20	4	10.67	178.03	26.67	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	2	12.19	104.34	30.48	2
90	2	12.19	109.35	30.48	2
100	2	12.19	118.25	30.48	2
110	1	15.24	89.02	38.10	2
120	1	15.24	93.89	38.10	2
130	1	15.24	94.53	38.10	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	2	12.19	103.82	30.48	2
170	2	12.19	93.09	30.48	2
180	2	12.19	77.16	30.48	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	4	10.67	215.24	26.67	2
240	4	10.67	215.89	26.67	2
250	4	10.67	214.49	26.67	2
260	2	12.19	104.34	30.48	2
270	2	12.19	109.35	30.48	2
280	2	12.19	118.25	30.48	2
290	1	15.24	89.02	38.10	2
300	1	15.24	93.89	38.10	2
310	1	15.24	95.91	38.10	2
320	1	15.24	95.96	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	74.51	38.10	2

1 Stack ID # 6, Stack # 6

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	4	10.67	154.11	26.67	2
20	4	10.67	178.03	26.67	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	2	12.19	118.25	30.48	2
110	2	12.19	118.94	30.48	2
120	4	10.67	192.50	26.67	2
130	4	10.67	186.24	26.67	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	2	12.19	83.85	30.48	2
180	2	12.19	77.16	30.48	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	4	10.67	215.24	26.67	2
240	4	10.67	215.89	26.67	2
250	4	10.67	214.49	26.67	2
260	4	10.67	206.95	26.67	2
270	4	10.67	193.13	26.67	2
280	2	12.19	118.25	30.48	2
290	2	12.19	123.55	30.48	2
300	1	15.24	93.89	38.10	2
310	1	15.24	95.91	38.10	2
320	1	15.24	95.96	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	74.51	38.10	2

1 Stack ID # 7, Stack # 7

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	4	10.67	154.11	26.67	2
20	4	10.67	178.03	26.67	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	4	10.67	194.58	26.67	2
110	4	10.67	194.74	26.67	2
120	4	10.67	192.50	26.67	2
130	4	10.67	186.24	26.67	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	4	10.67	138.57	26.67	2
180	4	10.67	125.52	26.67	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	4	10.67	215.24	26.67	2
240	4	10.67	215.89	26.67	2
250	4	10.67	214.49	26.67	2
260	4	10.67	206.95	26.67	2
270	4	10.67	193.13	26.67	2
280	4	10.67	194.58	26.67	2
290	4	10.67	194.74	26.67	2
300	4	10.67	192.50	26.67	2
310	1	15.24	95.91	38.10	2
320	1	15.24	95.96	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	74.51	38.10	2

1 Stack ID # 8, Stack # 8

The Dominant Structure Within 5L is:
STRUC= 4 H= 10.67 W= 215.90 GEP= 26.67

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	4	10.67	154.11	26.67	2
20	4	10.67	178.03	26.67	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	4	10.67	194.58	26.67	2
110	4	10.67	194.74	26.67	2
120	4	10.67	192.50	26.67	2
130	4	10.67	186.24	26.67	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	4	10.67	138.57	26.67	2
180	4	10.67	125.52	26.67	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	4	10.67	215.24	26.67	2
240	4	10.67	215.89	26.67	2
250	4	10.67	214.49	26.67	2
260	4	10.67	206.95	26.67	2
270	4	10.67	193.13	26.67	2
280	4	10.67	194.58	26.67	2
290	4	10.67	194.74	26.67	2
300	4	10.67	192.50	26.67	2
310	4	10.67	186.24	26.67	2
320	4	10.67	176.60	26.67	2
330	4	10.67	161.59	26.67	2
340	4	10.67	148.74	26.67	2
350	4	10.67	138.57	26.67	2
360	4	10.67	125.52	26.67	2

1 Stack ID # 9, Stack # 9

The Dominant Structure Within 5L is:
STRUC= 4 H= 10.67 W= 215.90 GEP= 26.67

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	4	10.67	154.11	26.67	2
20	4	10.67	178.03	26.67	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	4	10.67	194.58	26.67	2
110	4	10.67	194.74	26.67	2
120	4	10.67	192.50	26.67	2
130	4	10.67	186.24	26.67	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	4	10.67	138.57	26.67	2
180	4	10.67	125.52	26.67	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	4	10.67	215.24	26.67	2
240	4	10.67	215.89	26.67	2
250	4	10.67	214.49	26.67	2
260	4	10.67	206.95	26.67	2
270	4	10.67	193.13	26.67	2
280	4	10.67	194.58	26.67	2
290	4	10.67	194.74	26.67	2
300	4	10.67	192.50	26.67	2
310	4	10.67	186.24	26.67	2
320	4	10.67	176.60	26.67	2
330	4	10.67	161.59	26.67	2
340	4	10.67	148.74	26.67	2
350	4	10.67	138.57	26.67	2
360	4	10.67	125.52	26.67	2

1 Stack ID # 10, Stack # 10

The Dominant Structure Within 5L is:
STRUC= 4 H= 10.67 W= 215.90 GEP= 26.67

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	4	10.67	154.11	26.67	2
20	4	10.67	178.03	26.67	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	4	10.67	194.58	26.67	2
110	4	10.67	194.74	26.67	2
120	4	10.67	192.50	26.67	2
130	4	10.67	186.24	26.67	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	4	10.67	138.57	26.67	2
180	4	10.67	125.52	26.67	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	4	10.67	215.24	26.67	2
240	4	10.67	215.89	26.67	2
250	4	10.67	214.49	26.67	2
260	4	10.67	206.95	26.67	2
270	4	10.67	193.13	26.67	2
280	4	10.67	194.58	26.67	2
290	4	10.67	194.74	26.67	2
300	4	10.67	192.50	26.67	2
310	4	10.67	186.24	26.67	2
320	4	10.67	176.60	26.67	2
330	4	10.67	161.59	26.67	2
340	4	10.67	148.74	26.67	2
350	4	10.67	138.57	26.67	2
360	4	10.67	125.52	26.67	2

1 Stack ID # 11, Stack # 11

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	1	15.24	84.68	38.10	2
20	1	15.24	91.23	38.10	2
30	1	15.24	95.01	38.10	2
40	1	15.24	95.96	38.10	2
50	1	15.24	95.84	38.10	2
60	1	15.24	93.53	38.10	2
70	1	15.24	88.38	38.10	2
80	1	15.24	80.55	38.10	2
90	2	12.19	109.35	30.48	2
100	1	15.24	81.44	38.10	2
110	1	15.24	89.02	38.10	2
120	1	15.24	93.89	38.10	2
130	1	15.24	95.91	38.10	2
140	1	15.24	95.96	38.10	2
150	1	15.24	94.77	38.10	2
160	1	15.24	90.70	38.10	2
170	1	15.24	83.88	38.10	2
180	1	15.24	75.55	38.10	2
190	1	15.24	84.68	38.10	2
200	1	15.24	91.23	38.10	2
210	1	15.24	95.01	38.10	2
220	1	15.24	95.96	38.10	2
230	1	15.24	95.84	38.10	2
240	1	15.24	93.53	38.10	2
250	1	15.24	88.38	38.10	2
260	1	15.24	80.55	38.10	2
270	2	12.19	109.35	30.48	2
280	1	15.24	81.44	38.10	2
290	1	15.24	89.02	38.10	2
300	1	15.24	93.89	38.10	2
310	1	15.24	95.91	38.10	2
320	1	15.24	95.96	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	75.55	38.10	2

1 Stack ID # 12, Stack # 12

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	1	15.24	84.68	38.10	2
20	1	15.24	91.23	38.10	2
30	1	15.24	95.01	38.10	2
40	1	15.24	95.96	38.10	2
50	1	15.24	95.84	38.10	2
60	1	15.24	93.53	38.10	2
70	2	12.19	103.26	30.48	2
80	2	12.19	104.35	30.48	2
90	2	12.19	109.35	30.48	2
100	2	12.19	118.25	30.48	2
110	1	15.24	89.02	38.10	2
120	1	15.24	93.89	38.10	2
130	1	15.24	95.91	38.10	2
140	1	15.24	95.96	38.10	2
150	1	15.24	94.77	38.10	2
160	1	15.24	90.70	38.10	2
170	1	15.24	83.88	38.10	2
180	1	15.24	75.55	38.10	2
190	1	15.24	84.68	38.10	2
200	1	15.24	91.23	38.10	2
210	1	15.24	95.01	38.10	2
220	1	15.24	95.96	38.10	2
230	1	15.24	95.84	38.10	2
240	1	15.24	93.53	38.10	2
250	2	12.19	103.26	30.48	2
260	2	12.19	104.35	30.48	2
270	2	12.19	109.35	30.48	2
280	2	12.19	118.25	30.48	2
290	1	15.24	89.02	38.10	2
300	1	15.24	93.89	38.10	2
310	1	15.24	95.91	38.10	2
320	1	15.24	95.96	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	75.55	38.10	2

1 Stack ID # 13, Stack # 13

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	1	15.24	84.68	38.10	2
20	1	15.24	91.23	38.10	2
30	1	15.24	95.01	38.10	2
40	1	15.24	95.96	38.10	2
50	1	15.24	95.84	38.10	2
60	4	10.67	215.89	26.67	2
70	2	12.19	103.26	30.48	2
80	2	12.19	104.35	30.48	2
90	2	12.19	109.35	30.48	2
100	2	12.19	118.25	30.48	2
110	2	12.19	123.55	30.48	2
120	1	15.24	93.89	38.10	2
130	1	15.24	95.91	38.10	2
140	1	15.24	95.96	38.10	2
150	1	15.24	94.77	38.10	2
160	1	15.24	90.70	38.10	2
170	1	15.24	83.88	38.10	2
180	2	12.19	77.16	30.48	2
190	1	15.24	84.68	38.10	2
200	1	15.24	91.23	38.10	2
210	1	15.24	95.01	38.10	2
220	1	15.24	95.96	38.10	2
230	1	15.24	95.84	38.10	2
240	4	10.67	215.89	26.67	2
250	2	12.19	103.26	30.48	2
260	2	12.19	104.35	30.48	2
270	2	12.19	109.35	30.48	2
280	2	12.19	118.25	30.48	2
290	2	12.19	123.55	30.48	2
300	1	15.24	93.89	38.10	2
310	1	15.24	95.91	38.10	2
320	1	15.24	95.96	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	75.55	38.10	2

1 Stack ID # 14, Stack # 14

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	1	15.24	84.68	38.10	2
20	1	15.24	91.23	38.10	2
30	1	15.24	95.01	38.10	2
40	1	15.24	95.24	38.10	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	2	12.19	118.25	30.48	2
110	2	12.19	123.55	30.48	2
120	2	12.19	125.12	30.48	2
130	1	15.24	95.91	38.10	2
140	1	15.24	95.96	38.10	2
150	1	15.24	94.77	38.10	2
160	2	12.19	105.03	30.48	2
170	2	12.19	93.09	30.48	2
180	2	12.19	77.16	30.48	2
190	2	12.19	84.68	30.48	2
200	1	15.24	91.23	38.10	2
210	1	15.24	95.01	38.10	2
220	1	15.24	95.24	38.10	2
230	3	10.97	24.73	27.43	2
240	4	10.67	215.89	26.67	2
250	4	10.67	214.49	26.67	2
260	4	10.67	206.95	26.67	2
270	4	10.67	193.13	26.67	2
280	2	12.19	118.25	30.48	2
290	2	12.19	123.55	30.48	2
300	2	12.19	125.12	30.48	2
310	1	15.24	95.91	38.10	2
320	1	15.24	95.96	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	75.55	38.10	2

1 Stack ID # 15, Stack # 15

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	1	15.24	84.68	38.10	2
20	1	15.24	91.23	38.10	2
30	1	15.24	92.22	38.10	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	4	10.67	194.58	26.67	2
110	4	10.67	194.74	26.67	2
120	2	12.19	125.12	30.48	2
130	2	12.19	125.05	30.48	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	4	10.67	138.57	26.67	2
180	4	10.67	125.52	26.67	2
190	2	12.19	84.68	30.48	2
200	2	12.19	91.23	30.48	2
210	2	12.19	91.74	30.48	2
220	3	10.97	25.00	27.43	2
230	3	10.97	24.73	27.43	2
240	3	10.97	23.71	27.43	2
250	3	10.97	21.98	27.43	2
260	4	10.67	206.95	26.67	2
270	4	10.67	193.13	26.67	2
280	4	10.67	194.58	26.67	2
290	4	10.67	194.74	26.67	2
300	2	12.19	125.12	30.48	2
310	2	12.19	125.05	30.48	2
320	1	15.24	95.01	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	75.55	38.10	2

1 Stack ID # 16, Stack # 16

The Dominant Structure Within 5L is:
STRUC= 2 H= 12.19 W= 125.12 GEP= 30.48

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	2	12.19	84.68	30.48	2
20	2	12.19	89.55	30.48	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	4	10.67	194.58	26.67	2
110	4	10.67	194.74	26.67	2
120	4	10.67	192.50	26.67	2
130	4	10.67	186.24	26.67	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	4	10.67	138.57	26.67	2
180	4	10.67	125.52	26.67	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	3	10.97	24.84	27.43	2
230	3	10.97	24.73	27.43	2
240	3	10.97	23.71	27.43	2
250	3	10.97	21.98	27.43	2
260	3	10.97	19.58	27.43	2
270	3	10.97	16.59	27.43	2
280	4	10.67	194.58	26.67	2
290	4	10.67	194.74	26.67	2
300	4	10.67	192.50	26.67	2
310	2	12.19	123.25	30.48	2
320	2	12.19	122.42	30.48	2
330	2	12.19	116.07	30.48	2
340	2	12.19	106.20	30.48	2
350	2	12.19	93.09	30.48	2
360	2	12.19	77.16	30.48	2

1 Stack ID # 17, Stack # 17

The Dominant Structure Within 5L is:
STRUC= 3 H= 10.97 W= 25.00 GEP= 27.43

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	4	10.67	154.11	26.67	2
20	4	10.67	178.03	26.67	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	4	10.67	194.58	26.67	2
110	4	10.67	194.74	26.67	2
120	4	10.67	192.50	26.67	2
130	4	10.67	186.24	26.67	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	4	10.67	138.57	26.67	2
180	4	10.67	125.52	26.67	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	4	10.67	215.24	26.67	2
240	3	10.97	22.19	27.43	2
250	3	10.97	21.98	27.43	2
260	3	10.97	19.58	27.43	2
270	3	10.97	16.91	27.43	2
280	3	10.97	19.85	27.43	2
290	3	10.97	21.98	27.43	2
300	4	10.67	192.50	26.67	2
310	4	10.67	186.24	26.67	2
320	4	10.67	176.60	26.67	2
330	4	10.67	161.59	26.67	2
340	4	10.67	148.74	26.67	2
350	4	10.67	138.57	26.67	2
360	4	10.67	125.52	26.67	2

1 Stack ID # 18, Stack # 18

The Dominant Structure Within 5L is:
STRUC= 3 H= 10.97 W= 25.00 GEP= 27.43

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	4	10.67	154.11	26.67	2
20	4	10.67	178.03	26.67	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	4	10.67	194.58	26.67	2
110	4	10.67	194.74	26.67	2
120	4	10.67	192.50	26.67	2
130	4	10.67	186.24	26.67	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	4	10.67	138.57	26.67	2
180	4	10.67	125.52	26.67	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	4	10.67	215.24	26.67	2
240	4	10.67	215.89	26.67	2
250	4	10.67	214.49	26.67	2
260	3	10.97	17.85	27.43	2
270	3	10.97	16.91	27.43	2
280	3	10.97	19.85	27.43	2
290	3	10.97	22.19	27.43	2
300	3	10.97	23.85	27.43	2
310	3	10.97	24.21	27.43	2
320	4	10.67	176.60	26.67	2
330	4	10.67	161.59	26.67	2
340	4	10.67	148.74	26.67	2
350	4	10.67	138.57	26.67	2
360	4	10.67	125.52	26.67	2

1 Stack ID # 19, Stack # 19

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	1	15.24	84.68	38.10	2
20	1	15.24	91.23	38.10	2
30	1	15.24	95.01	38.10	2
40	1	15.24	95.96	38.10	2
50	1	15.24	95.84	38.10	2
60	1	15.24	93.53	38.10	2
70	1	15.24	88.38	38.10	2
80	1	15.24	80.55	38.10	2
90	2	12.19	109.35	30.48	2
100	2	12.19	118.25	30.48	2
110	2	12.19	123.55	30.48	2
120	2	12.19	125.12	30.48	2
130	2	12.19	125.05	30.48	2
140	1	15.24	95.83	38.10	2
150	1	15.24	94.77	38.10	2
160	1	15.24	90.70	38.10	2
170	1	15.24	83.88	38.10	2
180	1	15.24	75.55	38.10	2
190	1	15.24	84.68	38.10	2
200	1	15.24	91.23	38.10	2
210	1	15.24	95.01	38.10	2
220	1	15.24	95.96	38.10	2
230	1	15.24	95.84	38.10	2
240	1	15.24	93.53	38.10	2
250	1	15.24	88.38	38.10	2
260	1	15.24	80.55	38.10	2
270	2	12.19	109.35	30.48	2
280	2	12.19	118.25	30.48	2
290	2	12.19	123.55	30.48	2
300	2	12.19	125.12	30.48	2
310	2	12.19	125.05	30.48	2
320	1	15.24	95.83	38.10	2
330	1	15.24	94.77	38.10	2
340	1	15.24	90.70	38.10	2
350	1	15.24	83.88	38.10	2
360	1	15.24	75.55	38.10	2

1

Stack # 1

Stack ID: 1, Building Height: 15.240, Building Width: 95.965

15.24015.24015.24015.24015.24015.240.00000.00000.00000.00000.00000.00000
.00000.0000015.24015.24015.240.00000.0000015.24015.24015.24015.24015.240
.00000.00000.00000.00000.00000.00000.00000.0000015.24015.24015.24015.240
84.67791.23295.01595.96595.84093.532.00000.00000.00000.00000.00000.00000
.00000.0000093.84490.69983.876.00000.0000091.23295.01595.96595.84093.532
.00000.00000.00000.00000.00000.00000.00000.0000093.84490.69983.87675.550

Stack # 2

Stack ID: 2, Building Height: 15.240, Building Width: 95.965

15.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.240
15.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.240
15.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.240
84.67791.23295.01595.96595.84093.53288.38280.54671.39481.44589.02193.892
95.91195.96594.76590.69983.87675.55084.67791.23295.01595.96595.84093.532
88.38280.54671.39481.44589.02193.89295.91195.96594.76590.69983.87675.550

Stack # 3

Stack ID: 3, Building Height: 15.240, Building Width: 95.965

10.66810.66810.66810.66810.66810.66812.19212.19215.24015.24015.24015.240
15.24015.24015.24015.24015.24015.24010.66810.66810.66810.66810.66810.668
12.19212.19215.24015.24015.24015.24015.24015.24015.24015.24015.24015.240
154.11178.03196.53209.06215.24215.89103.26104.3571.39481.44589.02193.892
95.91195.96594.76590.69983.87674.506154.11178.03196.53209.06215.24215.89
103.26104.3571.39481.44589.02193.89295.91195.96594.76590.69983.87674.506

Stack # 4

Stack ID: 4, Building Height: 15.240, Building Width: 95.965

10.66810.66810.66810.66810.66810.66810.66812.19212.19215.24015.24015.240
15.24015.24015.24015.24015.24015.24010.66810.66810.66810.66810.66810.668
10.66812.19212.19215.24015.24015.24015.24015.24015.24015.24015.24015.240
154.11178.03196.53209.06215.24215.89214.49104.35109.3581.44589.02193.892
95.91195.96594.76590.69983.87674.506154.11178.03196.53209.06215.24215.89
214.49104.35109.3581.44589.02193.89295.91195.96594.76590.69983.87674.506

Stack # 5

Stack ID: 5, Building Height: 15.240, Building Width: 95.965

10.66810.66810.66810.66810.66810.66810.66812.19212.19212.19215.24015.240
15.24010.66810.66812.19212.19212.19210.66810.66810.66810.66810.66810.668
10.66812.19212.19212.19215.24015.24015.24015.24015.24015.24015.24015.240
154.11178.03196.53209.06215.24215.89214.49104.34109.35118.2589.02193.892
94.527176.60161.59103.8293.09477.163154.11178.03196.53209.06215.24215.89
214.49104.34109.35118.2589.02193.89295.91195.96594.76590.69983.87674.506

Stack # 6

Stack ID: 6, Building Height: 15.240, Building Width: 95.965

10.66810.66810.66810.66810.66810.66810.66810.66810.66812.19212.19210.668
10.66810.66810.66810.66812.19212.19210.66810.66810.66810.66810.66810.668
10.66810.66810.66812.19212.19215.24015.24015.24015.24015.24015.24015.240
154.11178.03196.53209.06215.24215.89214.49206.95193.13118.25118.94192.50
186.24176.60161.59148.7483.84677.163154.11178.03196.53209.06215.24215.89
214.49206.95193.13118.25123.5593.89295.91195.96594.76590.69983.87674.506

Stack # 7

Stack ID: 7, Building Height: 15.240, Building Width: 95.965

10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66815.24015.24015.24015.24015.24015.240
154.11178.03196.53209.06215.24215.89214.49206.95193.13194.58194.74192.50
186.24176.60161.59148.74138.57125.52154.11178.03196.53209.06215.24215.89
214.49206.95193.13194.58194.74192.5095.91195.96594.76590.69983.87674.506

Stack # 8

Stack ID: 8, Building Height: 10.668, Building Width: 215.90

10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
154.11178.03196.53209.06215.24215.89214.49206.95193.13194.58194.74192.50
186.24176.60161.59148.74138.57125.52154.11178.03196.53209.06215.24215.89
214.49206.95193.13194.58194.74192.50186.24176.60161.59148.74138.57125.52

Stack # 9

Stack ID: 9, Building Height: 10.668, Building Width: 215.90

10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
154.11178.03196.53209.06215.24215.89214.49206.95193.13194.58194.74192.50
186.24176.60161.59148.74138.57125.52154.11178.03196.53209.06215.24215.89
214.49206.95193.13194.58194.74192.50186.24176.60161.59148.74138.57125.52

Stack # 10

Stack ID: 10, Building Height: 10.668, Building Width: 215.90

10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
154.11178.03196.53209.06215.24215.89214.49206.95193.13194.58194.74192.50
186.24176.60161.59148.74138.57125.52154.11178.03196.53209.06215.24215.89
214.49206.95193.13194.58194.74192.50186.24176.60161.59148.74138.57125.52

Stack # 11

Stack ID: 11, Building Height: 15.240, Building Width: 95.965

15.24015.24015.24015.24015.24015.24015.24015.24012.19215.24015.24015.240
15.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.240
15.24015.24012.19215.24015.24015.24015.24015.24015.24015.24015.24015.240
84.67791.23295.01595.96595.84093.53288.38280.546109.3581.44589.02193.892
95.91195.96594.76590.69983.87675.55084.67791.23295.01595.96595.84093.532
88.38280.546109.3581.44589.02193.89295.91195.96594.76590.69983.87675.550

Stack # 12

Stack ID: 12, Building Height: 15.240, Building Width: 95.965

15.24015.24015.24015.24015.24015.24012.19212.19212.19212.19215.24015.240
15.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.240
12.19212.19212.19212.19215.24015.24015.24015.24015.24015.24015.24015.240
84.67791.23295.01595.96595.84093.532103.26104.35109.35118.2589.02193.892
95.91195.96594.76590.69983.87675.55084.67791.23295.01595.96595.84093.532
103.26104.35109.35118.2589.02193.89295.91195.96594.76590.69983.87675.550

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                    Stack # 13
Stack ID: 13,    Building Height: 15.240,    Building Width: 95.965
15.24015.24015.24015.24015.24010.66812.19212.19212.19212.19212.19215.240
15.24015.24015.24015.24015.24012.19215.24015.24015.24015.24015.24010.668
12.19212.19212.19212.19212.19215.24015.24015.24015.24015.24015.24015.240
84.67791.23295.01595.96595.840215.89103.26104.35109.35118.25123.5593.892
95.91195.96594.76590.69983.87677.16384.67791.23295.01595.96595.840215.89
103.26104.35109.35118.25123.5593.89295.91195.96594.76590.69983.87675.550
                    Stack # 14
Stack ID: 14,    Building Height: 15.240,    Building Width: 95.965
15.24015.24015.24010.66810.66810.66810.66810.66812.19212.19212.192
15.24015.24012.19212.19212.19212.19215.24015.24010.97310.668
10.66810.66810.66812.19212.19212.19215.24015.24015.24015.24015.240
84.67791.23295.01595.235215.24215.89214.49206.95193.13118.25123.55125.12
95.91195.96594.765105.0393.09477.16384.67791.23295.01595.23524.726215.89
214.49206.95193.13118.25123.55125.1295.91195.96594.76590.69983.87675.550
                    Stack # 15
Stack ID: 15,    Building Height: 15.240,    Building Width: 95.965
15.24015.24010.66810.66810.66810.66810.66810.66810.66810.66812.192
12.19210.66810.66810.66810.66810.66812.19212.19212.19210.97310.97310.973
10.97310.66810.66810.66810.66812.19212.19215.24015.24015.24015.24015.240
84.67791.23292.215209.06215.24215.89214.49206.95193.13194.58194.74125.12
125.05176.60161.59148.74138.57125.5284.67791.23291.73824.99524.72623.714
21.982206.95193.13194.58194.74125.12125.0595.01594.76590.69983.87675.550
                    Stack # 16
Stack ID: 16,    Building Height: 12.192,    Building Width: 125.12
12.19212.19210.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.97310.97310.973
10.97310.97310.97310.66810.66810.66812.19212.19212.19212.19212.19212.192
84.67789.549196.53209.06215.24215.89214.49206.95193.13194.58194.74192.50
186.24176.60161.59148.74138.57125.52154.11178.03196.5324.83924.72623.714
21.98219.58116.586194.58194.74192.50123.25122.42116.07106.2093.09477.163
                    Stack # 17
Stack ID: 17,    Building Height: 10.973,    Building Width: 24.996
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.973
10.97310.97310.97310.97310.97310.66810.66810.66810.66810.66810.66810.668
154.11178.03196.53209.06215.24215.89214.49206.95193.13194.58194.74192.50
186.24176.60161.59148.74138.57125.52154.11178.03196.53209.06215.2422.186
21.98219.58116.91019.84921.982192.50186.24176.60161.59148.74138.57125.52
                    Stack # 18
Stack ID: 18,    Building Height: 10.973,    Building Width: 24.996
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
10.66810.97310.97310.97310.97310.97310.97310.66810.66810.66810.66810.668
154.11178.03196.53209.06215.24215.89214.49206.95193.13194.58194.74192.50
186.24176.60161.59148.74138.57125.52154.11178.03196.53209.06215.24215.89
214.4917.85016.91019.84922.18623.84824.208176.60161.59148.74138.57125.52
```

Stack # 19

```
Stack ID: 19,    Building Height: 15.240,    Building Width: 95.965
15.24015.24015.24015.24015.24015.24015.24015.24012.19212.19212.19212.192
12.19215.24015.24015.24015.24015.24015.24015.24015.24015.24015.24015.240
15.24015.24012.19212.19212.19212.19212.19215.24015.24015.24015.24015.240
84.67791.23295.01595.96595.84093.53288.38280.546109.35118.25123.55125.12
125.0595.82794.76590.69983.87675.55084.67791.23295.01595.96595.84093.532
88.38280.546109.35118.25123.55125.12125.0595.82794.76590.69983.87675.550
1                    RUN ENDED ON 11-19-92 AT 19:33:52
```

Appendix 7-B

ISCST2 Output Listings

Run: FMXMCA

Methylene Chloride Annual Average Emission Rates

```
                 ISCST2 EXTENDED MODEL - (DATED 92062)

                 IBM-PC VERSION (1.01)
                 (C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
                 SERIAL NUMBER 8025 SOLD TO CROSS TESSITORE & ASSOCIATES
                 RUN BEGAN ON 11/30/92 AT 15:59:30


CO STARTING
CO TITLEONE Foamex - Annual Avg Emission Rates - Methylene Chloride
CO TITLETWO Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME PERIOD
CO POLLUTID OTHER
CO RUNORNOT RUN
CO FINISHED


SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS           YS           ZS

SO LOCATION     1 POINT       175.8720     119.7880        .0000
SO LOCATION     2 POINT       152.4020      17.0690        .0000
SO LOCATION     3 POINT       108.5100      97.2320        .0000
SO LOCATION     4 POINT       108.5100     110.6440        .0000
SO LOCATION     5 POINT       108.5100     119.7880        .0000
SO LOCATION     6 POINT       108.5100     135.6380        .0000
SO LOCATION     7 POINT       108.5100     152.7070        .0000
SO LOCATION     8 POINT       108.5100     168.8610        .0000
SO LOCATION     9 POINT       108.5100     183.7970        .0000
SO LOCATION    10 POINT       108.5100     192.9410        .0000
SO LOCATION    11 POINT       147.5250      97.2320        .0000
SO LOCATION    12 POINT       147.5250     110.6440        .0000
SO LOCATION    13 POINT       147.5250     119.7880        .0000
SO LOCATION    14 POINT       147.5250     135.6380        .0000
SO LOCATION    15 POINT       147.5250     155.4500        .0000
SO LOCATION    16 POINT       147.5250     168.8610        .0000
SO LOCATION    17 POINT       147.5250     183.7970        .0000
SO LOCATION    18 POINT       147.5250     192.9410        .0000
SO LOCATION    19 POINT       182.8820     102.5660        .0000

** Source Parameter Cards:
** POINT:   SRCID       QS           HS        TS         VS         DS
** VOLUME:  SRCID       QS           HS      SYINIT     SZINIT
** AREA:    SRCID       QS           HS       XINIT

SO SRCPARAM     1   4.373689118      38.1000   299.8200   24.3810      .7021
SO SRCPARAM     2   2.551318652      38.1000   299.8200   24.3810      .9929
SO SRCPARAM     3   0.021439653   13.1070   299.8200   24.3810    1.1100
SO SRCPARAM     4   0.021439653   13.1070   299.8200   24.3810    1.1100
SO SRCPARAM     5   0.021439653   13.1070   299.8200   24.3810    1.1100
```

```
SO SRCPARAM    6    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM    7    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM    8    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM    9    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   10    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   11    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   12    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   13    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   14    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   15    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   16    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   17    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   18    0.021439653    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   19    0.021439653    15.8500   299.8200    24.3810    1.1100

** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     1
SO BUILDHGT    1      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    1        .00       .00       .00       .00       .00       .00
SO BUILDHGT    1        .00       .00     15.24     15.24     15.24       .00
SO BUILDHGT    1        .00     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    1        .00       .00       .00       .00       .00       .00
SO BUILDHGT    1        .00       .00     15.24     15.24     15.24     15.24
** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     2
SO BUILDHGT    2      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    2      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    2      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    2      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    2      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    2      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    3      10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    3      12.19     12.19     15.24     15.24     15.24     15.24
SO BUILDHGT    3      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    3      10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    3      12.19     12.19     15.24     15.24     15.24     15.24
SO BUILDHGT    3      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    4      10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    4      10.67     12.19     12.19     15.24     15.24     15.24
SO BUILDHGT    4      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    4      10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    4      10.67     12.19     12.19     15.24     15.24     15.24
SO BUILDHGT    4      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    5      10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    5      10.67     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT    5      15.24     10.67     10.67     12.19     12.19     12.19
SO BUILDHGT    5      10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    5      10.67     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT    5      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    6      10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    6      10.67     10.67     10.67     12.19     12.19     10.67
SO BUILDHGT    6      10.67     10.67     10.67     10.67     12.19     12.19
SO BUILDHGT    6      10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    6      10.67     10.67     10.67     12.19     12.19     15.24
SO BUILDHGT    6      15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    7      10.67     10.67     10.67     10.67     10.67     10.67
```

SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	12.19
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	14	15.24	15.24	15.24	15.24	10.67	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	12.19	12.19	12.19
SO BUILDHGT	14	12.19	15.24	15.24	15.24	10.97	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	15	15.24	15.24	15.24	10.67	10.67	10.67
SO BUILDHGT	15	10.67	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	15	12.19	12.19	12.19	10.97	10.97	10.97
SO BUILDHGT	15	10.97	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	16	12.19	12.19	10.67	10.67	10.67	10.67

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SO BUILDHGT   16    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   16    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   16    10.67    10.67    10.67    10.97    10.97    10.97
SO BUILDHGT   16    10.97    10.97    10.97    10.67    10.67    10.67
SO BUILDHGT   16    12.19    12.19    12.19    12.19    12.19    12.19
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.97
SO BUILDHGT   17    10.97    10.97    10.97    10.97    10.97    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.97    10.97    10.97    10.97    10.97
SO BUILDHGT   18    10.97    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   19    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    12.19    12.19    12.19    12.19
SO BUILDHGT   19    12.19    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    12.19    12.19    12.19    12.19
SO BUILDHGT   19    12.19    15.24    15.24    15.24    15.24    15.24
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      1
SO BUILDWID    1    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    1      .00      .00      .00      .00      .00      .00
SO BUILDWID    1      .00      .00    93.84    90.70    83.88      .00
SO BUILDWID    1      .00    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    1      .00      .00      .00      .00      .00      .00
SO BUILDWID    1      .00      .00    93.84    90.70    83.88    75.55
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      2
SO BUILDWID    2    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    2    88.38    80.55    71.39    81.44    89.02    93.89
SO BUILDWID    2    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    2    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    2    88.38    80.55    71.39    81.44    89.02    93.89
SO BUILDWID    2    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    3   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    3   103.26   104.35    71.39    81.44    89.02    93.89
SO BUILDWID    3    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    3   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    3   103.26   104.35    71.39    81.44    89.02    93.89
SO BUILDWID    3    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    4   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    4   214.49   104.35   109.35    81.44    89.02    93.89
SO BUILDWID    4    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    4   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    4   214.49   104.35   109.35    81.44    89.02    93.89
SO BUILDWID    4    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    5   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    5   214.49   104.34   109.35   118.25    89.02    93.89
SO BUILDWID    5    94.53   176.60   161.59   103.82    93.09    77.16
SO BUILDWID    5   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    5   214.49   104.34   109.35   118.25    89.02    93.89
```

SO BUILDWID	5	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	118.94	192.50
SO BUILDWID	6	186.24	176.60	161.59	148.74	83.85	77.16
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	123.55	93.89
SO BUILDWID	6	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	77.16
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	14	84.68	91.23	95.01	95.24	215.24	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12
SO BUILDWID	14	95.91	95.96	94.76	105.03	93.09	77.16
SO BUILDWID	14	84.68	91.23	95.01	95.24	24.73	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12

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SO BUILDWID   14    95.91     95.96     94.76     90.70     83.88     75.55
SO BUILDWID   15    84.68     91.23     92.21    209.06    215.24    215.89
SO BUILDWID   15   214.49    206.95    193.13    194.58    194.74    125.12
SO BUILDWID   15   125.05    176.60    161.59    148.74    138.57    125.52
SO BUILDWID   15    84.68     91.23     91.74     25.00     24.73     23.71
SO BUILDWID   15    21.98    206.95    193.13    194.58    194.74    125.12
SO BUILDWID   15   125.05     95.01     94.76     90.70     83.88     75.55
SO BUILDWID   16    84.68     89.55    196.53    209.06    215.24    215.89
SO BUILDWID   16   214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID   16   186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID   16   154.11    178.03    196.53     24.84     24.73     23.71
SO BUILDWID   16    21.98     19.58     16.59    194.58    194.74    192.50
SO BUILDWID   16   123.25    122.42    116.07    106.20     93.09     77.16
SO BUILDWID   17   154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID   17   214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID   17   186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID   17   154.11    178.03    196.53    209.06    215.24     22.19
SO BUILDWID   17    21.98     19.58     16.91     19.85     21.98    192.50
SO BUILDWID   17   186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID   18   154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID   18   214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID   18   186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID   18   154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID   18   214.49     17.85     16.91     19.85     22.19     23.85
SO BUILDWID   18    24.21    176.60    161.59    148.74    138.57    125.52
SO BUILDWID   19    84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID   19    88.38     80.55    109.35    118.25    123.55    125.12
SO BUILDWID   19   125.05     95.83     94.76     90.70     83.88     75.55
SO BUILDWID   19    84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID   19    88.38     80.55    109.35    118.25    123.55    125.12
SO BUILDWID   19   125.05     95.83     94.76     90.70     83.88     75.55

SO SRCGROUP 1 1
SO SRCGROUP 2 2
SO SRCGROUP 3 3-19
SO SRCGROUP ALL
SO FINISHED


RE STARTING
RE GRIDPOLR POL1 STA
RE GRIDPOLR POL1 ORIG   106.68  110.6424
RE GRIDPOLR POL1 DIST   150. 200. 250. 300. 350. 400. 450. 500. 550.
RE GRIDPOLR POL1 DIST   600. 650. 700. 750. 800. 850. 900. 950. 1000.
RE GRIDPOLR POL1 GDIR   36  10.  10.
RE GRIDPOLR POL1 END
RE DISCCART          .00         .00
RE DISCCART        15.24         .00
RE DISCCART        30.48         .00
RE DISCCART        45.72         .00
RE DISCCART        60.96         .00
RE DISCCART        76.20         .00
RE DISCCART        91.44         .00
RE DISCCART       106.68         .00
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RE DISCCART	121.92	.00
RE DISCCART	137.16	.00
RE DISCCART	152.40	.00
RE DISCCART	167.64	.00
RE DISCCART	182.88	.00
RE DISCCART	198.12	.00
RE DISCCART	213.36	.00
RE DISCCART	213.36	15.24
RE DISCCART	213.36	30.48
RE DISCCART	213.36	45.72
RE DISCCART	213.36	60.96
RE DISCCART	213.36	76.20
RE DISCCART	213.36	91.44
RE DISCCART	213.36	106.68
RE DISCCART	213.36	121.92
RE DISCCART	213.36	137.16
RE DISCCART	213.36	152.40
RE DISCCART	213.36	167.64
RE DISCCART	213.36	182.88
RE DISCCART	213.36	198.12
RE DISCCART	213.36	213.36
RE DISCCART	213.36	221.29
RE DISCCART	198.12	221.29
RE DISCCART	182.88	221.29
RE DISCCART	167.64	221.29
RE DISCCART	152.40	221.29
RE DISCCART	137.16	221.29
RE DISCCART	121.92	221.29
RE DISCCART	106.68	221.29
RE DISCCART	91.44	221.29
RE DISCCART	76.20	221.29
RE DISCCART	60.96	221.29
RE DISCCART	45.72	221.29
RE DISCCART	30.48	221.29
RE DISCCART	15.24	221.29
RE DISCCART	.00	221.29
RE DISCCART	.00	213.36
RE DISCCART	.00	198.12
RE DISCCART	.00	182.88
RE DISCCART	.00	167.64
RE DISCCART	.00	152.40
RE DISCCART	.00	137.16
RE DISCCART	.00	121.92
RE DISCCART	.00	106.68
RE DISCCART	.00	91.44
RE DISCCART	.00	76.20
RE DISCCART	.00	60.96
RE DISCCART	.00	45.72
RE DISCCART	.00	30.48
RE DISCCART	.00	15.24

RE FINISHED

[illegible]ARTING

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ME INPUTFIL c:\models\iscst2\foamex\orltmp86.BIN      UNFORM
ME ANEMHGHT   10.000 METERS
ME SURFDATA  12815  1986            SURFNAME
ME UAIRDATA  12842  1986            UAIRNAME
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU FINISHED

**************************************
*** SETUP Finishes Successfully ***
**************************************
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*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

el Calculates PERIOD Averages Only

**This Run Includes: 19 Source(s); 4 Source Group(s); and 706 Receptor(s)

**The Model Assumes A Pollutant Type of: OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Input Runstream File: C:\MODELS\ISCST2\FOAMEX\FMXMCA.NEW ; **Output Print File: C:\MODELS\ISCST2\FOAMEX\FMXMCA.LST

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
1	0	0.43737E+01	175.9	119.8	0.0	38.10	299.82	24.38	0.70	YES	
2	0	0.25513E+01	152.4	17.1	0.0	38.10	299.82	24.38	0.99	YES	
3	0	0.21440E-01	108.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
4	0	0.21440E-01	108.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
5	0	0.21440E-01	108.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
6	0	0.21440E-01	108.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
7	0	0.21440E-01	108.5	152.7	0.0	13.11	299.82	24.38	1.11	YES	
8	0	0.21440E-01	108.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
9	0	0.21440E-01	108.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
10	0	0.21440E-01	108.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
11	0	0.21440E-01	147.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
12	0	0.21440E-01	147.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
13	0	0.21440E-01	147.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
14	0	0.21440E-01	147.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
15	0	0.21440E-01	147.5	155.4	0.0	13.11	299.82	24.38	1.11	YES	
16	0	0.21440E-01	147.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
17	0	0.21440E-01	147.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
18	0	0.21440E-01	147.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
19	0	0.21440E-01	182.9	102.6	0.0	15.85	299.82	24.38	1.11	YES	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs											
1	1	,										
2	2	,										
3	3	, 4	, 5	, 6	, 7	, 8	, 9	, 10	, 11	, 12	, 13	, 14 ,
	15	, 16	, 17	, 18	, 19	,						
ALL	1	, 2	, 3	, 4	, 5	, 6	, 7	, 8	, 9	, 10	, 11	, 12 ,
	13	, 14	, 15	, 16	, 17	, 18	, 19	,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0.0,	0
13	0.0,	0.0,	0	14	0.0,	0.0,	0	15	15.2,	93.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	0.0,	0.0,	0
19	0.0,	0.0,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0.0,	0
31	0.0,	0.0,	0	32	0.0,	0.0,	0	33	15.2,	93.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 4

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 5

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.3,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	94.5,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	12.2,	103.8,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.3,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 6

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	118.9,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	12.2,	83.9,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
[illegible]	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 7

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 8

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 9

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 10

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 11

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 12

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 13

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	12.2,	77.2,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 14

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	95.2,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	12.2,	105.0,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	12.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	95.2,	0	23	11.0,	24.7,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 15

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	92.2,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	12.2,	84.7,	0	20	12.2,	91.2,	0	21	12.2,	91.7,	0	22	11.0,	25.0,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 16

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	89.6,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	11.0,	24.8,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.6,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	123.3,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

*** MODELING OPTIONS USED: CONC   RURAL   FLAT   DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 17

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	11.0,	22.2,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.0,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 18

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	11.0,	17.8,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.2,	0	30	11.0,	23.8,	0
31	11.0,	24.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5	[illegible]

SOURCE ID: 19

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	15.2,	95.8,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.8,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 106.68 ; Y-ORIG = 110.64 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

150.0,	200.0,	250.0,	300.0,	350.0,	400.0,	450.0,	500.0,	550.0,	600.0,
650.0,	700.0,	750.0,	800.0,	850.0,	900.0,	950.0,	1000.0,		

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(0.0,	0.0,	0.0,	0.0);	(15.2,	0.0,	0.0,	0.0);
(30.5,	0.0,	0.0,	0.0);	(45.7,	0.0,	0.0,	0.0);
(61.0,	0.0,	0.0,	0.0);	(76.2,	0.0,	0.0,	0.0);
(91.4,	0.0,	0.0,	0.0);	(106.7,	0.0,	0.0,	0.0);
(121.9,	0.0,	0.0,	0.0);	(137.2,	0.0,	0.0,	0.0);
(152.4,	0.0,	0.0,	0.0);	(167.6,	0.0,	0.0,	0.0);
(182.9,	0.0,	0.0,	0.0);	(198.1,	0.0,	0.0,	0.0);
(213.4,	0.0,	0.0,	0.0);	(213.4,	15.2,	0.0,	0.0);
(213.4,	30.5,	0.0,	0.0);	(213.4,	45.7,	0.0,	0.0);
(213.4,	61.0,	0.0,	0.0);	(213.4,	76.2,	0.0,	0.0);
(213.4,	91.4,	0.0,	0.0);	(213.4,	106.7,	0.0,	0.0);
(213.4,	121.9,	0.0,	0.0);	(213.4,	137.2,	0.0,	0.0);
(213.4,	152.4,	0.0,	0.0);	(213.4,	167.6,	0.0,	0.0);
(213.4,	182.9,	0.0,	0.0);	(213.4,	198.1,	0.0,	0.0);
(213.4,	213.4,	0.0,	0.0);	(213.4,	221.3,	0.0,	0.0);
(198.1,	221.3,	0.0,	0.0);	(182.9,	221.3,	0.0,	0.0);
(167.6,	221.3,	0.0,	0.0);	(152.4,	221.3,	0.0,	0.0);
(137.2,	221.3,	0.0,	0.0);	(121.9,	221.3,	0.0,	0.0);
(106.7,	221.3,	0.0,	0.0);	(91.4,	221.3,	0.0,	0.0);
(76.2,	221.3,	0.0,	0.0);	(61.0,	221.3,	0.0,	0.0);
(45.7,	221.3,	0.0,	0.0);	(30.5,	221.3,	0.0,	0.0);
(15.2,	221.3,	0.0,	0.0);	(0.0,	221.3,	0.0,	0.0);
(0.0,	213.4,	0.0,	0.0);	(0.0,	198.1,	0.0,	0.0);
(0.0,	182.9,	0.0,	0.0);	(0.0,	167.6,	0.0,	0.0);
(0.0,	152.4,	0.0,	0.0);	(0.0,	137.2,	0.0,	0.0);
(0.0,	121.9,	0.0,	0.0);	(0.0,	106.7,	0.0,	0.0);
(0.0,	91.4,	0.0,	0.0);	(0.0,	76.2,	0.0,	0.0);
(0.0,	61.0,	0.0,	0.0);	(0.0,	45.7,	0.0,	0.0);
(0.0,	30.5,	0.0,	0.0);	(0.0,	15.2,	0.0,	0.0);

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 1.0 METER OR 3*ZLB *
IN DISTANCE. CALCULATIONS MAY NOT BE PERFORMED.

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
2	121.9	0.0	34.94
2	137.2	0.0	22.88
2	152.4	0.0	17.07
2	167.6	0.0	22.88
2	182.9	0.0	34.93
10	121.9	221.3	31.36
10	106.7	221.3	28.41
18	152.4	221.3	28.77
18	137.2	221.3	30.18
19	213.4	91.4	32.45
19	213.4	106.7	30.75
19	213.4	121.9	36.10

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: c:\models\iscst2\foamex\orltmp86.BIN FORMAT: UNFORM
SURFACE STATION NO.: 12815 UPPER AIR STATION NO.: 12842
NAME: SURFNAME NAME: UAIRNAME
YEAR: 1986 YEAR: 1986

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN
86	1	1	1	1.0	3.60	289.3	4	639.0	639.0
86	1	1	2	168.0	5.14	288.7	4	639.0	639.0
86	1	1	3	124.0	3.09	288.2	4	639.0	639.0
86	1	1	4	353.0	2.57	288.2	4	639.0	639.0
86	1	1	5	333.0	2.57	288.7	4	639.0	639.0
86	1	1	6	332.0	2.57	288.7	4	639.0	639.0
86	1	1	7	335.0	3.09	288.7	4	639.0	639.0
86	1	1	8	3.0	3.60	289.3	4	639.0	639.0
86	1	1	9	347.0	3.60	289.8	4	639.0	639.0
86	1	1	10	1.0	5.14	292.0	4	639.0	639.0
86	1	1	11	14.0	4.63	292.6	4	639.0	639.0
86	1	1	12	16.0	4.12	294.3	4	639.0	639.0
86	1	1	13	73.0	3.09	295.4	4	639.0	639.0
86	1	1	14	49.0	3.60	297.0	4	639.0	639.0
86	1	1	15	142.0	2.06	296.5	4	639.0	639.0
86	1	1	16	144.0	2.06	295.9	4	639.0	639.0
86	1	1	17	261.0	2.06	295.4	4	639.0	639.0
86	1	1	18	257.0	2.06	292.6	4	644.0	644.0
86	1	1	19	274.0	3.60	291.5	4	655.0	655.0
86	1	1	20	227.0	3.09	290.9	4	666.0	666.0
86	1	1	21	230.0	3.09	290.9	4	678.0	678.0
86	1	1	22	252.0	2.57	290.4	5	689.0	477.0
86	1	1	23	290.0	2.06	290.4	4	700.0	700.0
86	1	1	24	290.0	1.00	290.4	4	712.0	712.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** ISCST2 - VERSION 92062 ***   *** Foamex - Annual Avg Emission Rates - Methylene Chloride   ***   11/30/92
*** Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof   ***   15:59:32
PAGE 14

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.04042	0.17488	0.37426	0.57217	0.72844	0.83927	0.91733	0.97052	1.00546
20.00	0.02301	0.13625	0.32263	0.51383	0.66659	0.77478	0.84973	0.90040	0.93273
30.00	0.01056	0.09183	0.25070	0.42872	0.57336	0.67124	0.73303	0.77142	0.79333
40.00	0.00341	0.05708	0.20026	0.38181	0.53896	0.65016	0.72304	0.77155	0.80152
50.00	0.00095	0.03894	0.17066	0.34764	0.50392	0.61589	0.68976	0.73922	0.77045
60.00	0.00029	0.02370	0.13117	0.29829	0.46302	0.59146	0.68185	0.74543	0.78835
70.00	0.00008	0.01537	0.11190	0.28475	0.46736	0.61272	0.71310	0.77979	0.82072
80.00	0.00005	0.01310	0.10380	0.26808	0.43651	0.56299	0.64298	0.68990	0.71293
90.00	0.00007	0.01479	0.10862	0.26435	0.41242	0.51666	0.57812	0.61100	0.62380
100.00	0.00021	0.02404	0.14028	0.31221	0.46615	0.56796	0.62145	0.64318	0.64432
110.00	0.00068	0.04142	0.20126	0.42410	0.62404	0.76330	0.84454	0.88489	0.895[illegible]
120.00	0.00167	0.05509	0.23060	0.46514	0.67141	0.81626	0.90453	0.95309	0.9[illegible]
130.00	0.00377	0.06181	0.22055	0.42316	0.59808	0.71987	0.79408	0.83431	0.84883
140.00	0.00793	0.06904	0.19920	0.35143	0.47844	0.56673	0.62339	0.65697	0.67324
150.00	0.01589	0.08996	0.21181	0.33774	0.43852	0.50970	0.55954	0.59427	0.61819
160.00	0.02920	0.12704	0.26599	0.38890	0.47627	0.53461	0.57660	0.60811	0.63307
170.00	0.04672	0.16210	0.31588	0.45355	0.55569	0.62776	0.68106	0.71973	0.74798
180.00	0.06654	0.18984	0.33405	0.45490	0.54243	0.60580	0.65505	0.69507	0.72952
190.00	0.08923	0.21653	0.35280	0.46080	0.53465	0.58450	0.61840	0.64187	0.65899
200.00	0.12269	0.25786	0.38819	0.48737	0.55448	0.59948	0.62869	0.64751	0.66003
210.00	0.17169	0.33455	0.47737	0.57807	0.64272	0.68563	0.71354	0.73197	0.74475
220.00	0.22843	0.43230	0.60605	0.72646	0.80172	0.84761	0.87185	0.88238	0.88542
230.00	0.27448	0.51438	0.71886	0.86272	0.95694	1.01805	1.05464	1.07511	1.08590
240.00	0.29182	0.54012	0.75170	0.90318	1.00688	1.07800	1.12545	1.15707	1.17873
250.00	0.28316	0.51435	0.70558	0.83827	0.92596	0.98323	1.01882	1.04039	1.05330
260.00	0.27039	0.49358	0.68126	0.81415	0.90374	0.96301	1.00039	1.02316	1.03659
270.00	0.26216	0.48867	0.68734	0.83549	0.94153	1.01639	1.06758	1.10185	1.12424
280.00	0.24991	0.46963	0.66167	0.80264	0.90074	0.96820	1.01295	1.04236	1.06150
290.00	0.23842	0.45355	0.64050	0.77416	0.86246	0.91921	0.95303	0.97140	0.98026
300.00	0.23780	0.46307	0.65888	0.79716	0.88721	0.94543	0.98064	1.00044	1.01117
310.00	0.24110	0.47705	0.67636	0.80881	0.88586	0.92802	0.94523	0.94626	0.93889
320.00	0.22647	0.44973	0.63507	0.75391	0.81669	0.84427	0.84763	0.83638	0.81826
330.00	0.18878	0.38862	0.56540	0.68321	0.74508	0.77014	0.77088	0.75772	0.73829
340.00	0.14047	0.31632	0.48518	0.60645	0.68075	0.72404	0.74750	0.75778	0.76036
350.00	0.09621	0.25529	0.43749	0.59491	0.71092	0.78980	0.84154	0.87244	0.88924
360.00	0.06360	0.21209	0.40716	0.58450	0.71615	0.80529	0.86523	0.90348	0.92738

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	1.02752	1.04033	1.04575	1.04518	1.03973	1.03039	1.01802	1.00330	0.98684
20.00	0.95180	0.96169	0.96437	0.96121	0.95332	0.94169	0.92718	0.91052	0.89234
30.00	0.80458	0.80994	0.81133	0.80967	0.80548	0.79916	0.79102	0.78136	0.77046
40.00	0.81851	0.82746	0.83056	0.82903	0.82377	0.81552	0.80490	0.79246	0.77865
50.00	0.78906	0.79966	0.80477	0.80561	0.80297	0.79746	0.78959	0.77979	0.76847
60.00	0.81652	0.83461	0.84584	0.85179	0.85346	0.85160	0.84684	0.83968	0.83057
70.00	0.84324	0.85380	0.85667	0.85417	0.84775	0.83841	0.82689	0.81375	0.79943
80.00	0.71958	0.71644	0.70792	0.69628	0.68284	0.66838	0.65343	0.63831	0.62323
90.00	0.62332	0.61492	0.60244	0.58769	0.57169	0.55511	0.53840	0.52182	0.50559
100.00	0.63328	0.61636	0.59738	0.57794	0.55879	0.54029	0.52257	0.50567	0.48960
110.00	0.88822	0.87014	0.84689	0.82109	0.79427	0.76734	0.74086	0.71515	0.69041
120.00	0.97155	0.96044	0.94348	0.92323	0.90117	0.87824	0.85498	0.83177	0.80883
130.00	0.84638	0.83467	0.81756	0.79724	0.77503	0.75179	0.72807	0.70426	0.68065
140.00	0.67779	0.67549	0.66871	0.65886	0.64691	0.63352	0.61922	0.60439	0.58931
150.00	0.63468	0.64614	0.65350	0.65727	0.65783	0.65559	0.65094	0.64426	0.63592
160.00	0.65383	0.67126	0.68534	0.69599	0.70326	0.70733	0.70853	0.70719	0.70369
170.00	0.76877	0.78331	0.79228	0.79627	0.79592	0.79191	0.78486	0.77538	0.76400
180.00	0.76032	0.78752	0.81075	0.82974	0.84450	0.85520	0.86217	0.86580	0.86490
190.00	0.67228	0.68263	0.69039	0.69573	0.69886	0.69996	0.69923	0.69690	0.69042
200.00	0.66864	0.67433	0.67758	0.67870	0.67793	0.67552	0.67170	0.66669	0.65687
210.00	0.75361	0.75917	0.76175	0.76166	0.75927	0.75491	0.74894	0.74168	0.72786
220.00	0.88399	0.87959	0.87306	0.86495	0.85566	0.84545	0.83457	0.82299	0.80480
230.00	1.09001	1.08913	1.08433	1.07644	1.06610	1.05386	1.04015	1.02399	1.00057
240.00	1.19288	1.20089	1.20364	1.20188	1.19627	1.18740	1.17582	1.15942	1.13497
250.00	1.05993	1.06163	1.05922	1.05342	1.04477	1.03380	1.02092	1.00388	0.98105
260.00	1.04318	1.04441	1.04128	1.03459	1.02501	1.01312	0.99941	0.98153	0.95845
270.00	1.13740	1.14309	1.14264	1.13719	1.12773	1.11510	1.10002	1.08020	1.05462
280.00	1.07310	1.07874	1.07948	1.07621	1.06963	1.06034	1.04887	1.03308	1.01090
290.00	0.98241	0.97941	0.97227	0.96181	0.94868	0.93344	0.91658	0.89713	0.87225
300.00	1.01552	1.01484	1.00998	1.00162	0.99034	0.97666	0.96105	0.94325	0.91836
310.00	0.92656	0.91105	0.89338	0.87430	0.85432	0.83386	0.81320	0.79260	0.76712
320.00	0.79749	0.77580	0.75398	0.73240	0.71123	0.69057	0.67045	0.65088	0.62884
330.00	0.71764	0.69766	0.67906	0.66199	0.64636	0.63200	0.61869	0.60621	0.59197
340.00	0.75925	0.75587	0.75087	0.74453	0.73710	0.72873	0.71958	0.70977	0.69784
350.00	0.89749	0.89995	0.89807	0.89279	0.88476	0.87453	0.86255	0.84918	0.83427
360.00	0.94272	0.95264	0.95854	0.96115	0.96096	0.95834	0.95361	0.94705	0.93895

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.26522	15.24	0.00	0.20100
30.48	0.00	0.14616	45.72	0.00	0.10066
60.96	0.00	0.06561	76.20	0.00	0.04083
91.44	0.00	0.02494	106.68	0.00	0.01539
121.92	0.00	0.00977	137.16	0.00	0.00650
152.40	0.00	0.00476	167.64	0.00	0.00410
182.88	0.00	0.00429	198.12	0.00	0.00534
213.36	0.00	0.00765	213.36	15.24	0.00244
213.36	30.48	0.00054	213.36	45.72	0.00008
213.36	60.96	0.00001	213.36	76.20	0.00000
213.36	91.44	0.00000	213.36	106.68	0.00000
213.36	121.92	0.00000	213.36	137.16	0.00000
213.36	152.40	0.00000	213.36	167.64	0.00000
213.36	182.88	0.00002	213.36	198.12	0.00020
213.36	213.36	0.00125	213.36	221.29	0.00285
198.12	221.29	0.00202	182.88	221.29	0.00175
167.64	221.29	0.00175	152.40	221.29	0.00216
137.16	221.29	0.00325	121.92	221.29	0.00568
106.68	221.29	0.01095	91.44	221.29	0.02152
76.20	221.29	0.03980	60.96	221.29	0.06720
45.72	221.29	0.10408	30.48	221.29	0.14855
15.24	221.29	0.19841	0.00	221.29	0.25183
0.00	213.36	0.22981	0.00	198.12	0.18918
0.00	182.88	0.15318	0.00	167.64	0.12557
0.00	152.40	0.10791	0.00	137.16	0.09909
0.00	121.92	0.09694	0.00	106.68	0.10018
0.00	91.44	0.10947	0.00	76.20	0.12602
0.00	60.96	0.14936	0.00	45.72	0.17725
0.00	30.48	0.20691	0.00	15.24	0.23654

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2 ***
INCLUDING SOURCE(S): 2 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION	DISTANCE (METERS)								
(DEGREES)	150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.14089	0.23098	0.30826	0.36668	0.41024	0.44109	0.46227	0.47682	0.48673
20.00	0.12726	0.21229	0.28567	0.34123	0.38229	0.41149	0.43125	0.44433	0.45284
30.00	0.10668	0.18365	0.25271	0.30444	0.33984	0.36287	0.37615	0.38301	0.38638
40.00	0.08341	0.15251	0.21900	0.27226	0.31151	0.34106	0.36155	0.37550	0.38534
50.00	0.06152	0.12738	0.20003	0.26190	0.30653	0.33735	0.35656	0.36734	0.37300
60.00	0.04401	0.10638	0.17814	0.23903	0.28447	0.31822	0.34309	0.36008	0.37113
70.00	0.02903	0.08034	0.14519	0.20791	0.26056	0.30261	0.33771	0.36524	0.38643
80.00	0.01575	0.05221	0.11091	0.18171	0.25011	0.30511	0.34516	0.37071	0.38480
90.00	0.00628	0.03053	0.08394	0.15535	0.22210	0.27209	0.30522	0.32545	0.33481
100.00	0.00169	0.01585	0.05770	0.12274	0.18803	0.23746	0.26857	0.28700	0.29483
110.00	0.00028	0.00680	0.03833	0.09826	0.16503	0.22038	0.25907	0.28426	0.29851
120.00	0.00003	0.00255	0.02728	0.08982	0.17452	0.25669	0.32235	0.36957	0.40089
130.00	0.00000	0.00098	0.02200	0.09132	0.19223	0.28843	0.36092	0.40849	0.43736
140.00	0.00000	0.00037	0.01518	0.07366	0.16296	0.24887	0.31272	0.35274	0.37600
150.00	0.00000	0.00013	0.00843	0.04818	0.11371	0.17911	0.22885	0.26117	0.28178
160.00	0.00000	0.00009	0.00597	0.03569	0.08833	0.14490	0.19184	0.22654	0.25275
170.00	0.00000	0.00016	0.00729	0.04108	0.10027	0.16225	0.21230	0.24814	0.27425
180.00	0.00000	0.00058	0.01180	0.05186	0.11513	0.17903	0.23078	0.26943	0.29929
190.00	0.00006	0.00234	0.02000	0.06445	0.12464	0.18096	0.22414	0.25505	0.27682
200.00	0.00053	0.00872	0.03895	0.09125	0.15005	0.20074	0.23824	0.26503	0.28312
210.00	0.00246	0.02319	0.07665	0.15004	0.21939	0.27197	0.30672	0.32969	0.34328
220.00	0.00664	0.04111	0.11817	0.21589	0.30290	0.36618	0.40867	0.43588	0.45091
230.00	0.01441	0.05862	0.14277	0.24388	0.33611	0.40801	0.46154	0.49799	0.52100
240.00	0.02677	0.08223	0.16733	0.25626	0.33095	0.38781	0.43128	0.46227	0.48420
250.00	0.04436	0.10891	0.19765	0.28563	0.35616	0.40708	0.44088	0.46105	0.47223
260.00	0.06877	0.13860	0.22288	0.30342	0.36991	0.42247	0.46095	0.48809	0.50708
270.00	0.09873	0.17654	0.25350	0.32000	0.37308	0.41524	0.44665	0.46995	0.48754
280.00	0.12549	0.21534	0.29354	0.35169	0.39286	0.42133	0.43977	0.45149	0.45935
290.00	0.14222	0.23717	0.31703	0.37459	0.41491	0.44162	0.45837	0.46880	0.47542
300.00	0.14922	0.24125	0.31486	0.36522	0.39913	0.41985	0.43149	0.43801	0.44167
310.00	0.14965	0.23594	0.30320	0.34743	0.37501	0.38831	0.39194	0.39028	0.38594
320.00	0.14726	0.22584	0.28494	0.32266	0.34558	0.35557	0.35706	0.35393	0.34848
330.00	0.14701	0.22281	0.27903	0.31469	0.33613	0.34558	0.34730	0.34495	0.34057
340.00	0.14960	0.23025	0.29380	0.33816	0.36837	0.38633	0.39579	0.40020	0.40146
350.00	0.15030	0.23470	0.30282	0.35162	0.38594	0.40779	0.42079	0.42830	0.43221
360.00	0.14736	0.23465	0.30724	0.36091	0.40020	0.42713	0.44524	0.45780	0.46675

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2 ***
INCLUDING SOURCE(S): 2 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.49304	0.49642	0.49738	0.49634	0.49365	0.48961	0.48448	0.47574	0.46559
20.00	0.45782	0.45993	0.45965	0.45740	0.45354	0.44838	0.44220	0.43351	0.42271
30.00	0.38764	0.38751	0.38634	0.38436	0.38169	0.37842	0.37462	0.36972	0.36210
40.00	0.39223	0.39670	0.39904	0.39950	0.39832	0.39573	0.39198	0.38726	0.37897
50.00	0.37570	0.37653	0.37608	0.37468	0.37254	0.36977	0.36647	0.36270	0.35688
60.00	0.37814	0.38218	0.38399	0.38413	0.38303	0.38100	0.37827	0.37502	0.37071
70.00	0.40239	0.41386	0.42131	0.42523	0.42615	0.42459	0.42105	0.41595	0.40968
80.00	0.39127	0.39301	0.39169	0.38830	0.38344	0.37754	0.37087	0.36366	0.35608
90.00	0.33698	0.33499	0.33055	0.32465	0.31792	0.31072	0.30330	0.29579	0.28831
100.00	0.29577	0.29288	0.28802	0.28216	0.27581	0.26925	0.26265	0.25611	0.24968
110.00	0.30456	0.30540	0.30334	0.29960	0.29491	0.28970	0.28424	0.27869	0.27[illegible]
120.00	0.41858	0.42651	0.42838	0.42630	0.42166	0.41534	0.40796	0.39993	0.3[illegible]
130.00	0.45051	0.45289	0.44900	0.44133	0.43136	0.42002	0.40793	0.39548	0.38294
140.00	0.38532	0.38545	0.38064	0.37326	0.36459	0.35531	0.34584	0.33639	0.32710
150.00	0.29283	0.29772	0.29926	0.29905	0.29779	0.29582	0.29331	0.29036	0.28703
160.00	0.27209	0.28672	0.29845	0.30819	0.31627	0.32280	0.32787	0.33158	0.33403
170.00	0.29213	0.30454	0.31370	0.32065	0.32588	0.32963	0.33206	0.33330	0.33349
180.00	0.32184	0.33987	0.35526	0.36876	0.38059	0.39077	0.39931	0.40624	0.41163
190.00	0.29147	0.30161	0.30912	0.31490	0.31940	0.32281	0.32529	0.32692	0.32777
200.00	0.29485	0.30258	0.30798	0.31182	0.31450	0.31625	0.31718	0.31739	0.31696
210.00	0.35135	0.35681	0.36100	0.36437	0.36698	0.36878	0.36973	0.36981	0.36907
220.00	0.45778	0.45976	0.45863	0.45545	0.45089	0.44540	0.43928	0.43275	0.42597
230.00	0.53476	0.54254	0.54622	0.54702	0.54571	0.54281	0.53867	0.53354	0.52764
240.00	0.50035	0.51266	0.52226	0.52976	0.53552	0.53973	0.54251	0.54394	0.54409
250.00	0.47827	0.48132	0.48261	0.48275	0.48206	0.48070	0.47873	0.47620	0.47190
260.00	0.52035	0.52936	0.53500	0.53788	0.53844	0.53703	0.53394	0.52942	0.52077
270.00	0.50072	0.51019	0.51640	0.51974	0.52057	0.51924	0.51608	0.51141	0.50146
280.00	0.46468	0.46817	0.47021	0.47103	0.47080	0.46963	0.46764	0.46386	0.45671
290.00	0.47927	0.48090	0.48061	0.47869	0.47535	0.47080	0.46524	0.45683	0.44635
300.00	0.44339	0.44364	0.44263	0.44052	0.43744	0.43350	0.42883	0.42103	0.41222
310.00	0.38022	0.37384	0.36718	0.36043	0.35369	0.34702	0.34044	0.33178	0.32322
320.00	0.34190	0.33480	0.32755	0.32031	0.31317	0.30618	0.29931	0.29064	0.28233
330.00	0.33524	0.32951	0.32370	0.31794	0.31229	0.30678	0.30127	0.29366	0.28640
340.00	0.40065	0.39841	0.39514	0.39112	0.38651	0.38146	0.37594	0.36747	0.35917
350.00	0.43355	0.43296	0.43089	0.42762	0.42342	0.41846	0.41289	0.40373	0.39459
360.00	0.47305	0.47725	0.47973	0.48073	0.48046	0.47911	0.47681	0.47020	0.46285

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2 ***
INCLUDING SOURCE(S): 2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.01066	15.24	0.00	0.00471
30.48	0.00	0.00164	45.72	0.00	0.00042
60.96	0.00	0.00008	76.20	0.00	0.00001
91.44	0.00	0.00000	106.68	0.00	0.00000
121.92	0.00	0.00000	137.16	0.00	0.00000
152.40	0.00	0.00000	167.64	0.00	0.00000
182.88	0.00	0.00000	198.12	0.00	0.00000
213.36	0.00	0.00000	213.36	15.24	0.00000
213.36	30.48	0.00000	213.36	45.72	0.00000
213.36	60.96	0.00000	213.36	76.20	0.00003
213.36	91.44	0.00014	213.36	106.68	0.00058
213.36	121.92	0.00188	213.36	137.16	0.00483
213.36	152.40	0.01033	213.36	167.64	0.01922
213.36	182.88	0.03185	213.36	198.12	0.04800
213.36	213.36	0.06742	213.36	221.29	0.07892
198.12	221.29	0.07612	182.88	221.29	0.07487
167.64	221.29	0.07463	152.40	221.29	0.07498
137.16	221.29	0.07574	121.92	221.29	0.07727
106.68	221.29	0.08014	91.44	221.29	0.08464
76.20	221.29	0.09077	60.96	221.29	0.09861
45.72	221.29	0.10852	30.48	221.29	0.12102
15.24	221.29	0.13641	0.00	221.29	0.15460
0.00	213.36	0.14545	0.00	198.12	0.12814
0.00	182.88	0.11120	0.00	167.64	0.09490
0.00	152.40	0.07951	0.00	137.16	0.06551
0.00	121.92	0.05246	0.00	106.68	0.04038
0.00	91.44	0.02975	0.00	76.20	0.02120
0.00	60.96	0.01519	0.00	45.72	0.01168
0.00	30.48	0.01008	0.00	15.24	0.00980

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3 ***
INCLUDING SOURCE(S): 3 , 4 , 5 , 6 , 7 , 8 , 9 ,
10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.32825	0.42512	0.46839	0.47146	0.45599	0.43284	0.40714	0.38139	0.35722
20.00	0.32163	0.37725	0.39757	0.39218	0.37580	0.35559	0.33466	0.31452	0.29604
30.00	0.25823	0.32709	0.35939	0.36440	0.35483	0.33920	0.32179	0.30416	0.28730
40.00	0.23081	0.30771	0.34220	0.34869	0.33963	0.32389	0.30579	0.28739	0.26989
50.00	0.21192	0.28880	0.32884	0.33658	0.32690	0.31092	0.29350	0.27640	0.26040
60.00	0.19296	0.27032	0.31369	0.33018	0.32886	0.31832	0.30383	0.28839	0.27338
70.00	0.19017	0.26835	0.30576	0.31355	0.30497	0.29038	0.27464	0.25981	0.24614
80.00	0.20130	0.26913	0.29035	0.28446	0.26769	0.24864	0.23078	0.21508	0.20126
90.00	0.21957	0.27751	0.28335	0.26495	0.24139	0.21954	0.20059	0.18458	0.17076
100.00	0.25943	0.31554	0.32029	0.29976	0.27164	0.24425	0.22013	0.19974	0.1[illegible]
110.00	0.32662	0.38512	0.38670	0.36630	0.33827	0.31081	0.28552	0.26277	0.2[illegible]
120.00	0.30694	0.36916	0.37720	0.36133	0.33683	0.31216	0.28890	0.26764	0.24864
130.00	0.26700	0.31736	0.32271	0.30840	0.28695	0.26491	0.24388	0.22468	0.20741
140.00	0.24274	0.28792	0.28640	0.27155	0.25327	0.23555	0.21865	0.20317	0.18928
150.00	0.25255	0.28764	0.28421	0.26976	0.25384	0.23980	0.22659	0.21419	0.20269
160.00	0.26231	0.30023	0.30214	0.29086	0.27837	0.26816	0.25858	0.24906	0.23964
170.00	0.27666	0.31250	0.31651	0.30702	0.29464	0.28232	0.26955	0.25680	0.24447
180.00	0.29298	0.32268	0.32539	0.31881	0.31031	0.30202	0.29339	0.28483	0.27643
190.00	0.25133	0.27626	0.27758	0.26961	0.25920	0.24847	0.23806	0.22856	0.21981
200.00	0.24180	0.25737	0.25793	0.25139	0.24272	0.23353	0.22435	0.21583	0.20806
210.00	0.26451	0.27469	0.27057	0.26088	0.25062	0.24050	0.23061	0.22186	0.21394
220.00	0.29192	0.30874	0.30767	0.29860	0.28777	0.27676	0.26611	0.25659	0.24803
230.00	0.31269	0.34786	0.35519	0.34922	0.33833	0.32590	0.31306	0.30108	0.29002
240.00	0.31735	0.37308	0.39324	0.39361	0.38516	0.37299	0.35928	0.34558	0.33234
250.00	0.32189	0.38129	0.40026	0.39798	0.38647	0.37107	0.35433	0.33784	0.32218
260.00	0.33356	0.39041	0.40439	0.39658	0.38052	0.36172	0.34273	0.32504	0.30888
270.00	0.34536	0.40081	0.41661	0.41220	0.39917	0.38289	0.36560	0.34869	0.33255
280.00	0.36451	0.42674	0.45010	0.44879	0.43475	0.41514	0.39369	0.37268	0.35288
290.00	0.36874	0.43121	0.44592	0.43554	0.41464	0.39083	0.36668	0.34377	0.32237
300.00	0.37658	0.43434	0.44673	0.43537	0.41351	0.38900	0.36465	0.34200	0.32132
310.00	0.35263	0.40497	0.41497	0.40336	0.38174	0.35707	0.33196	0.30841	0.28690
320.00	0.30531	0.35877	0.36289	0.34481	0.31964	0.29418	0.27034	0.24921	0.23064
330.00	0.27344	0.32174	0.32799	0.31249	0.29006	0.26776	0.24706	0.22882	0.21302
340.00	0.29912	0.35720	0.36805	0.35803	0.34100	0.32215	0.30296	0.28481	0.26818
350.00	0.36890	0.44777	0.47327	0.46677	0.44454	0.41732	0.38882	0.36159	0.33689
360.00	0.44132	0.52756	0.54419	0.52859	0.50063	0.47078	0.44145	0.41405	0.3[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3 ***
INCLUDING SOURCE(S): 3 , 4 , 5 , 6 , 7 , 8 , 9 ,
10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.33493	0.31449	0.29602	0.27939	0.26414	0.25053	0.23832	0.22704	0.21649
20.00	0.27918	0.26379	0.24992	0.23743	0.22598	0.21559	0.20627	0.19773	0.18964
30.00	0.27150	0.25676	0.24319	0.23074	0.21922	0.20867	0.19899	0.19013	0.18174
40.00	0.25372	0.23892	0.22557	0.21351	0.20254	0.19263	0.18374	0.17556	0.16783
50.00	0.24565	0.23213	0.21983	0.20859	0.19824	0.18877	0.18010	0.17215	0.16462
60.00	0.25918	0.24597	0.23383	0.22267	0.21235	0.20290	0.19413	0.18610	0.17852
70.00	0.23352	0.22194	0.21134	0.20161	0.19256	0.18422	0.17649	0.16936	0.16268
80.00	0.18896	0.17796	0.16813	0.15928	0.15118	0.14383	0.13714	0.13103	0.12544
90.00	0.15866	0.14796	0.13857	0.13022	0.12275	0.11605	0.11003	0.10462	0.09966
100.00	0.16768	0.15497	0.14399	0.13440	0.12591	0.11846	0.11182	0.10587	0.10048
110.00	0.22454	0.20845	0.19432	0.18178	0.17062	0.16074	0.15188	0.14387	0.13650
120.00	0.23181	0.21685	0.20361	0.19178	0.18115	0.17168	0.16306	0.15524	0.14784
130.00	0.19204	0.17829	0.16606	0.15507	0.14515	0.13627	0.12829	0.12107	0.11425
140.00	0.17698	0.16601	0.15634	0.14766	0.13981	0.13286	0.12663	0.12106	0.11566
150.00	0.19215	0.18232	0.17339	0.16506	0.15722	0.15025	0.14391	0.13793	0.13213
160.00	0.23045	0.22129	0.21273	0.20442	0.19642	0.18912	0.18223	0.17577	0.16938
170.00	0.23274	0.22158	0.21137	0.20188	0.19287	0.18475	0.17728	0.17031	0.16357
180.00	0.26808	0.25980	0.25192	0.24429	0.23675	0.22980	0.22306	0.21650	0.20986
190.00	0.21168	0.20405	0.19695	0.19023	0.18384	0.17794	0.17237	0.16688	0.16150
200.00	0.20088	0.19433	0.18827	0.18256	0.17719	0.17234	0.16779	0.16310	0.15867
210.00	0.20671	0.20022	0.19431	0.18865	0.18345	0.17876	0.17445	0.17002	0.16575
220.00	0.24017	0.23313	0.22665	0.22038	0.21464	0.20935	0.20429	0.19906	0.19391
230.00	0.27977	0.27056	0.26199	0.25377	0.24635	0.23942	0.23288	0.22635	0.22001
240.00	0.31975	0.30800	0.29689	0.28625	0.27642	0.26720	0.25852	0.25007	0.24186
250.00	0.30751	0.29402	0.28149	0.26972	0.25890	0.24883	0.23947	0.23052	0.22189
260.00	0.29409	0.28065	0.26846	0.25702	0.24659	0.23693	0.22793	0.21937	0.21114
270.00	0.31730	0.30312	0.28999	0.27768	0.26622	0.25572	0.24600	0.23687	0.22819
280.00	0.33433	0.31735	0.30209	0.28803	0.27507	0.26339	0.25255	0.24222	0.23265
290.00	0.30237	0.28411	0.26765	0.25256	0.23882	0.22649	0.21522	0.20468	0.19496
300.00	0.30235	0.28524	0.26993	0.25587	0.24303	0.23137	0.22060	0.21038	0.20085
310.00	0.26741	0.24985	0.23434	0.22039	0.20778	0.19664	0.18666	0.17737	0.16887
320.00	0.21427	0.19958	0.18684	0.17548	0.16523	0.15607	0.14766	0.13999	0.13287
330.00	0.19930	0.18712	0.17679	0.16771	0.15956	0.15236	0.14585	0.13969	0.13397
340.00	0.25297	0.23896	0.22637	0.21503	0.20444	0.19511	0.18657	0.17870	0.17119
350.00	0.31455	0.29425	0.27627	0.26023	0.24547	0.23264	0.22117	0.21049	0.20045
360.00	0.36703	0.34649	0.32814	0.31178	0.29656	0.28336	0.27144	0.26002	0.24915

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3 ***
INCLUDING SOURCE(S): 3 , 4 , 5 , 6 , 7 , 8 , 9 ,
10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.30330	15.24	0.00	0.28678
30.48	0.00	0.26773	45.72	0.00	0.24625
60.96	0.00	0.22349	76.20	0.00	0.20478
91.44	0.00	0.20874	106.68	0.00	0.23593
121.92	0.00	0.22631	137.16	0.00	0.22236
152.40	0.00	0.21128	167.64	0.00	0.21291
182.88	0.00	0.22651	198.12	0.00	0.23368
213.36	0.00	0.25627	213.36	15.24	0.25024
213.36	30.48	0.25017	213.36	45.72	0.25148
213.36	60.96	0.25428	213.36	76.20	0.24771
213.36	91.44	0.19122	213.36	106.68	0.13649
213.36	121.92	0.12181	213.36	137.16	0.12258
213.36	152.40	0.12642	213.36	167.64	0.14222
213.36	182.88	0.16687	213.36	198.12	0.19148
213.36	213.36	0.21849	213.36	221.29	0.22990
198.12	221.29	0.22216	182.88	221.29	0.22288
167.64	221.29	0.23687	152.40	221.29	0.27050
137.16	221.29	0.23319	121.92	221.29	0.26364
106.68	221.29	0.33427	91.44	221.29	0.29542
76.20	221.29	0.25608	60.96	221.29	0.22949
45.72	221.29	0.23428	30.48	221.29	0.26171
15.24	221.29	0.29318	0.00	221.29	0.32706
0.00	213.36	0.32871	0.00	198.12	0.33470
0.00	182.88	0.32819	0.00	167.64	0.31547
0.00	152.40	0.29151	0.00	137.16	0.27331
0.00	121.92	0.26531	0.00	106.68	0.24668
0.00	91.44	0.23993	0.00	76.20	0.23922
0.00	60.96	0.25211	0.00	45.72	0.27192
0.00	30.48	0.29206	0.00	15.24	0.30237

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.50956	0.83098	1.15090	1.41030	1.59466	1.71319	1.78672	1.82871	1.84938
20.00	0.47191	0.72579	1.00586	1.24723	1.42467	1.54185	1.61563	1.65923	1.68160
30.00	0.37547	0.60257	0.86280	1.09755	1.26801	1.37330	1.43096	1.45858	1.46700
40.00	0.31763	0.51731	0.76145	1.00274	1.19009	1.31510	1.39037	1.43443	1.45674
50.00	0.27439	0.45512	0.69953	0.94611	1.13734	1.26415	1.33981	1.38294	1.40384
60.00	0.23726	0.40041	0.62299	0.86750	1.07634	1.22800	1.32876	1.39390	1.43285
70.00	0.21928	0.36406	0.56284	0.80621	1.03289	1.20571	1.32543	1.40484	1.45327
80.00	0.21709	0.33444	0.50506	0.73425	0.95431	1.11673	1.21891	1.27569	1.29898
90.00	0.22592	0.32283	0.47591	0.68464	0.87590	1.00829	1.08393	1.12102	1.12937
100.00	0.26133	0.35543	0.51827	0.73471	0.92582	1.04967	1.11014	1.12991	1.12159
110.00	0.32758	0.43335	0.62628	0.88866	1.12733	1.29448	1.38912	1.43190	1.43689
120.00	0.30864	0.42680	0.63507	0.91629	1.18275	1.38510	1.51576	1.59030	1.62150
130.00	0.27077	0.38015	0.56526	0.82288	1.07725	1.27320	1.39887	1.46747	1.49359
140.00	0.25067	0.35733	0.50078	0.69664	0.89467	1.05114	1.15475	1.21288	1.23851
150.00	0.26844	0.37773	0.50445	0.65567	0.80607	0.92860	1.01497	1.06961	1.10264
160.00	0.29151	0.42736	0.57409	0.71544	0.84296	0.94767	1.02701	1.08369	1.12545
170.00	0.32338	0.47475	0.63967	0.80165	0.95059	1.07231	1.16291	1.22465	1.26669
180.00	0.35952	0.51310	0.67124	0.82555	0.96786	1.08684	1.17921	1.24931	1.30522
190.00	0.34061	0.49513	0.65037	0.79485	0.91848	1.01392	1.08058	1.12547	1.15561
200.00	0.36503	0.52395	0.68507	0.83001	0.94724	1.03374	1.09128	1.12837	1.15119
210.00	0.43866	0.63242	0.82458	0.98898	1.11273	1.19808	1.25086	1.28350	1.30195
220.00	0.52698	0.78214	1.03188	1.24093	1.39236	1.49054	1.54661	1.57484	1.58434
230.00	0.60157	0.92085	1.21681	1.45580	1.63135	1.75194	1.82922	1.87416	1.89689
240.00	0.63593	0.99542	1.31225	1.55303	1.72296	1.83877	1.91600	1.96491	1.99525
250.00	0.64940	1.00453	1.30347	1.52185	1.66856	1.76136	1.81400	1.83926	1.84769
260.00	0.67272	1.02259	1.30852	1.51413	1.65415	1.74717	1.80405	1.83627	1.85252
270.00	0.70624	1.06601	1.35743	1.56767	1.71376	1.81449	1.87978	1.92046	1.94430
280.00	0.73990	1.11170	1.40529	1.60311	1.72834	1.80465	1.84640	1.86650	1.87371
290.00	0.74937	1.12191	1.40343	1.58426	1.69200	1.75164	1.77807	1.78395	1.77803
300.00	0.76360	1.13865	1.42045	1.59773	1.69982	1.75425	1.77677	1.78043	1.77413
310.00	0.74337	1.11794	1.39451	1.55959	1.64260	1.67339	1.66911	1.64494	1.61171
320.00	0.67903	1.03433	1.28290	1.42136	1.48190	1.49401	1.47501	1.43951	1.39737
330.00	0.60922	0.93316	1.17240	1.31039	1.37126	1.38347	1.36522	1.33147	1.29187
340.00	0.58919	0.90377	1.14701	1.30263	1.39011	1.43250	1.44623	1.44278	1.42999
350.00	0.61541	0.93776	1.21358	1.41329	1.54138	1.61489	1.65114	1.66232	1.65832
360.00	0.65227	0.97429	1.25858	1.47399	1.61698	1.70319	1.75191	1.77532	1.78346

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	1.85548	1.85122	1.83914	1.82089	1.79750	1.77051	1.74080	1.70606	1.66892
20.00	1.68878	1.68539	1.67392	1.65602	1.63281	1.60564	1.57563	1.54175	1.50467
30.00	1.46370	1.45418	1.44085	1.42476	1.40638	1.38623	1.36461	1.34119	1.31428
40.00	1.46444	1.46306	1.45514	1.44203	1.42462	1.40387	1.38060	1.35527	1.32545
50.00	1.41039	1.40831	1.40066	1.38888	1.37374	1.35599	1.33615	1.31463	1.28995
60.00	1.45383	1.46276	1.46366	1.45859	1.44883	1.43548	1.41923	1.40079	1.37978
70.00	1.47915	1.48959	1.48932	1.48100	1.46645	1.44721	1.42441	1.39905	1.37177
80.00	1.29980	1.28740	1.26773	1.24385	1.21744	1.18973	1.16144	1.13299	1.10474
90.00	1.11895	1.09785	1.07155	1.04255	1.01235	0.98188	0.95172	0.92223	0.89354
100.00	1.09673	1.06420	1.02939	0.99450	0.96051	0.92800	0.89704	0.86765	0.83975
110.00	1.41731	1.38399	1.34455	1.30246	1.25979	1.21777	1.17697	1.13770	1.1[illegible]
120.00	1.62193	1.60379	1.57546	1.54130	1.50397	1.46524	1.42600	1.38693	1.34818
130.00	1.48890	1.46584	1.43260	1.39363	1.35153	1.30808	1.26427	1.22080	1.17783
140.00	1.24008	1.22693	1.20567	1.17977	1.15129	1.12168	1.09168	1.06183	1.03206
150.00	1.11964	1.12617	1.12614	1.12137	1.11284	1.10165	1.08815	1.07254	1.05507
160.00	1.15635	1.17925	1.19652	1.20859	1.21593	1.21924	1.21861	1.21453	1.20709
170.00	1.29362	1.30942	1.31733	1.31878	1.31466	1.30627	1.29419	1.27899	1.26105
180.00	1.35023	1.38718	1.41791	1.44279	1.46182	1.47576	1.48452	1.48853	1.48638
190.00	1.17542	1.18828	1.19644	1.20085	1.20208	1.20070	1.19688	1.19069	1.17968
200.00	1.16434	1.17123	1.17381	1.17306	1.16961	1.16410	1.15666	1.14717	1.13249
210.00	1.31166	1.31619	1.31704	1.31467	1.30968	1.30244	1.29311	1.28149	1.26267
220.00	1.58192	1.57247	1.55832	1.54075	1.52116	1.50019	1.47812	1.45478	1.42466
230.00	1.90452	1.90220	1.89252	1.87720	1.85815	1.83607	1.81166	1.78386	1.74819
240.00	2.01295	2.02153	2.02276	2.01786	2.00819	1.99430	1.97683	1.95341	1.92090
250.00	1.84569	1.83694	1.82330	1.80586	1.78571	1.76331	1.73910	1.71058	1.67482
260.00	1.85759	1.85440	1.84470	1.82946	1.81003	1.78706	1.76126	1.73029	1.69034
270.00	1.95539	1.95637	1.94900	1.93460	1.91450	1.89003	1.86206	1.82845	1.78424
280.00	1.87210	1.86424	1.85176	1.83525	1.81548	1.79335	1.76904	1.73915	1.70025
290.00	1.76403	1.74440	1.72052	1.69304	1.66282	1.63070	1.59702	1.55863	1.51354
300.00	1.76124	1.74370	1.72252	1.69799	1.67080	1.64152	1.61047	1.57464	1.53141
310.00	1.57418	1.53473	1.49489	1.45510	1.41579	1.37751	1.34029	1.30174	1.25920
320.00	1.35364	1.31017	1.26835	1.22817	1.18962	1.15280	1.11740	1.08150	1.04404
330.00	1.25216	1.21428	1.17953	1.14763	1.11820	1.09113	1.06580	1.03956	1.01234
340.00	1.41286	1.39323	1.37237	1.35067	1.32804	1.30529	1.28207	1.25593	1.22819
350.00	1.64558	1.62714	1.60522	1.58062	1.55364	1.52562	1.49659	1.46339	1.42930
360.00	1.78278	1.77637	1.76638	1.75364	1.73796	1.72078	1.70185	1.67726	1.65[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.57918	15.24	0.00	0.49249
30.48	0.00	0.41552	45.72	0.00	0.34733
60.96	0.00	0.28917	76.20	0.00	0.24562
91.44	0.00	0.23368	106.68	0.00	0.25132
121.92	0.00	0.23608	137.16	0.00	0.22887
152.40	0.00	0.21604	167.64	0.00	0.21701
182.88	0.00	0.23080	198.12	0.00	0.23902
213.36	0.00	0.26392	213.36	15.24	0.25269
213.36	30.48	0.25071	213.36	45.72	0.25156
213.36	60.96	0.25429	213.36	76.20	0.24774
213.36	91.44	0.19136	213.36	106.68	0.13708
213.36	121.92	0.12368	213.36	137.16	0.12741
213.36	152.40	0.13676	213.36	167.64	0.16144
213.36	182.88	0.19873	213.36	198.12	0.23967
213.36	213.36	0.28716	213.36	221.29	0.31167
198.12	221.29	0.30031	182.88	221.29	0.29950
167.64	221.29	0.31326	152.40	221.29	0.34764
137.16	221.29	0.31219	121.92	221.29	0.34659
106.68	221.29	0.42536	91.44	221.29	0.40157
76.20	221.29	0.38665	60.96	221.29	0.39530
45.72	221.29	0.44687	30.48	221.29	0.53127
15.24	221.29	0.62800	0.00	221.29	0.73348
0.00	213.36	0.70396	0.00	198.12	0.65201
0.00	182.88	0.59256	0.00	167.64	0.53594
0.00	152.40	0.47892	0.00	137.16	0.43790
0.00	121.92	0.41470	0.00	106.68	0.38723
0.00	91.44	0.37914	0.00	76.20	0.38644
0.00	60.96	0.41666	0.00	45.72	0.46085
0.00	30.48	0.50904	0.00	15.24	0.54870

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZFLAG)	OF TYPE	NETWORK GRID-ID
1	1ST HIGHEST VALUE IS	1.20364 AT (	-499.54,	-239.36,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	1.20188 AT (	-542.84,	-264.36,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	1.20089 AT (	-456.24,	-214.36,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	1.19627 AT (	-586.14,	-289.36,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	1.19288 AT (	-412.94,	-189.36,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	1.18740 AT (	-629.44,	-314.36,	0.00,	0.00)	GP	POL1
2	1ST HIGHEST VALUE IS	0.54702 AT (	-467.85,	-371.45,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	0.54622 AT (	-429.55,	-339.31,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	0.54571 AT (	-506.16,	-403.59,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	0.54409 AT (	-759.35,	-389.36,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	0.54394 AT (	-716.04,	-364.36,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.54281 AT (	-544.46,	-435.73,	0.00,	0.00)	GP	POL1
3	1ST HIGHEST VALUE IS	0.54419 AT (	106.68,	360.64,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	0.52859 AT (	106.68,	410.64,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	0.52756 AT (	106.68,	310.64,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	0.50063 AT (	106.68,	460.64,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	0.47327 AT (	63.27,	356.84,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.47146 AT (	158.77,	406.08,	0.00,	0.00)	GP	POL1
ALL	1ST HIGHEST VALUE IS	2.02276 AT (	-499.54,	-239.36,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	2.02153 AT (	-456.24,	-214.36,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	2.01786 AT (	-542.84,	-264.36,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	2.01295 AT (	-412.94,	-189.36,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	2.00819 AT (	-586.14,	-289.36,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	1.99525 AT (	-369.63,	-164.36,	0.00,	0.00)	GP	POL1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC   RURAL FLAT   DFAULT

*** Message Summary For ISC2 Model Execution ***

--------- Summary of Total Messages --------

A Total of   0 Fatal Error Message(s)
A Total of   0 Warning Message(s)
A Total of   328 Informational Message(s)

A Total of   328 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

********   WARNING MESSAGES   ********
*** NONE ***

****
*** ISCST2 Finishes Successfully ***
****

Run: FMXMC8

Methylene Chloride & 141b 8-hour Average Emission Rates

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ISCST2 EXTENDED MODEL - (DATED 92062)

IBM-PC VERSION (1.01)
(C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8025 SOLD TO CROSS TESSITORE & ASSOCIATES
RUN BEGAN ON 11/30/92 AT 18:03:23


CO STARTING
CO TITLEONE Foamex - 8 hour Avg Emission Rates - Methylene Chloride & 141b
CO TITLETWO Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 8
CO POLLUTID OTHER
CO RUNORNOT RUN
CO FINISHED


SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS             YS             ZS

SO LOCATION     1 POINT      175.8720       119.7880         .0000
SO LOCATION     2 POINT      152.4020        17.0690         .0000
SO LOCATION     3 POINT      108.5100        97.2320         .0000
SO LOCATION     4 POINT      108.5100       110.6440         .0000
SO LOCATION     5 POINT      108.5100       119.7880         .0000
SO LOCATION     6 POINT      108.5100       135.6380         .0000
SO LOCATION     7 POINT      108.5100       152.7070         .0000
SO LOCATION     8 POINT      108.5100       168.8610         .0000
SO LOCATION     9 POINT      108.5100       183.7970         .0000
SO LOCATION    10 POINT      108.5100       192.9410         .0000
SO LOCATION    11 POINT      147.5250        97.2320         .0000
SO LOCATION    12 POINT      147.5250       110.6440         .0000
SO LOCATION    13 POINT      147.5250       119.7880         .0000
SO LOCATION    14 POINT      147.5250       135.6380         .0000
SO LOCATION    15 POINT      147.5250       155.4500         .0000
SO LOCATION    16 POINT      147.5250       168.8610         .0000
SO LOCATION    17 POINT      147.5250       183.7970         .0000
SO LOCATION    18 POINT      147.5250       192.9410         .0000
SO LOCATION    19 POINT      182.8820       102.5660         .0000

** Source Parameter Cards:
** POINT:   SRCID       QS              HS         TS          VS         DS
** VOLUME:  SRCID       QS              HS       SYINIT      SZINIT
** AREA:    SRCID       QS              HS        XINIT

SO SRCPARAM     1   45.160793325       38.1000   299.8200    24.3810      .702
SO SRCPARAM     2   26.34379610625       38.1000   299.8200    24.3810      .9
SO SRCPARAM     3   0.2213764378676    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     4   0.2213764378676    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     5   0.2213764378676    13.1070   299.8200    24.3810     1.1100
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SO SRCPARAM    6    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM    7    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM    8    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM    9    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   10    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   11    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   12    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   13    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   14    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   15    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   16    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   17    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   18    0.2213764378676    13.1070   299.8200    24.3810    1.1100
SO SRCPARAM   19    0.2213764378676    15.8500   299.8200    24.3810    1.1100

** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     1
SO BUILDHGT    1     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    1       .00       .00       .00       .00       .00       .00
SO BUILDHGT    1       .00       .00     15.24     15.24     15.24       .00
SO BUILDHGT    1       .00     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    1       .00       .00       .00       .00       .00       .00
SO BUILDHGT    1       .00       .00     15.24     15.24     15.24     15.24
** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     2
SO BUILDHGT    2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    3     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    3     12.19     12.19     15.24     15.24     15.24     15.24
SO BUILDHGT    3     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    3     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    3     12.19     12.19     15.24     15.24     15.24     15.24
SO BUILDHGT    3     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    4     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    4     10.67     12.19     12.19     15.24     15.24     15.24
SO BUILDHGT    4     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    4     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    4     10.67     12.19     12.19     15.24     15.24     15.24
SO BUILDHGT    4     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    5     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    5     10.67     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT    5     15.24     10.67     10.67     12.19     12.19     12.19
SO BUILDHGT    5     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    5     10.67     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT    5     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    6     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    6     10.67     10.67     10.67     12.19     12.19     10.67
SO BUILDHGT    6     10.67     10.67     10.67     10.67     12.19     12.19
SO BUILDHGT    6     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    6     10.67     10.67     10.67     12.19     12.19     15.24
SO BUILDHGT    6     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    7     10.67     10.67     10.67     10.67     10.67     10.67
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SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	12.19
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	14	15.24	15.24	15.24	15.24	10.67	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	12.19	12.19	12.19
SO BUILDHGT	14	12.19	15.24	15.24	15.24	10.97	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	15	15.24	15.24	15.24	10.67	10.67	10.67
SO BUILDHGT	15	10.67	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	15	12.19	12.19	12.19	10.97	10.97	10.97
SO BUILDHGT	15	10.97	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	16	12.19	12.19	10.67	10.67	10.67	10.67

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SO BUILDHGT   16    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   16    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   16    10.67    10.67    10.67    10.97    10.97    10.97
SO BUILDHGT   16    10.97    10.97    10.97    10.67    10.67    10.67
SO BUILDHGT   16    12.19    12.19    12.19    12.19    12.19    12.19
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.97
SO BUILDHGT   17    10.97    10.97    10.97    10.97    10.97    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.97    10.97    10.97    10.97    10.97
SO BUILDHGT   18    10.97    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   19    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    12.19    12.19    12.19    12.19
SO BUILDHGT   19    12.19    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    12.19    12.19    12.19    12.19
SO BUILDHGT   19    12.19    15.24    15.24    15.24    15.24    15.24
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      1
SO BUILDWID    1    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    1      .00      .00      .00      .00      .00      .00
SO BUILDWID    1      .00      .00    93.84    90.70    83.88      .00
SO BUILDWID    1      .00    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    1      .00      .00      .00      .00      .00      .00
SO BUILDWID    1      .00      .00    93.84    90.70    83.88    75.55
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      2
SO BUILDWID    2    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    2    88.38    80.55    71.39    81.44    89.02    93.89
SO BUILDWID    2    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    2    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    2    88.38    80.55    71.39    81.44    89.02    93.89
SO BUILDWID    2    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    3   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    3   103.26   104.35    71.39    81.44    89.02    93.89
SO BUILDWID    3    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    3   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    3   103.26   104.35    71.39    81.44    89.02    93.89
SO BUILDWID    3    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    4   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    4   214.49   104.35   109.35    81.44    89.02    93.89
SO BUILDWID    4    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    4   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    4   214.49   104.35   109.35    81.44    89.02    93.89
SO BUILDWID    4    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    5   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    5   214.49   104.34   109.35   118.25    89.02    93.89
SO BUILDWID    5    94.53   176.60   161.59   103.82    93.09    77.16
SO BUILDWID    5   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    5   214.49   104.34   109.35   118.25    89.02    93.89
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SO BUILDWID	5	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	118.94	192.50
SO BUILDWID	6	186.24	176.60	161.59	148.74	83.85	77.16
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	123.55	93.89
SO BUILDWID	6	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	77.16
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	14	84.68	91.23	95.01	95.24	215.24	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12
SO BUILDWID	14	95.91	95.96	94.76	105.03	93.09	77.16
SO BUILDWID	14	84.68	91.23	95.01	95.24	24.73	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12

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SO BUILDWID    14     95.91     95.96     94.76     90.70     83.88     75.55
SO BUILDWID    15     84.68     91.23     92.21    209.06    215.24    215.89
SO BUILDWID    15    214.49    206.95    193.13    194.58    194.74    125.12
SO BUILDWID    15    125.05    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    15     84.68     91.23     91.74     25.00     24.73     23.71
SO BUILDWID    15     21.98    206.95    193.13    194.58    194.74    125.12
SO BUILDWID    15    125.05     95.01     94.76     90.70     83.88     75.55
SO BUILDWID    16     84.68     89.55    196.53    209.06    215.24    215.89
SO BUILDWID    16    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID    16    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    16    154.11    178.03    196.53     24.84     24.73     23.71
SO BUILDWID    16     21.98     19.58     16.59    194.58    194.74    192.50
SO BUILDWID    16    123.25    122.42    116.07    106.20     93.09     77.16
SO BUILDWID    17    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID    17    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID    17    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    17    154.11    178.03    196.53    209.06    215.24     22.19
SO BUILDWID    17     21.98     19.58     16.91     19.85     21.98    192.50
SO BUILDWID    17    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    18    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID    18    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID    18    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    18    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID    18    214.49     17.85     16.91     19.85     22.19     23.85
SO BUILDWID    18     24.21    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    19     84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID    19     88.38     80.55    109.35    118.25    123.55    125.12
SO BUILDWID    19    125.05     95.83     94.76     90.70     83.88     75.55
SO BUILDWID    19     84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID    19     88.38     80.55    109.35    118.25    123.55    125.12
SO BUILDWID    19    125.05     95.83     94.76     90.70     83.88     75.55

SO SRCGROUP ALL
SO FINISHED

RE STARTING
RE GRIDPOLR POL1 STA
RE GRIDPOLR POL1 ORIG   106.68  110.6424
RE GRIDPOLR POL1 DIST   150. 200. 250. 300. 350. 400. 450. 500. 550.
RE GRIDPOLR POL1 DIST   600. 650. 700. 750. 800. 850. 900. 950. 1000.
RE GRIDPOLR POL1 GDIR   36  10.  10.
RE GRIDPOLR POL1 END
RE DISCCART          .00        .00
RE DISCCART        15.24        .00
RE DISCCART        30.48        .00
RE DISCCART        45.72        .00
RE DISCCART        60.96        .00
RE DISCCART        76.20        .00
RE DISCCART        91.44        .00
RE DISCCART       106.68        .00
RE DISCCART       121.92        .00
RE DISCCART       137.16        .00
RE DISCCART       152.40        .00
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RE DISCCART     167.64       .00
RE DISCCART     182.88       .00
RE DISCCART     198.12       .00
RE DISCCART     213.36       .00
RE DISCCART     213.36     15.24
RE DISCCART     213.36     30.48
RE DISCCART     213.36     45.72
RE DISCCART     213.36     60.96
RE DISCCART     213.36     76.20
RE DISCCART     213.36     91.44
RE DISCCART     213.36    106.68
RE DISCCART     213.36    121.92
RE DISCCART     213.36    137.16
RE DISCCART     213.36    152.40
RE DISCCART     213.36    167.64
RE DISCCART     213.36    182.88
RE DISCCART     213.36    198.12
RE DISCCART     213.36    213.36
RE DISCCART     213.36    221.29
RE DISCCART     198.12    221.29
RE DISCCART     182.88    221.29
RE DISCCART     167.64    221.29
RE DISCCART     152.40    221.29
RE DISCCART     137.16    221.29
RE DISCCART     121.92    221.29
RE DISCCART     106.68    221.29
RE DISCCART      91.44    221.29
RE DISCCART      76.20    221.29
RE DISCCART      60.96    221.29
RE DISCCART      45.72    221.29
RE DISCCART      30.48    221.29
RE DISCCART      15.24    221.29
RE DISCCART        .00    221.29
RE DISCCART        .00    213.36
RE DISCCART        .00    198.12
RE DISCCART        .00    182.88
RE DISCCART        .00    167.64
RE DISCCART        .00    152.40
RE DISCCART        .00    137.16
RE DISCCART        .00    121.92
RE DISCCART        .00    106.68
RE DISCCART        .00     91.44
RE DISCCART        .00     76.20
RE DISCCART        .00     60.96
RE DISCCART        .00     45.72
RE DISCCART        .00     30.48
RE DISCCART        .00     15.24
RE FINISHED

ME STARTING
ME INPUTFIL c:\models\iscst2\foamex\orltmp86.BIN      UNFORM
ME ANEMHGHT   10.000 METERS
ME SURFDATA  12815   1986            SURFNAME
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ME UAIRDATA . 12842  1986          UAIRNAME
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE 8 FIRST SECOND
OU MAXTABLE 8 50
OU FINISHED

*************************************
*** SETUP Finishes Successfully ***
*************************************
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*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:

1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

el Calculates 1 Short Term Average(s) of: 8-HR

**This Run Includes: 19 Source(s); 1 Source Group(s); and 706 Receptor(s)

**The Model Assumes A Pollutant Type of: OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Input Runstream File: C:\MODELS\ISCST2\FOAMEX\FMXMC8.NEW ; **Output Print File: C:\MODELS\ISCST2\FOAMEX\FMXMC8.LST

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
1	0	0.45161E+02	175.9	119.8	0.0	38.10	299.82	24.38	0.70	YES	
2	0	0.26344E+02	152.4	17.1	0.0	38.10	299.82	24.38	0.90	YES	
3	0	0.22138E+00	108.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
4	0	0.22138E+00	108.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
5	0	0.22138E+00	108.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
6	0	0.22138E+00	108.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
7	0	0.22138E+00	108.5	152.7	0.0	13.11	299.82	24.38	1.11	YES	
8	0	0.22138E+00	108.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
9	0	0.22138E+00	108.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
10	0	0.22138E+00	108.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
11	0	0.22138E+00	147.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
12	0	0.22138E+00	147.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
13	0	0.22138E+00	147.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
14	0	0.22138E+00	147.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
15	0	0.22138E+00	147.5	155.4	0.0	13.11	299.82	24.38	1.11	YES	
16	0	0.22138E+00	147.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
17	0	0.22138E+00	147.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
18	0	0.22138E+00	147.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
19	0	0.22138E+00	182.9	102.6	0.0	15.85	299.82	24.38	1.11	YES	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs											
ALL	1	, 2	, 3	, 4	, 5	, 6	, 7	, 8	, 9	, 10	, 11	, 12 ,
	13	, 14	, 15	, 16	, 17	, 18	, 19 ,					

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0.0,	0
13	0.0,	0.0,	0	14	0.0,	0.0,	0	15	15.2,	93.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	0.0,	0.0,	0
19	0.0,	0.0,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0.0,	0
31	0.0,	0.0,	0	32	0.0,	0.0,	0	33	15.2,	93.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	[illegible]

SOURCE ID: 3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 4

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 5

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.3,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	94.5,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	12.2,	103.8,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.3,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 6

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	118.9,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	12.2,	83.9,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 7

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 8

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 9

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 10

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	[illegible]

SOURCE ID: 11

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 12

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 13

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	12.2,	77.2,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 14

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	95.2,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	12.2,	105.0,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	12.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	95.2,	0	23	11.0,	24.7,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
[illegible]	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 15

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	92.2,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	12.2,	84.7,	0	20	12.2,	91.2,	0	21	12.2,	91.7,	0	22	11.0,	25.0,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 16

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	89.6,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	11.0,	24.8,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.6,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	123.3,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 17

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	11.0,	22.2,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.0,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 18

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	11.0,	17.8,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.2,	0	30	11.0,	23.8,	0
31	11.0,	24.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 19

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	15.2,	95.8,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.8,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 106.68 ; Y-ORIG = 110.64 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

150.0,	200.0,	250.0,	300.0,	350.0,	400.0,	450.0,	500.0,	550.0,	600.0,
650.0,	700.0,	750.0,	800.0,	850.0,	900.0,	950.0,	1000.0,		

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(0.0,	0.0,	0.0,	0.0);	(15.2,	0.0,	0.0,	0.0);
(30.5,	0.0,	0.0,	0.0);	(45.7,	0.0,	0.0,	0.0);
(61.0,	0.0,	0.0,	0.0);	(76.2,	0.0,	0.0,	0.0);
(91.4,	0.0,	0.0,	0.0);	(106.7,	0.0,	0.0,	0.0);
(121.9,	0.0,	0.0,	0.0);	(137.2,	0.0,	0.0,	0.0);
(152.4,	0.0,	0.0,	0.0);	(167.6,	0.0,	0.0,	0.0);
(182.9,	0.0,	0.0,	0.0);	(198.1,	0.0,	0.0,	0.0);
(213.4,	0.0,	0.0,	0.0);	(213.4,	15.2,	0.0,	0.0);
(213.4,	30.5,	0.0,	0.0);	(213.4,	45.7,	0.0,	0.0);
(213.4,	61.0,	0.0,	0.0);	(213.4,	76.2,	0.0,	0.0);
(213.4,	91.4,	0.0,	0.0);	(213.4,	106.7,	0.0,	0.0);
(213.4,	121.9,	0.0,	0.0);	(213.4,	137.2,	0.0,	0.0);
(213.4,	152.4,	0.0,	0.0);	(213.4,	167.6,	0.0,	0.0);
(213.4,	182.9,	0.0,	0.0);	(213.4,	198.1,	0.0,	0.0);
(213.4,	213.4,	0.0,	0.0);	(213.4,	221.3,	0.0,	0.0);
(198.1,	221.3,	0.0,	0.0);	(182.9,	221.3,	0.0,	0.0);
(167.6,	221.3,	0.0,	0.0);	(152.4,	221.3,	0.0,	0.0);
(137.2,	221.3,	0.0,	0.0);	(121.9,	221.3,	0.0,	0.0);
(106.7,	221.3,	0.0,	0.0);	(91.4,	221.3,	0.0,	0.0);
(76.2,	221.3,	0.0,	0.0);	(61.0,	221.3,	0.0,	0.0);
(45.7,	221.3,	0.0,	0.0);	(30.5,	221.3,	0.0,	0.0);
(15.2,	221.3,	0.0,	0.0);	(0.0,	221.3,	0.0,	0.0);
(0.0,	213.4,	0.0,	0.0);	(0.0,	198.1,	0.0,	0.0);
(0.0,	182.9,	0.0,	0.0);	(0.0,	167.6,	0.0,	0.0);
(0.0,	152.4,	0.0,	0.0);	(0.0,	137.2,	0.0,	0.0);
(0.0,	121.9,	0.0,	0.0);	(0.0,	106.7,	0.0,	0.0);
(0.0,	91.4,	0.0,	0.0);	(0.0,	76.2,	0.0,	0.0);
(0.0,	61.0,	0.0,	0.0);	(0.0,	45.7,	0.0,	0.0);
(0.0,	30.5,	0.0,	0.0);	(0.0,	15.2,	0.0,	0.0);

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 1.0 METER OR 3*ZLB *
IN DISTANCE. CALCULATIONS MAY NOT BE PERFORMED.

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
2	121.9	0.0	34.94
2	137.2	0.0	22.88
2	152.4	0.0	17.07
2	167.6	0.0	22.88
2	182.9	0.0	34.93
10	121.9	221.3	31.36
10	106.7	221.3	28.41
18	152.4	221.3	28.77
18	137.2	221.3	30.18
19	213.4	91.4	32.45
19	213.4	106.7	30.75
19	213.4	121.9	36.10

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: c:\models\iscst2\foamex\orltmp86.BIN   FORMAT: UNFORM
SURFACE STATION NO.: 12815   UPPER AIR STATION NO.: 12842
NAME: SURFNAME   NAME: UAIRNAME
YEAR: 1986   YEAR: 1986

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN
86	1	1	1	1.0	3.60	289.3	4	639.0	639.0
86	1	1	2	168.0	5.14	288.7	4	639.0	639.0
86	1	1	3	124.0	3.09	288.2	4	639.0	639.0
86	1	1	4	353.0	2.57	288.2	4	639.0	639.0
86	1	1	5	333.0	2.57	288.7	4	639.0	639.0
86	1	1	6	332.0	2.57	288.7	4	639.0	639.0
86	1	1	7	335.0	3.09	288.7	4	639.0	639.0
86	1	1	8	3.0	3.60	289.3	4	639.0	639.0
86	1	1	9	347.0	3.60	289.8	4	639.0	639.0
86	1	1	10	1.0	5.14	292.0	4	639.0	639.0
86	1	1	11	14.0	4.63	292.6	4	639.0	639.0
86	1	1	12	16.0	4.12	294.3	4	639.0	639.0
86	1	1	13	73.0	3.09	295.4	4	639.0	639.0
86	1	1	14	49.0	3.60	297.0	4	639.0	639.0
86	1	1	15	142.0	2.06	296.5	4	639.0	639.0
86	1	1	16	144.0	2.06	295.9	4	639.0	639.0
86	1	1	17	261.0	2.06	295.4	4	639.0	639.0
86	1	1	18	257.0	2.06	292.6	4	644.0	644.0
86	1	1	19	274.0	3.60	291.5	4	655.0	655.0
86	1	1	20	227.0	3.09	290.9	4	666.0	666.0
86	1	1	21	230.0	3.09	290.9	4	678.0	678.0
86	1	1	22	252.0	2.57	290.4	5	689.0	477.0
86	1	1	23	290.0	2.06	290.4	4	700.0	700.0
86	1	1	24	290.0	1.00	290.4	4	712.0	712.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	183.80724 (86071316)	339.49155 (86071316)	471.28253 (86071316)	528.35535 (86071316)	523.19330 (86071316)
20.0	142.38387 (86071316)	253.88643 (86071316)	334.75378 (86071316)	351.23926 (86071316)	339.79688 (86010216)
30.0	107.51608 (86060816)	205.37384 (86060816)	262.48135 (86060816)	257.82874 (86010216)	301.53430 (86080416)
40.0	95.54570 (86060816)	151.61165 (86060816)	262.87616 (86053116)	354.30322 (86080416)	428.24988 (86080416)
50.0	72.28125 (86060816)	141.43977 (86053116)	223.76009 (86053116)	323.96640 (86072616)	393.39780 (86072616)
60.0	60.15573 (86022716)	109.27413 (86072016)	189.43196 (86072016)	270.44720 (86072016)	350.37482 (86100416)
70.0	56.11103 (86011916)	92.22192 (86072016)	183.78497 (86072016)	297.16861 (86072016)	379.88242 (86072016)
80.0	67.87798 (86012716)	84.58672 (86012716)	152.89285 (86091216)	280.82901 (86091216)	369.22369 (86091216)
90.0	73.45013 (86041616)	82.59636 (86041616)	146.15477 (86071516)	226.91302 (86071516)	306.71729 (86091216)
100.0	80.85269 (86012724)	94.29875 (86042916)	127.93559 (86050816)	201.71376 (86050816)	272.86676 (860719[illegible]
110.0	89.81425 (86011316)	115.94064 (86042916)	161.61540 (86042916)	245.62718 (86052216)	340.53494 (86042[illegible]
120.0	96.23044 (86042616)	132.98009 (86042616)	210.46994 (86042616)	298.79059 (86090216)	359.63409 (86090216)
130.0	85.39024 (86042616)	120.44307 (86042616)	205.81190 (86042616)	316.78696 (86042616)	402.37366 (86042616)
140.0	85.14506 (86042316)	93.24741 (86042316)	140.36957 (86050316)	233.73393 (86042816)	321.59363 (86042816)
150.0	84.70373 (86042316)	131.67723 (86101616)	211.50909 (86101616)	313.14105 (86101616)	415.28174 (86101616)
160.0	85.07631 (86032216)	156.37157c(86082316)	218.68422 (86110316)	273.53369 (86110316)	293.56033 (86110316)
170.0	130.59163 (86032216)	213.58226c(86082316)	307.77609c(86082316)	360.39087c(86082316)	447.84680 (86110316)
180.0	114.18488c(86082316)	225.03102c(86082316)	328.05878c(86082316)	409.69778c(86082316)	447.18546c(86082316)
190.0	156.73051c(86082316)	248.92903c(86082316)	326.46317c(86082316)	380.40814c(86082316)	403.18448c(86082316)
200.0	205.21194c(86082316)	314.66959c(86082316)	398.41278c(86082316)	442.06891c(86082316)	441.43704c(86082316)
210.0	220.66476c(86082316)	351.11786c(86082316)	449.09528c(86082316)	505.36722c(86082316)	516.65253c(86082316)
220.0	188.16721c(86082316)	306.51834c(86082316)	392.38153c(86082316)	442.37924c(86082316)	460.47275c(86082316)
230.0	182.67027 (86051116)	270.42224 (86051116)	344.84741 (86062616)	391.25464 (86062616)	401.86783 (86062616)
240.0	171.66330 (86051716)	271.29282 (86062616)	353.27460 (86062616)	406.10446 (86062616)	424.37415 (86062616)
250.0	176.15955 (86062616)	271.43695 (86062616)	338.09860 (86062616)	380.26837 (86062616)	402.18616 (86062616)
260.0	148.95221 (86062616)	232.47420 (86062616)	289.77087 (86062616)	321.41998 (86062616)	334.71405 (86062616)
270.0	179.47778 (86043016)	256.55865 (86043016)	298.83914 (86043016)	318.68640 (86070716)	333.29349 (86070716)
280.0	231.16232 (86043016)	336.06384 (86043016)	388.34308 (86043016)	397.41992 (86043016)	388.99622 (86062316)
290.0	237.54765 (86043016)	330.12573 (86040616)	416.10022 (86040616)	448.94891 (86040616)	447.99506 (86040616)
300.0	218.42679 (86043016)	377.95926 (86040616)	488.36224 (86040616)	537.79547 (86040616)	545.04431 (86040616)
310.0	218.37469 (86040616)	384.55240 (86040616)	478.47104 (86040616)	502.63113 (86040616)	486.12744 (86040616)
320.0	210.63519 (86071716)	326.80048 (86052916)	406.90961 (86052916)	421.21115 (86052916)	407.51584 (86112516)
330.0	193.80981 (86071716)	285.68152 (86052916)	321.79218 (86052916)	377.74649 (86082516)	417.03220 (86082516)
340.0	191.01012 (86080516)	271.95389 (86080516)	339.81772 (86082716)	396.03992 (86082716)	412.74026 (86082716)
350.0	209.29144 (86080516)	322.88705 (86080516)	393.95142 (86071316)	445.90964 (86071316)	488.42352 (86100916)
360.0	192.82680 (86071316)	346.21750 (86071316)	479.29361 (86071316)	544.17450 (86071316)	551.56805 (86071[illegible]

*** ISCST2 - VERSION 92062 ***   *** Foamex - 8 hour Avg Emission Rates - Methylene Chloride & 141b   ***   11/30/92
*** Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof   ***   18:03:25
PAGE 15

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	483.97211 (86071316)	432.31195 (86071316)	378.70850 (86071316)	352.96759 (86080316)	333.48151 (86080316)
20.0	367.95401 (86010216)	378.51956 (86010216)	376.09937 (86010216)	364.76144 (86010216)	348.25690 (86010216)
30.0	328.34137 (86080416)	335.86780 (86080416)	330.24329 (86080416)	315.07217 (86080416)	295.24176 (86080416)
40.0	453.24655 (86080416)	443.74808 (86080416)	417.41232 (86080416)	381.76190 (86080416)	343.98923 (86080416)
50.0	417.95847 (86072616)	411.75372 (86072616)	389.86386 (86072616)	359.39520 (86072616)	338.19574 (86100416)
60.0	460.67120 (86100416)	529.36694 (86100416)	562.75067 (86100416)	566.92261 (86100416)	551.42365 (86100416)
70.0	419.96289 (86072016)	428.82187 (86072016)	461.16452 (86081816)	481.24756 (86081816)	483.38074 (86081816)
80.0	405.29391 (86091216)	402.26202 (86091216)	378.39804 (86091216)	345.11356 (86022616)	327.29541 (86022616)
90.0	353.41272 (86091216)	366.28445 (86091216)	358.74835 (86091216)	338.26321 (86091216)	313.10925 (86071916)
100.0	324.87747 (86071916)	348.37546 (86071916)	352.92892 (86071916)	343.71866 (86071916)	326.50702 (86071916)
110.0	424.50647 (86042916)	481.33179 (86042916)	511.46695 (86042916)	519.32178 (86042916)	511.52701 (86042916)
120.0	394.18085 (86042816)	413.79211 (86042816)	433.90775 (86042916)	449.71005 (86042916)	447.72501 (86042916)
130.0	447.40680 (86042616)	457.93915 (86042616)	446.11142 (86042616)	439.04846 (86012816)	450.16345 (86012816)
140.0	370.64786 (86042816)	384.48318 (86042816)	375.11746 (86042816)	352.92188 (86042816)	324.33588 (86042816)
150.0	494.11343 (86101616)	541.23981 (86101616)	558.60315 (86101616)	553.73468 (86101616)	534.05066 (86101616)
160.0	362.62079 (86101616)	423.98642 (86101616)	465.90878 (86101616)	490.04568 (86101616)	498.97125 (86101616)
170.0	497.97830 (86110316)	511.73355 (86110316)	498.19165 (86110316)	470.48462 (86110316)	434.92960 (86110316)
180.0	440.24460c(86082316)	457.70184 (86110316)	482.61057 (86110316)	489.21365 (86110316)	481.98572 (86110316)
190.0	397.37338c(86082316)	369.23163c(86082316)	333.96225 (86102116)	326.45279 (86102116)	312.23126 (86102116)
200.0	414.87234 (86120416)	457.18698 (86120416)	478.39899 (86120416)	481.97342 (86120416)	472.74225 (86120416)
210.0	490.78046c(86082316)	443.06937c(86082316)	394.56235 (86111316)	379.22842 (86111316)	359.40906 (86111316)
220.0	451.84399c(86082316)	424.65387c(86082316)	398.70377 (86060516)	410.21768 (86060516)	413.40289 (86060516)
230.0	390.12280 (86062616)	366.03668 (86062616)	348.35147 (86091616)	329.25064 (86091616)	314.39627 (86102216)
240.0	415.73926 (86062616)	390.88049 (86062616)	375.39612 (86091516)	357.64600 (86091516)	334.37662 (86091516)
250.0	406.77243 (86062616)	415.07761 (86091516)	418.45813 (86091516)	414.00418 (86091516)	403.74393 (86091516)
260.0	335.27466 (86062616)	326.36707 (86062616)	311.88788 (86062616)	309.27988 (86121416)	303.69388 (86121416)
270.0	334.44077 (86062316)	328.56287 (86062316)	312.40689 (86062316)	291.57449 (86070616)	277.23386c(86082616)
280.0	411.10938 (86062316)	421.27539 (86062316)	422.89044 (86062316)	418.42191 (86062316)	409.66870 (86062316)
290.0	427.54703 (86040616)	395.99982 (86040616)	392.81717 (86062316)	385.43823 (86062316)	374.46661 (86062316)
300.0	527.28967 (86040616)	493.99832 (86040616)	454.76559 (86040616)	414.82761 (86040616)	376.76938 (86040616)
310.0	452.00031 (86040616)	408.99792 (86040616)	386.60382 (86112516)	377.33478 (86112516)	363.43735 (86112516)
320.0	423.92606 (86112516)	419.54602 (86112516)	402.68005 (86112516)	379.36752 (86112516)	353.43839 (86112516)
330.0	435.65848 (86082516)	436.95068 (86082516)	425.59442 (86082516)	406.55573 (86082516)	383.42987 (86082516)
340.0	428.10919 (86031216)	465.24741 (86031216)	486.64893 (86031216)	495.20755 (86031216)	494.04095 (86031216)
350.0	509.15860 (86100916)	506.00870 (86100916)	486.79480 (86100916)	459.19751 (86100916)	428.26785 (86100916)
360.0	524.29126 (86071316)	481.51633 (86071316)	494.50290 (86112616)	505.05136 (86112616)	505.69702 (86112616)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	312.54074 (86080316)	291.40347 (86080316)	270.85513 (86080316)	256.97839 (86073008)	257.13699 (86073008)
20.0	341.98553 (86072316)	342.93011 (86072316)	338.92206 (86072316)	331.44427 (86072316)	321.65320 (86072316)
30.0	284.36008 (86062916)	277.16742 (86062916)	267.19409 (86062916)	261.77481 (86021116)	263.55429 (86021116)
40.0	307.72595 (86080416)	274.52689 (86080416)	267.78708 (86030416)	267.43481 (86030416)	264.02084 (86030416)
50.0	328.63303 (86100416)	314.68808 (86100416)	298.52213 (86100416)	283.45047 (86112016)	285.81390 (86112016)
60.0	524.83936 (86100416)	492.87119 (86100416)	459.06717 (86100416)	425.52460 (86100416)	393.41180 (86100416)
70.0	473.60324 (86081816)	456.50000 (86081816)	435.29459 (86081816)	412.15030 (86081816)	388.46854 (86081816)
80.0	305.64575 (86022616)	283.01331 (86022616)	260.92352 (86022616)	240.12752 (86022616)	220.94057 (86022616)
90.0	288.59656 (86071916)	264.18109 (86071916)	241.07216 (86071916)	221.38628 (86041616)	211.72714 (86041616)
100.0	305.58704 (86071916)	283.52310 (86071916)	261.76804 (86071916)	241.09334 (86071916)	221.86411 (86071[illegible]
110.0	493.95776 (86042916)	470.85785 (86042916)	445.09406 (86042916)	418.51419 (86042916)	392.26123 (8604[illegible]
120.0	434.41235 (86042916)	414.59546 (86042916)	391.55014 (86042916)	367.37369 (86042916)	343.34567 (86042916)
130.0	448.23730 (86012816)	437.54065 (86012816)	421.37424 (86012816)	402.11526 (86012816)	381.39731 (86012816)
140.0	296.10135 (86042616)	269.92764 (86042616)	245.29153 (86042616)	222.93233c(86072416)	213.43193 (86090316)
150.0	505.78064 (86101616)	473.36407 (86101616)	439.68387 (86101616)	406.50714 (86101616)	374.84805 (86101616)
160.0	496.92435 (86101616)	487.49442 (86101616)	473.35611 (86101616)	456.40900 (86101616)	437.96341 (86101616)
170.0	397.09622 (86110316)	360.10226 (86110316)	333.62927 (86012408)	351.96805 (86012408)	363.60214 (86012408)
180.0	466.05792 (86110316)	445.13046 (86110316)	421.71014 (86110316)	397.43103 (86110316)	373.32336 (86110316)
190.0	294.64560 (86102116)	275.86154 (86102116)	257.17044 (86102116)	239.28325 (86102116)	227.22101 (86111324)
200.0	455.23276 (86120416)	432.94681 (86120416)	408.35828 (86120416)	383.11209 (86120416)	358.24567 (86120416)
210.0	337.54846 (86111316)	315.20123 (86111316)	293.31473 (86111316)	286.32190 (86032716)	283.84402 (86032716)
220.0	410.06808 (86060516)	401.84091 (86060516)	390.10892 (86060516)	376.00845 (86060516)	360.61365 (86060516)
230.0	313.81372 (86102216)	310.91037 (86102216)	306.46042 (86102216)	301.05499 (86102216)	295.02881 (86102216)
240.0	327.93793 (86033116)	334.23132 (86111416)	349.98099 (86111416)	362.38489 (86111416)	371.60123 (86111416)
250.0	389.50415 (86091516)	372.78873 (86091516)	354.75262 (86091516)	336.23633 (86091516)	317.82422 (86091516)
260.0	295.70270 (86121416)	286.10974 (86121416)	275.51324 (86121416)	264.38614 (86121416)	253.01103 (86121416)
270.0	283.92648 (86040416)	289.78082 (86040416)	292.03864 (86040416)	291.24207 (86040416)	293.85492 (86031008)
280.0	397.96906 (86062316)	384.33151 (86062316)	369.51678 (86062316)	354.09448 (86062316)	338.51404 (86062316)
290.0	361.33618 (86062316)	347.02856 (86062316)	332.20932 (86062316)	317.32565 (86062316)	302.68140 (86062316)
300.0	341.72446 (86040616)	310.05038 (86040616)	305.82855 (86030916)	305.58160 (86030924)	305.71869 (86122316)
310.0	346.91025 (86112516)	329.14029 (86112516)	311.05023 (86112516)	293.23181 (86112516)	276.04712 (86112516)
320.0	327.16302 (86112516)	301.80225 (86112516)	277.99637 (86112516)	256.01779 (86112516)	235.92740 (86112516)
330.0	358.63913 (86082516)	333.72174 (86082516)	309.59973 (86082516)	286.78415 (86082516)	265.52136 (86082516)
340.0	485.88107 (86031216)	472.91977 (86031216)	456.83542 (86031216)	438.87717 (86031216)	419.99011 (86031216)
350.0	396.99869 (86100916)	367.01608 (86100916)	339.10001 (86100916)	313.53851 (86100916)	294.81018 (86052008)
360.0	499.08698 (86112616)	487.34305 (86112616)	472.11920 (86112616)	454.73428 (86112616)	436.26224 (86112[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	261.48834 (86113016)	263.79526 (86113016)	263.40164 (86113016)
20.0	310.42151 (86072316)	298.24628 (86072316)	287.80325 (86031108)
30.0	262.83762 (86021116)	260.02631 (86021116)	255.18857 (86021116)
40.0	258.10211 (86030416)	250.46602 (86030416)	241.23952 (86030416)
50.0	285.01825 (86112016)	281.67126 (86112016)	276.01761 (86112016)
60.0	363.32034 (86100416)	335.49573 (86100416)	309.97784 (86100416)
70.0	365.12537 (86081816)	342.64487 (86081816)	321.31866 (86081816)
80.0	203.44011 (86022616)	205.13681 (86020716)	213.15550 (86020716)
90.0	208.73656 (86070316)	206.14632 (86070316)	202.92525 (86070316)
100.0	204.20952 (86071916)	188.12584 (86071916)	178.80943 (86090616)
110.0	367.00693 (86042916)	343.11655 (86042916)	320.76035 (86042916)
120.0	320.20679 (86042916)	298.57196 (86012816)	285.49515 (86012816)
130.0	360.30429 (86012816)	339.53043 (86012816)	319.49579 (86012816)
140.0	205.75662 (86090316)	197.85861 (86122916)	199.21379 (86122916)
150.0	345.27768 (86101616)	317.93216 (86101616)	292.88156 (86101616)
160.0	419.02548 (86101616)	436.27789 (86111508)	451.45007 (86111508)
170.0	369.46899 (86012408)	370.60995 (86012408)	368.01245 (86012408)
180.0	350.00912 (86110316)	327.84116 (86110316)	319.32538 (86110216)
190.0	223.18884 (86111324)	220.19585 (86122616)	224.42462 (86122616)
200.0	334.37613 (86120416)	315.99564 (86020908)	324.59445 (86020908)
210.0	280.33243 (86032716)	275.93417 (86032716)	269.59161 (86032716)
220.0	344.27594 (86060516)	327.65933 (86060516)	310.76419 (86060516)
230.0	288.20490 (86102216)	292.97342 (86050924)	294.81418 (86050924)
240.0	377.43195 (86111416)	380.04517 (86111416)	379.30606 (86111416)
250.0	299.90338 (86091516)	282.71625 (86091516)	266.40253 (86091516)
260.0	251.68503 (86091016)	249.92957 (86091016)	245.76906 (86091016)
270.0	300.49683 (86031008)	303.99316 (86031008)	303.81406 (86031008)
280.0	323.08398 (86062316)	307.73517 (86062316)	292.45297 (86062316)
290.0	296.78610 (86030924)	295.34229 (86030924)	290.69400 (86030924)
300.0	309.66742 (86122316)	310.08881 (86122316)	307.11218 (86122316)
310.0	259.70291 (86112516)	244.30264 (86112516)	234.57855 (86122316)
320.0	217.67049 (86112516)	207.01189c(86083116)	197.93123c(86083116)
330.0	245.89432 (86082516)	237.14409 (86031308)	232.51765 (86031308)
340.0	400.95544 (86031216)	381.71185 (86031216)	362.76645 (86031216)
350.0	293.21585 (86052008)	288.96793 (86052008)	283.03275 (86052008)
360.0	417.05011 (86112616)	397.37357 (86112616)	378.04803 (86112616)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	185.01605	(86051116)	15.24	0.00	173.43640c	(86082316)
30.48	0.00	166.78882c	(86082316)	45.72	0.00	152.44193c	(86082316)
60.96	0.00	131.06924c	(86082316)	76.20	0.00	104.52614c	(86082316)
91.44	0.00	76.92620c	(86082316)	106.68	0.00	106.61151	(86111324)
121.92	0.00	92.17411	(86032216)	137.16	0.00	148.60258	(86032216)
152.40	0.00	89.32781	(86032216)	167.64	0.00	73.05613	(86042316)
182.88	0.00	82.54948	(86011116)	198.12	0.00	83.35271	(86042316)
213.36	0.00	82.65793	(86042316)	213.36	15.24	82.01667	(86012808)
213.36	30.48	80.10240	(86042616)	213.36	45.72	76.54916	(86042616)
213.36	60.96	81.87141	(86011316)	213.36	76.20	93.34753	(86012724)
213.36	91.44	89.29350	(86012724)	213.36	106.68	58.84662	(86012716)
213.36	121.92	57.43126	(86012716)	213.36	137.16	47.82600	(86011916)
213.36	152.40	50.02626	(86022716)	213.36	167.64	52.16500	(86022716)
213.36	182.88	56.33212	(86022716)	213.36	198.12	63.38274	(86060816)
213.36	213.36	80.20833	(86060816)	213.36	221.29	90.07286	(86060816)
198.12	221.29	88.84422	(86060816)	182.88	221.29	83.75595	(86072916)
167.64	221.29	95.19013	(86080216)	152.40	221.29	139.06117	(86121116)
137.16	221.29	97.43108	(86072908)	121.92	221.29	98.82070	(86071316)
106.68	221.29	129.58078	(86121116)	91.44	221.29	131.48064	(86072908)
76.20	221.29	126.32920	(86080516)	60.96	221.29	128.90367	(86080516)
45.72	221.29	139.03726	(86071716)	30.48	221.29	168.88385	(86071716)
15.24	221.29	195.77124	(86071716)	0.00	221.29	218.45006	(86071716)
0.00	213.36	206.30566	(86062416)	0.00	198.12	185.31207	(86062416)
0.00	182.88	161.08575	(86062416)	0.00	167.64	151.51439	(86043016)
0.00	152.40	138.92203	(86043016)	0.00	137.16	125.51937	(86043016)
0.00	121.92	109.01245	(86043016)	0.00	106.68	88.29268c	(86082616)
0.00	91.44	92.61607	(86051716)	0.00	76.20	108.99438	(86051716)
0.00	60.96	125.53064	(86051716)	0.00	45.72	137.33167	(86051716)
0.00	30.48	144.89427	(86051716)	0.00	15.24	168.96388	(86051116)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	162.26619 (86061416)	283.68097 (86061416)	354.47720 (86091116)	431.82455 (86091116)	457.42166 (86091116)
20.0	135.06903 (86080216)	218.37152 (86080216)	276.17099 (86080216)	293.78619 (86080616)	323.14063 (86071316)
30.0	105.37473 (86080216)	166.92770 (86080616)	235.38358 (86080616)	257.61273 (86080616)	293.29688 (86010216)
40.0	68.23428 (86080616)	149.27431 (86053116)	234.27623 (86080416)	316.53500 (86053116)	320.12155 (86053116)
50.0	65.45808 (86022716)	111.38116 (86080416)	212.55479 (86072616)	288.24991 (86080416)	317.03568 (86080416)
60.0	54.80859 (86073016)	95.58559c(86060916)	178.93480 (86072616)	267.81042 (86072616)	318.75174 (86072016)
70.0	53.71605 (86012716)	80.35300 (86071516)	132.30348 (86071516)	200.63725 (86091216)	293.52527 (86100416)
80.0	57.90942 (86041616)	78.88886 (86041616)	132.73729 (86071516)	190.28378 (86072016)	255.78487 (86022616)
90.0	68.51012 (86030116)	74.74940 (86030116)	115.36552 (86091216)	221.23828 (86091216)	286.79404 (86071916)
100.0	78.56897 (86021516)	87.41618 (86021516)	115.65822 (86042916)	190.28484 (86071916)	245.15727 (86050816)
110.0	89.37366 (86021516)	96.79512 (86011316)	159.07126 (86052216)	243.11362 (86042916)	311.55371 (86052216)
120.0	72.93060 (86011316)	97.57888 (86090216)	197.65071 (86090216)	280.28925 (86042616)	345.56537 (86042816)
130.0	83.26764 (86012808)	88.14780 (86042816)	160.31139 (86042816)	258.91968 (86042816)	343.59894 (86042816)
140.0	72.36039 (86032116)	91.06827 (86101616)	135.64369 (86101616)	200.03589 (86050316)	281.85065 (86042616)
150.0	82.34180 (86011116)	95.73602 (86042316)	162.04738 (86052316)	204.36615 (86052316)	254.50696 (86101516)
160.0	67.52413 (86120524)	133.82368 (86110316)	203.97830c(86082316)	238.85994 (86052316)	288.10144 (86101616)
170.0	90.85790c(86082316)	142.18362 (86110316)	247.13130 (86110316)	357.46951 (86110316)	365.66641c(86082316)
180.0	110.57604 (86032216)	135.66017 (86041816)	211.32599 (86041816)	275.52927 (86041816)	334.08752 (86110316)
190.0	82.35098 (86111324)	130.95700 (86120416)	200.50671 (86120416)	265.21875 (86120416)	312.72180 (86120416)
200.0	102.89619 (86111316)	179.07315 (86111316)	248.92783 (86111316)	307.47308 (86111316)	352.13528 (86120416)
210.0	113.34527 (86111316)	197.21826 (86111316)	269.76636 (86111316)	331.58704 (86111316)	374.77124 (86111316)
220.0	164.35043 (86051116)	234.56071 (86051116)	288.73859 (86051116)	324.23758 (86051116)	330.37738 (86051116)
230.0	160.57349 (86051716)	258.54327 (86062616)	328.59326 (86051116)	362.39740 (86051116)	373.33817 (86051116)
240.0	170.88588 (86062616)	225.67369 (86091616)	278.84143 (86091616)	309.83441 (86091616)	342.15131 (86091516)
250.0	167.49294 (86051716)	209.01848 (86051716)	280.32104 (86091516)	337.29587 (86091516)	376.67343 (86091516)
260.0	146.10497 (86051716)	200.43352 (86051316)	267.05307 (86051316)	304.73721 (86051316)	318.55991 (86051316)
270.0	153.05978c(86082616)	227.19391 (86040616)	277.95129 (86070716)	314.51999 (86043016)	323.48285 (86062316)
280.0	171.24611 (86060116)	283.64410 (86040616)	345.02594 (86040616)	360.20398 (86040616)	381.76825 (86043016)
290.0	192.10378 (86040616)	329.36182 (86043016)	355.06967 (86043016)	335.46683 (86043016)	368.07166 (86062316)
300.0	213.79868 (86040616)	318.99670 (86081016)	388.09177 (86081016)	415.22800 (86081016)	430.55692 (86093016)
310.0	211.46858 (86081016)	339.49664 (86081016)	414.52405 (86081016)	437.84348 (86081016)	430.06189 (86081016)
320.0	203.19069 (86062416)	302.84979 (86081016)	362.30917 (86081016)	378.45044 (86052816)	393.33505 (86052916)
330.0	179.04086 (86052916)	260.59000 (86071716)	316.39368 (86082516)	329.10934 (86080816)	351.17920 (86080816)
340.0	159.92760 (86071716)	246.37338 (86082716)	308.73322 (86080516)	355.33710 (86082516)	374.06903 (86031216)
350.0	173.22668 (86071316)	293.23022 (86082716)	380.87668 (86082716)	435.38452 (86100916)	455.41437 (86071316)
360.0	184.13396 (86080516)	292.40353 (86061416)	358.28067 (86061416)	406.92764 (86091116)	446.36349 (86091116)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	444.79843 (86091116)	412.49557 (86091116)	371.39703 (86091116)	333.97250 (86110516)	308.23062 (86110516)
20.0	340.11850 (86101416)	345.73456 (86101416)	335.99084 (86101416)	317.68533 (86072316)	334.26706 (86072316)
30.0	301.02963 (86010216)	290.21283 (86061716)	293.15866 (86061716)	283.35080 (86061716)	287.05225 (86062916)
40.0	329.10980 (86072616)	333.78833 (86072816)	327.58826 (86072816)	314.28754 (86062916)	299.57626 (86062916)
50.0	308.85806 (86080416)	303.07053 (86100416)	329.94452 (86100416)	340.14148 (86100416)	326.41498 (86072616)
60.0	332.97754 (86072016)	331.00272 (86073116)	348.90039 (86070116)	363.67114 (86070116)	367.57941 (86070116)
70.0	360.04700 (86100416)	417.52655 (86081816)	418.39581 (86072016)	396.56870 (86072016)	369.46310 (86072016)
80.0	317.94226 (86022616)	347.54260 (86022616)	354.12836 (86022616)	344.18024 (86091216)	306.18329 (86091216)
90.0	335.44394 (86071916)	353.17044 (86071916)	350.73242 (86071916)	335.30099 (86071916)	310.86429 (86091216)
100.0	280.58929c(86071416)	288.32394c(86071416)	277.13995c(86071416)	255.17679c(86071416)	242.88547 (860305[illegible]
110.0	341.42065 (86052216)	342.20923 (86052216)	326.39966 (86052216)	301.49667 (86052216)	303.21143 (86012[illegible]
120.0	384.31448 (86091316)	409.55667 (86091316)	415.71979 (86052216)	409.29724 (86052216)	392.32306 (86052216)
130.0	391.04474 (86042816)	403.72565 (86042816)	410.03320 (86012816)	420.60992 (86042616)	388.55368 (86042616)
140.0	340.99994 (86042616)	363.87564 (86042616)	361.95737 (86042616)	346.16623 (86042616)	322.45477 (86042616)
150.0	302.37146 (86101516)	322.62781 (86101516)	321.56131 (86101516)	307.69058 (86101516)	296.94409 (86042316)
160.0	286.62012 (86110316)	292.59988 (86101516)	321.14178 (86101516)	336.39764 (86101516)	340.28503 (86101516)
170.0	337.59232c(86082316)	338.93060 (86011216)	335.33926 (86011216)	322.25348 (86011216)	303.44391 (86011216)
180.0	408.28107 (86110316)	401.76837c(86082316)	410.64771 (86110416)	412.83072 (86110416)	403.28384 (86110416)
190.0	334.54324 (86120416)	332.13635 (86120416)	330.08884c(86082316)	287.29031c(86082316)	258.30063 (86120416)
200.0	410.05524c(86082316)	362.60544c(86082316)	348.69644 (86092716)	332.81656 (86092716)	319.98917 (86102016)
210.0	397.37161 (86111316)	401.77057 (86111316)	386.82364c(86082316)	340.40628 (86042416)	331.60809 (86042416)
220.0	343.95749 (86060516)	377.05933 (86060516)	385.88663c(86082316)	344.68643c(86082316)	342.85355 (86112116)
230.0	366.23587 (86051116)	361.19293 (86091616)	336.28903 (86062616)	311.46146 (86102216)	306.70731 (86091616)
240.0	372.91687 (86091516)	382.52512 (86091516)	358.02856 (86062616)	324.95578 (86091716)	324.76291 (86033116)
250.0	401.82776 (86091516)	396.46658 (86062616)	376.19980 (86062616)	350.70972 (86062616)	323.30630 (86062616)
260.0	316.56018 (86051316)	308.67291 (86121416)	311.39508 (86121416)	294.58282 (86062616)	276.19846 (86062616)
270.0	331.22504 (86070716)	324.74173 (86070616)	310.82681 (86070616)	290.99857 (86062316)	274.12210 (86040416)
280.0	354.01312 (86070616)	351.14572 (86070616)	339.02170 (86070616)	321.80875 (86070616)	302.24979 (86070616)
290.0	387.61536 (86062316)	394.52789 (86062316)	360.88669 (86040616)	337.22589c(86090516)	318.69302c(86090516)
300.0	428.67380 (86093016)	410.16641 (86093016)	383.66455 (86093016)	354.34268 (86093016)	325.04495 (86093016)
310.0	406.39011 (86081016)	388.50702 (86112516)	365.19659 (86040616)	335.72186 (86052816)	311.88327 (86052816)
320.0	369.03775 (86052816)	350.90207 (86081116)	342.53009 (86081116)	328.14035 (86081116)	310.60699 (86081116)
330.0	352.78082 (86080816)	339.34973 (86080816)	317.44910 (86080816)	292.46191 (86081116)	278.31833 (86081116)
340.0	401.76389 (86082716)	392.23254 (86100916)	389.20145 (86100916)	378.66162 (86100916)	363.48651 (86100916)
350.0	438.02905 (86071316)	407.62253 (86071316)	372.93195 (86031216)	347.05798 (86031216)	320.21854 (86031216)
360.0	457.52231 (86091116)	470.94971 (86112616)	433.04794 (86071316)	429.13239 (86102516)	417.44290 (861105[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	286.61282 (86110616)	266.69531 (86110616)	253.65108 (86073008)	251.34921 (86080316)	255.92580 (86113016)
20.0	329.11835 (86010216)	308.99927 (86010216)	288.93591 (86010216)	278.06439 (86031108)	284.83929 (86031108)
30.0	273.68088 (86080416)	252.22922 (86080416)	256.75308 (86021116)	255.65678 (86062916)	243.38747 (86062916)
40.0	279.82553 (86062916)	263.86716 (86030416)	244.91179 (86080416)	218.83963 (86080416)	201.89752 (86021024)
50.0	294.29770 (86072616)	266.64417 (86112016)	277.32779 (86112016)	281.51898 (86100416)	264.53201 (86100416)
60.0	364.13214 (86070116)	355.95285 (86070116)	344.88773 (86070116)	332.19516 (86070116)	321.37418 (86031116)
70.0	366.55692 (86031116)	361.82391 (86031116)	351.96799 (86031116)	338.84921 (86031116)	323.82614 (86031116)
80.0	286.06219 (86081816)	265.53400 (86081816)	244.13762 (86081816)	225.99837 (86070316)	213.33771 (86070316)
90.0	281.70755 (86091216)	254.12430 (86091216)	230.43675 (86041616)	219.79419 (86071916)	210.60968 (86070316)
100.0	228.40834 (86030516)	212.69286 (86030516)	196.95619 (86030516)	181.86130 (86030516)	173.49687 (86090616)
110.0	303.04895 (86012316)	297.62509 (86012316)	288.67197 (86012316)	277.50729 (86012316)	265.09811 (86012316)
120.0	377.43640 (86012816)	366.23587 (86012816)	353.33029 (86012816)	339.64499 (86012816)	325.73355 (86012816)
130.0	354.91586 (86042616)	322.34903 (86042616)	325.10834 (86022016)	329.38522 (86022016)	330.18475 (86022016)
140.0	294.17914 (86042816)	265.09033 (86042816)	239.77052c(86072416)	222.74911 (86042616)	209.97173 (86032116)
150.0	282.72638 (86042316)	266.28793 (86042316)	249.15004 (86042316)	238.00050 (86061016)	238.90193 (86032108)
160.0	335.86856 (86101516)	325.96048 (86101516)	322.88388 (86111508)	359.33145 (86111508)	390.47397 (86111508)
170.0	282.21930 (86011216)	307.93530 (86012408)	325.50040 (86110316)	293.93619 (86110316)	290.57306 (86120508)
180.0	386.61188 (86110416)	366.12460 (86110416)	344.02509 (86110416)	321.70258 (86110416)	312.49445 (86032216)
190.0	230.06027 (86120416)	222.59302 (86111324)	227.61526 (86111324)	228.89471 (86111324)	222.56723 (86102116)
200.0	314.75516 (86102016)	306.09055 (86102016)	295.25986 (86102016)	283.15652 (86102016)	282.73550 (86020908)
210.0	318.20795 (86042416)	302.13303 (86042416)	287.65118 (86032716)	272.43427 (86111316)	256.04968 (86101908)
220.0	344.41736 (86112116)	341.29980 (86112116)	334.83145 (86112116)	326.03571 (86112116)	315.68552 (86112116)
230.0	282.99350 (86091616)	260.20679 (86101916)	271.10852 (86101916)	279.02887 (86101916)	283.29440 (86101916)
240.0	314.85956 (86111416)	328.31619 (86033116)	326.32733 (86033116)	322.40677 (86033116)	316.93027 (86033116)
250.0	296.05734 (86062616)	270.12943 (86062616)	249.78996 (86091716)	242.68965 (86091716)	234.97655 (86091716)
260.0	257.87454 (86092216)	255.77478 (86092216)	254.78540 (86020916)	254.06586 (86020916)	252.00938 (86020916)
270.0	271.39877 (86051516)	280.43564 (86051516)	286.60056 (86051516)	290.13864 (86051516)	291.48264 (86051516)
280.0	284.80331 (86040416)	284.51755 (86040416)	282.03857 (86040416)	277.89880 (86040416)	272.64212 (86040416)
290.0	298.46869c(86090516)	278.00568c(86090516)	280.93646 (86030924)	289.60767 (86030924)	294.70294 (86030924)
300.0	307.38232 (86030916)	308.21649 (86030916)	305.31174 (86030924)	301.29544 (86030916)	303.26324 (86030924)
310.0	292.59225 (86100316)	273.74173 (86100316)	255.20572 (86100316)	248.42113 (86122316)	247.74710 (86122316)
320.0	291.80090 (86081116)	272.88013 (86081116)	254.52747 (86081116)	237.11620 (86081116)	224.92961c(86083116)
330.0	262.73077 (86081116)	246.73735 (86081116)	242.75316 (86031308)	243.19524 (86031308)	242.36101 (86031308)
340.0	345.74918 (86100916)	331.77002 (86070516)	331.34033 (86070516)	327.88611 (86070516)	322.11783 (86070516)
350.0	294.67477 (86031216)	280.15430 (86052008)	288.77710 (86052008)	293.40228 (86052008)	290.34772 (86100916)
360.0	403.95923 (86110516)	386.71240 (86110516)	367.49869 (86110516)	347.54187 (86110516)	327.64337 (86110516)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	254.91452 (86073008)	249.99461 (86073008)	243.54315 (86073008)
20.0	288.44424 (86031108)	289.21631 (86031108)	285.63635 (86072316)
30.0	230.93927 (86062916)	218.66951 (86062916)	206.80023 (86062916)
40.0	210.31567 (86021024)	216.14774 (86021024)	219.30310 (86021024)
50.0	248.06609 (86100416)	232.40234 (86100416)	218.84848 (86122008)
60.0	317.77081 (86031116)	312.59879 (86031116)	306.19724 (86031116)
70.0	307.90106 (86031116)	291.66330 (86031116)	275.62354 (86031116)
80.0	200.70654 (86070316)	188.66252 (86122516)	194.47702 (86122516)
90.0	201.83328 (86041616)	192.09927 (86041616)	182.47232 (86041616)
100.0	176.25833 (86090616)	178.05132 (86090616)	173.53920 (86071916)
110.0	252.13284 (86012316)	239.08665 (86012316)	226.27670 (86012316)
120.0	311.97958 (86012816)	298.35257 (86042916)	277.96335 (86042916)
130.0	328.34161 (86022016)	324.51382 (86022016)	319.19904 (86022016)
140.0	201.27313 (86032116)	197.77081 (86090316)	189.70343 (86090316)
150.0	242.25990 (86032108)	242.90399 (86032108)	241.40295 (86032108)
160.0	416.06143 (86111508)	399.94693 (86101616)	381.25778 (86101616)
170.0	298.66928 (86120508)	303.36102 (86120508)	304.96890 (86120508)
180.0	306.05136 (86032216)	310.41367 (86110216)	306.99707 (86110316)
190.0	213.62482 (86122616)	217.54449 (86111324)	210.43430 (86111324)
200.0	301.42532 (86020908)	311.84027 (86120416)	290.79379 (86120416)
210.0	256.97577 (86101908)	256.66718 (86010716)	258.09680 (86010716)
220.0	304.48175 (86112116)	292.58377 (86112116)	280.07748 (86112116)
230.0	287.75226 (86050924)	284.05450 (86101916)	280.57419 (86101916)
240.0	310.19183 (86033116)	304.30161 (86011008)	307.27032 (86011008)
250.0	226.93523 (86091716)	226.11041 (86091016)	226.41882 (86091016)
260.0	248.95233 (86020916)	244.71686 (86020916)	239.17139 (86020916)
270.0	290.82974 (86051516)	288.26956 (86051516)	283.01865 (86051516)
280.0	266.44888 (86040416)	259.22488 (86040416)	250.88051 (86040416)
290.0	288.54437 (86062316)	274.70334 (86062316)	260.98355 (86062316)
300.0	298.72269 (86030924)	292.22427 (86030924)	283.17105 (86030924)
310.0	245.27002 (86122316)	241.15337 (86122316)	229.88358 (86112516)
320.0	216.08711c(86083116)	201.13245 (86112516)	191.90210 (86110616)
330.0	240.52643 (86031308)	227.88614 (86082516)	211.42509 (86082516)
340.0	314.63318 (86070516)	305.68204 (86070516)	295.67133 (86070516)
350.0	269.45352 (86100916)	262.73691 (86061624)	267.33356 (86061624)
360.0	308.30493 (86110516)	289.82379 (86110516)	276.08063 (86112716)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	173.48245c	(86082316)	15.24	0.00	151.65721	(86051116)
30.48	0.00	116.82495	(86051116)	45.72	0.00	83.24509	(86051116)
60.96	0.00	77.13568	(86010816)	76.20	0.00	57.33180	(86041916)
91.44	0.00	70.66492	(86111324)	106.68	0.00	89.45767	(86032216)
121.92	0.00	87.16388	(86101924)	137.16	0.00	89.08003	(86011116)
152.40	0.00	61.80076	(86120524)	167.64	0.00	62.65771	(86011116)
182.88	0.00	80.52427	(86011108)	198.12	0.00	67.99463	(86032116)
213.36	0.00	81.55590	(86032116)	213.36	15.24	78.02791	(86032116)
213.36	30.48	76.54187	(86012808)	213.36	45.72	69.03722	(86032208)
213.36	60.96	75.10227	(86012724)	213.36	76.20	80.75064	(86021516)
213.36	91.44	64.43908	(86021516)	213.36	106.68	57.23187	(86012724)
213.36	121.92	41.53110	(86012724)	213.36	137.16	43.99560	(86022716)
213.36	152.40	39.71238	(86073016)	213.36	167.64	48.71332	(86073016)
213.36	182.88	55.79141	(86073016)	213.36	198.12	61.68223	(86022716)
213.36	213.36	73.55947	(86030416)	213.36	221.29	75.21490	(86030416)
198.12	221.29	63.41259	(86080616)	182.88	221.29	82.83360	(86060816)
167.64	221.29	86.66061	(86072916)	152.40	221.29	90.57038	(86010416)
137.16	221.29	92.46852	(86071316)	121.92	221.29	88.31713	(86061416)
106.68	221.29	101.21292	(86071316)	91.44	221.29	115.51810	(86080516)
76.20	221.29	120.74559	(86031316)	60.96	221.29	109.24292	(86071716)
45.72	221.29	127.42773	(86080516)	30.48	221.29	159.17888	(86062416)
15.24	221.29	190.17722	(86062416)	0.00	221.29	215.39079	(86062416)
0.00	213.36	204.33041	(86071716)	0.00	198.12	179.11423	(86081016)
0.00	182.88	160.91998	(86043016)	0.00	167.64	136.16203	(86081016)
0.00	152.40	112.87069	(86081016)	0.00	137.16	103.22649	(86060116)
0.00	121.92	92.19163	(86060116)	0.00	106.68	85.84470	(86043016)
0.00	91.44	84.83720c	(86082616)	0.00	76.20	93.69016	(86062616)
0.00	60.96	110.86678	(86091616)	0.00	45.72	124.05569	(86091616)
0.00	30.48	144.53035	(86051116)	0.00	15.24	148.90054	(86051716)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

** CONC OF OTHER IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH) AT	RECEPTOR (XR,	YR) OF	TYPE	RANK	CONC	(YYMMDDHH) AT	RECEPTOR (XR,	YR) OF	TYPE
1.	566.92261	(86100416) AT (	582.99,	385.64)	GP	26.	505.69702	(86112616) AT (	106.68,	710.64)	GP
2.	562.75067	(86100416) AT (	539.69,	360.64)	GP	27.	505.36722c	(86082316) AT (	-43.32,	-149.17)	GP
3.	558.60315	(86101616) AT (	356.68,	-322.37)	GP	28.	505.05136	(86112616) AT (	106.68,	660.64)	GP
4.	553.73468	(86101616) AT (	381.68,	-365.67)	GP	29.	502.63113	(86040616) AT (	-123.13,	303.48)	GP
5.	551.56805	(86071316) AT (	106.68,	460.64)	GP	30.	499.08698	(86112616) AT (	106.68,	760.64)	GP
6.	551.42365	(86100416) AT (	626.30,	410.64)	GP	31.	498.97125	(86101616) AT (	311.89,	-453.17)	GP
7.	545.04431	(86040616) AT (	-196.43,	285.64)	GP	32.	498.19165	(86110316) AT (	193.50,	-381.76)	GP
8.	544.17450	(86071316) AT (	106.68,	410.64)	GP	33.	497.97830	(86110316) AT (	176.14,	-283.28)	GP
9.	541.23981	(86101616) AT (	331.68,	-279.07)	GP	34.	496.92435	(86101616) AT (	328.99,	-500.16)	GP
10.	537.79547	(86040616) AT (	-153.13,	260.64)	GP	35.	495.20755	(86031216) AT (	-81.43,	627.47)	GP
11.	534.05066	(86101616) AT (	406.68,	-408.97)	GP	36.	494.50290	(86112616) AT (	106.68,	610.64)	GP
12.	529.36694	(86100416) AT (	496.39,	335.64)	GP	37.	494.11343	(86101616) AT (	306.68,	-235.77)	GP
13.	528.35535	(86071316) AT (	158.77,	406.08)	GP	38.	494.04095	(86031216) AT (	-98.53,	674.46)	GP
14.	527.28967	(86040616) AT (	-239.73,	310.64)	GP	39.	493.99832	(86040616) AT (	-283.03,	335.64)	GP
15.	524.83936	(86100416) AT (	669.60,	435.64)	GP	40.	493.95776	(86042916) AT (	717.48,	-111.67)	[illegible]
16.	524.29126	(86071316) AT (	106.68,	510.64)	GP	41.	492.87119	(86100416) AT (	712.90,	460.64)	GP
17.	523.19330	(86071316) AT (	167.46,	455.33)	GP	42.	490.78046c	(86082316) AT (	-93.32,	-235.77)	GP
18.	519.32178	(86042916) AT (	623.51,	-77.47)	GP	43.	490.04568	(86101616) AT (	294.79,	-406.19)	GP
19.	516.65253c	(86082316) AT (	-68.32,	-192.47)	GP	44.	489.21365	(86110316) AT (	106.68,	-439.36)	GP
20.	511.73355	(86110316) AT (	184.82,	-332.52)	GP	45.	488.42352	(86100916) AT (	45.90,	455.33)	GP
21.	511.52701	(86042916) AT (	670.50,	-94.57)	GP	46.	488.36224	(86040616) AT (	-109.83,	235.64)	GP
22.	511.46695	(86042916) AT (	576.53,	-60.37)	GP	47.	487.49442	(86101616) AT (	346.09,	-547.14)	GP
23.	509.15860	(86100916) AT (	37.22,	504.57)	GP	48.	487.34305	(86112616) AT (	106.68,	810.64)	GP
24.	506.00870	(86100916) AT (	28.54,	553.81)	GP	49.	486.79480	(86100916) AT (	19.86,	603.05)	GP
25.	505.78064	(86101616) AT (	431.68,	-452.27)	GP	50.	486.64893	(86031216) AT (	-64.33,	580.49)	GP

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	566.92261	ON 86100416: AT (	582.99,	385.64,	0.00,	0.00)	GP	POL1
	HIGH	2ND HIGH VALUE IS	470.94971	ON 86112616: AT (	106.68,	560.64,	0.00,	0.00)	GP	POL1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC   RURAL FLAT   DFAULT

*** Message Summary For ISC2 Model Execution ***

--------- Summary of Total Messages --------

```
A Total of          0 Fatal Error Message(s)
A Total of          0 Warning Message(s)
A Total of        328 Informational Message(s)

A Total of        328 Calm Hours Identified
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   ******** FATAL ERROR MESSAGES ********
              ***  NONE  ***

   ********   WARNING MESSAGES   ********
              ***  NONE  ***

   **************************************
   *** ISCST2 Finishes Successfully ***
   **************************************
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Run: FMXMC24

Methylene Chloride & 141b 24-hour Average Emission Rates

```
ISCST2 EXTENDED MODEL - (DATED 92062)

IBM-PC VERSION (1.01)
(C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8025 SOLD TO CROSS TESSITORE & ASSOCIATES
RUN BEGAN ON 11/30/92 AT 19:26:48


CO STARTING
CO TITLEONE Foamex - 24 hour Avg Emission Rates - Methylene Chloride & 141b
CO TITLETWO Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 24
CO POLLUTID OTHER
CO RUNORNOT RUN
CO FINISHED


SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS            YS            ZS

SO LOCATION     1 POINT       175.8720      119.7880        .0000
SO LOCATION     2 POINT       152.4020       17.0690        .0000
SO LOCATION     3 POINT       108.5100       97.2320        .0000
SO LOCATION     4 POINT       108.5100      110.6440        .0000
SO LOCATION     5 POINT       108.5100      119.7880        .0000
SO LOCATION     6 POINT       108.5100      135.6380        .0000
SO LOCATION     7 POINT       108.5100      152.7070        .0000
SO LOCATION     8 POINT       108.5100      168.8610        .0000
SO LOCATION     9 POINT       108.5100      183.7970        .0000
SO LOCATION    10 POINT       108.5100      192.9410        .0000
SO LOCATION    11 POINT       147.5250       97.2320        .0000
SO LOCATION    12 POINT       147.5250      110.6440        .0000
SO LOCATION    13 POINT       147.5250      119.7880        .0000
SO LOCATION    14 POINT       147.5250      135.6380        .0000
SO LOCATION    15 POINT       147.5250      155.4500        .0000
SO LOCATION    16 POINT       147.5250      168.8610        .0000
SO LOCATION    17 POINT       147.5250      183.7970        .0000
SO LOCATION    18 POINT       147.5250      192.9410        .0000
SO LOCATION    19 POINT       182.8820      102.5660        .0000

** Source Parameter Cards:
** POINT:   SRCID       QS              HS         TS          VS          DS
** VOLUME:  SRCID       QS              HS       SYINIT      SZINIT
** AREA:    SRCID       QS              HS        XINIT

SO SRCPARAM     1    15.053597775        38.1000   299.8200    24.3810       .702
SO SRCPARAM     2    8.78126536875        38.1000   299.8200    24.3810       .99
SO SRCPARAM     3    0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     4    0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     5    0.0737921459559    13.1070   299.8200    24.3810     1.1100
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SO SRCPARAM     6   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     7   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     8   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     9   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    10   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    11   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    12   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    13   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    14   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    15   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    16   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    17   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    18   0.0737921459559    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    19   0.0737921459559    15.8500   299.8200    24.3810     1.1100

** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     1
SO BUILDHGT     1     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     1       .00       .00       .00       .00       .00       .00
SO BUILDHGT     1       .00       .00     15.24     15.24     15.24       .00
SO BUILDHGT     1       .00     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     1       .00       .00       .00       .00       .00       .00
SO BUILDHGT     1       .00       .00     15.24     15.24     15.24     15.24
** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     2
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     3     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     3     12.19     12.19     15.24     15.24     15.24     15.24
SO BUILDHGT     3     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     3     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     3     12.19     12.19     15.24     15.24     15.24     15.24
SO BUILDHGT     3     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     4     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     4     10.67     12.19     12.19     15.24     15.24     15.24
SO BUILDHGT     4     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     4     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     4     10.67     12.19     12.19     15.24     15.24     15.24
SO BUILDHGT     4     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     5     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     5     10.67     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT     5     15.24     10.67     10.67     12.19     12.19     12.19
SO BUILDHGT     5     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     5     10.67     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT     5     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     6     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     6     10.67     10.67     10.67     12.19     12.19     10.67
SO BUILDHGT     6     10.67     10.67     10.67     10.67     12.19     12.19
SO BUILDHGT     6     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     6     10.67     10.67     10.67     12.19     12.19     15.24
SO BUILDHGT     6     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     7     10.67     10.67     10.67     10.67     10.67     10.67
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SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	12.19
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	14	15.24	15.24	15.24	15.24	10.67	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	12.19	12.19	12.19
SO BUILDHGT	14	12.19	15.24	15.24	15.24	10.97	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	15	15.24	15.24	15.24	10.67	10.67	10.67
SO BUILDHGT	15	10.67	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	15	12.19	12.19	12.19	10.97	10.97	10.97
SO BUILDHGT	15	10.97	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	16	12.19	12.19	10.67	10.67	10.67	10.67

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SO BUILDHGT    16     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    16     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    16     10.67     10.67     10.67     10.97     10.97     10.97
SO BUILDHGT    16     10.97     10.97     10.97     10.67     10.67     10.67
SO BUILDHGT    16     12.19     12.19     12.19     12.19     12.19     12.19
SO BUILDHGT    17     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    17     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    17     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    17     10.67     10.67     10.67     10.67     10.67     10.97
SO BUILDHGT    17     10.97     10.97     10.97     10.97     10.97     10.67
SO BUILDHGT    17     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    18     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    18     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    18     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    18     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    18     10.67     10.97     10.97     10.97     10.97     10.97
SO BUILDHGT    18     10.97     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    19     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    19     15.24     15.24     12.19     12.19     12.19     12.19
SO BUILDHGT    19     12.19     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    19     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    19     15.24     15.24     12.19     12.19     12.19     12.19
SO BUILDHGT    19     12.19     15.24     15.24     15.24     15.24     15.24
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      1
SO BUILDWID     1     84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID     1       .00       .00       .00       .00       .00       .00
SO BUILDWID     1       .00       .00     93.84     90.70     83.88       .00
SO BUILDWID     1       .00     91.23     95.01     95.96     95.84     93.53
SO BUILDWID     1       .00       .00       .00       .00       .00       .00
SO BUILDWID     1       .00       .00     93.84     90.70     83.88     75.55
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      2
SO BUILDWID     2     84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID     2     88.38     80.55     71.39     81.44     89.02     93.89
SO BUILDWID     2     95.91     95.96     94.76     90.70     83.88     75.55
SO BUILDWID     2     84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID     2     88.38     80.55     71.39     81.44     89.02     93.89
SO BUILDWID     2     95.91     95.96     94.76     90.70     83.88     75.55
SO BUILDWID     3    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID     3    103.26    104.35     71.39     81.44     89.02     93.89
SO BUILDWID     3     95.91     95.96     94.76     90.70     83.88     74.51
SO BUILDWID     3    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID     3    103.26    104.35     71.39     81.44     89.02     93.89
SO BUILDWID     3     95.91     95.96     94.76     90.70     83.88     74.51
SO BUILDWID     4    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID     4    214.49    104.35    109.35     81.44     89.02     93.89
SO BUILDWID     4     95.91     95.96     94.76     90.70     83.88     74.51
SO BUILDWID     4    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID     4    214.49    104.35    109.35     81.44     89.02     93.89
SO BUILDWID     4     95.91     95.96     94.76     90.70     83.88     74.51
SO BUILDWID     5    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID     5    214.49    104.34    109.35    118.25     89.02     93.89
SO BUILDWID     5     94.53    176.60    161.59    103.82     93.09     77.16
SO BUILDWID     5    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID     5    214.49    104.34    109.35    118.25     89.02     93.89
```

SO BUILDWID	5	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	118.94	192.50
SO BUILDWID	6	186.24	176.60	161.59	148.74	83.85	77.16
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	123.55	93.89
SO BUILDWID	6	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	77.16
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	14	84.68	91.23	95.01	95.24	215.24	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12
SO BUILDWID	14	95.91	95.96	94.76	105.03	93.09	77.16
SO BUILDWID	14	84.68	91.23	95.01	95.24	24.73	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12

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SO BUILDWID     14     95.91     95.96     94.76     90.70     83.88     75.55
SO BUILDWID     15     84.68     91.23     92.21    209.06    215.24    215.89
SO BUILDWID     15    214.49    206.95    193.13    194.58    194.74    125.12
SO BUILDWID     15    125.05    176.60    161.59    148.74    138.57    125.52
SO BUILDWID     15     84.68     91.23     91.74     25.00     24.73     23.71
SO BUILDWID     15     21.98    206.95    193.13    194.58    194.74    125.12
SO BUILDWID     15    125.05     95.01     94.76     90.70     83.88     75.55
SO BUILDWID     16     84.68     89.55    196.53    209.06    215.24    215.89
SO BUILDWID     16    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID     16    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID     16    154.11    178.03    196.53     24.84     24.73     23.71
SO BUILDWID     16     21.98     19.58     16.59    194.58    194.74    192.50
SO BUILDWID     16    123.25    122.42    116.07    106.20     93.09     77.16
SO BUILDWID     17    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID     17    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID     17    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID     17    154.11    178.03    196.53    209.06    215.24     22.19
SO BUILDWID     17     21.98     19.58     16.91     19.85     21.98    192.50
SO BUILDWID     17    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID     18    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID     18    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID     18    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID     18    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID     18    214.49     17.85     16.91     19.85     22.19     23.85
SO BUILDWID     18     24.21    176.60    161.59    148.74    138.57    125.52
SO BUILDWID     19     84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID     19     88.38     80.55    109.35    118.25    123.55    125.12
SO BUILDWID     19    125.05     95.83     94.76     90.70     83.88     75.55
SO BUILDWID     19     84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID     19     88.38     80.55    109.35    118.25    123.55    125.12
SO BUILDWID     19    125.05     95.83     94.76     90.70     83.88     75.55

SO SRCGROUP ALL
SO FINISHED


RE STARTING
RE GRIDPOLR POL1 STA
RE GRIDPOLR POL1 ORIG   106.68  110.6424
RE GRIDPOLR POL1 DIST   150. 200. 250. 300. 350. 400. 450. 500. 550.
RE GRIDPOLR POL1 DIST   600. 650. 700. 750. 800. 850. 900. 950. 1000.
RE GRIDPOLR POL1 GDIR   36  10.  10.
RE GRIDPOLR POL1 END
RE DISCCART          .00         .00
RE DISCCART        15.24         .00
RE DISCCART        30.48         .00
RE DISCCART        45.72         .00
RE DISCCART        60.96         .00
RE DISCCART        76.20         .00
RE DISCCART        91.44         .00
RE DISCCART       106.68         .00
RE DISCCART       121.92         .00
RE DISCCART       137.16         .00
RE DISCCART       152.40         .00
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RE DISCCART      167.64       .00
RE DISCCART      182.88       .00
RE DISCCART      198.12       .00
RE DISCCART      213.36       .00
RE DISCCART      213.36     15.24
RE DISCCART      213.36     30.48
RE DISCCART      213.36     45.72
RE DISCCART      213.36     60.96
RE DISCCART      213.36     76.20
RE DISCCART      213.36     91.44
RE DISCCART      213.36    106.68
RE DISCCART      213.36    121.92
RE DISCCART      213.36    137.16
RE DISCCART      213.36    152.40
RE DISCCART      213.36    167.64
RE DISCCART      213.36    182.88
RE DISCCART      213.36    198.12
RE DISCCART      213.36    213.36
RE DISCCART      213.36    221.29
RE DISCCART      198.12    221.29
RE DISCCART      182.88    221.29
RE DISCCART      167.64    221.29
RE DISCCART      152.40    221.29
RE DISCCART      137.16    221.29
RE DISCCART      121.92    221.29
RE DISCCART      106.68    221.29
RE DISCCART       91.44    221.29
RE DISCCART       76.20    221.29
RE DISCCART       60.96    221.29
RE DISCCART       45.72    221.29
RE DISCCART       30.48    221.29
RE DISCCART       15.24    221.29
RE DISCCART         .00    221.29
RE DISCCART         .00    213.36
RE DISCCART         .00    198.12
RE DISCCART         .00    182.88
RE DISCCART         .00    167.64
RE DISCCART         .00    152.40
RE DISCCART         .00    137.16
RE DISCCART         .00    121.92
RE DISCCART         .00    106.68
RE DISCCART         .00     91.44
RE DISCCART         .00     76.20
RE DISCCART         .00     60.96
RE DISCCART         .00     45.72
RE DISCCART         .00     30.48
RE DISCCART         .00     15.24
RE FINISHED


ME STARTING
ME INPUTFIL c:\models\iscst2\foamex\orltmp86.BIN     UNFORM
ME ANEMHGHT   10.000 METERS
ME SURFDATA  12815  1986            SURFNAME
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ME UAIRDATA  12842  1986           UAIRNAME
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU RECTABLE 24 FIRST SECOND
OU MAXTABLE 24 50
OU FINISHED

**************************************
*** SETUP Finishes Successfully ***
**************************************
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*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

el Calculates 1 Short Term Average(s) of: 24-HR

**This Run Includes: 19 Source(s); 1 Source Group(s); and 706 Receptor(s)

**The Model Assumes A Pollutant Type of: OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Input Runstream File: C:\MODELS\ISCST2\FOAMEX\FMXMC24.NEW ; **Output Print File: C:\MODELS\ISCST2\FOAMEX\FMXMC24.LST

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
1	0	0.15054E+02	175.9	119.8	0.0	38.10	299.82	24.38	0.70	YES	
2	0	0.87813E+01	152.4	17.1	0.0	38.10	299.82	24.38	0.99	YES	
3	0	0.73792E-01	108.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
4	0	0.73792E-01	108.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
5	0	0.73792E-01	108.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
6	0	0.73792E-01	108.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
7	0	0.73792E-01	108.5	152.7	0.0	13.11	299.82	24.38	1.11	YES	
8	0	0.73792E-01	108.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
9	0	0.73792E-01	108.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
10	0	0.73792E-01	108.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
11	0	0.73792E-01	147.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
12	0	0.73792E-01	147.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
13	0	0.73792E-01	147.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
14	0	0.73792E-01	147.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
15	0	0.73792E-01	147.5	155.4	0.0	13.11	299.82	24.38	1.11	YES	
16	0	0.73792E-01	147.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
17	0	0.73792E-01	147.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
18	0	0.73792E-01	147.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
19	0	0.73792E-01	182.9	102.6	0.0	15.85	299.82	24.38	1.11	YES	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12 ,
	13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0.0,	0
13	0.0,	0.0,	0	14	0.0,	0.0,	0	15	15.2,	93.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	0.0,	0.0,	0
19	0.0,	0.0,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0.0,	0
31	0.0,	0.0,	0	32	0.0,	0.0,	0	33	15.2,	93.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	[illegible]

SOURCE ID: 3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 4

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 5

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.3,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	94.5,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	12.2,	103.8,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.3,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 6

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	118.9,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	12.2,	83.9,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 7

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 8

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 9

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 10

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	[illegible]

SOURCE ID: 11

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 12

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 13

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	12.2,	77.2,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 14

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	95.2,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	12.2,	105.0,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	12.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	95.2,	0	23	11.0,	24.7,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 15

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	92.2,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	12.2,	84.7,	0	20	12.2,	91.2,	0	21	12.2,	91.7,	0	22	11.0,	25.0,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 16

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	89.6,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	11.0,	24.8,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.6,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	123.3,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 17

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	11.0,	22.2,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.0,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 18

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	11.0,	17.8,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.2,	0	30	11.0,	23.8,	0
31	11.0,	24.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 19

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	15.2,	95.8,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.8,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 106.68 ; Y-ORIG = 110.64 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

150.0,	200.0,	250.0,	300.0,	350.0,	400.0,	450.0,	500.0,	550.0,	600.0,
650.0,	700.0,	750.0,	800.0,	850.0,	900.0,	950.0,	1000.0,		

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(0.0,	0.0,	0.0,	0.0);	(15.2,	0.0,	0.0,	0.0);
(30.5,	0.0,	0.0,	0.0);	(45.7,	0.0,	0.0,	0.0);
(61.0,	0.0,	0.0,	0.0);	(76.2,	0.0,	0.0,	0.0);
(91.4,	0.0,	0.0,	0.0);	(106.7,	0.0,	0.0,	0.0);
(121.9,	0.0,	0.0,	0.0);	(137.2,	0.0,	0.0,	0.0);
(152.4,	0.0,	0.0,	0.0);	(167.6,	0.0,	0.0,	0.0);
(182.9,	0.0,	0.0,	0.0);	(198.1,	0.0,	0.0,	0.0);
(213.4,	0.0,	0.0,	0.0);	(213.4,	15.2,	0.0,	0.0);
(213.4,	30.5,	0.0,	0.0);	(213.4,	45.7,	0.0,	0.0);
(213.4,	61.0,	0.0,	0.0);	(213.4,	76.2,	0.0,	0.0);
(213.4,	91.4,	0.0,	0.0);	(213.4,	106.7,	0.0,	0.0);
(213.4,	121.9,	0.0,	0.0);	(213.4,	137.2,	0.0,	0.0);
(213.4,	152.4,	0.0,	0.0);	(213.4,	167.6,	0.0,	0.0);
(213.4,	182.9,	0.0,	0.0);	(213.4,	198.1,	0.0,	0.0);
(213.4,	213.4,	0.0,	0.0);	(213.4,	221.3,	0.0,	0.0);
(198.1,	221.3,	0.0,	0.0);	(182.9,	221.3,	0.0,	0.0);
(167.6,	221.3,	0.0,	0.0);	(152.4,	221.3,	0.0,	0.0);
(137.2,	221.3,	0.0,	0.0);	(121.9,	221.3,	0.0,	0.0);
(106.7,	221.3,	0.0,	0.0);	(91.4,	221.3,	0.0,	0.0);
(76.2,	221.3,	0.0,	0.0);	(61.0,	221.3,	0.0,	0.0);
(45.7,	221.3,	0.0,	0.0);	(30.5,	221.3,	0.0,	0.0);
(15.2,	221.3,	0.0,	0.0);	(0.0,	221.3,	0.0,	0.0);
(0.0,	213.4,	0.0,	0.0);	(0.0,	198.1,	0.0,	0.0);
(0.0,	182.9,	0.0,	0.0);	(0.0,	167.6,	0.0,	0.0);
(0.0,	152.4,	0.0,	0.0);	(0.0,	137.2,	0.0,	0.0);
(0.0,	121.9,	0.0,	0.0);	(0.0,	106.7,	0.0,	0.0);
(0.0,	91.4,	0.0,	0.0);	(0.0,	76.2,	0.0,	0.0);
(0.0,	61.0,	0.0,	0.0);	(0.0,	45.7,	0.0,	0.0);
(0.0,	30.5,	0.0,	0.0);	(0.0,	15.2,	0.0,	0.0);

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 1.0 METER OR 3*ZLB *
IN DISTANCE. CALCULATIONS MAY NOT BE PERFORMED.

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
2	121.9	0.0	34.94
2	137.2	0.0	22.88
2	152.4	0.0	17.07
2	167.6	0.0	22.88
2	182.9	0.0	34.93
10	121.9	221.3	31.36
10	106.7	221.3	28.41
18	152.4	221.3	28.77
18	137.2	221.3	30.18
19	213.4	91.4	32.45
19	213.4	106.7	30.75
19	213.4	121.9	36.10

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: c:\models\iscst2\foamex\orltmp86.BIN FORMAT: UNFORM
SURFACE STATION NO.: 12815 UPPER AIR STATION NO.: 12842
NAME: SURFNAME NAME: UAIRNAME
YEAR: 1986 YEAR: 1986

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN
86	1	1	1	1.0	3.60	289.3	4	639.0	639.0
86	1	1	2	168.0	5.14	288.7	4	639.0	639.0
86	1	1	3	124.0	3.09	288.2	4	639.0	639.0
86	1	1	4	353.0	2.57	288.2	4	639.0	639.0
86	1	1	5	333.0	2.57	288.7	4	639.0	639.0
86	1	1	6	332.0	2.57	288.7	4	639.0	639.0
86	1	1	7	335.0	3.09	288.7	4	639.0	639.0
86	1	1	8	3.0	3.60	289.3	4	639.0	639.0
86	1	1	9	347.0	3.60	289.8	4	639.0	639.0
86	1	1	10	1.0	5.14	292.0	4	639.0	639.0
86	1	1	11	14.0	4.63	292.6	4	639.0	639.0
86	1	1	12	16.0	4.12	294.3	4	639.0	639.0
86	1	1	13	73.0	3.09	295.4	4	639.0	639.0
86	1	1	14	49.0	3.60	297.0	4	639.0	639.0
86	1	1	15	142.0	2.06	296.5	4	639.0	639.0
86	1	1	16	144.0	2.06	295.9	4	639.0	639.0
86	1	1	17	261.0	2.06	295.4	4	639.0	639.0
86	1	1	18	257.0	2.06	292.6	4	644.0	644.0
86	1	1	19	274.0	3.60	291.5	4	655.0	655.0
86	1	1	20	227.0	3.09	290.9	4	666.0	666.0
86	1	1	21	230.0	3.09	290.9	4	678.0	678.0
86	1	1	22	252.0	2.57	290.4	5	689.0	477.0
86	1	1	23	290.0	2.06	290.4	4	700.0	700.0
86	1	1	24	290.0	1.00	290.4	4	712.0	712.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	20.51632c(86071324)	40.16671c(86071324)	57.55798c(86071324)	67.05849c(86071324)	69.84863c(86071324)
20.0	17.10115c(86071324)	30.69012c(86071324)	40.84763c(86071324)	43.56984c(86071324)	41.06010 (86080224)
30.0	14.33808 (86072924)	23.86639c(86060824)	31.39581c(86060824)	33.20745c(86053124)	34.62511c(86053124)
40.0	13.89936 (86022724)	19.26365c(86060824)	34.38481c(86053124)	41.88073c(86053124)	51.59542 (86080424)
50.0	11.56888 (86022724)	17.67103c(86053124)	28.82045c(86053124)	37.93176 (86072624)	48.09491 (86072624)
60.0	11.64180 (86022724)	15.02070c(86072024)	25.48247c(86072024)	37.86191c(86072024)	47.67144c(86072024)
70.0	11.15653 (86011924)	13.91322 (86011924)	22.58008c(86072024)	37.51693c(86072024)	48.81460c(86072024)
80.0	13.27297 (86012724)	14.36042 (86012724)	19.74275c(86071524)	30.62837 (86091224)	40.43873 (86091224)
90.0	16.40064 (86012724)	16.51308 (86012724)	20.76171c(86071524)	32.54095c(86071524)	39.13039c(86071524)
100.0	17.05339 (86012724)	15.48341 (86012724)	15.45797c(86050824)	25.55820c(86071524)	34.71165c(860719[illegible]
110.0	16.95513 (86011324)	17.15583 (86042924)	22.92831 (86042924)	33.23774 (86042924)	45.63700 (86042[illegible]
120.0	14.31147 (86011324)	17.07273 (86042624)	25.93586 (86042624)	36.05512c(86090224)	44.54251 (86042824)
130.0	16.91449c(86012824)	16.21220c(86012824)	24.70304 (86042624)	38.28694 (86042624)	49.41116 (86042624)
140.0	15.45710 (86032124)	17.57340 (86032124)	18.92983 (86050324)	28.02734 (86042824)	38.75225 (86042824)
150.0	24.10822 (86011124)	24.49898 (86011124)	26.18486 (86101624)	37.79440 (86101624)	49.42690 (86101624)
160.0	16.89544 (86011124)	18.08458 (86011124)	27.42283 (86110324)	35.04988 (86110324)	39.08892 (86110324)
170.0	20.31815 (86032224)	22.63873c(86082324)	32.27002c(86082324)	41.60795 (86110324)	52.19003 (86110324)
180.0	16.63457 (86032224)	23.83868c(86082324)	34.32914c(86082324)	42.16616c(86082324)	45.81050c(86082324)
190.0	18.49568c(86111324)	26.23610c(86082324)	33.93190c(86082324)	39.11333c(86082324)	41.34998c(86082324)
200.0	21.76170c(86082324)	33.05951c(86082324)	41.11809c(86082324)	47.99055c(86111324)	52.11979c(86111324)
210.0	23.41886c(86082324)	37.02713c(86082324)	46.72672c(86082324)	52.09562c(86082324)	53.19873c(86082324)
220.0	20.13554c(86082324)	32.63486c(86082324)	41.49524c(86082324)	46.49376c(86082324)	48.30695c(86082324)
230.0	21.83069c(86051124)	32.77374c(86051124)	42.29188 (86062624)	48.73604 (86062624)	51.19484 (86062624)
240.0	22.79094c(86051724)	32.54287 (86062624)	42.60987 (86062624)	49.40425 (86062624)	52.45059 (86062624)
250.0	22.46352c(86051724)	32.03914 (86062624)	40.01308 (86062624)	44.87358 (86062624)	50.04185 (86091524)
260.0	20.22639c(86051724)	30.95621c(86051324)	40.86493c(86051324)	46.86009c(86051324)	49.82317c(86051324)
270.0	20.99391 (86043024)	31.64426c(86051324)	42.10441c(86051324)	48.25622c(86051324)	51.06939c(86051324)
280.0	27.09847 (86043024)	39.24218 (86043024)	45.38905 (86043024)	46.76894 (86043024)	51.80455 (86062324)
290.0	27.43678 (86043024)	38.90997 (86040624)	49.48529 (86040624)	54.49329 (86040624)	55.74968 (86040624)
300.0	27.49862c(86051724)	44.82186 (86040624)	58.66492 (86040624)	66.20152 (86040624)	68.76092 (86040624)
310.0	26.69921c(86051724)	46.37881 (86040624)	58.65640 (86040624)	62.29870 (86040624)	60.63908 (86040624)
320.0	25.64189 (86071724)	41.18623c(86052924)	51.74593c(86052924)	53.96505c(86052924)	50.78735c(86052924)
330.0	23.23825 (86031324)	36.43046c(86052924)	41.41088c(86052924)	44.55467c(86082524)	49.45998c(86082524)
340.0	28.62996 (86031324)	30.76871 (86080524)	39.48309c(86082724)	46.29975c(86082724)	48.95220 (86031224)
350.0	24.55928 (86031324)	35.16912 (86080524)	45.40924c(86071324)	51.80470c(86071324)	54.01400 (86100924)
360.0	22.32488c(86071324)	40.59141c(86071324)	57.21627c(86071324)	66.81264c(86071324)	70.55568c(86071[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	68.58884c(86071324)	65.48616c(86071324)	61.68130c(86071324)	57.77367c(86071324)	54.13977c(86071324)
20.0	42.00183c(86010224)	43.30873c(86010224)	43.10701c(86010224)	43.42022 (86072324)	46.97383 (86072324)
30.0	38.33822 (86080424)	40.23384 (86080424)	40.63597 (86080424)	42.18877c(86081924)	43.88441c(86081924)
40.0	57.64000 (86080424)	59.48432 (86080424)	58.69487 (86080424)	56.07752 (86080424)	52.56812 (86080424)
50.0	53.17974 (86072624)	54.28038 (86072624)	53.07030 (86072624)	50.51045 (86072624)	47.43409 (86072624)
60.0	53.31232c(86072024)	58.14148 (86100424)	62.32193 (86100424)	63.35275 (86100424)	62.20755 (86100424)
70.0	54.61938c(86072024)	65.51592c(86081824)	73.73431c(86081824)	78.40276c(86081824)	80.30950c(86081824)
80.0	44.59516 (86091224)	44.53288 (86091224)	46.47295c(86081824)	48.25884c(86081824)	48.50243c(86081824)
90.0	46.76101c(86071924)	52.37611c(86071924)	55.39581c(86071924)	56.37554c(86071924)	56.00633c(86071924)
100.0	43.30974c(86071924)	48.74105c(86071924)	51.79304c(86071924)	52.90574c(86071924)	52.70952c(86071924)
110.0	56.42984 (86042924)	63.94357 (86042924)	68.28722 (86042924)	70.02849 (86042924)	69.92958 (86042924)
120.0	52.43982c(86052224)	58.58422c(86052224)	61.45831c(86052224)	61.74476c(86052224)	60.26535c(86052224)
130.0	55.90341 (86042624)	58.08105 (86042624)	57.33746 (86042824)	60.25670c(86012824)	62.44868c(86012824)
140.0	46.12074 (86042824)	49.99658 (86042824)	51.17833 (86042824)	50.52541 (86042824)	48.66159 (86042824)
150.0	58.76284 (86101624)	64.88160 (86101624)	67.79865 (86101624)	68.14436 (86101624)	66.62264 (86101624)
160.0	48.59212 (86101624)	57.58240 (86101624)	65.30350 (86101624)	71.76156 (86101624)	76.92127 (86101624)
170.0	59.23959 (86110324)	62.76503 (86110324)	63.32196 (86110324)	62.12677 (86110324)	59.75372 (86110324)
180.0	46.12179 (86110324)	52.66283 (86110324)	57.04198 (86110324)	59.77250 (86110324)	61.13153 (86110324)
190.0	40.89629c(86082324)	38.43559 (86102124)	39.33982 (86102124)	39.15614 (86102124)	38.31036 (86102124)
200.0	53.64267c(86111324)	53.23267c(86111324)	53.38512 (86120424)	53.87194 (86120424)	52.96821 (86120424)
210.0	55.58486c(86111324)	57.04881c(86111324)	57.27451c(86111324)	56.54260c(86111324)	55.17915c(86111324)
220.0	49.30938 (86060524)	54.33910 (86060524)	57.96293 (86060524)	60.30551 (86060524)	61.55016 (86060524)
230.0	51.04086 (86062624)	49.43177c(86051124)	47.60592c(86051124)	45.26948c(86051124)	49.96488 (86010924)
240.0	52.48537 (86062624)	50.59855 (86062624)	48.49847 (86091524)	46.60980 (86091524)	47.25899 (86010924)
250.0	53.39774 (86091524)	55.23964 (86091524)	55.87996 (86091524)	55.58957 (86091524)	54.61934 (86091524)
260.0	50.84343c(86051324)	50.30705c(86051324)	48.89322c(86051324)	47.04672c(86051324)	45.04893c(86051324)
270.0	51.70641c(86051324)	50.69585c(86051324)	48.84102c(86051324)	46.63448c(86051324)	44.35723c(86051324)
280.0	55.44405 (86062324)	57.31794 (86062324)	57.85639 (86062324)	57.42110 (86062324)	56.29795 (86062324)
290.0	54.71990 (86040624)	52.29748 (86040624)	51.93364 (86062324)	51.26809 (86062324)	50.26688 (86062324)
300.0	67.92767 (86040624)	64.80625 (86040624)	60.61572 (86040624)	60.82150 (86030924)	64.03044 (86030924)
310.0	56.58207 (86040624)	51.32272 (86040624)	49.84423c(86100324)	48.13256c(86100324)	45.79414c(86100324)
320.0	48.72142 (86081124)	49.56721 (86081124)	48.88806 (86081124)	47.31616 (86081124)	45.28870 (86081124)
330.0	51.87258c(86082524)	52.17347c(86082524)	51.12074 (86031324)	55.51689 (86031324)	59.32455 (86031324)
340.0	57.46984 (86031224)	63.70019 (86031224)	67.63491 (86031224)	69.58923 (86031224)	69.97602 (86031224)
350.0	57.15596 (86100924)	57.91883 (86100924)	57.12619 (86100924)	55.54251 (86100924)	53.63032 (86100924)
360.0	70.70384c(86071324)	69.06613c(86071324)	66.51060c(86071324)	63.61415c(86071324)	60.80755c(86071324)

*** ISCST2 - VERSION 92062 ***   *** Foamex - 24 hour Avg Emission Rates - Methylene Chloride & 141b   ***   11/30/92
*** Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof   ***   19:26:50
PAGE 16

*** MODELING OPTIONS USED: CONC   RURAL FLAT   DFAULT

*** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION   VALUES FOR SOURCE GROUP: ALL   ***
INCLUDING SOURCE(S):   1   , 2   , 3   , 4   , 5   , 6   , 7   ,
8   , 9   , 10   , 11   , 12   , 13   , 14   , 15   , 16   , 17   , 18   , 19   ,

*** NETWORK ID: POL1   ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER   IN MICROGRAMS/M**3   **

DIRECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	55.19663 (86082024)	58.37131 (86082024)	60.80185 (86082024)	62.53865 (86082024)	63.66161 (86082024)
20.0	49.32198 (86072324)	50.62873 (86072324)	51.10075 (86072324)	50.91386 (86072324)	50.23449 (86072324)
30.0	44.47034c(86081924)	44.21926c(86081924)	43.36938c(86081924)	42.11774c(86081924)	40.61662c(86081924)
40.0	50.69029 (86072824)	48.47369 (86072824)	46.03247 (86072824)	45.07222 (86070224)	44.62412 (86070224)
50.0	44.31358 (86072624)	41.36380 (86072624)	39.04011 (86112024)	40.89743 (86112024)	42.26109 (86112024)
60.0	59.77760 (86100424)	56.66797 (86100424)	53.26669 (86100424)	49.81415 (86100424)	46.45279 (86100424)
70.0	80.32007c(86081824)	79.09694c(86081824)	77.10857c(86081824)	74.67273c(86081824)	71.99982c(86081824)
80.0	47.88721c(86081824)	46.83520c(86081824)	45.57695c(86081824)	44.22733c(86081824)	42.83941c(86081824)
90.0	54.86546c(86071924)	53.36458c(86071924)	51.76187c(86071924)	50.18945c(86071924)	48.71919c(86071924)
100.0	51.71323c(86071924)	50.24018c(86071924)	48.49081c(86071924)	46.58908c(86071924)	44.61410c(860719[illegible]
110.0	68.60133 (86042924)	66.55697 (86042924)	64.10416 (86042924)	61.44688 (86042924)	58.73023 (86042[illegible]
120.0	58.01529 (86042924)	56.08171 (86042924)	53.55182 (86042924)	50.72451 (86042924)	48.04492 (86022024)
130.0	63.00336c(86012824)	62.40314c(86012824)	61.02457c(86012824)	59.15150c(86012824)	56.99781c(86012824)
140.0	46.80098 (86042624)	45.14885 (86042624)	43.34947 (86042624)	41.50315 (86042624)	39.66509 (86042624)
150.0	63.89476 (86101624)	60.47756 (86101624)	56.73683 (86101624)	52.91719 (86101624)	49.17349 (86101624)
160.0	80.92825 (86101624)	83.92039 (86101624)	86.01774 (86101624)	87.33125 (86101624)	87.96659 (86101624)
170.0	58.37648 (86120524)	63.32753 (86120524)	67.08640 (86120524)	69.68336 (86120524)	71.25134 (86120524)
180.0	61.50686 (86110324)	61.17923 (86110324)	60.34807 (86110324)	63.87119 (86122824)	66.68925 (86122824)
190.0	37.13118 (86102124)	35.90380c(86111324)	35.35110c(86111324)	34.93617c(86122624)	37.17361c(86122624)
200.0	51.15291 (86120424)	48.80522 (86120424)	46.43196 (86102824)	48.51151 (86102824)	50.17517 (86102824)
210.0	53.39580c(86111324)	51.33641c(86111324)	49.11494c(86111324)	46.80673c(86111324)	44.47126c(86111324)
220.0	61.88912 (86060524)	61.50151 (86060524)	60.54702 (86060524)	61.73093 (86010824)	62.85016 (86010824)
230.0	54.63327 (86010924)	58.36319 (86010924)	61.16407 (86010924)	63.12477 (86010924)	64.33685 (86010924)
240.0	50.96594 (86010924)	53.95632 (86010924)	56.26540 (86010924)	57.96621 (86010924)	59.14595 (86010924)
250.0	53.18884 (86091524)	51.47684 (86091524)	49.61956 (86091524)	47.71496 (86091524)	45.82957 (86091524)
260.0	43.06569c(86051324)	41.18632c(86051324)	39.44041c(86051324)	38.59507c(86091024)	39.25947c(86091024)
270.0	42.62243 (86051524)	43.42527 (86051524)	43.87711 (86051524)	44.01278 (86051524)	43.89934 (86051524)
280.0	54.70622 (86062324)	52.81018 (86062324)	50.73283 (86062324)	48.56557 (86062324)	46.37654 (86062324)
290.0	49.07553 (86062324)	47.78747 (86062324)	46.45930 (86062324)	45.12914 (86062324)	44.14121 (86030924)
300.0	66.05853 (86030924)	67.06919 (86030924)	67.24598 (86030924)	66.81417 (86030924)	65.89175 (86030924)
310.0	47.59031 (86122324)	49.70801 (86122324)	51.11124 (86122324)	51.89225 (86122324)	52.17642 (86122324)
320.0	43.08381 (86081124)	40.86771 (86081124)	38.73345 (86081124)	36.72783 (86081124)	34.87003 (86081124)
330.0	62.43014 (86031324)	64.80076 (86031324)	66.47443 (86031324)	67.59315 (86031324)	68.12931 (86031324)
340.0	69.19385 (86031224)	67.58329 (86031224)	65.41679 (86031224)	62.90309 (86031224)	60.20141 (86031224)
350.0	51.63859 (86100924)	49.68843 (86100924)	47.82779 (86100924)	46.06795 (86100924)	44.40642 (86100924)
360.0	58.36922 (86112624)	57.56473 (86112624)	56.36307 (86112624)	57.45435 (86082024)	60.44622 (86082[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	64.27891 (86082024)	64.27209 (86082024)	63.82524 (86082024)
20.0	49.20359 (86072324)	47.89562 (86072324)	47.46681 (86011024)
30.0	40.32050 (86071024)	40.25160 (86071024)	40.03165 (86071024)
40.0	43.86470 (86070224)	42.87450 (86070224)	42.65488 (86021024)
50.0	43.17890 (86112024)	43.70704 (86112024)	43.82962 (86112024)
60.0	43.26220 (86100424)	40.28210 (86100424)	37.52250 (86100424)
70.0	69.22726c(86081824)	66.44338c(86081824)	63.70394c(86081824)
80.0	41.43694c(86081824)	40.03136c(86081824)	38.62978c(86081824)
90.0	47.38663c(86071924)	46.19397c(86071924)	45.13097c(86071924)
100.0	42.61767c(86071924)	40.63499c(86071924)	38.69061c(86071924)
110.0	56.03601 (86042924)	53.41429 (86042924)	50.91481 (86042924)
120.0	48.10946 (86022024)	47.95344 (86022024)	47.58081 (86022024)
130.0	54.68050c(86012824)	52.29171c(86012824)	49.90648c(86012824)
140.0	38.59631 (86032124)	39.71089 (86122924)	40.63015 (86122924)
150.0	45.60278 (86101624)	44.31271 (86032124)	43.72729 (86032124)
160.0	88.02420 (86101624)	87.62400 (86101624)	86.81137 (86101624)
170.0	71.94032 (86120524)	71.90435 (86120524)	71.25706 (86120524)
180.0	68.63865 (86122824)	69.82250 (86122824)	70.25214 (86122824)
190.0	38.99630c(86122624)	40.42489c(86122624)	41.36338c(86122624)
200.0	51.45889 (86102824)	52.37181 (86102824)	52.77684 (86102824)
210.0	43.76600 (86101924)	44.34724 (86010724)	44.67819 (86010724)
220.0	63.31430 (86010824)	63.27838 (86010824)	62.60067 (86010824)
230.0	64.93280 (86010924)	64.92338 (86010924)	64.24061 (86010924)
240.0	59.82859 (86010924)	60.00605 (86010924)	59.65615 (86010924)
250.0	44.00568 (86091524)	42.23717 (86091524)	40.50544 (86091524)
260.0	39.63026c(86091024)	39.66294c(86091024)	39.25274c(86091024)
270.0	43.55468 (86051524)	42.99466 (86051524)	42.10620 (86051524)
280.0	44.21216 (86062324)	42.06874 (86062324)	39.94293 (86062324)
290.0	43.92821 (86030924)	43.29543 (86030924)	42.27917 (86030924)
300.0	64.55766 (86030924)	62.87246 (86030924)	60.78552 (86030924)
310.0	52.07563 (86122324)	51.54739 (86122324)	50.41988 (86122324)
320.0	33.39955 (86031324)	33.01466 (86031324)	32.41634 (86031324)
330.0	68.15668 (86031324)	67.61327 (86031324)	66.63485 (86031324)
340.0	57.43853 (86031224)	54.63565 (86031224)	51.86193 (86031224)
350.0	42.83867 (86100924)	41.26731 (86100924)	39.74168 (86100924)
360.0	62.92320 (86082024)	64.62952 (86082024)	65.80106 (86082024)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	21.99319c	(86051124)	15.24	0.00	18.56236c	(86082324)
30.48	0.00	17.76105c	(86082324)	45.72	0.00	18.61917	(86010824)
60.96	0.00	16.88096	(86010824)	76.20	0.00	13.02386c	(86111324)
91.44	0.00	12.62782c	(86111324)	106.68	0.00	15.33832c	(86111324)
121.92	0.00	13.80629	(86032224)	137.16	0.00	22.08059	(86032224)
152.40	0.00	14.93403	(86032224)	167.64	0.00	15.13810	(86011124)
182.88	0.00	24.31745	(86011124)	198.12	0.00	15.53470	(86011124)
213.36	0.00	14.99060	(86032124)	213.36	15.24	15.69689c	(86012824)
213.36	30.48	16.00939c	(86012824)	213.36	45.72	13.51680c	(86012824)
213.36	60.96	15.26961	(86011324)	213.36	76.20	17.16777	(86012724)
213.36	91.44	18.40921	(86012724)	213.36	106.68	14.97850	(86012724)
213.36	121.92	12.07655	(86012724)	213.36	137.16	9.42487	(86011924)
213.36	152.40	9.42384	(86022724)	213.36	167.64	10.54649	(86022724)
213.36	182.88	10.58370	(86022724)	213.36	198.12	10.61386	(86022724)
213.36	213.36	11.75176	(86022724)	213.36	221.29	12.57985	(86022724)
198.12	221.29	13.61528	(86022724)	182.88	221.29	13.20323	(86072924)
167.64	221.29	15.46607	(86072924)	152.40	221.29	17.93594c	(86121124)
137.16	221.29	13.54891	(86072924)	121.92	221.29	14.89048	(86031324)
106.68	221.29	20.29838	(86031324)	91.44	221.29	23.86444	(86031324)
76.20	221.29	28.98724	(86031324)	60.96	221.29	25.95418	(86031324)
45.72	221.29	22.97703	(86031324)	30.48	221.29	20.32926	(86071724)
15.24	221.29	23.77309	(86071724)	0.00	221.29	26.89847	(86071724)
0.00	213.36	25.21252	(86071724)	0.00	198.12	23.24908c	(86051724)
0.00	182.88	22.36215	(86030924)	0.00	167.64	19.68042	(86030924)
0.00	152.40	16.11414c	(86051724)	0.00	137.16	14.70874	(86043024)
0.00	121.92	13.84714c	(86051724)	0.00	106.68	12.70999c	(86051724)
0.00	91.44	12.53905c	(86051724)	0.00	76.20	14.45407c	(86051724)
0.00	60.96	16.57073c	(86051724)	0.00	45.72	18.20021c	(86051724)
0.00	30.48	19.23357c	(86051724)	0.00	15.24	20.13142c	(86051124)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	17.55356c(86061424)	31.89228c(86061424)	39.21613 (86091124)	49.02757 (86091124)	52.92310 (86091124)
20.0	15.84602 (86072924)	25.91594 (86080224)	34.91335 (86080224)	39.42167 (86080224)	41.04196c(86071324)
30.0	12.70917 (86080224)	17.72718 (86080624)	26.04276c(86053124)	31.32267c(86060824)	34.42248 (86080424)
40.0	12.69055 (86072824)	18.99804c(86053124)	25.75831 (86080424)	40.59417 (86080424)	42.73207c(86053124)
50.0	9.41588c(86060824)	14.89224 (86022724)	25.20171c(86071524)	33.73610c(86053124)	37.64751c(86072024)
60.0	9.11597 (86073024)	13.33205 (86011924)	23.80252c(86071524)	30.02508 (86072624)	37.95916 (86100424)
70.0	9.30248 (86022724)	11.10706c(86072024)	19.05251c(86071524)	23.27321c(86071524)	38.26251c(86081824)
80.0	10.39081 (86011924)	12.74330c(86041624)	16.62194 (86091224)	28.04953c(86071524)	32.72222c(86022624)
90.0	13.03034c(86041624)	14.98743c(86041624)	16.40267 (86042224)	25.98558c(86071924)	37.85255c(86071924)
100.0	10.77642c(86041624)	12.56258c(86041624)	15.34809 (86042924)	24.67873c(86050824)	33.41091c(86071524)
110.0	14.92958 (86012724)	16.89096 (86011324)	22.41648 (86042824)	31.87553 (86042824)	39.13953 (86042824)
120.0	13.31383c(86012824)	15.10654 (86042824)	23.92297c(86090224)	34.29295 (86042824)	43.29341c(86090224)
130.0	12.72051 (86032124)	14.38517 (86042624)	21.85969 (86042824)	33.90846 (86042824)	45.30205 (86042824)
140.0	14.85254 (86011124)	13.26828 (86011124)	18.69258 (86032124)	26.66990 (86050324)	32.81557 (86042624)
150.0	13.19185 (86032124)	16.82821 (86032124)	21.05783 (86011124)	25.65928c(86052324)	30.80104c(86101524)
160.0	14.71896 (86032224)	17.11182 (86110324)	21.72710c(86082324)	29.50673c(86052324)	38.93845 (86101624)
170.0	14.15217 (86120524)	18.40654 (86032224)	29.38097 (86110324)	37.21877c(86082324)	37.59096c(86082324)
180.0	14.50738c(86111324)	19.18166 (86032224)	24.23634 (86041824)	30.80125 (86041824)	37.46908 (86110324)
190.0	16.62031c(86082324)	24.79101c(86111324)	28.09616c(86111324)	30.80948c(86092724)	35.59762c(86092724)
200.0	21.59255c(86111324)	32.23782c(86111324)	41.06312c(86111324)	45.21888c(86082324)	45.18206c(86082324)
210.0	20.43940c(86111324)	31.08625c(86111324)	39.57990c(86111324)	46.78548c(86111324)	52.20417c(86111324)
220.0	19.48317c(86051124)	28.67344c(86051124)	36.51112c(86051124)	42.46711c(86051124)	45.13992c(86051124)
230.0	21.27794c(86051724)	31.44277 (86062624)	41.00040c(86051124)	46.74704c(86051124)	49.70066c(86051124)
240.0	20.22442 (86062624)	27.89712c(86051724)	33.56405c(86051124)	37.71588c(86051124)	42.94333 (86091524)
250.0	20.73013 (86062624)	29.09436c(86051724)	37.00479 (86091524)	44.76265 (86091524)	47.25559 (86062624)
260.0	18.06357c(86051324)	27.27165 (86062624)	34.44408 (86062624)	39.27321 (86062624)	42.13667 (86062624)
270.0	20.60376c(86051724)	30.07493 (86043024)	37.15607c(86070724)	42.76690c(86070724)	45.27736c(86070724)
280.0	23.89863c(86051724)	32.69324c(86051724)	39.39109 (86040624)	46.16655 (86062324)	45.49106 (86043024)
290.0	25.81133c(86051724)	38.14410 (86043024)	44.65700c(86051724)	47.01411c(86051724)	48.95267 (86062324)
300.0	25.97755 (86040624)	39.82889c(86051724)	48.63615c(86093024)	57.13363c(86093024)	61.12529c(86093024)
310.0	26.37407 (86040624)	37.83006c(86093024)	50.59467c(86093024)	55.62256c(86093024)	55.36227c(86093024)
320.0	23.81086c(86052924)	36.62053 (86071724)	40.82144 (86071724)	42.09508 (86052824)	45.57544 (86081124)
330.0	23.17256 (86071724)	32.03598 (86071724)	37.03175c(86082524)	42.86166c(86053024)	45.83250c(86080824)
340.0	21.22274 (86080524)	29.63412 (86031324)	35.96948c(86071324)	42.36938c(86071324)	48.68250c(86082724)
350.0	22.42199 (86080524)	33.78896c(86082724)	44.62323c(86082724)	48.36627 (86082124)	53.40118c(86071324)
360.0	20.10280c(86121124)	32.94405c(86061424)	40.90355c(86061424)	48.01680 (86091124)	55.45181 (86091124)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	52.09230 (86091124)	48.63979 (86091124)	43.93940 (86091124)	46.69054 (86082024)	51.27719 (86082024)
20.0	41.67880 (86080224)	42.14115 (86080224)	42.49521 (86080224)	42.60243 (86080224)	42.37141 (86080224)
30.0	35.43296 (86071024)	37.67069 (86071024)	39.13869c(86081924)	39.83920 (86080424)	39.99786 (86071024)
40.0	47.77797 (86072824)	51.74577 (86072824)	53.49047 (86072824)	53.54980 (86072824)	52.47953 (86072824)
50.0	41.71374c(86072024)	43.54310c(86072024)	43.76750c(86072024)	42.85341c(86072024)	41.25896c(86072024)
60.0	50.23304 (86100424)	55.45504c(86072024)	55.31501c(86072024)	53.76003c(86072024)	51.48343c(86072024)
70.0	53.50325c(86081824)	56.38399c(86072024)	55.75727c(86072024)	53.84473c(86072024)	53.51761 (86071124)
80.0	40.50205c(86022624)	44.45354c(86022624)	45.73023c(86022624)	45.18754c(86022624)	43.59825c(86022624)
90.0	40.90469c(86071524)	39.73966 (86091224)	39.08487 (86091224)	36.96072 (86091224)	38.08472c(86041624)
100.0	35.68834c(86071524)	39.33397c(86030524)	42.36115c(86030524)	43.62411c(86030524)	43.54776c(860305[illegible]
110.0	42.79007 (86042824)	43.67068 (86042824)	42.98895 (86042824)	41.35830 (86042824)	39.86131 (86063[illegible]
120.0	51.42848 (86042824)	55.11362 (86042824)	56.60093 (86042824)	58.22163 (86042924)	58.92806 (86042924)
130.0	53.18490 (86042824)	56.87686 (86042824)	57.24213 (86042624)	55.55518 (86042824)	52.42969 (86042824)
140.0	41.11810 (86042624)	46.01030 (86042624)	48.26050 (86042624)	48.79375 (86042624)	48.12410 (86042624)
150.0	36.61767c(86101524)	39.22329c(86101524)	39.30240c(86101524)	37.85336c(86101524)	37.20690 (86032124)
160.0	39.85570 (86110324)	38.39756 (86110324)	38.64259c(86101524)	40.74556c(86101524)	41.56062c(86101524)
170.0	41.07672 (86121324)	43.62339 (86121324)	45.23822 (86121324)	47.86900 (86012424)	52.34987 (86120524)
180.0	45.26260c(86082324)	43.31440 (86121324)	46.57158 (86121324)	48.39921 (86121324)	49.22512 (86121324)
190.0	37.85427c(86092724)	38.21040c(86082324)	36.06273c(86092724)	35.76510 (86032324)	35.89246c(86111324)
200.0	46.45267 (86120424)	51.01997 (86120424)	51.72685c(86111324)	49.62191c(86111324)	47.29961c(86111324)
210.0	50.73438c(86082324)	46.01408c(86082324)	40.40278c(86082324)	38.37748 (86042424)	38.66314 (86101924)
220.0	47.53595c(86082324)	44.95214c(86082324)	41.23956c(86082324)	45.18702 (86010824)	49.94482 (86010824)
230.0	50.34074c(86051124)	49.24532 (86062624)	46.46899 (86062624)	44.45395 (86010924)	43.28043 (86102224)
240.0	47.24729 (86091524)	48.95411 (86091524)	47.67456 (86062624)	44.43121 (86062624)	43.93451 (86091524)
250.0	47.77960 (86062624)	46.87921 (86062624)	45.11167 (86062624)	42.93634 (86062624)	40.63068 (86062624)
260.0	43.35922 (86062624)	43.23263 (86062624)	42.22816 (86062624)	40.71325 (86062624)	39.38181 (86121424)
270.0	45.85210c(86070724)	45.15213c(86070724)	43.79278c(86070724)	42.12837c(86070724)	41.83801 (86051624)
280.0	44.32958c(86070724)	43.41375c(86051724)	42.42249 (86040524)	41.09518c(86051724)	39.65333c(86051724)
290.0	51.22523 (86062324)	52.03790 (86062324)	49.30645 (86040624)	48.37679 (86052624)	48.61695 (86052624)
300.0	61.84813c(86093024)	60.18879c(86093024)	57.26174c(86093024)	56.07642 (86040624)	51.57687 (86040624)
310.0	52.52196c(86093024)	50.43901c(86100324)	45.89642 (86040624)	43.81086 (86112524)	44.69565 (86122324)
320.0	46.77130 (86112524)	46.35173 (86112524)	44.56087 (86112524)	42.05300 (86112524)	39.31828c(86053024)
330.0	46.32504c(86080824)	46.33493 (86031324)	50.92314c(86082524)	48.72247c(86082524)	46.00879c(86082524)
340.0	47.95893c(86082724)	45.43914c(86082724)	43.61879 (86100924)	43.00639 (86100924)	41.95992 (86100924)
350.0	54.11407 (86031224)	53.54218 (86031224)	52.54668 (86082124)	51.42894 (86082124)	50.00898 (86082124)
360.0	59.74695 (86091124)	61.45408 (86091124)	60.97185 (86091124)	59.00907 (86091124)	58.61527 (86112[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	50.90892c(86071324)	50.52328 (86121224)	51.69464 (86121224)	52.17317 (86121224)	52.09994 (86121224)
20.0	41.75922 (86080224)	40.79689 (86080224)	43.49318 (86011024)	45.47904 (86011024)	46.80345 (86011024)
30.0	40.17187 (86071024)	40.26262 (86071024)	40.31240 (86071024)	40.34242 (86071024)	40.34110 (86071024)
40.0	48.74290 (86080424)	44.93655 (86080424)	45.08252 (86070224)	43.50473 (86072824)	40.98477 (86072824)
50.0	39.74548 (86100424)	39.21326 (86100424)	38.65792 (86072624)	37.52583 (86100424)	38.44519 (86122024)
60.0	48.93553c(86072024)	46.35388c(86072024)	43.86381c(86072024)	41.51197c(86072024)	39.32241c(86072024)
70.0	52.78489 (86071124)	51.38224 (86071124)	49.59077 (86071124)	47.59669 (86071124)	45.51910 (86071124)
80.0	41.51469c(86022624)	39.24139c(86022624)	36.93913c(86022624)	34.69088c(86022624)	32.53838c(86022624)
90.0	38.85271c(86041624)	39.12190c(86041624)	39.00074c(86041624)	38.59050c(86041624)	37.96244c(86041624)
100.0	42.59107c(86030524)	41.09763c(86030524)	39.30523c(86030524)	37.38489c(86030524)	35.44229c(86030524)
110.0	39.62528c(86012324)	38.89634c(86012324)	37.75524c(86012324)	36.37161c(86012324)	34.86788c(86012324)
120.0	57.74828c(86052224)	54.69069c(86052224)	51.41342c(86052224)	48.11469c(86052224)	47.79639 (86042924)
130.0	48.73166 (86042824)	44.92365 (86042824)	42.04345c(86052224)	39.98411c(86052224)	40.51863 (86102624)
140.0	46.13293 (86042824)	43.35489 (86042824)	40.53165 (86042824)	39.38955 (86032124)	39.09674 (86032124)
150.0	39.76083 (86032124)	41.77302 (86032124)	43.21955 (86032124)	44.12734 (86032124)	44.57871 (86032124)
160.0	41.43570c(86101524)	44.28937 (86011124)	48.22621 (86011124)	51.49424 (86011124)	54.15134 (86011124)
170.0	56.80694 (86110324)	57.39756 (86012424)	58.90781 (86012424)	59.67616 (86012424)	59.80903 (86012424)
180.0	50.03193 (86122824)	55.52817 (86122824)	60.16576 (86122824)	59.15608 (86110324)	58.33257 (86120524)
190.0	36.10057c(86111324)	35.83676 (86102124)	34.52499 (86102124)	34.53180c(86111324)	33.51128c(86111324)
200.0	45.01276c(86111324)	43.88779 (86102824)	46.19601 (86120424)	43.50138 (86120424)	40.84107 (86120424)
210.0	40.91520 (86101924)	42.52864 (86101924)	43.54107 (86101924)	44.03370 (86101924)	44.07842 (86101924)
220.0	54.06793 (86010824)	57.40680 (86010824)	59.93124 (86010824)	59.16393 (86060524)	57.49211 (86060524)
230.0	44.41555 (86102224)	45.27182 (86102224)	45.92305 (86102224)	46.42345 (86102224)	46.78986 (86102224)
240.0	42.84074 (86033124)	43.34359 (86033124)	43.97021c(86082224)	44.88950c(86082224)	45.49250c(86082224)
250.0	38.34352 (86062624)	36.14692 (86062624)	36.56382 (86092024)	37.49504 (86092024)	38.14121 (86092024)
260.0	39.38316 (86121424)	39.12646 (86121424)	38.66822 (86121424)	38.05721 (86121424)	37.32525 (86121424)
270.0	42.30383 (86051624)	42.38986 (86051624)	42.13238 (86051624)	41.58372 (86051624)	40.80962 (86051624)
280.0	38.15740c(86051724)	37.74859c(86092224)	37.47133 (86040424)	37.26043 (86040424)	36.85348 (86040424)
290.0	48.24147 (86052624)	47.43710 (86052624)	46.33402 (86052624)	45.04039 (86052624)	43.81828 (86062324)
300.0	47.31202 (86040624)	50.59245 (86122324)	53.59645 (86122324)	55.87660 (86122324)	57.49981 (86122324)
310.0	43.15444c(86100324)	40.41984c(86100324)	38.12688 (86031824)	37.92248 (86031824)	37.57380 (86031824)
320.0	37.31758c(86053024)	35.36230c(86053024)	33.53426c(86053024)	33.37154 (86031324)	33.49785 (86031324)
330.0	43.07796c(86082524)	40.11897c(86082524)	37.24576c(86082524)	34.52219c(86082524)	31.97972c(86082524)
340.0	40.70931 (86100924)	39.77972c(86102524)	41.56238c(86102524)	42.90315c(86102524)	43.86830c(86102524)
350.0	48.39244 (86082124)	46.65276 (86082124)	44.84455 (86082124)	43.00942 (86082124)	41.27881 (86052024)
360.0	58.24258c(86071324)	55.94228c(86071324)	53.92519 (86082024)	54.89307 (86112624)	53.26192 (86112624)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	51.54815 (86121224)	50.52607 (86121224)	49.21649 (86121224)
20.0	47.57188 (86011024)	47.74742 (86011024)	46.40786 (86072324)
30.0	39.32675 (86072824)	38.71136 (86072824)	37.96279 (86072824)
40.0	41.80884 (86021024)	42.48567 (86021024)	41.65025 (86070224)
50.0	39.71392 (86122024)	40.73666 (86122024)	41.41236 (86122024)
60.0	38.52018c(86022624)	37.77612c(86022624)	37.07757 (86011924)
70.0	43.43329 (86071124)	41.38307 (86071124)	39.39694 (86071124)
80.0	30.50381c(86022624)	28.59315c(86022624)	26.80638c(86022624)
90.0	37.18042c(86041624)	36.31536c(86041624)	35.37698c(86041624)
100.0	33.54179c(86030524)	31.72100c(86030524)	30.00182c(86030524)
110.0	33.32279c(86012324)	31.78998c(86012324)	30.30366c(86012324)
120.0	44.89056 (86042924)	42.08535 (86042924)	40.84846c(86012324)
130.0	42.43661 (86102624)	44.08936 (86102624)	45.46312 (86102624)
140.0	38.38663 (86122924)	37.92355 (86032124)	37.08794 (86032124)
150.0	44.62774 (86032124)	42.24554 (86101624)	39.12870 (86101624)
160.0	56.11695 (86011124)	57.53131 (86011124)	58.43359 (86011124)
170.0	59.41982 (86012424)	58.61860 (86012424)	58.71265c(86103024)
180.0	60.53748 (86120524)	62.11322 (86120524)	63.02400 (86120524)
190.0	32.60825 (86121624)	32.37513 (86121624)	32.21275 (86120624)
200.0	41.00461 (86121624)	41.16505 (86121624)	41.58376 (86010724)
210.0	43.30550 (86010724)	43.15463 (86101924)	42.20375 (86101924)
220.0	55.58472 (86060524)	53.54201 (86060524)	51.32396 (86060524)
230.0	47.01886 (86102224)	47.05462 (86102224)	46.79103 (86102224)
240.0	45.81086c(86082224)	45.96138 (86102924)	46.77818 (86102924)
250.0	38.50493 (86092024)	38.55815 (86092024)	38.26016 (86092024)
260.0	36.50172 (86121424)	36.25833 (86020924)	35.94467 (86020924)
270.0	39.89337c(86091024)	40.18797c(86091024)	39.94601c(86091024)
280.0	36.80097 (86052724)	36.70708 (86052724)	36.61381 (86052824)
290.0	42.55702 (86062324)	41.26412 (86062324)	39.90421 (86062324)
300.0	58.54694 (86122324)	58.89378 (86122324)	58.51616 (86122324)
310.0	37.07445 (86031824)	36.40953 (86031824)	35.50795 (86031824)
320.0	33.16238 (86081124)	31.53359 (86081124)	30.01022 (86081124)
330.0	29.62966c(86082524)	28.76298 (86031224)	29.15365 (86031224)
340.0	44.42988c(86102524)	44.54044c(86102524)	44.30656c(86102524)
350.0	40.84330 (86052024)	40.11650 (86052024)	39.21659 (86052024)
360.0	51.50084 (86112624)	49.62481 (86112624)	47.73155 (86112624)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	19.72113c	(86051724)	15.24	0.00	17.92820c	(86051124)
30.48	0.00	17.66002	(86010824)	45.72	0.00	16.18266c	(86082324)
60.96	0.00	15.14296c	(86111324)	76.20	0.00	12.34123	(86010824)
91.44	0.00	8.15886c	(86082324)	106.68	0.00	14.25033	(86120524)
121.92	0.00	11.67098	(86120524)	137.16	0.00	18.92273	(86011124)
152.40	0.00	13.96121	(86011124)	167.64	0.00	11.29431	(86032224)
182.88	0.00	13.38597	(86032124)	198.12	0.00	15.03342	(86032124)
213.36	0.00	12.40515	(86011124)	213.36	15.24	13.30164	(86032124)
213.36	30.48	10.65079	(86032124)	213.36	45.72	11.37224	(86011324)
213.36	60.96	13.33958	(86012724)	213.36	76.20	14.38199	(86011324)
213.36	91.44	10.10482	(86042224)	213.36	106.68	9.14703c	(86041624)
213.36	121.92	7.54591	(86011924)	213.36	137.16	8.03434	(86012724)
213.36	152.40	8.05853	(86011924)	213.36	167.64	7.69587	(86073024)
213.36	182.88	8.32708	(86073024)	213.36	198.12	8.33470c	(86060824)
213.36	213.36	10.53994	(86072824)	213.36	221.29	11.80134	(86072824)
198.12	221.29	12.18975	(86072824)	182.88	221.29	10.65686	(86022724)
167.64	221.29	10.71513	(86080224)	152.40	221.29	13.98462	(86121224)
137.16	221.29	13.47646	(86031924)	121.92	221.29	13.65387	(86031924)
106.68	221.29	20.22662c	(86121124)	91.44	221.29	17.92001	(86031924)
76.20	221.29	13.67630	(86080524)	60.96	221.29	14.37278	(86080524)
45.72	221.29	16.58945	(86071724)	30.48	221.29	18.09629c	(86052924)
15.24	221.29	21.49454c	(86052924)	0.00	221.29	25.47052c	(86051724)
0.00	213.36	24.91777c	(86051724)	0.00	198.12	21.83273	(86071724)
0.00	182.88	20.74024c	(86051724)	0.00	167.64	18.28691c	(86051724)
0.00	152.40	16.09456	(86043024)	0.00	137.16	14.66401c	(86051724)
0.00	121.92	13.10790	(86043024)	0.00	106.68	11.09121c	(86050524)
0.00	91.44	9.56457	(86091624)	0.00	76.20	12.07632	(86091624)
0.00	60.96	13.49477	(86091624)	0.00	45.72	14.25066	(86091624)
0.00	30.48	17.35298c	(86051124)	0.00	15.24	19.75079c	(86051724)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

** CONC OF OTHER IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)		OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)		OF TYPE
1.	88.02420	(86101624)	AT (	414.50,	-735.08)	GP	26.	70.02849	(86042924)	AT (	623.51,	-77.47)	GP
2.	87.96659	(86101624)	AT (	397.40,	-688.10)	GP	27.	69.97602	(86031224)	AT (	-98.53,	674.46)	GP
3.	87.62400	(86101624)	AT (	431.60,	-782.07)	GP	28.	69.92958	(86042924)	AT (	670.50,	-94.57)	GP
4.	87.33125	(86101624)	AT (	380.30,	-641.11)	GP	29.	69.84863c	(86071324)	AT (	167.46,	455.33)	GP
5.	86.81137	(86101624)	AT (	448.70,	-829.05)	GP	30.	69.82250	(86122824)	AT (	106.68,	-839.36)	GP
6.	86.01774	(86101624)	AT (	363.20,	-594.13)	GP	31.	69.68336	(86120524)	AT (	245.60,	-677.20)	GP
7.	83.92039	(86101624)	AT (	346.09,	-547.14)	GP	32.	69.58923	(86031224)	AT (	-81.43,	627.47)	GP
8.	80.92825	(86101624)	AT (	328.99,	-500.16)	GP	33.	69.22726c	(86081824)	AT (	952.40,	418.46)	GP
9.	80.32007c	(86081824)	AT (	717.48,	332.96)	GP	34.	69.19385	(86031224)	AT (	-115.63,	721.44)	GP
10.	80.30950c	(86081824)	AT (	670.50,	315.85)	GP	35.	69.06613c	(86071324)	AT (	106.68,	560.64)	GP
11.	79.09694c	(86081824)	AT (	764.46,	350.06)	GP	36.	68.76092	(86040624)	AT (	-196.43,	285.64)	GP
12.	78.40276c	(86081824)	AT (	623.51,	298.75)	GP	37.	68.63865	(86122824)	AT (	106.68,	-789.36)	GP
13.	77.10857c	(86081824)	AT (	811.45,	367.16)	GP	38.	68.60133	(86042924)	AT (	717.48,	-111.67)	GP
14.	76.92127	(86101624)	AT (	311.89,	-453.17)	GP	39.	68.58884c	(86071324)	AT (	176.14,	504.57)	GP
15.	74.67273c	(86081824)	AT (	858.43,	384.26)	GP	40.	68.28722	(86042924)	AT (	576.53,	-60.37)	[illegible]
16.	73.73431c	(86081824)	AT (	576.53,	281.65)	GP	41.	68.15668	(86031324)	AT (	-343.32,	890.07)	GP
17.	71.99982c	(86081824)	AT (	905.42,	401.36)	GP	42.	68.14436	(86101624)	AT (	381.68,	-365.67)	GP
18.	71.94032	(86120524)	AT (	262.96,	-775.68)	GP	43.	68.12931	(86031324)	AT (	-318.32,	846.76)	GP
19.	71.90435	(86120524)	AT (	271.65,	-824.92)	GP	44.	67.92767	(86040624)	AT (	-239.73,	310.64)	GP
20.	71.76156	(86101624)	AT (	294.79,	-406.19)	GP	45.	67.79865	(86101624)	AT (	356.68,	-322.37)	GP
21.	71.25706	(86120524)	AT (	280.33,	-874.17)	GP	46.	67.63491	(86031224)	AT (	-64.33,	580.49)	GP
22.	71.25134	(86120524)	AT (	254.28,	-726.44)	GP	47.	67.61327	(86031324)	AT (	-368.32,	933.37)	GP
23.	70.70384c	(86071324)	AT (	106.68,	510.64)	GP	48.	67.59315	(86031324)	AT (	-293.32,	803.46)	GP
24.	70.55568c	(86071324)	AT (	106.68,	460.64)	GP	49.	67.58329	(86031224)	AT (	-132.73,	768.43)	GP
25.	70.25214	(86122824)	AT (	106.68,	-889.36)	GP	50.	67.24598	(86030924)	AT (	-542.84,	485.64)	GP

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR,	YR,	ZELEV,	ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	88.02420	ON 86101624: AT (	414.50,	-735.08,	0.00,	0.00)	GP	POL1
	HIGH	2ND HIGH VALUE IS	63.02400	ON 86120524: AT (	106.68,	-889.36,	0.00,	0.00)	GP	POL1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** Message Summary For ISC2 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 328 Informational Message(s)

A Total of 328 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST2 Finishes Successfully ***
****

Run: FMX141A

141b Annual Average Emission Rates

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ISCST2 EXTENDED MODEL - (DATED 92062)

IBM-PC VERSION (1.01)
(C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8025 SOLD TO CROSS TESSITORE & ASSOCIATES
RUN BEGAN ON 11/30/92 AT 20:50:10


CO STARTING
CO TITLEONE Foamex - Annual Avg Emission Rates - 141b
CO TITLETWO Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME PERIOD
CO POLLUTID OTHER
CO RUNORNOT RUN
CO FINISHED


SO STARTING

** Source Location Cards:
**          SRCID SRCTYP       XS            YS            ZS

SO LOCATION     1 POINT      175.8720      119.7880         .0000
SO LOCATION     2 POINT      152.4020       17.0690         .0000
SO LOCATION     3 POINT      108.5100       97.2320         .0000
SO LOCATION     4 POINT      108.5100      110.6440         .0000
SO LOCATION     5 POINT      108.5100      119.7880         .0000
SO LOCATION     6 POINT      108.5100      135.6380         .0000
SO LOCATION     7 POINT      108.5100      152.7070         .0000
SO LOCATION     8 POINT      108.5100      168.8610         .0000
SO LOCATION     9 POINT      108.5100      183.7970         .0000
SO LOCATION    10 POINT      108.5100      192.9410         .0000
SO LOCATION    11 POINT      147.5250       97.2320         .0000
SO LOCATION    12 POINT      147.5250      110.6440         .0000
SO LOCATION    13 POINT      147.5250      119.7880         .0000
SO LOCATION    14 POINT      147.5250      135.6380         .0000
SO LOCATION    15 POINT      147.5250      155.4500         .0000
SO LOCATION    16 POINT      147.5250      168.8610         .0000
SO LOCATION    17 POINT      147.5250      183.7970         .0000
SO LOCATION    18 POINT      147.5250      192.9410         .0000
SO LOCATION    19 POINT      182.8820      102.5660         .0000

** Source Parameter Cards:
** POINT:   SRCID       QS              HS         TS          VS          DS
** VOLUME:  SRCID       QS              HS       SYINIT      SZINIT
** AREA:    SRCID       QS              HS        XINIT

SO SRCPARAM     1   1.09338448        38.1000   299.8200    24.3810       .7021
SO SRCPARAM     2   0.637807613        38.1000   299.8200    24.3810       .9929
SO SRCPARAM     3   0.005359728    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     4   0.005359728    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     5   0.005359728    13.1070   299.8200    24.3810     1.1100
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SO SRCPARAM    6   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM    7   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM    8   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM    9   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM   10   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM   11   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM   12   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM   13   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM   14   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM   15   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM   16   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM   17   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM   18   0.005359728   13.1070   299.8200   24.3810   1.1100
SO SRCPARAM   19   0.005359728   15.8500   299.8200   24.3810   1.1100

** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     1
SO BUILDHGT    1    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    1      .00      .00      .00      .00      .00      .00
SO BUILDHGT    1      .00      .00    15.24    15.24    15.24      .00
SO BUILDHGT    1      .00    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    1      .00      .00      .00      .00      .00      .00
SO BUILDHGT    1      .00      .00    15.24    15.24    15.24    15.24
** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     2
SO BUILDHGT    2    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    2    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    2    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    2    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    2    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    2    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    3    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT    3    12.19    12.19    15.24    15.24    15.24    15.24
SO BUILDHGT    3    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    3    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT    3    12.19    12.19    15.24    15.24    15.24    15.24
SO BUILDHGT    3    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    4    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT    4    10.67    12.19    12.19    15.24    15.24    15.24
SO BUILDHGT    4    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    4    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT    4    10.67    12.19    12.19    15.24    15.24    15.24
SO BUILDHGT    4    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    5    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT    5    10.67    12.19    12.19    12.19    15.24    15.24
SO BUILDHGT    5    15.24    10.67    10.67    12.19    12.19    12.19
SO BUILDHGT    5    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT    5    10.67    12.19    12.19    12.19    15.24    15.24
SO BUILDHGT    5    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    6    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT    6    10.67    10.67    10.67    12.19    12.19    10.67
SO BUILDHGT    6    10.67    10.67    10.67    10.67    12.19    12.19
SO BUILDHGT    6    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT    6    10.67    10.67    10.67    12.19    12.19    15.24
SO BUILDHGT    6    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT    7    10.67    10.67    10.67    10.67    10.67    10.67
```

SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	12.19
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	14	15.24	15.24	15.24	15.24	10.67	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	12.19	12.19	12.19
SO BUILDHGT	14	12.19	15.24	15.24	15.24	10.97	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	15	15.24	15.24	15.24	10.67	10.67	10.67
SO BUILDHGT	15	10.67	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	15	12.19	12.19	12.19	10.97	10.97	10.97
SO BUILDHGT	15	10.97	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	16	12.19	12.19	10.67	10.67	10.67	10.67

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SO BUILDHGT   16    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   16    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   16    10.67    10.67    10.67    10.97    10.97    10.97
SO BUILDHGT   16    10.97    10.97    10.97    10.67    10.67    10.67
SO BUILDHGT   16    12.19    12.19    12.19    12.19    12.19    12.19
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.97
SO BUILDHGT   17    10.97    10.97    10.97    10.97    10.97    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.97    10.97    10.97    10.97    10.97
SO BUILDHGT   18    10.97    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   19    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    12.19    12.19    12.19    12.19
SO BUILDHGT   19    12.19    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    12.19    12.19    12.19    12.19
SO BUILDHGT   19    12.19    15.24    15.24    15.24    15.24    15.24
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      1
SO BUILDWID    1    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    1      .00      .00      .00      .00      .00      .00
SO BUILDWID    1      .00      .00    93.84    90.70    83.88      .00
SO BUILDWID    1      .00    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    1      .00      .00      .00      .00      .00      .00
SO BUILDWID    1      .00      .00    93.84    90.70    83.88    75.55
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      2
SO BUILDWID    2    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    2    88.38    80.55    71.39    81.44    89.02    93.89
SO BUILDWID    2    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    2    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    2    88.38    80.55    71.39    81.44    89.02    93.89
SO BUILDWID    2    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    3   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    3   103.26   104.35    71.39    81.44    89.02    93.89
SO BUILDWID    3    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    3   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    3   103.26   104.35    71.39    81.44    89.02    93.89
SO BUILDWID    3    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    4   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    4   214.49   104.35   109.35    81.44    89.02    93.89
SO BUILDWID    4    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    4   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    4   214.49   104.35   109.35    81.44    89.02    93.89
SO BUILDWID    4    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    5   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    5   214.49   104.34   109.35   118.25    89.02    93.89
SO BUILDWID    5    94.53   176.60   161.59   103.82    93.09    77.16
SO BUILDWID    5   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    5   214.49   104.34   109.35   118.25    89.02    93.89
```

SO BUILDWID	5	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	118.94	192.50
SO BUILDWID	6	186.24	176.60	161.59	148.74	83.85	77.16
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	123.55	93.89
SO BUILDWID	6	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	77.16
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	14	84.68	91.23	95.01	95.24	215.24	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12
SO BUILDWID	14	95.91	95.96	94.76	105.03	93.09	77.16
SO BUILDWID	14	84.68	91.23	95.01	95.24	24.73	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12

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SO BUILDWID    14     95.91     95.96     94.76     90.70     83.88     75.55
SO BUILDWID    15     84.68     91.23     92.21    209.06    215.24    215.89
SO BUILDWID    15    214.49    206.95    193.13    194.58    194.74    125.12
SO BUILDWID    15    125.05    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    15     84.68     91.23     91.74     25.00     24.73     23.71
SO BUILDWID    15     21.98    206.95    193.13    194.58    194.74    125.12
SO BUILDWID    15    125.05     95.01     94.76     90.70     83.88     75.55
SO BUILDWID    16     84.68     89.55    196.53    209.06    215.24    215.89
SO BUILDWID    16    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID    16    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    16    154.11    178.03    196.53     24.84     24.73     23.71
SO BUILDWID    16     21.98     19.58     16.59    194.58    194.74    192.50
SO BUILDWID    16    123.25    122.42    116.07    106.20     93.09     77.16
SO BUILDWID    17    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID    17    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID    17    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    17    154.11    178.03    196.53    209.06    215.24     22.19
SO BUILDWID    17     21.98     19.58     16.91     19.85     21.98    192.50
SO BUILDWID    17    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    18    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID    18    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID    18    186.24    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    18    154.11    178.03    196.53    209.06    215.24    215.89
SO BUILDWID    18    214.49     17.85     16.91     19.85     22.19     23.85
SO BUILDWID    18     24.21    176.60    161.59    148.74    138.57    125.52
SO BUILDWID    19     84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID    19     88.38     80.55    109.35    118.25    123.55    125.12
SO BUILDWID    19    125.05     95.83     94.76     90.70     83.88     75.55
SO BUILDWID    19     84.68     91.23     95.01     95.96     95.84     93.53
SO BUILDWID    19     88.38     80.55    109.35    118.25    123.55    125.12
SO BUILDWID    19    125.05     95.83     94.76     90.70     83.88     75.55

SO SRCGROUP 1 1
SO SRCGROUP 2 2
SO SRCGROUP 3 3-19
SO SRCGROUP ALL
SO FINISHED


RE STARTING
RE GRIDPOLR POL1 STA
RE GRIDPOLR POL1 ORIG   106.68  110.6424
RE GRIDPOLR POL1 DIST   150. 200. 250. 300. 350. 400. 450. 500. 550.
RE GRIDPOLR POL1 DIST   600. 650. 700. 750. 800. 850. 900. 950. 1000.
RE GRIDPOLR POL1 GDIR   36  10.  10.
RE GRIDPOLR POL1 END
RE DISCCART         .00        .00
RE DISCCART       15.24        .00
RE DISCCART       30.48        .00
RE DISCCART       45.72        .00
RE DISCCART       60.96        .00
RE DISCCART       76.20        .00
RE DISCCART       91.44        .00
RE DISCCART      106.68        .00
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RE DISCCART	121.92	.00
RE DISCCART	137.16	.00
RE DISCCART	152.40	.00
RE DISCCART	167.64	.00
RE DISCCART	182.88	.00
RE DISCCART	198.12	.00
RE DISCCART	213.36	.00
RE DISCCART	213.36	15.24
RE DISCCART	213.36	30.48
RE DISCCART	213.36	45.72
RE DISCCART	213.36	60.96
RE DISCCART	213.36	76.20
RE DISCCART	213.36	91.44
RE DISCCART	213.36	106.68
RE DISCCART	213.36	121.92
RE DISCCART	213.36	137.16
RE DISCCART	213.36	152.40
RE DISCCART	213.36	167.64
RE DISCCART	213.36	182.88
RE DISCCART	213.36	198.12
RE DISCCART	213.36	213.36
RE DISCCART	213.36	221.29
RE DISCCART	198.12	221.29
RE DISCCART	182.88	221.29
RE DISCCART	167.64	221.29
RE DISCCART	152.40	221.29
RE DISCCART	137.16	221.29
RE DISCCART	121.92	221.29
RE DISCCART	106.68	221.29
RE DISCCART	91.44	221.29
RE DISCCART	76.20	221.29
RE DISCCART	60.96	221.29
RE DISCCART	45.72	221.29
RE DISCCART	30.48	221.29
RE DISCCART	15.24	221.29
RE DISCCART	.00	221.29
RE DISCCART	.00	213.36
RE DISCCART	.00	198.12
RE DISCCART	.00	182.88
RE DISCCART	.00	167.64
RE DISCCART	.00	152.40
RE DISCCART	.00	137.16
RE DISCCART	.00	121.92
RE DISCCART	.00	106.68
RE DISCCART	.00	91.44
RE DISCCART	.00	76.20
RE DISCCART	.00	60.96
RE DISCCART	.00	45.72
RE DISCCART	.00	30.48
RE DISCCART	.00	15.24
RE FINISHED		

RE STARTING

```
ME INPUTFIL c:\models\iscst2\foamex\orltmp86.BIN      UNFORM
ME ANEMHGHT   10.000 METERS
ME SURFDATA  12815  1986             SURFNAME
ME UAIRDATA  12842  1986             UAIRNAME
ME WINDCATS    1.54     3.09     5.14     8.23    10.80
ME FINISHED

OU STARTING
OU FINISHED

*************************************
*** SETUP Finishes Successfully ***
*************************************
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*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

el Calculates PERIOD Averages Only

**This Run Includes: 19 Source(s); 4 Source Group(s); and 706 Receptor(s)

**The Model Assumes A Pollutant Type of: OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Input Runstream File: C:\MODELS\ISCST2\FOAMEX\FMX141A.NEW ; **Output Print File: C:\MODELS\ISCST2\FOAMEX\FMX141A.LST

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
1	0	0.10934E+01	175.9	119.8	0.0	38.10	299.82	24.38	0.70	YES	
2	0	0.63781E+00	152.4	17.1	0.0	38.10	299.82	24.38	0.99	YES	
3	0	0.53597E-02	108.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
4	0	0.53597E-02	108.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
5	0	0.53597E-02	108.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
6	0	0.53597E-02	108.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
7	0	0.53597E-02	108.5	152.7	0.0	13.11	299.82	24.38	1.11	YES	
8	0	0.53597E-02	108.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
9	0	0.53597E-02	108.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
10	0	0.53597E-02	108.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
11	0	0.53597E-02	147.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
12	0	0.53597E-02	147.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
13	0	0.53597E-02	147.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
14	0	0.53597E-02	147.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
15	0	0.53597E-02	147.5	155.4	0.0	13.11	299.82	24.38	1.11	YES	
16	0	0.53597E-02	147.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
17	0	0.53597E-02	147.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
18	0	0.53597E-02	147.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
19	0	0.53597E-02	182.9	102.6	0.0	15.85	299.82	24.38	1.11	YES	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
1	1 ,
2	2 ,
3	3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,
ALL	1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0.0,	0
13	0.0,	0.0,	0	14	0.0,	0.0,	0	15	15.2,	93.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	0.0,	0.0,	0
19	0.0,	0.0,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0.0,	0
31	0.0,	0.0,	0	32	0.0,	0.0,	0	33	15.2,	93.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	[illegible]

SOURCE ID: 3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 4

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 5

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.3,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	94.5,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	12.2,	103.8,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.3,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 6

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	118.9,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	12.2,	83.9,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 7

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 8

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 9

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 10

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 11

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 12

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 13

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	12.2,	77.2,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 14

IFV	BH	BW	WAK.	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	95.2,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	12.2,	105.0,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	12.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	95.2,	0	23	11.0,	24.7,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 15

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	92.2,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	12.2,	84.7,	0	20	12.2,	91.2,	0	21	12.2,	91.7,	0	22	11.0,	25.0,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 16

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	89.6,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	11.0,	24.8,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.6,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	123.3,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 17

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	11.0,	22.2,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.0,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 18

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	11.0,	17.8,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.2,	0	30	11.0,	23.8,	0
31	11.0,	24.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 19

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	15.2,	95.8,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.8,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 106.68 ; Y-ORIG = 110.64 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

150.0,	200.0,	250.0,	300.0,	350.0,	400.0,	450.0,	500.0,	550.0,	600.0,
650.0,	700.0,	750.0,	800.0,	850.0,	900.0,	950.0,	1000.0,		

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

```
(     0.0,       0.0,       0.0,       0.0);        (    15.2,       0.0,       0.0,       0.0);
(    30.5,       0.0,       0.0,       0.0);        (    45.7,       0.0,       0.0,       0.0);
(    61.0,       0.0,       0.0,       0.0);        (    76.2,       0.0,       0.0,       0.0);
(    91.4,       0.0,       0.0,       0.0);        (   106.7,       0.0,       0.0,       0.0);
(   121.9,       0.0,       0.0,       0.0);        (   137.2,       0.0,       0.0,       0.0);
(   152.4,       0.0,       0.0,       0.0);        (   167.6,       0.0,       0.0,       0.0);
(   182.9,       0.0,       0.0,       0.0);        (   198.1,       0.0,       0.0,       0.0);
(   213.4,       0.0,       0.0,       0.0);        (   213.4,      15.2,       0.0,       0.0);
(   213.4,      30.5,       0.0,       0.0);        (   213.4,      45.7,       0.0,       0.0);
(   213.4,      61.0,       0.0,       0.0);        (   213.4,      76.2,       0.0,       0.0);
(   213.4,      91.4,       0.0,       0.0);        (   213.4,     106.7,       0.0,       0.0);
(   213.4,     121.9,       0.0,       0.0);        (   213.4,     137.2,       0.0,       0.0);
(   213.4,     152.4,       0.0,       0.0);        (   213.4,     167.6,       0.0,       0.0);
(   213.4,     182.9,       0.0,       0.0);        (   213.4,     198.1,       0.0,       0.0);
(   213.4,     213.4,       0.0,       0.0);        (   213.4,     221.3,       0.0,       0.0);
(   198.1,     221.3,       0.0,       0.0);        (   182.9,     221.3,       0.0,       0.0);
(   167.6,     221.3,       0.0,       0.0);        (   152.4,     221.3,       0.0,       0.0);
(   137.2,     221.3,       0.0,       0.0);        (   121.9,     221.3,       0.0,       0.0);
(   106.7,     221.3,       0.0,       0.0);        (    91.4,     221.3,       0.0,       0.0);
(    76.2,     221.3,       0.0,       0.0);        (    61.0,     221.3,       0.0,       0.0);
(    45.7,     221.3,       0.0,       0.0);        (    30.5,     221.3,       0.0,       0.0);
(    15.2,     221.3,       0.0,       0.0);        (     0.0,     221.3,       0.0,       0.0);
(     0.0,     213.4,       0.0,       0.0);        (     0.0,     198.1,       0.0,       0.0);
(     0.0,     182.9,       0.0,       0.0);        (     0.0,     167.6,       0.0,       0.0);
(     0.0,     152.4,       0.0,       0.0);        (     0.0,     137.2,       0.0,       0.0);
(     0.0,     121.9,       0.0,       0.0);        (     0.0,     106.7,       0.0,       0.0);
(     0.0,      91.4,       0.0,       0.0);        (     0.0,      76.2,       0.0,       0.0);
(     0.0,      61.0,       0.0,       0.0);        (     0.0,      45.7,       0.0,       0.0);
(     0.0,      30.5,       0.0,       0.0);        (     0.0,      15.2,       0.0,       0.0);
```

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 1.0 METER OR 3*ZLB *
IN DISTANCE. CALCULATIONS MAY NOT BE PERFORMED.

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
2	121.9	0.0	34.94
2	137.2	0.0	22.88
2	152.4	0.0	17.07
2	167.6	0.0	22.88
2	182.9	0.0	34.93
10	121.9	221.3	31.36
10	106.7	221.3	28.41
18	152.4	221.3	28.77
18	137.2	221.3	30.18
19	213.4	91.4	32.45
19	213.4	106.7	30.75
19	213.4	121.9	36.10

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: c:\models\iscst2\foamex\orltmp86.BIN FORMAT: UNFORM
SURFACE STATION NO.: 12815 UPPER AIR STATION NO.: 12842
NAME: SURFNAME NAME: UAIRNAME
YEAR: 1986 YEAR: 1986

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN
86	1	1	1	1.0	3.60	289.3	4	639.0	639.0
86	1	1	2	168.0	5.14	288.7	4	639.0	639.0
86	1	1	3	124.0	3.09	288.2	4	639.0	639.0
86	1	1	4	353.0	2.57	288.2	4	639.0	639.0
86	1	1	5	333.0	2.57	288.7	4	639.0	639.0
86	1	1	6	332.0	2.57	288.7	4	639.0	639.0
86	1	1	7	335.0	3.09	288.7	4	639.0	639.0
86	1	1	8	3.0	3.60	289.3	4	639.0	639.0
86	1	1	9	347.0	3.60	289.8	4	639.0	639.0
86	1	1	10	1.0	5.14	292.0	4	639.0	639.0
86	1	1	11	14.0	4.63	292.6	4	639.0	639.0
86	1	1	12	16.0	4.12	294.3	4	639.0	639.0
86	1	1	13	73.0	3.09	295.4	4	639.0	639.0
86	1	1	14	49.0	3.60	297.0	4	639.0	639.0
86	1	1	15	142.0	2.06	296.5	4	639.0	639.0
86	1	1	16	144.0	2.06	295.9	4	639.0	639.0
86	1	1	17	261.0	2.06	295.4	4	639.0	639.0
86	1	1	18	257.0	2.06	292.6	4	644.0	644.0
86	1	1	19	274.0	3.60	291.5	4	655.0	655.0
86	1	1	20	227.0	3.09	290.9	4	666.0	666.0
86	1	1	21	230.0	3.09	290.9	4	678.0	678.0
86	1	1	22	252.0	2.57	290.4	5	689.0	477.0
86	1	1	23	290.0	2.06	290.4	4	700.0	700.0
86	1	1	24	290.0	1.00	290.4	4	712.0	712.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.01011	0.04372	0.09356	0.14304	0.18210	0.20981	0.22932	0.24262	0.25136
20.00	0.00575	0.03406	0.08065	0.12845	0.16664	0.19369	0.21242	0.22509	0.23317
30.00	0.00264	0.02296	0.06267	0.10718	0.14333	0.16780	0.18325	0.19285	0.19833
40.00	0.00085	0.01427	0.05006	0.09545	0.13474	0.16253	0.18075	0.19288	0.20037
50.00	0.00024	0.00973	0.04266	0.08691	0.12598	0.15397	0.17243	0.18480	0.19261
60.00	0.00007	0.00593	0.03279	0.07457	0.11575	0.14786	0.17046	0.18635	0.19708
70.00	0.00002	0.00384	0.02797	0.07118	0.11683	0.15318	0.17827	0.19494	0.20517
80.00	0.00001	0.00327	0.02595	0.06702	0.10912	0.14074	0.16074	0.17247	0.17823
90.00	0.00002	0.00370	0.02715	0.06609	0.10310	0.12916	0.14453	0.15274	0.15595
100.00	0.00005	0.00601	0.03507	0.07805	0.11653	0.14199	0.15536	0.16079	0.16107
110.00	0.00017	0.01035	0.05031	0.10602	0.15601	0.19082	0.21113	0.22121	0.22397
120.00	0.00042	0.01377	0.05765	0.11628	0.16785	0.20406	0.22613	0.23827	0.24[illegible]
130.00	0.00094	0.01545	0.05514	0.10579	0.14951	0.17996	0.19851	0.20857	0.2122[illegible]
140.00	0.00198	0.01726	0.04980	0.08786	0.11961	0.14168	0.15584	0.16424	0.16830
150.00	0.00397	0.02249	0.05295	0.08443	0.10963	0.12742	0.13988	0.14856	0.15454
160.00	0.00730	0.03176	0.06649	0.09722	0.11906	0.13365	0.14415	0.15202	0.15826
170.00	0.01168	0.04052	0.07897	0.11338	0.13892	0.15693	0.17026	0.17993	0.18699
180.00	0.01663	0.04746	0.08351	0.11372	0.13560	0.15145	0.16376	0.17376	0.18237
190.00	0.02231	0.05413	0.08820	0.11520	0.13366	0.14612	0.15459	0.16046	0.16474
200.00	0.03067	0.06446	0.09704	0.12184	0.13862	0.14986	0.15717	0.16187	0.16500
210.00	0.04292	0.08363	0.11934	0.14451	0.16068	0.17140	0.17838	0.18299	0.18618
220.00	0.05711	0.10807	0.15151	0.18161	0.20042	0.21190	0.21795	0.22059	0.22135
230.00	0.06862	0.12859	0.17971	0.21567	0.23923	0.25450	0.26365	0.26877	0.27147
240.00	0.07295	0.13503	0.18792	0.22579	0.25171	0.26949	0.28135	0.28926	0.29467
250.00	0.07079	0.12858	0.17639	0.20956	0.23148	0.24580	0.25470	0.26009	0.26332
260.00	0.06759	0.12339	0.17031	0.20353	0.22593	0.24074	0.25009	0.25578	0.25914
270.00	0.06554	0.12216	0.17183	0.20887	0.23537	0.25409	0.26688	0.27545	0.28105
280.00	0.06248	0.11740	0.16541	0.20065	0.22518	0.24204	0.25323	0.26058	0.26537
290.00	0.05960	0.11338	0.16012	0.19353	0.21561	0.22979	0.23825	0.24284	0.24506
300.00	0.05945	0.11576	0.16471	0.19928	0.22179	0.23635	0.24515	0.25010	0.25278
310.00	0.06027	0.11926	0.16908	0.20220	0.22146	0.23200	0.23630	0.23656	0.23471
320.00	0.05661	0.11243	0.15876	0.18847	0.20417	0.21106	0.21190	0.20909	0.20456
330.00	0.04719	0.09715	0.14134	0.17080	0.18626	0.19253	0.19271	0.18942	0.18457
340.00	0.03512	0.07908	0.12129	0.15161	0.17018	0.18100	0.18687	0.18944	0.19008
350.00	0.02405	0.06382	0.10937	0.14872	0.17772	0.19744	0.21038	0.21810	0.22230
360.00	0.01590	0.05302	0.10179	0.14612	0.17903	0.20132	0.21630	0.22586	0.23184

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.25687	0.26007	0.26143	0.26129	0.25992	0.25759	0.25449	0.25082	0.24670
20.00	0.23794	0.24041	0.24108	0.24029	0.23832	0.23541	0.23179	0.22762	0.22308
30.00	0.20114	0.20248	0.20282	0.20241	0.20136	0.19978	0.19775	0.19533	0.19261
40.00	0.20462	0.20686	0.20763	0.20725	0.20594	0.20387	0.20122	0.19811	0.19466
50.00	0.19726	0.19991	0.20119	0.20140	0.20074	0.19936	0.19739	0.19494	0.19211
60.00	0.20412	0.20865	0.21145	0.21294	0.21336	0.21289	0.21170	0.20991	0.20764
70.00	0.21080	0.21344	0.21416	0.21354	0.21193	0.20960	0.20672	0.20343	0.19985
80.00	0.17989	0.17910	0.17697	0.17406	0.17070	0.16709	0.16335	0.15957	0.15580
90.00	0.15582	0.15372	0.15061	0.14692	0.14292	0.13877	0.13459	0.13045	0.12639
100.00	0.15832	0.15409	0.14934	0.14448	0.13969	0.13507	0.13064	0.12641	0.12239
110.00	0.22205	0.21753	0.21172	0.20527	0.19856	0.19183	0.18521	0.17878	0.17260
120.00	0.24288	0.24010	0.23586	0.23080	0.22529	0.21955	0.21374	0.20794	0.20220
130.00	0.21159	0.20866	0.20438	0.19930	0.19375	0.18794	0.18201	0.17606	0.17016
140.00	0.16944	0.16887	0.16717	0.16471	0.16172	0.15838	0.15480	0.15109	0.14732
150.00	0.15866	0.16153	0.16337	0.16431	0.16445	0.16389	0.16273	0.16106	0.15897
160.00	0.16345	0.16781	0.17133	0.17399	0.17581	0.17683	0.17713	0.17679	0.17592
170.00	0.19219	0.19582	0.19806	0.19906	0.19897	0.19797	0.19621	0.19384	0.19099
180.00	0.19007	0.19687	0.20268	0.20743	0.21112	0.21379	0.21553	0.21644	0.21622
190.00	0.16807	0.17065	0.17259	0.17393	0.17471	0.17498	0.17480	0.17422	0.17260
200.00	0.16715	0.16858	0.16939	0.16967	0.16948	0.16888	0.16792	0.16667	0.16421
210.00	0.18840	0.18979	0.19043	0.19041	0.18981	0.18872	0.18723	0.18541	0.18196
220.00	0.22099	0.21989	0.21826	0.21623	0.21391	0.21136	0.20864	0.20574	0.20119
230.00	0.27249	0.27227	0.27107	0.26910	0.26652	0.26346	0.26003	0.25599	0.25013
240.00	0.29821	0.30021	0.30090	0.30046	0.29906	0.29684	0.29395	0.28985	0.28373
250.00	0.26497	0.26540	0.26480	0.26334	0.26118	0.25844	0.25522	0.25096	0.24525
260.00	0.26079	0.26109	0.26031	0.25864	0.25624	0.25327	0.24984	0.24537	0.23960
270.00	0.28434	0.28576	0.28565	0.28429	0.28192	0.27877	0.27500	0.27004	0.26365
280.00	0.26827	0.26968	0.26986	0.26904	0.26740	0.26508	0.26221	0.25826	0.25272
290.00	0.24559	0.24484	0.24306	0.24044	0.23716	0.23335	0.22914	0.22428	0.21806
300.00	0.25387	0.25370	0.25249	0.25040	0.24758	0.24416	0.24025	0.23580	0.22958
310.00	0.23163	0.22775	0.22334	0.21857	0.21357	0.20846	0.20329	0.19814	0.19177
320.00	0.19937	0.19394	0.18849	0.18309	0.17780	0.17264	0.16761	0.16271	0.15721
330.00	0.17940	0.17441	0.16976	0.16549	0.16159	0.15800	0.15467	0.15155	0.14799
340.00	0.18981	0.18896	0.18771	0.18613	0.18427	0.18218	0.17989	0.17744	0.17445
350.00	0.22437	0.22498	0.22451	0.22319	0.22118	0.21863	0.21563	0.21229	0.20856
360.00	0.23567	0.23815	0.23963	0.24028	0.24023	0.23958	0.23839	0.23675	0.23473

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.06630	15.24	0.00	0.05025
30.48	0.00	0.03654	45.72	0.00	0.02516
60.96	0.00	0.01640	76.20	0.00	0.01021
91.44	0.00	0.00623	106.68	0.00	0.00385
121.92	0.00	0.00244	137.16	0.00	0.00163
152.40	0.00	0.00119	167.64	0.00	0.00103
182.88	0.00	0.00107	198.12	0.00	0.00134
213.36	0.00	0.00191	213.36	15.24	0.00061
213.36	30.48	0.00014	213.36	45.72	0.00002
213.36	60.96	0.00000	213.36	76.20	0.00000
213.36	91.44	0.00000	213.36	106.68	0.00000
213.36	121.92	0.00000	213.36	137.16	0.00000
213.36	152.40	0.00000	213.36	167.64	0.00000
213.36	182.88	0.00000	213.36	198.12	0.00005
213.36	213.36	0.00031	213.36	221.29	0.00071
198.12	221.29	0.00051	182.88	221.29	0.00044
167.64	221.29	0.00044	152.40	221.29	0.00054
137.16	221.29	0.00081	121.92	221.29	0.00142
106.68	221.29	0.00274	91.44	221.29	0.00538
76.20	221.29	0.00995	60.96	221.29	0.01680
45.72	221.29	0.02602	30.48	221.29	0.03714
15.24	221.29	0.04960	0.00	221.29	0.06295
0.00	213.36	0.05745	0.00	198.12	0.04729
0.00	182.88	0.03829	0.00	167.64	0.03139
0.00	152.40	0.02698	0.00	137.16	0.02477
0.00	121.92	0.02423	0.00	106.68	0.02504
0.00	91.44	0.02737	0.00	76.20	0.03150
0.00	60.96	0.03734	0.00	45.72	0.04431
0.00	30.48	0.05173	0.00	15.24	0.05913

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2 ***
INCLUDING SOURCE(S): 2 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.03522	0.05774	0.07706	0.09167	0.10256	0.11027	0.11556	0.11920	0.12168
20.00	0.03182	0.05307	0.07142	0.08530	0.09557	0.10287	0.10781	0.11108	0.11321
30.00	0.02667	0.04591	0.06318	0.07611	0.08496	0.09071	0.09403	0.09575	0.09659
40.00	0.02085	0.03813	0.05475	0.06806	0.07788	0.08526	0.09038	0.09387	0.09633
50.00	0.01538	0.03184	0.05001	0.06547	0.07663	0.08434	0.08914	0.09183	0.09325
60.00	0.01100	0.02659	0.04453	0.05976	0.07112	0.07955	0.08577	0.09002	0.09278
70.00	0.00726	0.02008	0.03630	0.05197	0.06514	0.07565	0.08442	0.09131	0.09660
80.00	0.00394	0.01305	0.02773	0.04543	0.06252	0.07628	0.08629	0.09267	0.09620
90.00	0.00157	0.00763	0.02099	0.03884	0.05552	0.06802	0.07630	0.08136	0.08370
100.00	0.00042	0.00396	0.01443	0.03068	0.04701	0.05936	0.06714	0.07175	0.07371
110.00	0.00007	0.00170	0.00958	0.02456	0.04126	0.05509	0.06477	0.07106	0.07463
120.00	0.00001	0.00064	0.00682	0.02245	0.04363	0.06417	0.08058	0.09239	0.10022
130.00	0.00000	0.00025	0.00550	0.02283	0.04806	0.07210	0.09023	0.10212	0.10934
140.00	0.00000	0.00009	0.00379	0.01842	0.04074	0.06222	0.07818	0.08818	0.09400
150.00	0.00000	0.00003	0.00211	0.01204	0.02843	0.04478	0.05721	0.06529	0.07044
160.00	0.00000	0.00002	0.00149	0.00892	0.02208	0.03622	0.04796	0.05663	0.06319
170.00	0.00000	0.00004	0.00182	0.01027	0.02507	0.04056	0.05307	0.06203	0.06856
180.00	0.00000	0.00015	0.00295	0.01296	0.02878	0.04476	0.05769	0.06735	0.07482
190.00	0.00001	0.00059	0.00500	0.01611	0.03116	0.04524	0.05603	0.06376	0.06920
200.00	0.00013	0.00218	0.00974	0.02281	0.03751	0.05018	0.05956	0.06626	0.07078
210.00	0.00062	0.00580	0.01916	0.03751	0.05485	0.06799	0.07668	0.08242	0.08582
220.00	0.00166	0.01028	0.02954	0.05397	0.07572	0.09154	0.10216	0.10897	0.11272
230.00	0.00360	0.01465	0.03569	0.06097	0.08402	0.10200	0.11538	0.12449	0.13024
240.00	0.00669	0.02056	0.04183	0.06406	0.08273	0.09695	0.10782	0.11556	0.12105
250.00	0.01109	0.02723	0.04941	0.07140	0.08904	0.10177	0.11022	0.11526	0.11805
260.00	0.01719	0.03465	0.05572	0.07585	0.09247	0.10561	0.11523	0.12202	0.12677
270.00	0.02468	0.04413	0.06337	0.08000	0.09327	0.10381	0.11166	0.11748	0.12188
280.00	0.03137	0.05383	0.07338	0.08792	0.09821	0.10533	0.10994	0.11287	0.11483
290.00	0.03555	0.05929	0.07925	0.09364	0.10372	0.11040	0.11459	0.11720	0.11885
300.00	0.03730	0.06031	0.07871	0.09130	0.09978	0.10496	0.10787	0.10950	0.11041
310.00	0.03741	0.05898	0.07580	0.08686	0.09375	0.09707	0.09798	0.09757	0.09648
320.00	0.03681	0.05646	0.07123	0.08066	0.08639	0.08889	0.08926	0.08848	0.08712
330.00	0.03675	0.05570	0.06975	0.07867	0.08403	0.08639	0.08682	0.08623	0.08514
340.00	0.03740	0.05756	0.07345	0.08454	0.09209	0.09658	0.09894	0.10005	0.10036
350.00	0.03757	0.05867	0.07570	0.08790	0.09648	0.10194	0.10519	0.10707	0.10805
360.00	0.03684	0.05866	0.07681	0.09022	0.10005	0.10678	0.11131	0.11445	0.11668

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2 ***
INCLUDING SOURCE(S): 2 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.12326	0.12410	0.12434	0.12408	0.12341	0.12240	0.12112	0.11893	0.11639
20.00	0.11445	0.11498	0.11491	0.11435	0.11338	0.11209	0.11055	0.10837	0.10567
30.00	0.09691	0.09687	0.09658	0.09609	0.09542	0.09460	0.09365	0.09243	0.09052
40.00	0.09805	0.09917	0.09976	0.09987	0.09958	0.09893	0.09799	0.09681	0.09474
50.00	0.09392	0.09413	0.09402	0.09367	0.09313	0.09244	0.09161	0.09067	0.08922
60.00	0.09453	0.09554	0.09600	0.09603	0.09575	0.09525	0.09456	0.09375	0.09267
70.00	0.10059	0.10346	0.10532	0.10630	0.10653	0.10614	0.10526	0.10398	0.10242
80.00	0.09781	0.09825	0.09792	0.09707	0.09586	0.09438	0.09271	0.09091	0.08902
90.00	0.08424	0.08374	0.08263	0.08116	0.07948	0.07768	0.07582	0.07395	0.07207
100.00	0.07394	0.07322	0.07200	0.07054	0.06895	0.06731	0.06566	0.06403	0.06242
110.00	0.07614	0.07635	0.07583	0.07490	0.07372	0.07242	0.07106	0.06967	0.06828
120.00	0.10464	0.10662	0.10709	0.10657	0.10541	0.10383	0.10199	0.09998	0.09[illegible]
130.00	0.11262	0.11322	0.11225	0.11033	0.10784	0.10500	0.10198	0.09887	0.09573
140.00	0.09633	0.09636	0.09516	0.09331	0.09114	0.08882	0.08646	0.08409	0.08177
150.00	0.07320	0.07443	0.07481	0.07476	0.07444	0.07395	0.07332	0.07259	0.07175
160.00	0.06802	0.07168	0.07461	0.07705	0.07906	0.08070	0.08196	0.08289	0.08350
170.00	0.07303	0.07613	0.07842	0.08016	0.08147	0.08240	0.08301	0.08332	0.08337
180.00	0.08046	0.08496	0.08881	0.09219	0.09514	0.09769	0.09982	0.10156	0.10290
190.00	0.07287	0.07540	0.07728	0.07872	0.07985	0.08070	0.08132	0.08173	0.08194
200.00	0.07371	0.07564	0.07699	0.07795	0.07862	0.07906	0.07929	0.07935	0.07924
210.00	0.08783	0.08920	0.09025	0.09109	0.09174	0.09219	0.09243	0.09245	0.09226
220.00	0.11444	0.11494	0.11465	0.11386	0.11272	0.11134	0.10982	0.10818	0.10649
230.00	0.13369	0.13563	0.13655	0.13675	0.13642	0.13570	0.13466	0.13338	0.13190
240.00	0.12508	0.12816	0.13056	0.13243	0.13388	0.13493	0.13562	0.13598	0.13602
250.00	0.11956	0.12033	0.12065	0.12068	0.12051	0.12017	0.11968	0.11905	0.11797
260.00	0.13008	0.13233	0.13374	0.13447	0.13461	0.13425	0.13348	0.13235	0.13019
270.00	0.12517	0.12754	0.12910	0.12993	0.13014	0.12981	0.12901	0.12785	0.12536
280.00	0.11617	0.11704	0.11755	0.11775	0.11770	0.11740	0.11691	0.11596	0.11417
290.00	0.11981	0.12022	0.12015	0.11967	0.11883	0.11770	0.11631	0.11420	0.11158
300.00	0.11084	0.11091	0.11065	0.11013	0.10936	0.10837	0.10720	0.10525	0.10305
310.00	0.09505	0.09346	0.09179	0.09010	0.08842	0.08675	0.08511	0.08294	0.08080
320.00	0.08547	0.08370	0.08188	0.08007	0.07829	0.07654	0.07482	0.07266	0.07058
330.00	0.08381	0.08238	0.08092	0.07948	0.07807	0.07669	0.07531	0.07341	0.07160
340.00	0.10016	0.09960	0.09878	0.09778	0.09662	0.09536	0.09398	0.09186	0.08979
350.00	0.10838	0.10824	0.10772	0.10690	0.10585	0.10461	0.10322	0.10093	0.09864
360.00	0.11826	0.11931	0.11993	0.12018	0.12011	0.11977	0.11920	0.11755	0.11571

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2 ***
INCLUDING SOURCE(S): 2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.00266	15.24	0.00	0.00118
30.48	0.00	0.00041	45.72	0.00	0.00010
60.96	0.00	0.00002	76.20	0.00	0.00000
91.44	0.00	0.00000	106.68	0.00	0.00000
121.92	0.00	0.00000	137.16	0.00	0.00000
152.40	0.00	0.00000	167.64	0.00	0.00000
182.88	0.00	0.00000	198.12	0.00	0.00000
213.36	0.00	0.00000	213.36	15.24	0.00000
213.36	30.48	0.00000	213.36	45.72	0.00000
213.36	60.96	0.00000	213.36	76.20	0.00001
213.36	91.44	0.00004	213.36	106.68	0.00015
213.36	121.92	0.00047	213.36	137.16	0.00121
213.36	152.40	0.00258	213.36	167.64	0.00481
213.36	182.88	0.00796	213.36	198.12	0.01200
213.36	213.36	0.01685	213.36	221.29	0.01973
198.12	221.29	0.01903	182.88	221.29	0.01872
167.64	221.29	0.01866	152.40	221.29	0.01874
137.16	221.29	0.01893	121.92	221.29	0.01932
106.68	221.29	0.02003	91.44	221.29	0.02116
76.20	221.29	0.02269	60.96	221.29	0.02465
45.72	221.29	0.02713	30.48	221.29	0.03025
15.24	221.29	0.03410	0.00	221.29	0.03865
0.00	213.36	0.03636	0.00	198.12	0.03203
0.00	182.88	0.02780	0.00	167.64	0.02373
0.00	152.40	0.01988	0.00	137.16	0.01638
0.00	121.92	0.01311	0.00	106.68	0.01009
0.00	91.44	0.00744	0.00	76.20	0.00530
0.00	60.96	0.00380	0.00	45.72	0.00292
0.00	30.48	0.00252	0.00	15.24	0.00245

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3 ***
INCLUDING SOURCE(S): 3 , 4 , 5 , 6 , 7 , 8 , 9 ,
10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.08206	0.10628	0.11709	0.11786	0.11399	0.10821	0.10178	0.09534	0.08930
20.00	0.08041	0.09431	0.09939	0.09804	0.09395	0.08890	0.08366	0.07863	0.07401
30.00	0.06456	0.08177	0.08984	0.09110	0.08871	0.08480	0.08045	0.07604	0.07182
40.00	0.05770	0.07693	0.08555	0.08717	0.08490	0.08097	0.07644	0.07184	0.06747
50.00	0.05298	0.07220	0.08221	0.08414	0.08172	0.07773	0.07337	0.06910	0.06510
60.00	0.04824	0.06758	0.07842	0.08254	0.08221	0.07958	0.07596	0.07209	0.06834
70.00	0.04754	0.06709	0.07644	0.07839	0.07624	0.07259	0.06866	0.06495	0.06153
80.00	0.05032	0.06728	0.07259	0.07111	0.06692	0.06216	0.05769	0.05377	0.05031
90.00	0.05489	0.06938	0.07083	0.06624	0.06035	0.05488	0.05015	0.04614	0.04269
100.00	0.06486	0.07888	0.08007	0.07494	0.06791	0.06106	0.05503	0.04993	0.04561
110.00	0.08165	0.09628	0.09667	0.09157	0.08456	0.07770	0.07138	0.06569	0.0[illegible]
120.00	0.07673	0.09229	0.09430	0.09033	0.08420	0.07804	0.07222	0.06691	0.06216
130.00	0.06675	0.07934	0.08068	0.07710	0.07174	0.06623	0.06097	0.05617	0.05185
140.00	0.06068	0.07198	0.07160	0.06789	0.06332	0.05888	0.05466	0.05079	0.04732
150.00	0.06313	0.07191	0.07105	0.06744	0.06346	0.05995	0.05664	0.05354	0.05067
160.00	0.06558	0.07505	0.07553	0.07271	0.06959	0.06704	0.06464	0.06226	0.05991
170.00	0.06916	0.07812	0.07913	0.07675	0.07366	0.07058	0.06739	0.06420	0.06112
180.00	0.07324	0.08067	0.08135	0.07970	0.07758	0.07550	0.07334	0.07121	0.06911
190.00	0.06283	0.06906	0.06939	0.06740	0.06480	0.06212	0.05951	0.05714	0.05495
200.00	0.06045	0.06434	0.06448	0.06285	0.06068	0.05838	0.05609	0.05396	0.05201
210.00	0.06613	0.06867	0.06764	0.06522	0.06265	0.06012	0.05765	0.05546	0.05348
220.00	0.07298	0.07718	0.07692	0.07465	0.07194	0.06919	0.06652	0.06415	0.06201
230.00	0.07817	0.08696	0.08879	0.08730	0.08458	0.08147	0.07826	0.07527	0.07250
240.00	0.07933	0.09327	0.09831	0.09840	0.09629	0.09324	0.08982	0.08639	0.08308
250.00	0.08047	0.09532	0.10006	0.09949	0.09661	0.09276	0.08858	0.08446	0.08054
260.00	0.08339	0.09760	0.10109	0.09914	0.09513	0.09043	0.08568	0.08126	0.07722
270.00	0.08634	0.10020	0.10415	0.10305	0.09979	0.09572	0.09140	0.08717	0.08314
280.00	0.09112	0.10668	0.11252	0.11219	0.10868	0.10378	0.09842	0.09317	0.08822
290.00	0.09218	0.10780	0.11148	0.10888	0.10366	0.09770	0.09167	0.08594	0.08059
300.00	0.09414	0.10858	0.11168	0.10884	0.10337	0.09725	0.09116	0.08550	0.08033
310.00	0.08815	0.10124	0.10374	0.10084	0.09543	0.08926	0.08299	0.07710	0.07172
320.00	0.07632	0.08969	0.09072	0.08620	0.07991	0.07354	0.06758	0.06230	0.05766
330.00	0.06836	0.08043	0.08199	0.07812	0.07251	0.06694	0.06176	0.05720	0.05325
340.00	0.07478	0.08930	0.09201	0.08950	0.08525	0.08053	0.07574	0.07120	0.06704
350.00	0.09222	0.11194	0.11831	0.11669	0.11113	0.10433	0.09720	0.09040	0.08422
360.00	0.11033	0.13188	0.13604	0.13214	0.12515	0.11769	0.11036	0.10351	0.09[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3 ***
INCLUDING SOURCE(S): 3 , 4 , 5 , 6 , 7 , 8 , 9 ,
10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.08373	0.07862	0.07400	0.06984	0.06603	0.06263	0.05958	0.05676	0.05412
20.00	0.06979	0.06595	0.06248	0.05936	0.05649	0.05390	0.05157	0.04943	0.04741
30.00	0.06787	0.06419	0.06080	0.05768	0.05480	0.05217	0.04975	0.04753	0.04543
40.00	0.06343	0.05973	0.05639	0.05338	0.05063	0.04816	0.04593	0.04389	0.04196
50.00	0.06141	0.05803	0.05496	0.05215	0.04956	0.04719	0.04502	0.04304	0.04115
60.00	0.06479	0.06149	0.05845	0.05567	0.05309	0.05072	0.04853	0.04652	0.04463
70.00	0.05838	0.05548	0.05283	0.05040	0.04814	0.04605	0.04412	0.04234	0.04067
80.00	0.04724	0.04449	0.04203	0.03982	0.03779	0.03596	0.03428	0.03276	0.03136
90.00	0.03966	0.03699	0.03464	0.03255	0.03069	0.02901	0.02751	0.02615	0.02491
100.00	0.04192	0.03874	0.03600	0.03360	0.03148	0.02961	0.02796	0.02647	0.02512
110.00	0.05613	0.05211	0.04858	0.04544	0.04265	0.04018	0.03797	0.03597	0.03413
120.00	0.05795	0.05421	0.05090	0.04794	0.04529	0.04292	0.04076	0.03881	0.03696
130.00	0.04801	0.04457	0.04151	0.03877	0.03629	0.03407	0.03207	0.03027	0.02856
140.00	0.04424	0.04150	0.03908	0.03691	0.03495	0.03321	0.03166	0.03026	0.02891
150.00	0.04804	0.04558	0.04335	0.04126	0.03930	0.03756	0.03598	0.03448	0.03303
160.00	0.05761	0.05532	0.05318	0.05110	0.04910	0.04728	0.04556	0.04394	0.04234
170.00	0.05818	0.05539	0.05284	0.05047	0.04822	0.04619	0.04432	0.04258	0.04089
180.00	0.06702	0.06495	0.06298	0.06107	0.05919	0.05745	0.05576	0.05412	0.05246
190.00	0.05292	0.05101	0.04924	0.04756	0.04596	0.04448	0.04309	0.04172	0.04037
200.00	0.05022	0.04858	0.04707	0.04564	0.04430	0.04308	0.04195	0.04077	0.03967
210.00	0.05168	0.05005	0.04857	0.04716	0.04586	0.04469	0.04361	0.04250	0.04144
220.00	0.06004	0.05828	0.05666	0.05509	0.05366	0.05234	0.05107	0.04976	0.04848
230.00	0.06994	0.06764	0.06550	0.06344	0.06159	0.05985	0.05822	0.05659	0.05500
240.00	0.07993	0.07700	0.07422	0.07156	0.06910	0.06680	0.06463	0.06252	0.06046
250.00	0.07688	0.07350	0.07037	0.06743	0.06472	0.06221	0.05986	0.05763	0.05547
260.00	0.07352	0.07016	0.06711	0.06425	0.06165	0.05923	0.05698	0.05484	0.05278
270.00	0.07932	0.07578	0.07249	0.06942	0.06655	0.06393	0.06150	0.05922	0.05705
280.00	0.08358	0.07934	0.07552	0.07200	0.06877	0.06585	0.06313	0.06055	0.05816
290.00	0.07559	0.07102	0.06691	0.06314	0.05970	0.05662	0.05380	0.05117	0.04874
300.00	0.07558	0.07131	0.06748	0.06396	0.06076	0.05784	0.05515	0.05259	0.05021
310.00	0.06685	0.06246	0.05858	0.05509	0.05194	0.04916	0.04666	0.04434	0.04222
320.00	0.05356	0.04989	0.04671	0.04387	0.04131	0.03902	0.03691	0.03500	0.03322
330.00	0.04982	0.04678	0.04420	0.04193	0.03989	0.03809	0.03646	0.03492	0.03349
340.00	0.06324	0.05974	0.05659	0.05376	0.05111	0.04878	0.04664	0.04467	0.04280
350.00	0.07864	0.07356	0.06907	0.06505	0.06137	0.05816	0.05529	0.05262	0.05011
360.00	0.09175	0.08662	0.08203	0.07794	0.07414	0.07084	0.06786	0.06500	0.06229

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3 ***
INCLUDING SOURCE(S): 3 , 4 , 5 , 6 , 7 , 8 , 9 ,
10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.07582	15.24	0.00	0.07169
30.48	0.00	0.06693	45.72	0.00	0.06156
60.96	0.00	0.05587	76.20	0.00	0.05119
91.44	0.00	0.05218	106.68	0.00	0.05898
121.92	0.00	0.05657	137.16	0.00	0.05559
152.40	0.00	0.05282	167.64	0.00	0.05323
182.88	0.00	0.05663	198.12	0.00	0.05842
213.36	0.00	0.06407	213.36	15.24	0.06256
213.36	30.48	0.06254	213.36	45.72	0.06287
213.36	60.96	0.06357	213.36	76.20	0.06193
213.36	91.44	0.04780	213.36	106.68	0.03412
213.36	121.92	0.03045	213.36	137.16	0.03064
213.36	152.40	0.03160	213.36	167.64	0.03555
213.36	182.88	0.04172	213.36	198.12	0.04787
213.36	213.36	0.05462	213.36	221.29	0.05747
198.12	221.29	0.05554	182.88	221.29	0.05572
167.64	221.29	0.05922	152.40	221.29	0.06762
137.16	221.29	0.05830	121.92	221.29	0.06591
106.68	221.29	0.08356	91.44	221.29	0.07385
76.20	221.29	0.06402	60.96	221.29	0.05737
45.72	221.29	0.05857	30.48	221.29	0.06542
15.24	221.29	0.07329	0.00	221.29	0.08176
0.00	213.36	0.08217	0.00	198.12	0.08367
0.00	182.88	0.08204	0.00	167.64	0.07887
0.00	152.40	0.07288	0.00	137.16	0.06832
0.00	121.92	0.06633	0.00	106.68	0.06167
0.00	91.44	0.05998	0.00	76.20	0.05980
0.00	60.96	0.06303	0.00	45.72	0.06798
0.00	30.48	0.07301	0.00	15.24	0.07559

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.12739	0.20774	0.28771	0.35256	0.39865	0.42828	0.44667	0.45716	0.46233
20.00	0.11797	0.18144	0.25146	0.31180	0.35615	0.38545	0.40389	0.41479	0.42039
30.00	0.09386	0.15064	0.21569	0.27438	0.31699	0.34331	0.35773	0.36463	0.36674
40.00	0.07940	0.12932	0.19036	0.25068	0.29751	0.32876	0.34758	0.35860	0.36417
50.00	0.06859	0.11377	0.17488	0.23652	0.28433	0.31603	0.33494	0.34572	0.35095
60.00	0.05931	0.10010	0.15574	0.21687	0.26908	0.30699	0.33218	0.34846	0.35820
70.00	0.05482	0.09101	0.14071	0.20154	0.25821	0.30142	0.33135	0.35120	0.36331
80.00	0.05427	0.08361	0.12626	0.18356	0.23857	0.27917	0.30472	0.31891	0.32473
90.00	0.05648	0.08071	0.11897	0.17115	0.21897	0.25207	0.27097	0.28025	0.28233
100.00	0.06533	0.08885	0.12956	0.18367	0.23145	0.26241	0.27753	0.28247	0.28039
110.00	0.08189	0.10833	0.15657	0.22216	0.28182	0.32361	0.34727	0.35796	0.35921
120.00	0.07716	0.10670	0.15876	0.22906	0.29568	0.34626	0.37893	0.39756	0.40536
130.00	0.06769	0.09503	0.14131	0.20571	0.26930	0.31829	0.34971	0.36685	0.37338
140.00	0.06267	0.08933	0.12519	0.17415	0.22366	0.26277	0.28868	0.30321	0.30962
150.00	0.06711	0.09443	0.12611	0.16391	0.20151	0.23214	0.25373	0.26739	0.27565
160.00	0.07287	0.10684	0.14352	0.17885	0.21073	0.23691	0.25674	0.27091	0.28135
170.00	0.08084	0.11868	0.15991	0.20040	0.23764	0.26807	0.29072	0.30615	0.31666
180.00	0.08988	0.12827	0.16780	0.20638	0.24196	0.27170	0.29479	0.31232	0.32629
190.00	0.08515	0.12378	0.16259	0.19871	0.22961	0.25347	0.27014	0.28136	0.28889
200.00	0.09125	0.13098	0.17126	0.20749	0.23680	0.25843	0.27281	0.28208	0.28779
210.00	0.10966	0.15810	0.20614	0.24724	0.27817	0.29951	0.31270	0.32086	0.32548
220.00	0.13174	0.19553	0.25796	0.31022	0.34808	0.37262	0.38664	0.39370	0.39607
230.00	0.15039	0.23020	0.30419	0.36394	0.40782	0.43797	0.45729	0.46853	0.47421
240.00	0.15898	0.24885	0.32805	0.38824	0.43072	0.45968	0.47898	0.49121	0.49880
250.00	0.16234	0.25112	0.32586	0.38045	0.41713	0.44032	0.45349	0.45980	0.46191
260.00	0.16817	0.25564	0.32712	0.37852	0.41352	0.43678	0.45100	0.45905	0.46311
270.00	0.17655	0.26649	0.33935	0.39190	0.42842	0.45361	0.46993	0.48010	0.48606
280.00	0.18497	0.27791	0.35131	0.40076	0.43207	0.45115	0.46158	0.46661	0.46841
290.00	0.18733	0.28047	0.35084	0.39605	0.42299	0.43790	0.44450	0.44597	0.44449
300.00	0.19089	0.28465	0.35510	0.39942	0.42494	0.43855	0.44418	0.44509	0.44352
310.00	0.18584	0.27948	0.34861	0.38988	0.41064	0.41833	0.41726	0.41122	0.40291
320.00	0.16975	0.25857	0.32071	0.35533	0.37046	0.37349	0.36874	0.35986	0.34933
330.00	0.15230	0.23328	0.29309	0.32759	0.34280	0.34586	0.34129	0.33286	0.32296
340.00	0.14729	0.22593	0.28674	0.32565	0.34751	0.35811	0.36155	0.36068	0.35748
350.00	0.15385	0.23443	0.30338	0.35331	0.38533	0.40371	0.41277	0.41557	0.41457
360.00	0.16306	0.24356	0.31463	0.36848	0.40423	0.42578	0.43796	0.44381	0.44585

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.46385	0.46279	0.45977	0.45521	0.44936	0.44261	0.43518	0.42650	0.41721
20.00	0.42218	0.42133	0.41846	0.41399	0.40819	0.40140	0.39390	0.38542	0.37615
30.00	0.36591	0.36353	0.36020	0.35618	0.35158	0.34655	0.34114	0.33529	0.32856
40.00	0.36610	0.36575	0.36377	0.36050	0.35614	0.35096	0.34514	0.33881	0.33135
50.00	0.35259	0.35206	0.35015	0.34721	0.34342	0.33899	0.33403	0.32865	0.32248
60.00	0.36345	0.36568	0.36590	0.36463	0.36220	0.35886	0.35480	0.35019	0.34493
70.00	0.36977	0.37238	0.37232	0.37024	0.36660	0.36179	0.35609	0.34975	0.34293
80.00	0.32494	0.32184	0.31692	0.31095	0.30435	0.29742	0.29035	0.28324	0.27617
90.00	0.27973	0.27445	0.26788	0.26063	0.25308	0.24546	0.23792	0.23055	0.22338
100.00	0.27417	0.26604	0.25734	0.24862	0.24012	0.23199	0.22425	0.21691	0.20993
110.00	0.35431	0.34599	0.33613	0.32560	0.31494	0.30443	0.29423	0.28441	0.2[illegible]
120.00	0.40547	0.40093	0.39385	0.38531	0.37598	0.36630	0.35649	0.34672	0.33[illegible]
130.00	0.37221	0.36645	0.35814	0.34839	0.33787	0.32701	0.31606	0.30519	0.29445
140.00	0.31001	0.30672	0.30141	0.29493	0.28781	0.28041	0.27291	0.26545	0.25801
150.00	0.27990	0.28153	0.28153	0.28033	0.27820	0.27540	0.27203	0.26813	0.26376
160.00	0.28908	0.29480	0.29912	0.30214	0.30397	0.30480	0.30464	0.30362	0.30176
170.00	0.32340	0.32734	0.32932	0.32968	0.32865	0.32656	0.32354	0.31974	0.31525
180.00	0.33755	0.34678	0.35447	0.36068	0.36544	0.36893	0.37112	0.37212	0.37158
190.00	0.29385	0.29706	0.29910	0.30020	0.30051	0.30016	0.29921	0.29766	0.29491
200.00	0.29108	0.29280	0.29344	0.29326	0.29239	0.29101	0.28915	0.28678	0.28311
210.00	0.32790	0.32904	0.32925	0.32866	0.32741	0.32560	0.32327	0.32036	0.31566
220.00	0.39547	0.39310	0.38957	0.38518	0.38028	0.37503	0.36952	0.36368	0.35615
230.00	0.47611	0.47553	0.47311	0.46928	0.46452	0.45900	0.45290	0.44595	0.43703
240.00	0.50322	0.50537	0.50567	0.50445	0.50203	0.49856	0.49419	0.48834	0.48021
250.00	0.46141	0.45922	0.45581	0.45145	0.44641	0.44081	0.43476	0.42763	0.41869
260.00	0.46438	0.46358	0.46116	0.45735	0.45249	0.44675	0.44030	0.43256	0.42257
270.00	0.48883	0.48907	0.48723	0.48363	0.47861	0.47249	0.46550	0.45710	0.44604
280.00	0.46801	0.46604	0.46292	0.45880	0.45386	0.44832	0.44225	0.43477	0.42505
290.00	0.44099	0.43608	0.43012	0.42325	0.41569	0.40766	0.39924	0.38964	0.37837
300.00	0.44029	0.43591	0.43062	0.42448	0.41769	0.41036	0.40260	0.39365	0.38284
310.00	0.39353	0.38367	0.37371	0.36376	0.35393	0.34437	0.33506	0.32542	0.31479
320.00	0.33840	0.32753	0.31708	0.30703	0.29739	0.28819	0.27934	0.27036	0.26100
330.00	0.31303	0.30356	0.29487	0.28690	0.27954	0.27277	0.26644	0.25988	0.25308
340.00	0.35320	0.34829	0.34308	0.33765	0.33200	0.32631	0.32051	0.31397	0.30704
350.00	0.41138	0.40677	0.40129	0.39514	0.38840	0.38139	0.37414	0.36583	0.35731
360.00	0.44568	0.44408	0.44158	0.43839	0.43448	0.43018	0.42545	0.41930	0.41[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.14479	15.24	0.00	0.12312
30.48	0.00	0.10388	45.72	0.00	0.08683
60.96	0.00	0.07229	76.20	0.00	0.06140
91.44	0.00	0.05842	106.68	0.00	0.06283
121.92	0.00	0.05902	137.16	0.00	0.05721
152.40	0.00	0.05401	167.64	0.00	0.05425
182.88	0.00	0.05770	198.12	0.00	0.05975
213.36	0.00	0.06598	213.36	15.24	0.06317
213.36	30.48	0.06267	213.36	45.72	0.06289
213.36	60.96	0.06357	213.36	76.20	0.06193
213.36	91.44	0.04784	213.36	106.68	0.03427
213.36	121.92	0.03092	213.36	137.16	0.03185
213.36	152.40	0.03419	213.36	167.64	0.04036
213.36	182.88	0.04968	213.36	198.12	0.05992
213.36	213.36	0.07179	213.36	221.29	0.07792
198.12	221.29	0.07507	182.88	221.29	0.07487
167.64	221.29	0.07831	152.40	221.29	0.08691
137.16	221.29	0.07804	121.92	221.29	0.08664
106.68	221.29	0.10634	91.44	221.29	0.10039
76.20	221.29	0.09666	60.96	221.29	0.09882
45.72	221.29	0.11171	30.48	221.29	0.13281
15.24	221.29	0.15699	0.00	221.29	0.18336
0.00	213.36	0.17598	0.00	198.12	0.16300
0.00	182.88	0.14813	0.00	167.64	0.13398
0.00	152.40	0.11973	0.00	137.16	0.10947
0.00	121.92	0.10367	0.00	106.68	0.09681
0.00	91.44	0.09478	0.00	76.20	0.09661
0.00	60.96	0.10416	0.00	45.72	0.11521
0.00	30.48	0.12726	0.00	15.24	0.13717

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR,	YR,	ZELEV,	ZFLAG)	OF TYPE	NETWORK GRID-ID
1	1ST HIGHEST VALUE IS	0.30090 AT (	-499.54,	-239.36,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	0.30046 AT (	-542.84,	-264.36,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	0.30021 AT (	-456.24,	-214.36,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	0.29906 AT (	-586.14,	-289.36,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	0.29821 AT (	-412.94,	-189.36,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.29684 AT (	-629.44,	-314.36,	0.00,	0.00)	GP	POL1
2	1ST HIGHEST VALUE IS	0.13675 AT (	-467.85,	-371.45,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	0.13655 AT (	-429.55,	-339.31,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	0.13642 AT (	-506.16,	-403.59,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	0.13602 AT (	-759.35,	-389.36,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	0.13598 AT (	-716.04,	-364.36,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.13570 AT (	-544.46,	-435.73,	0.00,	0.00)	GP	POL1
3	1ST HIGHEST VALUE IS	0.13604 AT (	106.68,	360.64,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	0.13214 AT (	106.68,	410.64,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	0.13188 AT (	106.68,	310.64,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	0.12515 AT (	106.68,	460.64,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	0.11831 AT (	63.27,	356.84,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.11786 AT (	158.77,	406.08,	0.00,	0.00)	GP	POL1
ALL	1ST HIGHEST VALUE IS	0.50567 AT (	-499.54,	-239.36,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	0.50537 AT (	-456.24,	-214.36,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	0.50445 AT (	-542.84,	-264.36,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	0.50322 AT (	-412.94,	-189.36,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	0.50203 AT (	-586.14,	-289.36,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.49880 AT (	-369.63,	-164.36,	0.00,	0.00)	GP	POL1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** Message Summary For ISC2 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 328 Informational Message(s)

A Total of 328 Calm Hours Identified

********* FATAL ERROR MESSAGES *********
*** NONE ***

********* WARNING MESSAGES *********
*** NONE ***

****
*** ISCST2 Finishes Successfully ***
****

Run: FMXTCAA

1,1,1-Trichloroethane Annual Average Emission Rates

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                  ISCST2 EXTENDED MODEL - (DATED 92062)

                  IBM-PC VERSION (1.01)
                  (C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
                  SERIAL NUMBER 8025 SOLD TO CROSS TESSITORE & ASSOCIATES
                  RUN BEGAN ON 12/01/92 AT 17:11:55


CO STARTING
CO TITLEONE Foamex - Annual Avg Emission Rates - 1,1,1-Trichloroethane
CO TITLETWO Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME PERIOD
CO POLLUTID OTHER
CO RUNORNOT RUN
CO FINISHED


SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS           YS           ZS

SO LOCATION     1 POINT       175.8720     119.7880        .0000
SO LOCATION     2 POINT       152.4020      17.0690        .0000
SO LOCATION     3 POINT       108.5100      97.2320        .0000
SO LOCATION     4 POINT       108.5100     110.6440        .0000
SO LOCATION     5 POINT       108.5100     119.7880        .0000
SO LOCATION     6 POINT       108.5100     135.6380        .0000
SO LOCATION     7 POINT       108.5100     152.7070        .0000
SO LOCATION     8 POINT       108.5100     168.8610        .0000
SO LOCATION     9 POINT       108.5100     183.7970        .0000
SO LOCATION    10 POINT       108.5100     192.9410        .0000
SO LOCATION    11 POINT       147.5250      97.2320        .0000
SO LOCATION    12 POINT       147.5250     110.6440        .0000
SO LOCATION    13 POINT       147.5250     119.7880        .0000
SO LOCATION    14 POINT       147.5250     135.6380        .0000
SO LOCATION    15 POINT       147.5250     155.4500        .0000
SO LOCATION    16 POINT       147.5250     168.8610        .0000
SO LOCATION    17 POINT       147.5250     183.7970        .0000
SO LOCATION    18 POINT       147.5250     192.9410        .0000
SO LOCATION    19 POINT       182.8820     102.5660        .0000

** Source Parameter Cards:
** POINT:   SRCID        QS           HS         TS         VS         DS
** VOLUME:  SRCID        QS           HS       SYINIT     SZINIT
** AREA:    SRCID        QS           HS        XINIT

SO SRCPARAM     1   1.64011452       38.1000   299.8200   24.3810      .7021
SO SRCPARAM     2   0.95673347       38.1000   299.8200   24.3810      .9929
SO SRCPARAM     3   0.015959064    13.1070   299.8200   24.3810    1.1100
SO SRCPARAM     4   0.015959064    13.1070   299.8200   24.3810    1.1100
SO SRCPARAM     5   0.015959064    13.1070   299.8200   24.3810    1.1100
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SO SRCPARAM     6   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     7   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     8   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     9   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    10   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    11   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    12   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    13   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    14   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    15   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    16   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    17   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    18   0.015959064    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    19   0.015959064    15.8500   299.8200    24.3810     1.1100

** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     1
SO BUILDHGT     1     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     1       .00       .00       .00       .00       .00       .00
SO BUILDHGT     1       .00       .00     15.24     15.24     15.24       .00
SO BUILDHGT     1       .00     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     1       .00       .00       .00       .00       .00       .00
SO BUILDHGT     1       .00       .00     15.24     15.24     15.24     15.24
** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     2
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     3     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     3     12.19     12.19     15.24     15.24     15.24     15.24
SO BUILDHGT     3     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     3     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     3     12.19     12.19     15.24     15.24     15.24     15.24
SO BUILDHGT     3     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     4     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     4     10.67     12.19     12.19     15.24     15.24     15.24
SO BUILDHGT     4     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     4     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     4     10.67     12.19     12.19     15.24     15.24     15.24
SO BUILDHGT     4     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     5     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     5     10.67     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT     5     15.24     10.67     10.67     12.19     12.19     12.19
SO BUILDHGT     5     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     5     10.67     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT     5     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     6     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     6     10.67     10.67     10.67     12.19     12.19     10.67
SO BUILDHGT     6     10.67     10.67     10.67     10.67     12.19     12.19
SO BUILDHGT     6     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     6     10.67     10.67     10.67     12.19     12.19     15.24
SO BUILDHGT     6     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     7     10.67     10.67     10.67     10.67     10.67     10.67
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SO BUILDHGT     7     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     7     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     7     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     7     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     7     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     8     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     8     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     8     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     8     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     8     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     8     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     9     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     9     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     9     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     9     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     9     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     9     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    10     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    10     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    10     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    10     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    10     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    10     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    11     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    11     15.24     15.24     12.19     15.24     15.24     15.24
SO BUILDHGT    11     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    11     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    11     15.24     15.24     12.19     15.24     15.24     15.24
SO BUILDHGT    11     15.24     15SO BUILDHGT    11     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    12     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    12     12.19     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT    12     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    12     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    12     12.19     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT    12     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    13     15.24     15.24     15.24     15.24     15.24     10.67
SO BUILDHGT    13     12.19     12.19     12.19     12.19     12.19     15.24
SO BUILDHGT    13     15.24     15.24     15.24     15.24     15.24     12.19
SO BUILDHGT    13     15.24     15.24     15.24     15.24     15.24     10.67
SO BUILDHGT    13     12.19     12.19     12.19     12.19     12.19     15.24
SO BUILDHGT    13     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    14     15.24     15.24     15.24     15.24     10.67     10.67
SO BUILDHGT    14     10.67     10.67     10.67     12.19     12.19     12.19
SO BUILDHGT    14     15.24     15.24     15.24     12.19     12.19     12.19
SO BUILDHGT    14     12.19     15.24     15.24     15.24     10.97     10.67
SO BUILDHGT    14     10.67     10.67     10.67     12.19     12.19     12.19
SO BUILDHGT    14     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    15     15.24     15.24     15.24     10.67     10.67     10.67
SO BUILDHGT    15     10.67     10.67     10.67     10.67     10.67     12.19
SO BUILDHGT    15     12.19     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    15     12.19     12.19     12.19     10.97     10.97     10.97
SO BUILDHGT    15     10.97     10.67     10.67     10.67     10.67     12.19
SO BUILDHGT    15     12.19     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT    16     12.19     12.19     10.67     10.67     10.67     10.67
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SO BUILDHGT   16    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   16    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   16    10.67    10.67    10.67    10.97    10.97    10.97
SO BUILDHGT   16    10.97    10.97    10.97    10.67    10.67    10.67
SO BUILDHGT   16    12.19    12.19    12.19    12.19    12.19    12.19
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.97
SO BUILDHGT   17    10.97    10.97    10.97    10.97    10.97    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.97    10.97    10.97    10.97    10.97
SO BUILDHGT   18    10.97    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   19    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    12.19    12.19    12.19    12.19
SO BUILDHGT   19    12.19    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    12.19    12.19    12.19    12.19
SO BUILDHGT   19    12.19    15.24    15.24    15.24    15.24    15.24
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      1
SO BUILDWID    1    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    1      .00      .00      .00      .00      .00      .00
SO BUILDWID    1      .00      .00    93.84    90.70    83.88      .00
SO BUILDWID    1      .00    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    1      .00      .00      .00      .00      .00      .00
SO BUILDWID    1      .00      .00    93.84    90.70    83.88    75.55
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      2
SO BUILDWID    2    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    2    88.38    80.55    71.39    81.44    89.02    93.89
SO BUILDWID    2    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    2    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    2    88.38    80.55    71.39    81.44    89.02    93.89
SO BUILDWID    2    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    3   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    3   103.26   104.35    71.39    81.44    89.02    93.89
SO BUILDWID    3    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    3   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    3   103.26   104.35    71.39    81.44    89.02    93.89
SO BUILDWID    3    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    4   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    4   214.49   104.35   109.35    81.44    89.02    93.89
SO BUILDWID    4    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    4   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    4   214.49   104.35   109.35    81.44    89.02    93.89
SO BUILDWID    4    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    5   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    5   214.49   104.34   109.35   118.25    89.02    93.89
SO BUILDWID    5    94.53   176.60   161.59   103.82    93.09    77.16
SO BUILDWID    5   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    5   214.49   104.34   109.35   118.25    89.02    93.89
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SO BUILDWID	5	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	118.94	192.50
SO BUILDWID	6	186.24	176.60	161.59	148.74	83.85	77.16
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	123.55	93.89
SO BUILDWID	6	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	77.16
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	14	84.68	91.23	95.01	95.24	215.24	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12
SO BUILDWID	14	95.91	95.96	94.76	105.03	93.09	77.16
SO BUILDWID	14	84.68	91.23	95.01	95.24	24.73	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12

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SO BUILDWID    14    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    15    84.68    91.23    92.21   209.06   215.24   215.89
SO BUILDWID    15   214.49   206.95   193.13   194.58   194.74   125.12
SO BUILDWID    15   125.05   176.60   161.59   148.74   138.57   125.52
SO BUILDWID    15    84.68    91.23    91.74    25.00    24.73    23.71
SO BUILDWID    15    21.98   206.95   193.13   194.58   194.74   125.12
SO BUILDWID    15   125.05    95.01    94.76    90.70    83.88    75.55
SO BUILDWID    16    84.68    89.55   196.53   209.06   215.24   215.89
SO BUILDWID    16   214.49   206.95   193.13   194.58   194.74   192.50
SO BUILDWID    16   186.24   176.60   161.59   148.74   138.57   125.52
SO BUILDWID    16   154.11   178.03   196.53    24.84    24.73    23.71
SO BUILDWID    16    21.98    19.58    16.59   194.58   194.74   192.50
SO BUILDWID    16   123.25   122.42   116.07   106.20    93.09    77.16
SO BUILDWID    17   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    17   214.49   206.95   193.13   194.58   194.74   192.50
SO BUILDWID    17   186.24   176.60   161.59   148.74   138.57   125.52
SO BUILDWID    17   154.11   178.03   196.53   209.06   215.24    22.19
SO BUILDWID    17    21.98    19.58    16.91    19.85    21.98   192.50
SO BUILDWID    17   186.24   176.60   161.59   148.74   138.57   125.52
SO BUILDWID    18   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    18   214.49   206.95   193.13   194.58   194.74   192.50
SO BUILDWID    18   186.24   176.60   161.59   148.74   138.57   125.52
SO BUILDWID    18   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    18   214.49    17.85    16.91    19.85    22.19    23.85
SO BUILDWID    18    24.21   176.60   161.59   148.74   138.57   125.52
SO BUILDWID    19    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    19    88.38    80.55   109.35   118.25   123.55   125.12
SO BUILDWID    19   125.05    95.83    94.76    90.70    83.88    75.55
SO BUILDWID    19    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    19    88.38    80.55   109.35   118.25   123.55   125.12
SO BUILDWID    19   125.05    95.83    94.76    90.70    83.88    75.55

SO SRCGROUP 1 1
SO SRCGROUP 2 2
SO SRCGROUP 3 3-19
SO SRCGROUP ALL
SO FINISHED


RE STARTING
RE GRIDPOLR POL1 STA
RE GRIDPOLR POL1 ORIG   106.68  110.6424
RE GRIDPOLR POL1 DIST   150. 200. 250. 300. 350. 400. 450. 500. 550.
RE GRIDPOLR POL1 DIST   600. 650. 700. 750. 800. 850. 900. 950. 1000.
RE GRIDPOLR POL1 GDIR   36  10.  10.
RE GRIDPOLR POL1 END
RE DISCCART          .00        .00
RE DISCCART        15.24        .00
RE DISCCART        30.48        .00
RE DISCCART        45.72        .00
RE DISCCART        60.96        .00
RE DISCCART        76.20        .00
RE DISCCART        91.44        .00
RE DISCCART       106.68        .00
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RE DISCCART	121.92	.00
RE DISCCART	137.16	.00
RE DISCCART	152.40	.00
RE DISCCART	167.64	.00
RE DISCCART	182.88	.00
RE DISCCART	198.12	.00
RE DISCCART	213.36	.00
RE DISCCART	213.36	15.24
RE DISCCART	213.36	30.48
RE DISCCART	213.36	45.72
RE DISCCART	213.36	60.96
RE DISCCART	213.36	76.20
RE DISCCART	213.36	91.44
RE DISCCART	213.36	106.68
RE DISCCART	213.36	121.92
RE DISCCART	213.36	137.16
RE DISCCART	213.36	152.40
RE DISCCART	213.36	167.64
RE DISCCART	213.36	182.88
RE DISCCART	213.36	198.12
RE DISCCART	213.36	213.36
RE DISCCART	213.36	221.29
RE DISCCART	198.12	221.29
RE DISCCART	182.88	221.29
RE DISCCART	167.64	221.29
RE DISCCART	152.40	221.29
RE DISCCART	137.16	221.29
RE DISCCART	121.92	221.29
RE DISCCART	106.68	221.29
RE DISCCART	91.44	221.29
RE DISCCART	76.20	221.29
RE DISCCART	60.96	221.29
RE DISCCART	45.72	221.29
RE DISCCART	30.48	221.29
RE DISCCART	15.24	221.29
RE DISCCART	.00	221.29
RE DISCCART	.00	213.36
RE DISCCART	.00	198.12
RE DISCCART	.00	182.88
RE DISCCART	.00	167.64
RE DISCCART	.00	152.40
RE DISCCART	.00	137.16
RE DISCCART	.00	121.92
RE DISCCART	.00	106.68
RE DISCCART	.00	91.44
RE DISCCART	.00	76.20
RE DISCCART	.00	60.96
RE DISCCART	.00	45.72
RE DISCCART	.00	30.48
RE DISCCART	.00	15.24

RE FINISHED

RE STARTING

```
ME INPUTFIL c:\models\iscst2\foamex\orltmp86.BIN     UNFORM
ME ANEMHGHT   10.000 METERS
ME SURFDATA  12815  1986           SURFNAME
ME UAIRDATA  12842  1986           UAIRNAME
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU FINISHED

**************************************
*** SETUP Finishes Successfully ***
**************************************
```

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:

1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

el Calculates PERIOD Averages Only

**This Run Includes: 19 Source(s); 4 Source Group(s); and 706 Receptor(s)

**The Model Assumes A Pollutant Type of: OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Input Runstream File: C:\MODELS\ISCST2\FOAMEX\FMXTCAA.NEW ; **Output Print File: C:\MODELS\ISCST2\FOAMEX\FMXTCAA.LST

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
1	0	0.16401E+01	175.9	119.8	0.0	38.10	299.82	24.38	0.70	YES	
2	0	0.95673E+00	152.4	17.1	0.0	38.10	299.82	24.38	0.99	YES	
3	0	0.15959E-01	108.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
4	0	0.15959E-01	108.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
5	0	0.15959E-01	108.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
6	0	0.15959E-01	108.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
7	0	0.15959E-01	108.5	152.7	0.0	13.11	299.82	24.38	1.11	YES	
8	0	0.15959E-01	108.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
9	0	0.15959E-01	108.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
10	0	0.15959E-01	108.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
11	0	0.15959E-01	147.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
12	0	0.15959E-01	147.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
13	0	0.15959E-01	147.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
14	0	0.15959E-01	147.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
15	0	0.15959E-01	147.5	155.4	0.0	13.11	299.82	24.38	1.11	YES	
16	0	0.15959E-01	147.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
17	0	0.15959E-01	147.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
18	0	0.15959E-01	147.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
19	0	0.15959E-01	182.9	102.6	0.0	15.85	299.82	24.38	1.11	YES	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs											
1	1	,										
2	2	,										
3	3	, 4	, 5	, 6	, 7	, 8	, 9	, 10	, 11	, 12	, 13	, 14 ,
	15	, 16	, 17	, 18	, 19	,						
ALL	1	, 2	, 3	, 4	, 5	, 6	, 7	, 8	, 9	, 10	, 11	, 12 ,
	13	, 14	, 15	, 16	, 17	, 18	, 19	,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0.0,	0
13	0.0,	0.0,	0	14	0.0,	0.0,	0	15	15.2,	93.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	0.0,	0.0,	0
19	0.0,	0.0,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0.0,	0
31	0.0,	0.0,	0	32	0.0,	0.0,	0	33	15.2,	93.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 4

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 5

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.3,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	94.5,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	12.2,	103.8,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.3,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 6

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	118.9,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	12.2,	83.9,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 7

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 8

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 9

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 10

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5	[illegible]

SOURCE ID: 11

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 12

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 13

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	12.2,	77.2,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 14

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	95.2,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	12.2,	105.0,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	12.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	95.2,	0	23	11.0,	24.7,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 15

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	92.2,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	12.2,	84.7,	0	20	12.2,	91.2,	0	21	12.2,	91.7,	0	22	11.0,	25.0,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 16

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	89.6,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	11.0,	24.8,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.6,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	123.3,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 17

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	11.0,	22.2,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.0,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 18

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	11.0,	17.8,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.2,	0	30	11.0,	23.8,	0
31	11.0,	24.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 19

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	15.2,	95.8,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.8,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 106.68 ; Y-ORIG = 110.64 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

150.0,	200.0,	250.0,	300.0,	350.0,	400.0,	450.0,	500.0,	550.0,	600.0,
650.0,	700.0,	750.0,	800.0,	850.0,	900.0,	950.0,	1000.0,		

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(0.0,	0.0,	0.0,	0.0);	(15.2,	0.0,	0.0,	0.0);
(30.5,	0.0,	0.0,	0.0);	(45.7,	0.0,	0.0,	0.0);
(61.0,	0.0,	0.0,	0.0);	(76.2,	0.0,	0.0,	0.0);
(91.4,	0.0,	0.0,	0.0);	(106.7,	0.0,	0.0,	0.0);
(121.9,	0.0,	0.0,	0.0);	(137.2,	0.0,	0.0,	0.0);
(152.4,	0.0,	0.0,	0.0);	(167.6,	0.0,	0.0,	0.0);
(182.9,	0.0,	0.0,	0.0);	(198.1,	0.0,	0.0,	0.0);
(213.4,	0.0,	0.0,	0.0);	(213.4,	15.2,	0.0,	0.0);
(213.4,	30.5,	0.0,	0.0);	(213.4,	45.7,	0.0,	0.0);
(213.4,	61.0,	0.0,	0.0);	(213.4,	76.2,	0.0,	0.0);
(213.4,	91.4,	0.0,	0.0);	(213.4,	106.7,	0.0,	0.0);
(213.4,	121.9,	0.0,	0.0);	(213.4,	137.2,	0.0,	0.0);
(213.4,	152.4,	0.0,	0.0);	(213.4,	167.6,	0.0,	0.0);
(213.4,	182.9,	0.0,	0.0);	(213.4,	198.1,	0.0,	0.0);
(213.4,	213.4,	0.0,	0.0);	(213.4,	221.3,	0.0,	0.0);
(198.1,	221.3,	0.0,	0.0);	(182.9,	221.3,	0.0,	0.0);
(167.6,	221.3,	0.0,	0.0);	(152.4,	221.3,	0.0,	0.0);
(137.2,	221.3,	0.0,	0.0);	(121.9,	221.3,	0.0,	0.0);
(106.7,	221.3,	0.0,	0.0);	(91.4,	221.3,	0.0,	0.0);
(76.2,	221.3,	0.0,	0.0);	(61.0,	221.3,	0.0,	0.0);
(45.7,	221.3,	0.0,	0.0);	(30.5,	221.3,	0.0,	0.0);
(15.2,	221.3,	0.0,	0.0);	(0.0,	221.3,	0.0,	0.0);
(0.0,	213.4,	0.0,	0.0);	(0.0,	198.1,	0.0,	0.0);
(0.0,	182.9,	0.0,	0.0);	(0.0,	167.6,	0.0,	0.0);
(0.0,	152.4,	0.0,	0.0);	(0.0,	137.2,	0.0,	0.0);
(0.0,	121.9,	0.0,	0.0);	(0.0,	106.7,	0.0,	0.0);
(0.0,	91.4,	0.0,	0.0);	(0.0,	76.2,	0.0,	0.0);
(0.0,	61.0,	0.0,	0.0);	(0.0,	45.7,	0.0,	0.0);
(0.0,	30.5,	0.0,	0.0);	(0.0,	15.2,	0.0,	0.0);

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 1.0 METER OR 3*ZLB *
IN DISTANCE. CALCULATIONS MAY NOT BE PERFORMED.

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
2	121.9	0.0	34.94
2	137.2	0.0	22.88
2	152.4	0.0	17.07
2	167.6	0.0	22.88
2	182.9	0.0	34.93
10	121.9	221.3	31.36
10	106.7	221.3	28.41
18	152.4	221.3	28.77
18	137.2	221.3	30.18
19	213.4	91.4	32.45
19	213.4	106.7	30.75
19	213.4	121.9	36.10

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: c:\models\iscst2\foamex\orltmp86.BIN FORMAT: UNFORM
SURFACE STATION NO.: 12815 UPPER AIR STATION NO.: 12842
NAME: SURFNAME NAME: UAIRNAME
YEAR: 1986 YEAR: 1986

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN
86	1	1	1	1.0	3.60	289.3	4	639.0	639.0
86	1	1	2	168.0	5.14	288.7	4	639.0	639.0
86	1	1	3	124.0	3.09	288.2	4	639.0	639.0
86	1	1	4	353.0	2.57	288.2	4	639.0	639.0
86	1	1	5	333.0	2.57	288.7	4	639.0	639.0
86	1	1	6	332.0	2.57	288.7	4	639.0	639.0
86	1	1	7	335.0	3.09	288.7	4	639.0	639.0
86	1	1	8	3.0	3.60	289.3	4	639.0	639.0
86	1	1	9	347.0	3.60	289.8	4	639.0	639.0
86	1	1	10	1.0	5.14	292.0	4	639.0	639.0
86	1	1	11	14.0	4.63	292.6	4	639.0	639.0
86	1	1	12	16.0	4.12	294.3	4	639.0	639.0
86	1	1	13	73.0	3.09	295.4	4	639.0	639.0
86	1	1	14	49.0	3.60	297.0	4	639.0	639.0
86	1	1	15	142.0	2.06	296.5	4	639.0	639.0
86	1	1	16	144.0	2.06	295.9	4	639.0	639.0
86	1	1	17	261.0	2.06	295.4	4	639.0	639.0
86	1	1	18	257.0	2.06	292.6	4	644.0	644.0
86	1	1	19	274.0	3.60	291.5	4	655.0	655.0
86	1	1	20	227.0	3.09	290.9	4	666.0	666.0
86	1	1	21	230.0	3.09	290.9	4	678.0	678.0
86	1	1	22	252.0	2.57	290.4	5	689.0	477.0
86	1	1	23	290.0	2.06	290.4	4	700.0	700.0
86	1	1	24	290.0	1.00	290.4	4	712.0	712.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.01516	0.06558	0.14034	0.21456	0.27316	0.31472	0.34399	0.36394	0.37704
20.00	0.00863	0.05109	0.12098	0.19269	0.24997	0.29054	0.31864	0.33764	0.34977
30.00	0.00396	0.03444	0.09401	0.16077	0.21501	0.25171	0.27488	0.28928	0.29750
40.00	0.00128	0.02141	0.07510	0.14318	0.20211	0.24381	0.27114	0.28933	0.30057
50.00	0.00036	0.01460	0.06400	0.13036	0.18897	0.23095	0.25866	0.27720	0.28892
60.00	0.00011	0.00889	0.04919	0.11186	0.17363	0.22180	0.25569	0.27953	0.29563
70.00	0.00003	0.00576	0.04196	0.10678	0.17526	0.22977	0.26741	0.29242	0.30777
80.00	0.00002	0.00491	0.03892	0.10053	0.16369	0.21112	0.24111	0.25871	0.26734
90.00	0.00002	0.00555	0.04073	0.09913	0.15466	0.19375	0.21679	0.22912	0.23392
100.00	0.00008	0.00902	0.05261	0.11708	0.17481	0.21298	0.23304	0.24119	0.24162
110.00	0.00026	0.01553	0.07547	0.15904	0.23401	0.28624	0.31670	0.33183	0.335[illegible]
120.00	0.00063	0.02066	0.08647	0.17443	0.25178	0.30609	0.33920	0.35741	0.3[illegible]
130.00	0.00142	0.02318	0.08271	0.15868	0.22428	0.26995	0.29778	0.31286	0.31831
140.00	0.00297	0.02589	0.07470	0.13179	0.17941	0.21252	0.23377	0.24636	0.25246
150.00	0.00596	0.03374	0.07943	0.12665	0.16444	0.19114	0.20983	0.22285	0.23182
160.00	0.01095	0.04764	0.09974	0.14583	0.17860	0.20048	0.21622	0.22804	0.23740
170.00	0.01752	0.06079	0.11845	0.17008	0.20838	0.23541	0.25539	0.26989	0.28049
180.00	0.02495	0.07119	0.12527	0.17058	0.20341	0.22717	0.24564	0.26065	0.27357
190.00	0.03346	0.08120	0.13230	0.17280	0.20049	0.21919	0.23190	0.24070	0.24712
200.00	0.04601	0.09670	0.14557	0.18276	0.20793	0.22480	0.23576	0.24281	0.24751
210.00	0.06438	0.12545	0.17901	0.21677	0.24102	0.25711	0.26757	0.27449	0.27928
220.00	0.08566	0.16211	0.22727	0.27242	0.30064	0.31785	0.32694	0.33089	0.33203
230.00	0.10293	0.19289	0.26957	0.32352	0.35885	0.38176	0.39548	0.40316	0.40721
240.00	0.10943	0.20254	0.28188	0.33869	0.37757	0.40425	0.42204	0.43389	0.44202
250.00	0.10618	0.19288	0.26459	0.31435	0.34723	0.36871	0.38205	0.39014	0.39498
260.00	0.10139	0.18509	0.25547	0.30530	0.33890	0.36112	0.37514	0.38368	0.38872
270.00	0.09831	0.18325	0.25775	0.31331	0.35307	0.38114	0.40034	0.41319	0.42158
280.00	0.09372	0.17611	0.24812	0.30099	0.33778	0.36307	0.37985	0.39088	0.39806
290.00	0.08941	0.17008	0.24018	0.29031	0.32342	0.34470	0.35738	0.36427	0.36759
300.00	0.08918	0.17365	0.24708	0.29893	0.33270	0.35453	0.36774	0.37516	0.37918
310.00	0.09041	0.17889	0.25363	0.30330	0.33219	0.34800	0.35446	0.35484	0.35208
320.00	0.08492	0.16865	0.23815	0.28271	0.30626	0.31660	0.31786	0.31364	0.30684
330.00	0.07079	0.14573	0.21202	0.25620	0.27940	0.28880	0.28908	0.28414	0.27685
340.00	0.05267	0.11862	0.18194	0.22742	0.25528	0.27151	0.28031	0.28416	0.28513
350.00	0.03608	0.09573	0.16406	0.22309	0.26659	0.29617	0.31557	0.32716	0.33346
360.00	0.02385	0.07953	0.15268	0.21918	0.26855	0.30198	0.32446	0.33880	0.34776

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.38532	0.39012	0.39215	0.39194	0.38989	0.38639	0.38175	0.37623	0.37006
20.00	0.35692	0.36063	0.36163	0.36045	0.35749	0.35313	0.34769	0.34144	0.33462
30.00	0.30171	0.30372	0.30424	0.30362	0.30205	0.29968	0.29663	0.29301	0.28892
40.00	0.30694	0.31029	0.31145	0.31088	0.30891	0.30581	0.30183	0.29717	0.29199
50.00	0.29589	0.29987	0.30178	0.30210	0.30111	0.29904	0.29609	0.29242	0.28817
60.00	0.30619	0.31298	0.31719	0.31942	0.32004	0.31935	0.31756	0.31488	0.31146
70.00	0.31621	0.32017	0.32125	0.32031	0.31790	0.31440	0.31008	0.30515	0.29978
80.00	0.26984	0.26866	0.26547	0.26110	0.25606	0.25064	0.24504	0.23936	0.23371
90.00	0.23374	0.23059	0.22591	0.22038	0.21438	0.20817	0.20190	0.19568	0.18959
100.00	0.23748	0.23113	0.22401	0.21672	0.20954	0.20261	0.19596	0.18963	0.18360
110.00	0.33308	0.32630	0.31758	0.30791	0.29785	0.28775	0.27782	0.26818	0.25890
120.00	0.36433	0.36016	0.35380	0.34621	0.33794	0.32933	0.32062	0.31191	0.30331
130.00	0.31739	0.31300	0.30658	0.29896	0.29063	0.28192	0.27302	0.26410	0.25524
140.00	0.25417	0.25331	0.25076	0.24707	0.24259	0.23757	0.23221	0.22664	0.22099
150.00	0.23800	0.24230	0.24506	0.24647	0.24668	0.24584	0.24410	0.24159	0.23847
160.00	0.24518	0.25172	0.25700	0.26099	0.26372	0.26525	0.26569	0.26519	0.26388
170.00	0.28829	0.29374	0.29710	0.29860	0.29847	0.29696	0.29432	0.29077	0.28650
180.00	0.28512	0.29532	0.30403	0.31115	0.31668	0.32070	0.32331	0.32467	0.32433
190.00	0.25210	0.25598	0.25889	0.26090	0.26207	0.26248	0.26221	0.26134	0.25890
200.00	0.25074	0.25287	0.25409	0.25451	0.25422	0.25332	0.25189	0.25000	0.24632
210.00	0.28260	0.28469	0.28565	0.28562	0.28472	0.28309	0.28085	0.27813	0.27295
220.00	0.33149	0.32984	0.32739	0.32435	0.32087	0.31704	0.31296	0.30862	0.30180
230.00	0.40875	0.40842	0.40662	0.40366	0.39978	0.39519	0.39005	0.38399	0.37521
240.00	0.44733	0.45033	0.45136	0.45070	0.44860	0.44527	0.44093	0.43478	0.42561
250.00	0.39747	0.39810	0.39720	0.39503	0.39179	0.38767	0.38284	0.37645	0.36789
260.00	0.39119	0.39165	0.39047	0.38797	0.38438	0.37992	0.37478	0.36807	0.35941
270.00	0.42652	0.42865	0.42848	0.42644	0.42289	0.41816	0.41250	0.40507	0.39548
280.00	0.40241	0.40452	0.40480	0.40357	0.40111	0.39762	0.39332	0.38740	0.37908
290.00	0.36840	0.36727	0.36460	0.36067	0.35575	0.35004	0.34371	0.33642	0.32709
300.00	0.38081	0.38056	0.37874	0.37560	0.37137	0.36624	0.36039	0.35371	0.34438
310.00	0.34746	0.34164	0.33502	0.32786	0.32037	0.31269	0.30495	0.29722	0.28767
320.00	0.29906	0.29092	0.28274	0.27465	0.26671	0.25896	0.25142	0.24408	0.23581
330.00	0.26911	0.26162	0.25464	0.24824	0.24238	0.23700	0.23201	0.22733	0.22199
340.00	0.28472	0.28345	0.28157	0.27920	0.27641	0.27327	0.26984	0.26616	0.26169
350.00	0.33656	0.33748	0.33677	0.33479	0.33178	0.32795	0.32345	0.31844	0.31285
360.00	0.35352	0.35724	0.35945	0.36043	0.36036	0.35937	0.35760	0.35514	0.35210

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 1 ***
INCLUDING SOURCE(S): 1 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.09946	15.24	0.00	0.07537
30.48	0.00	0.05481	45.72	0.00	0.03775
60.96	0.00	0.02460	76.20	0.00	0.01531
91.44	0.00	0.00935	106.68	0.00	0.00577
121.92	0.00	0.00366	137.16	0.00	0.00244
152.40	0.00	0.00179	167.64	0.00	0.00154
182.88	0.00	0.00161	198.12	0.00	0.00200
213.36	0.00	0.00287	213.36	15.24	0.00092
213.36	30.48	0.00020	213.36	45.72	0.00003
213.36	60.96	0.00000	213.36	76.20	0.00000
213.36	91.44	0.00000	213.36	106.68	0.00000
213.36	121.92	0.00000	213.36	137.16	0.00000
213.36	152.40	0.00000	213.36	167.64	0.00000
213.36	182.88	0.00001	213.36	198.12	0.00007
213.36	213.36	0.00047	213.36	221.29	0.00107
198.12	221.29	0.00076	182.88	221.29	0.00066
167.64	221.29	0.00066	152.40	221.29	0.00081
137.16	221.29	0.00122	121.92	221.29	0.00213
106.68	221.29	0.00411	91.44	221.29	0.00807
76.20	221.29	0.01492	60.96	221.29	0.02520
45.72	221.29	0.03903	30.48	221.29	0.05570
15.24	221.29	0.07440	0.00	221.29	0.09443
0.00	213.36	0.08618	0.00	198.12	0.07094
0.00	182.88	0.05744	0.00	167.64	0.04709
0.00	152.40	0.04046	0.00	137.16	0.03716
0.00	121.92	0.03635	0.00	106.68	0.03757
0.00	91.44	0.04105	0.00	76.20	0.04726
0.00	60.96	0.05601	0.00	45.72	0.06647
0.00	30.48	0.07759	0.00	15.24	0.08870

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2 ***
INCLUDING SOURCE(S): 2 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.05283	0.08662	0.11560	0.13750	0.15384	0.16541	0.17335	0.17880	0.18252
20.00	0.04772	0.07961	0.10713	0.12796	0.14336	0.15431	0.16172	0.16662	0.16981
30.00	0.04000	0.06887	0.09477	0.11416	0.12744	0.13607	0.14105	0.14363	0.14489
40.00	0.03128	0.05719	0.08212	0.10210	0.11682	0.12790	0.13558	0.14081	0.14450
50.00	0.02307	0.04777	0.07501	0.09821	0.11495	0.12651	0.13371	0.13775	0.13987
60.00	0.01650	0.03989	0.06680	0.08964	0.10668	0.11933	0.12866	0.13503	0.13917
70.00	0.01089	0.03013	0.05445	0.07796	0.09771	0.11348	0.12664	0.13696	0.14491
80.00	0.00591	0.01958	0.04159	0.06814	0.09379	0.11442	0.12943	0.13902	0.14430
90.00	0.00235	0.01145	0.03148	0.05825	0.08329	0.10203	0.11446	0.12204	0.12555
100.00	0.00063	0.00594	0.02164	0.04603	0.07051	0.08905	0.10071	0.10763	0.11056
110.00	0.00011	0.00255	0.01437	0.03685	0.06189	0.08264	0.09715	0.10660	0.11194
120.00	0.00001	0.00095	0.01023	0.03368	0.06544	0.09626	0.12088	0.13859	0.15033
130.00	0.00000	0.00037	0.00825	0.03424	0.07209	0.10816	0.13534	0.15318	0.16401
140.00	0.00000	0.00014	0.00569	0.02762	0.06111	0.09333	0.11727	0.13228	0.14100
150.00	0.00000	0.00005	0.00316	0.01807	0.04264	0.06717	0.08582	0.09794	0.10567
160.00	0.00000	0.00004	0.00224	0.01338	0.03312	0.05434	0.07194	0.08495	0.09478
170.00	0.00000	0.00006	0.00273	0.01541	0.03760	0.06084	0.07961	0.09305	0.10284
180.00	0.00000	0.00022	0.00443	0.01945	0.04317	0.06714	0.08654	0.10103	0.11223
190.00	0.00002	0.00088	0.00750	0.02417	0.04674	0.06786	0.08405	0.09564	0.10381
200.00	0.00020	0.00327	0.01461	0.03422	0.05627	0.07528	0.08934	0.09939	0.10617
210.00	0.00092	0.00869	0.02874	0.05627	0.08227	0.10199	0.11502	0.12363	0.12873
220.00	0.00249	0.01542	0.04431	0.08096	0.11359	0.13732	0.15325	0.16345	0.16909
230.00	0.00540	0.02198	0.05354	0.09145	0.12604	0.15300	0.17308	0.18674	0.19537
240.00	0.01004	0.03084	0.06275	0.09610	0.12410	0.14543	0.16173	0.17335	0.18157
250.00	0.01663	0.04084	0.07412	0.10711	0.13356	0.15265	0.16533	0.17289	0.17709
260.00	0.02579	0.05198	0.08358	0.11378	0.13871	0.15842	0.17285	0.18303	0.19015
270.00	0.03702	0.06620	0.09506	0.12000	0.13990	0.15571	0.16749	0.17623	0.18282
280.00	0.04706	0.08075	0.11008	0.13188	0.14732	0.15800	0.16491	0.16931	0.17225
290.00	0.05333	0.08894	0.11888	0.14047	0.15559	0.16561	0.17189	0.17580	0.17828
300.00	0.05596	0.09047	0.11807	0.13695	0.14967	0.15744	0.16181	0.16425	0.16562
310.00	0.05612	0.08848	0.11370	0.13029	0.14063	0.14562	0.14697	0.14635	0.14472
320.00	0.05522	0.08469	0.10685	0.12100	0.12959	0.13334	0.13390	0.13272	0.13068
330.00	0.05513	0.08355	0.10463	0.11801	0.12605	0.12959	0.13024	0.12935	0.12771
340.00	0.05610	0.08634	0.11017	0.12681	0.13814	0.14487	0.14842	0.15007	0.15054
350.00	0.05636	0.08801	0.11356	0.13186	0.14473	0.15292	0.15780	0.16061	0.16208
360.00	0.05526	0.08799	0.11522	0.13534	0.15007	0.16017	0.16696	0.17167	0.17503

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2 ***
INCLUDING SOURCE(S): 2 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.18489	0.18615	0.18652	0.18613	0.18512	0.18360	0.18168	0.17840	0.17459
20.00	0.17168	0.17247	0.17237	0.17152	0.17007	0.16814	0.16582	0.16256	0.15851
30.00	0.14536	0.14531	0.14488	0.14413	0.14313	0.14191	0.14048	0.13864	0.13579
40.00	0.14708	0.14876	0.14964	0.14981	0.14937	0.14840	0.14699	0.14522	0.14211
50.00	0.14089	0.14120	0.14103	0.14050	0.13970	0.13866	0.13742	0.13601	0.13383
60.00	0.14180	0.14332	0.14400	0.14405	0.14363	0.14287	0.14185	0.14063	0.13901
70.00	0.15089	0.15520	0.15799	0.15946	0.15980	0.15922	0.15789	0.15598	0.15363
80.00	0.14672	0.14738	0.14688	0.14561	0.14379	0.14157	0.13907	0.13637	0.13353
90.00	0.12636	0.12562	0.12395	0.12174	0.11922	0.11652	0.11374	0.11092	0.10811
100.00	0.11091	0.10983	0.10801	0.10581	0.10343	0.10097	0.09849	0.09604	0.09363
110.00	0.11421	0.11452	0.11375	0.11235	0.11059	0.10864	0.10659	0.10451	0.10243
120.00	0.15697	0.15994	0.16064	0.15986	0.15812	0.15575	0.15298	0.14997	0.1[illegible]
130.00	0.16894	0.16983	0.16837	0.16549	0.16176	0.15751	0.15297	0.14830	0.14380
140.00	0.14449	0.14454	0.14274	0.13997	0.13672	0.13324	0.12969	0.12615	0.12266
150.00	0.10981	0.11164	0.11222	0.11214	0.11167	0.11093	0.10999	0.10888	0.10763
160.00	0.10203	0.10752	0.11192	0.11557	0.11860	0.12105	0.12295	0.12434	0.12526
170.00	0.10955	0.11420	0.11763	0.12024	0.12220	0.12361	0.12452	0.12499	0.12506
180.00	0.12069	0.12745	0.13322	0.13828	0.14272	0.14654	0.14974	0.15234	0.15436
190.00	0.10930	0.11310	0.11592	0.11809	0.11977	0.12105	0.12198	0.12259	0.12291
200.00	0.11057	0.11347	0.11549	0.11693	0.11794	0.11859	0.11894	0.11902	0.11886
210.00	0.13175	0.13380	0.13537	0.13664	0.13761	0.13829	0.13865	0.13868	0.13840
220.00	0.17167	0.17241	0.17199	0.17079	0.16908	0.16702	0.16473	0.16228	0.15974
230.00	0.20053	0.20345	0.20483	0.20513	0.20464	0.20355	0.20200	0.20008	0.19786
240.00	0.18763	0.19225	0.19584	0.19866	0.20082	0.20240	0.20344	0.20397	0.20403
250.00	0.17935	0.18049	0.18098	0.18103	0.18077	0.18026	0.17952	0.17857	0.17696
260.00	0.19513	0.19851	0.20062	0.20170	0.20191	0.20138	0.20022	0.19853	0.19529
270.00	0.18777	0.19132	0.19365	0.19490	0.19521	0.19471	0.19353	0.19178	0.18804
280.00	0.17425	0.17556	0.17633	0.17664	0.17655	0.17611	0.17536	0.17395	0.17126
290.00	0.17973	0.18033	0.18023	0.17951	0.17825	0.17655	0.17446	0.17131	0.16738
300.00	0.16627	0.16636	0.16598	0.16519	0.16404	0.16256	0.16081	0.15789	0.15458
310.00	0.14258	0.14019	0.13769	0.13516	0.13263	0.13013	0.12766	0.12442	0.12121
320.00	0.12821	0.12555	0.12283	0.12011	0.11744	0.11481	0.11224	0.10899	0.10587
330.00	0.12571	0.12357	0.12139	0.11922	0.11711	0.11504	0.11297	0.11012	0.10740
340.00	0.15024	0.14940	0.14818	0.14667	0.14494	0.14305	0.14098	0.13780	0.13469
350.00	0.16258	0.16236	0.16158	0.16036	0.15878	0.15692	0.15483	0.15140	0.14797
360.00	0.17739	0.17897	0.17990	0.18027	0.18017	0.17966	0.17880	0.17632	0.17357

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 2 ***
INCLUDING SOURCE(S): 2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.00400	15.24	0.00	0.00177
30.48	0.00	0.00062	45.72	0.00	0.00016
60.96	0.00	0.00003	76.20	0.00	0.00000
91.44	0.00	0.00000	106.68	0.00	0.00000
121.92	0.00	0.00000	137.16	0.00	0.00000
152.40	0.00	0.00000	167.64	0.00	0.00000
182.88	0.00	0.00000	198.12	0.00	0.00000
213.36	0.00	0.00000	213.36	15.24	0.00000
213.36	30.48	0.00000	213.36	45.72	0.00000
213.36	60.96	0.00000	213.36	76.20	0.00001
213.36	91.44	0.00005	213.36	106.68	0.00022
213.36	121.92	0.00070	213.36	137.16	0.00181
213.36	152.40	0.00388	213.36	167.64	0.00721
213.36	182.88	0.01194	213.36	198.12	0.01800
213.36	213.36	0.02528	213.36	221.29	0.02960
198.12	221.29	0.02855	182.88	221.29	0.02808
167.64	221.29	0.02799	152.40	221.29	0.02812
137.16	221.29	0.02840	121.92	221.29	0.02898
106.68	221.29	0.03005	91.44	221.29	0.03174
76.20	221.29	0.03404	60.96	221.29	0.03698
45.72	221.29	0.04069	30.48	221.29	0.04538
15.24	221.29	0.05115	0.00	221.29	0.05797
0.00	213.36	0.05454	0.00	198.12	0.04805
0.00	182.88	0.04170	0.00	167.64	0.03559
0.00	152.40	0.02981	0.00	137.16	0.02457
0.00	121.92	0.01967	0.00	106.68	0.01514
0.00	91.44	0.01116	0.00	76.20	0.00795
0.00	60.96	0.00570	0.00	45.72	0.00438
0.00	30.48	0.00378	0.00	15.24	0.00367

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3 ***
INCLUDING SOURCE(S): 3 , 4 , 5 , 6 , 7 , 8 , 9 ,
10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.24434	0.31645	0.34866	0.35094	0.33943	0.32219	0.30307	0.28389	0.26590
20.00	0.23942	0.28082	0.29594	0.29193	0.27973	0.26469	0.24911	0.23412	0.22037
30.00	0.19222	0.24348	0.26752	0.27125	0.26413	0.25250	0.23953	0.22641	0.21386
40.00	0.17181	0.22905	0.25472	0.25955	0.25281	0.24110	0.22762	0.21392	0.20090
50.00	0.15774	0.21498	0.24478	0.25054	0.24333	0.23144	0.21848	0.20574	0.19384
60.00	0.14363	0.20122	0.23350	0.24578	0.24479	0.23695	0.22617	0.21467	0.20350
70.00	0.14156	0.19976	0.22760	0.23340	0.22701	0.21615	0.20443	0.19340	0.18322
80.00	0.14984	0.20033	0.21613	0.21174	0.19926	0.18508	0.17179	0.16010	0.14981
90.00	0.16344	0.20657	0.21091	0.19722	0.17968	0.16342	0.14932	0.13740	0.12711
100.00	0.19311	0.23488	0.23841	0.22313	0.20220	0.18182	0.16386	0.14868	0.13581
110.00	0.24313	0.28667	0.28784	0.27267	0.25180	0.23135	0.21254	0.19560	0.1[illegible]
120.00	0.22847	0.27479	0.28077	0.26896	0.25072	0.23236	0.21505	0.19922	0.18568
130.00	0.19874	0.23623	0.24022	0.22957	0.21360	0.19719	0.18154	0.16724	0.15439
140.00	0.18069	0.21432	0.21319	0.20213	0.18853	0.17533	0.16276	0.15124	0.14090
150.00	0.18799	0.21411	0.21156	0.20080	0.18895	0.17850	0.16866	0.15943	0.15087
160.00	0.19526	0.22348	0.22490	0.21651	0.20721	0.19961	0.19248	0.18539	0.17838
170.00	0.20594	0.23261	0.23560	0.22854	0.21932	0.21015	0.20065	0.19115	0.18198
180.00	0.21809	0.24019	0.24221	0.23731	0.23099	0.22481	0.21839	0.21202	0.20577
190.00	0.18708	0.20564	0.20662	0.20069	0.19294	0.18496	0.17720	0.17013	0.16362
200.00	0.17999	0.19158	0.19200	0.18713	0.18067	0.17383	0.16700	0.16066	0.15487
210.00	0.19690	0.20447	0.20140	0.19419	0.18656	0.17902	0.17166	0.16514	0.15925
220.00	0.21729	0.22982	0.22902	0.22227	0.21421	0.20601	0.19808	0.19100	0.18463
230.00	0.23275	0.25894	0.26439	0.25995	0.25184	0.24259	0.23303	0.22411	0.21588
240.00	0.23623	0.27771	0.29271	0.29299	0.28670	0.27764	0.26744	0.25724	0.24739
250.00	0.23960	0.28382	0.29794	0.29624	0.28767	0.27622	0.26376	0.25148	0.23982
260.00	0.24830	0.29061	0.30102	0.29520	0.28325	0.26925	0.25512	0.24195	0.22992
270.00	0.25708	0.29836	0.31011	0.30683	0.29713	0.28501	0.27214	0.25955	0.24754
280.00	0.27133	0.31765	0.33504	0.33407	0.32362	0.30902	0.29305	0.27741	0.26267
290.00	0.27448	0.32098	0.33193	0.32420	0.30865	0.29092	0.27295	0.25589	0.23996
300.00	0.28032	0.32331	0.33253	0.32408	0.30780	0.28956	0.27144	0.25457	0.23918
310.00	0.26249	0.30144	0.30890	0.30025	0.28416	0.26579	0.24710	0.22957	0.21356
320.00	0.22726	0.26706	0.27013	0.25667	0.23793	0.21898	0.20123	0.18550	0.17168
330.00	0.20354	0.23949	0.24415	0.23261	0.21591	0.19931	0.18390	0.17033	0.15857
340.00	0.22266	0.26589	0.27396	0.26651	0.25383	0.23980	0.22552	0.21201	0.19962
350.00	0.27460	0.33331	0.35229	0.34745	0.33090	0.31064	0.28943	0.26916	0.25077
360.00	0.32851	0.39270	0.40508	0.39347	0.37266	0.35043	0.32860	0.30821	0.2[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3 ***
INCLUDING SOURCE(S): 3 , 4 , 5 , 6 , 7 , 8 , 9 ,
10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.24931	0.23410	0.22035	0.20797	0.19661	0.18649	0.17740	0.16900	0.16115
20.00	0.20782	0.19636	0.18603	0.17674	0.16821	0.16048	0.15354	0.14718	0.14116
30.00	0.20209	0.19112	0.18102	0.17176	0.16318	0.15533	0.14812	0.14153	0.13528
40.00	0.18886	0.17785	0.16791	0.15893	0.15077	0.14339	0.13677	0.13068	0.12493
50.00	0.18286	0.17279	0.16363	0.15527	0.14757	0.14052	0.13406	0.12814	0.12254
60.00	0.19292	0.18310	0.17405	0.16575	0.15807	0.15103	0.14451	0.13853	0.13288
70.00	0.17383	0.16521	0.15732	0.15007	0.14334	0.13713	0.13137	0.12607	0.12109
80.00	0.14066	0.13247	0.12515	0.11856	0.11253	0.10706	0.10209	0.09753	0.09338
90.00	0.11811	0.11013	0.10315	0.09693	0.09137	0.08639	0.08190	0.07787	0.07418
100.00	0.12482	0.11536	0.10718	0.10005	0.09373	0.08818	0.08324	0.07881	0.07479
110.00	0.16714	0.15517	0.14465	0.13531	0.12701	0.11965	0.11306	0.10709	0.10161
120.00	0.17255	0.16141	0.15156	0.14276	0.13484	0.12779	0.12138	0.11556	0.11005
130.00	0.14294	0.13272	0.12361	0.11543	0.10805	0.10144	0.09549	0.09012	0.08504
140.00	0.13174	0.12357	0.11637	0.10991	0.10407	0.09890	0.09426	0.09012	0.08609
150.00	0.14303	0.13572	0.12907	0.12287	0.11703	0.11184	0.10712	0.10267	0.09835
160.00	0.17154	0.16472	0.15835	0.15216	0.14621	0.14077	0.13565	0.13084	0.12608
170.00	0.17324	0.16493	0.15734	0.15027	0.14356	0.13752	0.13196	0.12678	0.12176
180.00	0.19955	0.19339	0.18752	0.18184	0.17623	0.17106	0.16604	0.16115	0.15621
190.00	0.15757	0.15189	0.14660	0.14160	0.13684	0.13245	0.12831	0.12422	0.12022
200.00	0.14953	0.14465	0.14014	0.13589	0.13189	0.12828	0.12490	0.12141	0.11811
210.00	0.15387	0.14904	0.14464	0.14042	0.13655	0.13307	0.12986	0.12655	0.12338
220.00	0.17877	0.17354	0.16871	0.16404	0.15977	0.15583	0.15207	0.14817	0.14434
230.00	0.20825	0.20140	0.19502	0.18890	0.18338	0.17822	0.17335	0.16849	0.16377
240.00	0.23801	0.22927	0.22099	0.21308	0.20576	0.19889	0.19244	0.18614	0.18003
250.00	0.22890	0.21886	0.20953	0.20077	0.19272	0.18522	0.17825	0.17159	0.16517
260.00	0.21891	0.20891	0.19983	0.19132	0.18356	0.17636	0.16967	0.16329	0.15717
270.00	0.23619	0.22563	0.21586	0.20670	0.19816	0.19035	0.18311	0.17632	0.16986
280.00	0.24887	0.23623	0.22487	0.21440	0.20476	0.19606	0.18799	0.18030	0.17318
290.00	0.22508	0.21148	0.19924	0.18800	0.17777	0.16860	0.16020	0.15236	0.14512
300.00	0.22506	0.21233	0.20093	0.19046	0.18091	0.17222	0.16421	0.15660	0.14950
310.00	0.19905	0.18598	0.17444	0.16405	0.15467	0.14637	0.13894	0.13203	0.12570
320.00	0.15949	0.14856	0.13907	0.13062	0.12299	0.11617	0.10991	0.10420	0.09891
330.00	0.14835	0.13929	0.13160	0.12484	0.11877	0.11341	0.10857	0.10398	0.09972
340.00	0.18831	0.17787	0.16850	0.16006	0.15218	0.14523	0.13888	0.13302	0.12743
350.00	0.23414	0.21903	0.20565	0.19370	0.18272	0.17317	0.16463	0.15668	0.14921
360.00	0.27321	0.25792	0.24426	0.23208	0.22075	0.21092	0.20205	0.19355	0.18546

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: 3 ***
INCLUDING SOURCE(S): 3 , 4 , 5 , 6 , 7 , 8 , 9 ,
10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.22577	15.24	0.00	0.21347
30.48	0.00	0.19929	45.72	0.00	0.18330
60.96	0.00	0.16636	76.20	0.00	0.15243
91.44	0.00	0.15538	106.68	0.00	0.17562
121.92	0.00	0.16846	137.16	0.00	0.16552
152.40	0.00	0.15727	167.64	0.00	0.15848
182.88	0.00	0.16861	198.12	0.00	0.17394
213.36	0.00	0.19076	213.36	15.24	0.18627
213.36	30.48	0.18621	213.36	45.72	0.18720
213.36	60.96	0.18928	213.36	76.20	0.18439
213.36	91.44	0.14234	213.36	106.68	0.10160
213.36	121.92	0.09067	213.36	137.16	0.09124
213.36	152.40	0.09410	213.36	167.64	0.10586
213.36	182.88	0.12421	213.36	198.12	0.14253
213.36	213.36	0.16264	213.36	221.29	0.17113
198.12	221.29	0.16537	182.88	221.29	0.16591
167.64	221.29	0.17632	152.40	221.29	0.20135
137.16	221.29	0.17358	121.92	221.29	0.19624
106.68	221.29	0.24882	91.44	221.29	0.21990
76.20	221.29	0.19062	60.96	221.29	0.17082
45.72	221.29	0.17439	30.48	221.29	0.19481
15.24	221.29	0.21824	0.00	221.29	0.24345
0.00	213.36	0.24468	0.00	198.12	0.24914
0.00	182.88	0.24429	0.00	167.64	0.23483
0.00	152.40	0.21700	0.00	137.16	0.20344
0.00	121.92	0.19749	0.00	106.68	0.18362
0.00	91.44	0.17860	0.00	76.20	0.17807
0.00	60.96	0.18766	0.00	45.72	0.20241
0.00	30.48	0.21740	0.00	15.24	0.22508

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.31233	0.46864	0.60459	0.70301	0.76642	0.80232	0.82040	0.82663	0.82546
20.00	0.29577	0.41151	0.52405	0.61257	0.67305	0.70953	0.72946	0.73838	0.73994
30.00	0.23618	0.34678	0.45630	0.54618	0.60656	0.64028	0.65547	0.65931	0.65624
40.00	0.20436	0.30765	0.41194	0.50482	0.57173	0.61280	0.63433	0.64406	0.64597
50.00	0.18117	0.27734	0.38379	0.47911	0.54725	0.58890	0.61083	0.62069	0.62262
60.00	0.16025	0.25000	0.34949	0.44727	0.52509	0.57807	0.61051	0.62923	0.63829
70.00	0.15247	0.23564	0.32400	0.41814	0.49998	0.55940	0.59848	0.62278	0.63589
80.00	0.15576	0.22482	0.29664	0.38041	0.45674	0.51061	0.54233	0.55782	0.56145
90.00	0.16582	0.22357	0.28312	0.35460	0.41762	0.45920	0.48056	0.48856	0.48658
100.00	0.19382	0.24984	0.31265	0.38624	0.44751	0.48384	0.49761	0.49749	0.48798
110.00	0.24349	0.30476	0.37769	0.46855	0.54770	0.60023	0.62638	0.63402	0.62841
120.00	0.22911	0.29641	0.37747	0.47707	0.56794	0.63471	0.67512	0.69522	0.69990
130.00	0.20016	0.25978	0.33117	0.42249	0.50996	0.57530	0.61465	0.63328	0.63670
140.00	0.18366	0.24035	0.29358	0.36154	0.42905	0.48118	0.51379	0.52987	0.53435
150.00	0.19395	0.24789	0.29414	0.34551	0.39603	0.43680	0.46431	0.48022	0.48836
160.00	0.20621	0.27115	0.32688	0.37572	0.41893	0.45442	0.48064	0.49837	0.51056
170.00	0.22346	0.29346	0.35678	0.41402	0.46530	0.50640	0.53565	0.55409	0.56530
180.00	0.24304	0.31160	0.37190	0.42734	0.47757	0.51912	0.55057	0.57370	0.59156
190.00	0.22056	0.28772	0.34642	0.39765	0.44017	0.47200	0.49315	0.50647	0.51454
200.00	0.22620	0.29155	0.35217	0.40410	0.44486	0.47391	0.49209	0.50286	0.50855
210.00	0.26220	0.33862	0.40915	0.46723	0.50984	0.53811	0.55425	0.56325	0.56725
220.00	0.30544	0.40735	0.50060	0.57564	0.62843	0.66117	0.67826	0.68534	0.68574
230.00	0.34108	0.47380	0.58749	0.67491	0.73672	0.77735	0.80159	0.81401	0.81845
240.00	0.35569	0.51109	0.63734	0.72777	0.78837	0.82731	0.85120	0.86449	0.87097
250.00	0.36242	0.51753	0.63665	0.71769	0.76845	0.79756	0.81112	0.81451	0.81188
260.00	0.37548	0.52767	0.64006	0.71428	0.76085	0.78879	0.80311	0.80865	0.80878
270.00	0.39241	0.54780	0.66291	0.74012	0.79009	0.82185	0.83996	0.84896	0.85194
280.00	0.41210	0.57451	0.69323	0.76693	0.80871	0.83008	0.83781	0.83759	0.83298
290.00	0.41721	0.58000	0.69099	0.75497	0.78765	0.80122	0.80221	0.79595	0.78583
300.00	0.42545	0.58743	0.69767	0.75996	0.79016	0.80152	0.80098	0.79398	0.78398
310.00	0.40902	0.56881	0.67622	0.73383	0.75697	0.75940	0.74852	0.73076	0.71036
320.00	0.36741	0.52039	0.61513	0.66037	0.67377	0.66892	0.65298	0.63186	0.60920
330.00	0.32946	0.46877	0.56080	0.60682	0.62135	0.61770	0.60321	0.58382	0.56313
340.00	0.33143	0.47085	0.56607	0.62072	0.64724	0.65618	0.65424	0.64624	0.63529
350.00	0.36704	0.51705	0.62990	0.70239	0.74222	0.75973	0.76279	0.75693	0.74630
360.00	0.40761	0.56022	0.67298	0.74799	0.79128	0.81258	0.82002	0.81868	0.81261

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.81951	0.81037	0.79901	0.78602	0.77162	0.75647	0.74082	0.72363	0.70580
20.00	0.73641	0.72945	0.72002	0.70870	0.69577	0.68174	0.66705	0.65118	0.63429
30.00	0.64916	0.64015	0.63014	0.61951	0.60836	0.59691	0.58522	0.57317	0.55998
40.00	0.64288	0.63690	0.62899	0.61962	0.60904	0.59760	0.58559	0.57307	0.55903
50.00	0.61963	0.61385	0.60644	0.59787	0.58837	0.57822	0.56758	0.55657	0.54453
60.00	0.64091	0.63938	0.63523	0.62921	0.62174	0.61325	0.60391	0.59403	0.58335
70.00	0.64093	0.64057	0.63655	0.62984	0.62104	0.61075	0.59934	0.58720	0.57450
80.00	0.55722	0.54850	0.53750	0.52527	0.51238	0.49927	0.48619	0.47327	0.46061
90.00	0.47821	0.46634	0.45301	0.43905	0.42497	0.41107	0.39753	0.38448	0.37189
100.00	0.47321	0.45631	0.43920	0.42258	0.40670	0.39175	0.37769	0.36447	0.35[illegible]
110.00	0.61443	0.59599	0.57598	0.55556	0.53544	0.51603	0.49746	0.47977	0.4[illegible]
120.00	0.69384	0.68151	0.66600	0.64882	0.63090	0.61287	0.59497	0.57744	0.56017
130.00	0.62927	0.61554	0.59856	0.57989	0.56043	0.54086	0.52148	0.50251	0.48388
140.00	0.53040	0.52141	0.50987	0.49695	0.48337	0.46970	0.45615	0.44290	0.42974
150.00	0.49084	0.48965	0.48635	0.48148	0.47538	0.46861	0.46121	0.45315	0.44445
160.00	0.51875	0.52395	0.52727	0.52872	0.52852	0.52707	0.52429	0.52037	0.51522
170.00	0.57107	0.57287	0.57207	0.56910	0.56423	0.55809	0.55080	0.54252	0.53331
180.00	0.60535	0.61615	0.62477	0.63128	0.63563	0.63829	0.63909	0.63816	0.63490
190.00	0.51897	0.52098	0.52141	0.52058	0.51868	0.51598	0.51250	0.50815	0.50203
200.00	0.51082	0.51099	0.50972	0.50732	0.50405	0.50019	0.49572	0.49043	0.48329
210.00	0.56823	0.56752	0.56565	0.56268	0.55889	0.55444	0.54934	0.54335	0.53472
220.00	0.68192	0.67578	0.66808	0.65918	0.64971	0.63988	0.62975	0.61906	0.60587
230.00	0.81752	0.81326	0.80646	0.79768	0.78779	0.77695	0.76538	0.75255	0.73683
240.00	0.87296	0.87183	0.86819	0.86243	0.85516	0.84655	0.83680	0.82489	0.80966
250.00	0.80571	0.79745	0.78771	0.77682	0.76527	0.75315	0.74061	0.72661	0.71001
260.00	0.80522	0.79906	0.79092	0.78098	0.76984	0.75765	0.74465	0.72989	0.71186
270.00	0.85046	0.84559	0.83798	0.82803	0.81626	0.80321	0.78913	0.77316	0.75338
280.00	0.82552	0.81630	0.80599	0.79460	0.78240	0.76979	0.75667	0.74164	0.72352
290.00	0.77319	0.75908	0.74405	0.72817	0.71177	0.69517	0.67837	0.66008	0.63958
300.00	0.77214	0.75924	0.74565	0.73125	0.71631	0.70102	0.68541	0.66819	0.64846
310.00	0.68908	0.66780	0.64714	0.62706	0.60766	0.58920	0.57155	0.55366	0.53457
320.00	0.58675	0.56503	0.54464	0.52538	0.50713	0.48994	0.47356	0.45727	0.44059
330.00	0.54317	0.52447	0.50762	0.49231	0.47826	0.46545	0.45354	0.44143	0.42910
340.00	0.62326	0.61072	0.59825	0.58592	0.57353	0.56154	0.54969	0.53698	0.52380
350.00	0.73327	0.71886	0.70400	0.68885	0.67328	0.65804	0.64291	0.62651	0.61002
360.00	0.80411	0.79412	0.78359	0.77277	0.76128	0.74995	0.73845	0.72501	0.7[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.32922	15.24	0.00	0.29061
30.48	0.00	0.25471	45.72	0.00	0.22120
60.96	0.00	0.19099	76.20	0.00	0.16775
91.44	0.00	0.16473	106.68	0.00	0.18139
121.92	0.00	0.17212	137.16	0.00	0.16796
152.40	0.00	0.15906	167.64	0.00	0.16002
182.88	0.00	0.17022	198.12	0.00	0.17594
213.36	0.00	0.19363	213.36	15.24	0.18719
213.36	30.48	0.18642	213.36	45.72	0.18723
213.36	60.96	0.18928	213.36	76.20	0.18440
213.36	91.44	0.14239	213.36	106.68	0.10182
213.36	121.92	0.09137	213.36	137.16	0.09306
213.36	152.40	0.09798	213.36	167.64	0.11307
213.36	182.88	0.13616	213.36	198.12	0.16060
213.36	213.36	0.18839	213.36	221.29	0.20179
198.12	221.29	0.19468	182.88	221.29	0.19464
167.64	221.29	0.20497	152.40	221.29	0.23028
137.16	221.29	0.20320	121.92	221.29	0.22735
106.68	221.29	0.28298	91.44	221.29	0.25971
76.20	221.29	0.23958	60.96	221.29	0.23300
45.72	221.29	0.25411	30.48	221.29	0.29589
15.24	221.29	0.34379	0.00	221.29	0.39586
0.00	213.36	0.38540	0.00	198.12	0.36813
0.00	182.88	0.34343	0.00	167.64	0.31750
0.00	152.40	0.28727	0.00	137.16	0.26516
0.00	121.92	0.25351	0.00	106.68	0.23633
0.00	91.44	0.23080	0.00	76.20	0.23328
0.00	60.96	0.24937	0.00	45.72	0.27325
0.00	30.48	0.29877	0.00	15.24	0.31745

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC		RECEPTOR (XR,	YR,	ZELEV,	ZFLAG)	OF TYPE	NETWORK GRID-ID
1	1ST HIGHEST VALUE IS	0.45136	AT (	-499.54,	-239.36,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	0.45070	AT (	-542.84,	-264.36,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	0.45033	AT (	-456.24,	-214.36,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	0.44860	AT (	-586.14,	-289.36,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	0.44733	AT (	-412.94,	-189.36,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.44527	AT (	-629.44,	-314.36,	0.00,	0.00)	GP	POL1
2	1ST HIGHEST VALUE IS	0.20513	AT (	-467.85,	-371.45,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	0.20483	AT (	-429.55,	-339.31,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	0.20464	AT (	-506.16,	-403.59,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	0.20403	AT (	-759.35,	-389.36,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	0.20397	AT (	-716.04,	-364.36,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.20355	AT (	-544.46,	-435.73,	0.00,	0.00)	GP	POL1
3	1ST HIGHEST VALUE IS	0.40508	AT (	106.68,	360.64,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	0.39347	AT (	106.68,	410.64,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	0.39270	AT (	106.68,	310.64,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	0.37266	AT (	106.68,	460.64,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	0.35229	AT (	63.27,	356.84,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.35094	AT (	158.77,	406.08,	0.00,	0.00)	GP	POL1
ALL	1ST HIGHEST VALUE IS	0.87296	AT (	-412.94,	-189.36,	0.00,	0.00)	GP	POL1
	2ND HIGHEST VALUE IS	0.87183	AT (	-456.24,	-214.36,	0.00,	0.00)	GP	POL1
	3RD HIGHEST VALUE IS	0.87097	AT (	-369.63,	-164.36,	0.00,	0.00)	GP	POL1
	4TH HIGHEST VALUE IS	0.86819	AT (	-499.54,	-239.36,	0.00,	0.00)	GP	POL1
	5TH HIGHEST VALUE IS	0.86449	AT (	-326.33,	-139.36,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.86243	AT (	-542.84,	-264.36,	0.00,	0.00)	GP	POL1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** Message Summary For ISC2 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 328 Informational Message(s)

A Total of 328 Calm Hours Identified

********* FATAL ERROR MESSAGES *********
*** NONE ***

********* WARNING MESSAGES *********
*** NONE ***

****
*** ISCST2 Finishes Successfully ***
****

Run: FMXTCA8

1,1,1-Trichloroethane 8-hour Average Emission Rates

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ISCST2 EXTENDED MODEL - (DATED 92062)

IBM-PC VERSION (1.01)
(C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8025 SOLD TO CROSS TESSITORE & ASSOCIATES
RUN BEGAN ON 12/01/92 AT 18:36:35


CO STARTING
CO TITLEONE Foamex - 8 hour Avg Emission Rates - 1,1,1-Trichloroethane
CO TITLETWO Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 8
CO POLLUTID OTHER
CO RUNORNOT RUN
CO FINISHED


SO STARTING

** Source Location Cards:
**          SRCID SRCTYP       XS           YS           ZS

SO LOCATION     1 POINT      175.8720     119.7880       .0000
SO LOCATION     2 POINT      152.4020      17.0690       .0000
SO LOCATION     3 POINT      108.5100      97.2320       .0000
SO LOCATION     4 POINT      108.5100     110.6440       .0000
SO LOCATION     5 POINT      108.5100     119.7880       .0000
SO LOCATION     6 POINT      108.5100     135.6380       .0000
SO LOCATION     7 POINT      108.5100     152.7070       .0000
SO LOCATION     8 POINT      108.5100     168.8610       .0000
SO LOCATION     9 POINT      108.5100     183.7970       .0000
SO LOCATION    10 POINT      108.5100     192.9410       .0000
SO LOCATION    11 POINT      147.5250      97.2320       .0000
SO LOCATION    12 POINT      147.5250     110.6440       .0000
SO LOCATION    13 POINT      147.5250     119.7880       .0000
SO LOCATION    14 POINT      147.5250     135.6380       .0000
SO LOCATION    15 POINT      147.5250     155.4500       .0000
SO LOCATION    16 POINT      147.5250     168.8610       .0000
SO LOCATION    17 POINT      147.5250     183.7970       .0000
SO LOCATION    18 POINT      147.5250     192.9410       .0000
SO LOCATION    19 POINT      182.8820     102.5660       .0000

** Source Parameter Cards:
** POINT:   SRCID      QS             HS        TS         VS        DS
** VOLUME:  SRCID      QS             HS      SYINIT     SZINIT
** AREA:    SRCID      QS             HS       XINIT

SO SRCPARAM     1   67.7411899875        38.1000  299.8200   24.3810      .70
SO SRCPARAM     2   39.515694159375        38.1000  299.8200   24.3810      .
SO SRCPARAM     3   0.3505937581087   13.1070  299.8200   24.3810     1.1100
SO SRCPARAM     4   0.3505937581087   13.1070  299.8200   24.3810     1.1100
SO SRCPARAM     5   0.3505937581087   13.1070  299.8200   24.3810     1.1100
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SO SRCPARAM     6    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM     7    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM     8    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM     9    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM    10    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM    11    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM    12    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM    13    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM    14    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM    15    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM    16    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM    17    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM    18    0.3505937581087    13.1070    299.8200    24.3810    1.1100
SO SRCPARAM    19    0.3505937581087    15.8500    299.8200    24.3810    1.1100

** NOTE:  Direction-Specific Building Heights Used for Non-SS Source    1
SO BUILDHGT     1     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     1       .00       .00       .00       .00       .00       .00
SO BUILDHGT     1       .00       .00     15.24     15.24     15.24       .00
SO BUILDHGT     1       .00     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     1       .00       .00       .00       .00       .00       .00
SO BUILDHGT     1       .00       .00     15.24     15.24     15.24     15.24
** NOTE:  Direction-Specific Building Heights Used for Non-SS Source    2
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     2     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     3     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     3     12.19     12.19     15.24     15.24     15.24     15.24
SO BUILDHGT     3     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     3     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     3     12.19     12.19     15.24     15.24     15.24     15.24
SO BUILDHGT     3     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     4     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     4     10.67     12.19     12.19     15.24     15.24     15.24
SO BUILDHGT     4     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     4     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     4     10.67     12.19     12.19     15.24     15.24     15.24
SO BUILDHGT     4     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     5     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     5     10.67     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT     5     15.24     10.67     10.67     12.19     12.19     12.19
SO BUILDHGT     5     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     5     10.67     12.19     12.19     12.19     15.24     15.24
SO BUILDHGT     5     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     6     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     6     10.67     10.67     10.67     12.19     12.19     10.67
SO BUILDHGT     6     10.67     10.67     10.67     10.67     12.19     12.19
SO BUILDHGT     6     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     6     10.67     10.67     10.67     12.19     12.19     15.24
SO BUILDHGT     6     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     7     10.67     10.67     10.67     10.67     10.67     10.67
```

SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	12.19
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	14	15.24	15.24	15.24	15.24	10.67	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	12.19	12.19	12.19
SO BUILDHGT	14	12.19	15.24	15.24	15.24	10.97	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	15	15.24	15.24	15.24	10.67	10.67	10.67
SO BUILDHGT	15	10.67	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	15	12.19	12.19	12.19	10.97	10.97	10.97
SO BUILDHGT	15	10.97	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	16	12.19	12.19	10.67	10.67	10.67	10.67

SO BUILDHGT	16	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	16	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	16	10.67	10.67	10.67	10.97	10.97	10.97
SO BUILDHGT	16	10.97	10.97	10.97	10.67	10.67	10.67
SO BUILDHGT	16	12.19	12.19	12.19	12.19	12.19	12.19
SO BUILDHGT	17	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	17	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	17	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	17	10.67	10.67	10.67	10.67	10.67	10.97
SO BUILDHGT	17	10.97	10.97	10.97	10.97	10.97	10.67
SO BUILDHGT	17	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	18	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	18	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	18	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	18	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	18	10.67	10.97	10.97	10.97	10.97	10.97
SO BUILDHGT	18	10.97	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	19	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	19	15.24	15.24	12.19	12.19	12.19	12.19
SO BUILDHGT	19	12.19	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	19	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	19	15.24	15.24	12.19	12.19	12.19	12.19
SO BUILDHGT	19	12.19	15.24	15.24	15.24	15.24	15.24
** NOTE: Direction-Specific Building Widths Used for Non-SS Source 1							
SO BUILDWID	1	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	1	.00	.00	.00	.00	.00	.00
SO BUILDWID	1	.00	.00	93.84	90.70	83.88	.00
SO BUILDWID	1	.00	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	1	.00	.00	.00	.00	.00	.00
SO BUILDWID	1	.00	.00	93.84	90.70	83.88	75.55
** NOTE: Direction-Specific Building Widths Used for Non-SS Source 2							
SO BUILDWID	2	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	2	88.38	80.55	71.39	81.44	89.02	93.89
SO BUILDWID	2	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	2	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	2	88.38	80.55	71.39	81.44	89.02	93.89
SO BUILDWID	2	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	3	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	3	103.26	104.35	71.39	81.44	89.02	93.89
SO BUILDWID	3	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	3	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	3	103.26	104.35	71.39	81.44	89.02	93.89
SO BUILDWID	3	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	4	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	4	214.49	104.35	109.35	81.44	89.02	93.89
SO BUILDWID	4	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	4	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	4	214.49	104.35	109.35	81.44	89.02	93.89
SO BUILDWID	4	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	5	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	5	214.49	104.34	109.35	118.25	89.02	93.89
SO BUILDWID	5	94.53	176.60	161.59	103.82	93.09	77.16
SO BUILDWID	5	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	5	214.49	104.34	109.35	118.25	89.02	93.89

SO BUILDWID	5	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	118.94	192.50
SO BUILDWID	6	186.24	176.60	161.59	148.74	83.85	77.16
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	123.55	93.89
SO BUILDWID	6	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	77.16
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	14	84.68	91.23	95.01	95.24	215.24	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12
SO BUILDWID	14	95.91	95.96	94.76	105.03	93.09	77.16
SO BUILDWID	14	84.68	91.23	95.01	95.24	24.73	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12

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SO BUILDWID   14    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID   15    84.68    91.23    92.21   209.06   215.24   215.89
SO BUILDWID   15   214.49   206.95   193.13   194.58   194.74   125.12
SO BUILDWID   15   125.05   176.60   161.59   148.74   138.57   125.52
SO BUILDWID   15    84.68    91.23    91.74    25.00    24.73    23.71
SO BUILDWID   15    21.98   206.95   193.13   194.58   194.74   125.12
SO BUILDWID   15   125.05    95.01    94.76    90.70    83.88    75.55
SO BUILDWID   16    84.68    89.55   196.53   209.06   215.24   215.89
SO BUILDWID   16   214.49   206.95   193.13   194.58   194.74   192.50
SO BUILDWID   16   186.24   176.60   161.59   148.74   138.57   125.52
SO BUILDWID   16   154.11   178.03   196.53    24.84    24.73    23.71
SO BUILDWID   16    21.98    19.58    16.59   194.58   194.74   192.50
SO BUILDWID   16   123.25   122.42   116.07   106.20    93.09    77.16
SO BUILDWID   17   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID   17   214.49   206.95   193.13   194.58   194.74   192.50
SO BUILDWID   17   186.24   176.60   161.59   148.74   138.57   125.52
SO BUILDWID   17   154.11   178.03   196.53   209.06   215.24    22.19
SO BUILDWID   17    21.98    19.58    16.91    19.85    21.98   192.50
SO BUILDWID   17   186.24   176.60   161.59   148.74   138.57   125.52
SO BUILDWID   18   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID   18   214.49   206.95   193.13   194.58   194.74   192.50
SO BUILDWID   18   186.24   176.60   161.59   148.74   138.57   125.52
SO BUILDWID   18   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID   18   214.49    17.85    16.91    19.85    22.19    23.85
SO BUILDWID   18    24.21   176.60   161.59   148.74   138.57   125.52
SO BUILDWID   19    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID   19    88.38    80.55   109.35   118.25   123.55   125.12
SO BUILDWID   19   125.05    95.83    94.76    90.70    83.88    75.55
SO BUILDWID   19    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID   19    88.38    80.55   109.35   118.25   123.55   125.12
SO BUILDWID   19   125.05    95.83    94.76    90.70    83.88    75.55

SO SRCGROUP ALL
SO FINISHED


RE STARTING
RE GRIDPOLR POL1 STA
RE GRIDPOLR POL1 ORIG   106.68  110.6424
RE GRIDPOLR POL1 DIST   150. 200. 250. 300. 350. 400. 450. 500. 550.
RE GRIDPOLR POL1 DIST   600. 650. 700. 750. 800. 850. 900. 950. 1000.
RE GRIDPOLR POL1 GDIR   36  10.  10.
RE GRIDPOLR POL1 END
RE DISCCART         .00        .00
RE DISCCART       15.24        .00
RE DISCCART       30.48        .00
RE DISCCART       45.72        .00
RE DISCCART       60.96        .00
RE DISCCART       76.20        .00
RE DISCCART       91.44        .00
RE DISCCART      106.68        .00
RE DISCCART      121.92        .00
RE DISCCART      137.16        .00
RE DISCCART      152.40        .00
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RE DISCCART     167.64        .00
RE DISCCART     182.88        .00
RE DISCCART     198.12        .00
RE DISCCART     213.36        .00
RE DISCCART     213.36      15.24
RE DISCCART     213.36      30.48
RE DISCCART     213.36      45.72
RE DISCCART     213.36      60.96
RE DISCCART     213.36      76.20
RE DISCCART     213.36      91.44
RE DISCCART     213.36     106.68
RE DISCCART     213.36     121.92
RE DISCCART     213.36     137.16
RE DISCCART     213.36     152.40
RE DISCCART     213.36     167.64
RE DISCCART     213.36     182.88
RE DISCCART     213.36     198.12
RE DISCCART     213.36     213.36
RE DISCCART     213.36     221.29
RE DISCCART     198.12     221.29
RE DISCCART     182.88     221.29
RE DISCCART     167.64     221.29
RE DISCCART     152.40     221.29
RE DISCCART     137.16     221.29
RE DISCCART     121.92     221.29
RE DISCCART     106.68     221.29
RE DISCCART      91.44     221.29
RE DISCCART      76.20     221.29
RE DISCCART      60.96     221.29
RE DISCCART      45.72     221.29
RE DISCCART      30.48     221.29
RE DISCCART      15.24     221.29
RE DISCCART        .00     221.29
RE DISCCART        .00     213.36
RE DISCCART        .00     198.12
RE DISCCART        .00     182.88
RE DISCCART        .00     167.64
RE DISCCART        .00     152.40
RE DISCCART        .00     137.16
RE DISCCART        .00     121.92
RE DISCCART        .00     106.68
RE DISCCART        .00      91.44
RE DISCCART        .00      76.20
RE DISCCART        .00      60.96
RE DISCCART        .00      45.72
RE DISCCART        .00      30.48
RE DISCCART        .00      15.24
RE FINISHED


ME STARTING
ME INPUTFIL c:\models\iscst2\foamex\orltmp86.BIN     UNFORM
ME ANEMHGHT    10.000 METERS
ME SURFDATA  12815   1986             SURFNAME
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ME UAIRDATA  12842  1986            UAIRNAME
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE 8 FIRST SECOND
OU MAXTABLE 8 50
OU FINISHED

**************************************
*** SETUP Finishes Successfully ***
**************************************
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*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

**Model Is Setup For Calculation of Average CONCentration Values.

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

el Calculates 1 Short Term Average(s) of: 8-HR

**This Run Includes: 19 Source(s); 1 Source Group(s); and 706 Receptor(s)

**The Model Assumes A Pollutant Type of: OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Input Runstream File: C:\MODELS\ISCST2\FOAMEX\FMXTCA8.NEW ; **Output Print File: C:\MODELS\ISCST2\FOAMEX\FMXTCA8.LST

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
1	0	0.67741E+02	175.9	119.8	0.0	38.10	299.82	24.38	0.70	YES	
2	0	0.39516E+02	152.4	17.1	0.0	38.10	299.82	24.38	0.00	YES	
3	0	0.35059E+00	108.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
4	0	0.35059E+00	108.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
5	0	0.35059E+00	108.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
6	0	0.35059E+00	108.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
7	0	0.35059E+00	108.5	152.7	0.0	13.11	299.82	24.38	1.11	YES	
8	0	0.35059E+00	108.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
9	0	0.35059E+00	108.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
10	0	0.35059E+00	108.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
11	0	0.35059E+00	147.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
12	0	0.35059E+00	147.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
13	0	0.35059E+00	147.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
14	0	0.35059E+00	147.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
15	0	0.35059E+00	147.5	155.4	0.0	13.11	299.82	24.38	1.11	YES	
16	0	0.35059E+00	147.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
17	0	0.35059E+00	147.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
18	0	0.35059E+00	147.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
19	0	0.35059E+00	182.9	102.6	0.0	15.85	299.82	24.38	1.11	YES	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12 ,
	13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0.0,	0
13	0.0,	0.0,	0	14	0.0,	0.0,	0	15	15.2,	93.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	0.0,	0.0,	0
19	0.0,	0.0,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0.0,	0
31	0.0,	0.0,	0	32	0.0,	0.0,	0	33	15.2,	93.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 4

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 5

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.3,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	94.5,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	12.2,	103.8,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.3,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 6

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	118.9,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	12.2,	83.9,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
[illegible]	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 7

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 8

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 9

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 10

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 11

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 12

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 13

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	12.2,	77.2,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 14

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	95.2,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	12.2,	105.0,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	12.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	95.2,	0	23	11.0,	24.7,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 15

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	92.2,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	12.2,	84.7,	0	20	12.2,	91.2,	0	21	12.2,	91.7,	0	22	11.0,	25.0,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 16

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	89.6,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	11.0,	24.8,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.6,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	123.3,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 17

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	11.0,	22.2,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.0,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 18

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	11.0,	17.8,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.2,	0	30	11.0,	23.8,	0
31	11.0,	24.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 19

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	15.2,	95.8,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.8,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***

X-ORIG = 106.68 ; Y-ORIG = 110.64 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

150.0,	200.0,	250.0,	300.0,	350.0,	400.0,	450.0,	500.0,	550.0,	600.0,
650.0,	700.0,	750.0,	800.0,	850.0,	900.0,	950.0,	1000.0,		

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(0.0,	0.0,	0.0,	0.0);	(15.2,	0.0,	0.0,	0.0);
(30.5,	0.0,	0.0,	0.0);	(45.7,	0.0,	0.0,	0.0);
(61.0,	0.0,	0.0,	0.0);	(76.2,	0.0,	0.0,	0.0);
(91.4,	0.0,	0.0,	0.0);	(106.7,	0.0,	0.0,	0.0);
(121.9,	0.0,	0.0,	0.0);	(137.2,	0.0,	0.0,	0.0);
(152.4,	0.0,	0.0,	0.0);	(167.6,	0.0,	0.0,	0.0);
(182.9,	0.0,	0.0,	0.0);	(198.1,	0.0,	0.0,	0.0);
(213.4,	0.0,	0.0,	0.0);	(213.4,	15.2,	0.0,	0.0);
(213.4,	30.5,	0.0,	0.0);	(213.4,	45.7,	0.0,	0.0);
(213.4,	61.0,	0.0,	0.0);	(213.4,	76.2,	0.0,	0.0);
(213.4,	91.4,	0.0,	0.0);	(213.4,	106.7,	0.0,	0.0);
(213.4,	121.9,	0.0,	0.0);	(213.4,	137.2,	0.0,	0.0);
(213.4,	152.4,	0.0,	0.0);	(213.4,	167.6,	0.0,	0.0);
(213.4,	182.9,	0.0,	0.0);	(213.4,	198.1,	0.0,	0.0);
(213.4,	213.4,	0.0,	0.0);	(213.4,	221.3,	0.0,	0.0);
(198.1,	221.3,	0.0,	0.0);	(182.9,	221.3,	0.0,	0.0);
(167.6,	221.3,	0.0,	0.0);	(152.4,	221.3,	0.0,	0.0);
(137.2,	221.3,	0.0,	0.0);	(121.9,	221.3,	0.0,	0.0);
(106.7,	221.3,	0.0,	0.0);	(91.4,	221.3,	0.0,	0.0);
(76.2,	221.3,	0.0,	0.0);	(61.0,	221.3,	0.0,	0.0);
(45.7,	221.3,	0.0,	0.0);	(30.5,	221.3,	0.0,	0.0);
(15.2,	221.3,	0.0,	0.0);	(0.0,	221.3,	0.0,	0.0);
(0.0,	213.4,	0.0,	0.0);	(0.0,	198.1,	0.0,	0.0);
(0.0,	182.9,	0.0,	0.0);	(0.0,	167.6,	0.0,	0.0);
(0.0,	152.4,	0.0,	0.0);	(0.0,	137.2,	0.0,	0.0);
(0.0,	121.9,	0.0,	0.0);	(0.0,	106.7,	0.0,	0.0);
(0.0,	91.4,	0.0,	0.0);	(0.0,	76.2,	0.0,	0.0);
(0.0,	61.0,	0.0,	0.0);	(0.0,	45.7,	0.0,	0.0);
(0.0,	30.5,	0.0,	0.0);	(0.0,	15.2,	0.0,	0.0);

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 1.0 METER OR 3*ZLB *
IN DISTANCE. CALCULATIONS MAY NOT BE PERFORMED.

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
2	121.9	0.0	34.94
2	137.2	0.0	22.88
2	152.4	0.0	17.07
2	167.6	0.0	22.88
2	182.9	0.0	34.93
10	121.9	221.3	31.36
10	106.7	221.3	28.41
18	152.4	221.3	28.77
18	137.2	221.3	30.18
19	213.4	91.4	32.45
19	213.4	106.7	30.75
19	213.4	121.9	36.10

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY			WIND SPEED CATEGORY			
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY			WIND SPEED CATEGORY			
CATEGORY	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: c:\models\iscst2\foamex\orltmp86.BIN   FORMAT: UNFORM
SURFACE STATION NO.: 12815   UPPER AIR STATION NO.: 12842
NAME: SURFNAME   NAME: UAIRNAME
YEAR: 1986   YEAR: 1986

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN
86	1	1	1	1.0	3.60	289.3	4	639.0	639.0
86	1	1	2	168.0	5.14	288.7	4	639.0	639.0
86	1	1	3	124.0	3.09	288.2	4	639.0	639.0
86	1	1	4	353.0	2.57	288.2	4	639.0	639.0
86	1	1	5	333.0	2.57	288.7	4	639.0	639.0
86	1	1	6	332.0	2.57	288.7	4	639.0	639.0
86	1	1	7	335.0	3.09	288.7	4	639.0	639.0
86	1	1	8	3.0	3.60	289.3	4	639.0	639.0
86	1	1	9	347.0	3.60	289.8	4	639.0	639.0
86	1	1	10	1.0	5.14	292.0	4	639.0	639.0
86	1	1	11	14.0	4.63	292.6	4	639.0	639.0
86	1	1	12	16.0	4.12	294.3	4	639.0	639.0
86	1	1	13	73.0	3.09	295.4	4	639.0	639.0
86	1	1	14	49.0	3.60	297.0	4	639.0	639.0
86	1	1	15	142.0	2.06	296.5	4	639.0	639.0
86	1	1	16	144.0	2.06	295.9	4	639.0	639.0
86	1	1	17	261.0	2.06	295.4	4	639.0	639.0
86	1	1	18	257.0	2.06	292.6	4	644.0	644.0
86	1	1	19	274.0	3.60	291.5	4	655.0	655.0
86	1	1	20	227.0	3.09	290.9	4	666.0	666.0
86	1	1	21	230.0	3.09	290.9	4	678.0	678.0
86	1	1	22	252.0	2.57	290.4	5	689.0	477.0
86	1	1	23	290.0	2.06	290.4	4	700.0	700.0
86	1	1	24	290.0	1.00	290.4	4	712.0	712.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	679.42859 (86071316)	833.07526 (86071316)	942.60974 (86071316)	959.08063 (86071316)	899.90265 (86071316)
20.0	593.62048 (86071316)	660.83179 (86071316)	688.02228 (86071316)	646.73987 (86071316)	647.47876 (86101416)
30.0	428.67529 (86071316)	436.75217 (86100316)	526.46252 (86010216)	593.37738 (86010216)	608.86169 (86010216)
40.0	352.15436 (86060816)	443.80936 (86061716)	593.95612 (86080416)	747.34918 (86080416)	818.30219 (86080416)
50.0	366.61636 (86061716)	519.47650 (86080416)	642.43616 (86080416)	686.62561 (86080416)	713.94202 (86072616)
60.0	371.96878 (86053116)	487.77527 (86080416)	521.78510 (86072616)	623.06903 (86072616)	803.59784 (86100416)
70.0	352.63574 (86053116)	396.18716 (86072616)	630.88690 (86100416)	867.04285 (86100416)	982.04510 (86100416)
80.0	279.73868 (86071516)	528.22565 (86100416)	785.73700 (86100416)	805.23944 (86100416)	722.15515 (86100416)
90.0	218.80090 (86071516)	475.13379 (86100416)	512.94861 (86100416)	659.48206 (86091216)	736.27692 (86091216)
100.0	128.04631 (86012724)	438.63699 (86091216)	642.68378 (86091216)	693.92365 (86091216)	666.74640 (860912[illegible]
110.0	142.23882 (86011316)	416.96213 (86091216)	550.55530 (86091216)	547.06952 (86050816)	599.40076 (86052[illegible]
120.0	152.36700 (86042616)	274.36685 (86071516)	468.50824 (86050816)	602.72632 (86050816)	728.77142 (860913[illegible]
130.0	135.20419 (86042616)	189.40929 (86042616)	405.54120 (86050816)	674.94543 (86042816)	838.95166 (86042816)
140.0	134.83015 (86042316)	151.92093 (86042316)	361.73193 (86042816)	641.14038 (86042816)	786.00439 (86042816)
150.0	134.14098 (86042316)	208.34026 (86101616)	379.67874 (86052316)	593.42358 (86101616)	801.35944 (86101616)
160.0	134.69566 (86032216)	274.45505c(86082316)	635.52985 (86052316)	782.98547 (86052316)	816.30255 (86101616)
170.0	206.79198 (86032216)	472.72150c(86082316)	915.89050c(86082316)	982.88483c(86082316)	1106.67834 (86110316)
180.0	183.87119c(86082316)	533.57721c(86082316)	988.87054c(86082316)	1142.33960c(86082316)	1075.05054c(86082316)
190.0	276.90945c(86082316)	739.05695c(86082316)	1012.11859c(86082316)	1038.61658c(86082316)	954.01251c(86082316)
200.0	349.79498c(86082316)	883.80701c(86082316)	1217.84387c(86082316)	1197.46375c(86082316)	1036.41394c(86082316)
210.0	350.40359c(86082316)	755.07611c(86082316)	1133.47729c(86082316)	1242.02734c(86082316)	1161.82190c(86082316)
220.0	310.30042 (86091616)	601.54895 (86062616)	764.42413c(86082316)	904.68884c(86082316)	927.14368c(86082316)
230.0	346.20258 (86051116)	699.07251 (86062616)	889.69427 (86062616)	901.93964 (86062616)	840.36707 (86062616)
240.0	382.65503c(86090816)	611.53265 (86062616)	842.23334 (86062616)	925.80560 (86062616)	900.08057 (86062616)
250.0	430.65030c(86090816)	552.73169 (86051316)	655.79529 (86051316)	744.90509 (86062616)	778.90332 (86062616)
260.0	464.04630 (86040616)	560.16278 (86070616)	670.94348 (86070616)	666.92975 (86051316)	651.70007 (86051316)
270.0	643.00421 (86040616)	695.30859 (86040616)	663.72363 (86040616)	731.11407 (86062316)	762.99652 (86062316)
280.0	699.22540 (86040616)	838.72076 (86040616)	834.50946 (86040616)	766.60626 (86040616)	759.74420 (86062316)
290.0	651.26929 (86052916)	849.78760 (86040616)	924.09705 (86040616)	906.33722 (86040616)	844.67035 (86040616)
300.0	623.19342 (86052916)	782.24323 (86040616)	926.70667 (86040616)	966.77417 (86040616)	942.45239 (86040616)
310.0	580.31726 (86080816)	700.43964 (86081016)	800.95166 (86040616)	823.84497 (86040616)	784.74176 (86040616)
320.0	673.74353 (86080816)	788.49847 (86082516)	833.47437 (86082516)	820.28955 (86082516)	777.13190 (86082516)
330.0	665.90100 (86080816)	708.21289 (86080816)	772.72888 (86082516)	811.89270 (86082516)	821.48633 (86082516)
340.0	560.80829 (86080816)	604.02466 (86080816)	678.10065 (86082716)	722.15198 (86100916)	790.91632 (86031216)
350.0	584.67847 (86071316)	706.42926 (86071316)	794.19000 (86071316)	870.74738 (86100916)	909.09192 (86100916)
360.0	665.85266 (86071316)	830.54541 (86071316)	953.63330 (86071316)	988.15485 (86071316)	949.92828 (86071[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	805.71887 (86071316)	704.40338 (86071316)	619.56659 (86110516)	583.03162 (86080316)	544.02521 (86080316)
20.0	657.44122 (86101416)	655.42035 (86010216)	637.28119 (86010216)	659.35974 (86072316)	666.09314 (86072316)
30.0	583.06500 (86010216)	568.20068 (86061716)	546.03510 (86080416)	512.79407 (86080416)	494.89771 (86062916)
40.0	814.46509 (86080416)	766.42542 (86080416)	701.22333 (86080416)	628.78888 (86080416)	558.28363 (86080416)
50.0	725.18634 (86072616)	693.22717 (86072616)	642.50269 (86072616)	583.19165 (86072616)	555.69263 (86100416)
60.0	957.93054 (86100416)	1030.94348 (86100416)	1046.03845 (86100416)	1018.64886 (86100416)	965.73578 (86100416)
70.0	990.13202 (86100416)	931.93640 (86100416)	846.21997 (86100416)	826.28760 (86081816)	818.86755 (86081816)
80.0	724.51923 (86081816)	747.01825 (86081816)	723.12970 (86081816)	674.39764 (86081816)	614.88043 (86081816)
90.0	748.30573 (86091216)	717.51190 (86091216)	664.45398 (86091216)	602.76910 (86091216)	538.47760 (86091216)
100.0	653.92291 (86071916)	659.97559 (86071916)	639.47015 (86071916)	603.16998 (86071916)	559.55005 (86071916)
110.0	697.05975 (86042916)	793.19983 (86042916)	840.92273 (86042916)	849.43701 (86042916)	831.57178 (86042916)
120.0	792.43707 (86042916)	881.81830 (86042916)	906.21783 (86042916)	887.00861 (86042916)	844.02509 (86042916)
130.0	872.32703 (86042816)	832.67480 (86042816)	853.72845 (86012816)	867.07562 (86012816)	852.44244 (86012816)
140.0	809.45770 (86042816)	770.69800 (86042816)	706.64948 (86042816)	633.66010 (86042816)	561.95660 (86042816)
150.0	936.50653 (86101616)	997.27832 (86101616)	1001.23877 (86101616)	968.34973 (86101616)	914.96313 (86101616)
160.0	967.61737 (86101616)	1041.69189 (86101616)	1060.75305 (86101616)	1045.28137 (86101616)	1010.15790 (86101616)
170.0	1139.51270 (86110316)	1088.29346 (86110316)	998.35486 (86110316)	896.63794 (86110316)	796.97528 (86110316)
180.0	980.82404 (86110316)	1042.67834 (86110316)	1043.22681 (86110316)	1007.01605 (86110316)	951.97534 (86110316)
190.0	832.20520c(86082316)	723.86285 (86092716)	639.90027 (86120416)	604.08643 (86102116)	561.30402 (86102116)
200.0	870.82574 (86120416)	935.30243 (86120416)	944.83002 (86120416)	919.21246 (86120416)	873.97424 (86120416)
210.0	1009.82257c(86082316)	851.46490c(86082316)	720.53351 (86112116)	678.11554 (86112116)	629.77747 (86112116)
220.0	875.52441c(86082316)	790.59131c(86082316)	747.65045 (86112116)	753.79633 (86060516)	753.96191 (86060516)
230.0	758.82074 (86062616)	706.32141 (86091616)	667.81097 (86091616)	616.39270 (86091616)	611.05902 (86102908)
240.0	823.85028 (86062616)	765.43903 (86091516)	720.67743 (86091516)	662.05103 (86091516)	600.32324 (86091516)
250.0	767.51318 (86062616)	725.85077 (86062616)	706.28021 (86091516)	696.10150 (86091516)	674.57019 (86091516)
260.0	611.05957 (86051316)	558.01202 (86051316)	535.32434 (86121416)	530.88300 (86121416)	528.34692 (86091016)
270.0	739.91272 (86062316)	686.33063 (86062316)	621.06848 (86062316)	554.80597 (86062316)	552.10632 (86040416)
280.0	798.68799 (86062316)	812.25708 (86062316)	807.40204 (86062316)	789.70032 (86062316)	763.51666 (86062316)
290.0	766.77234 (86040616)	685.34180 (86040616)	647.44470 (86062316)	630.27441 (86062316)	608.45056 (86062316)
300.0	886.15900 (86040616)	813.41339 (86040616)	737.49280 (86040616)	664.90887 (86040616)	598.39288 (86040616)
310.0	725.00482 (86112516)	711.32117 (86112516)	685.59912 (86112516)	652.91638 (86112516)	616.84845 (86112516)
320.0	723.57642 (86082516)	692.06219 (86112516)	655.91870 (86112516)	611.98932 (86112516)	565.78699 (86112516)
330.0	809.20209 (86082516)	779.38501 (86082516)	737.58307 (86082516)	689.75250 (86082516)	640.02673 (86082516)
340.0	842.09259 (86031216)	869.89832 (86031216)	877.33203 (86031216)	868.93298 (86031216)	849.14240 (86031216)
350.0	906.77740 (86100916)	876.02026 (86100916)	827.07623 (86100916)	770.02173 (86100916)	711.28278 (86100916)
360.0	874.12921 (86071316)	906.84778 (86112616)	923.46802 (86112616)	920.55853 (86112616)	903.66937 (86112616)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	504.81607 (86080316)	475.23492 (86073008)	476.13843 (86073008)	482.24771 (86113016)	486.78342 (86113016)
20.0	659.94519 (86072316)	644.67267 (86072316)	623.32892 (86072316)	605.74866c(86081824)	586.18872c(86081824)
30.0	480.76685 (86062916)	465.13809 (86021116)	473.63617 (86021116)	475.42413 (86021116)	471.99887 (86021116)
40.0	498.51376 (86062916)	489.63287 (86030416)	487.71234 (86030416)	479.00070 (86030416)	465.87524 (86030416)
50.0	534.29852 (86100416)	507.27374 (86100416)	482.15408 (86112016)	489.71725 (86112016)	490.49634 (86112016)
60.0	900.86566 (86100416)	832.36279 (86100416)	764.97345 (86100416)	701.19391 (86100416)	642.17218 (86100416)
70.0	792.94281 (86081816)	756.49109 (86081816)	714.87274 (86081816)	671.51611 (86081816)	628.52307 (86081816)
80.0	553.66937 (86081816)	495.43835 (86081816)	468.58499 (86020716)	484.66507 (86020716)	497.14056 (86020716)
90.0	478.03793 (86091216)	468.62570 (86020716)	456.12881 (86020716)	436.74954 (86020716)	413.51047 (86020716)
100.0	514.22089 (86071916)	470.22501 (86071916)	429.06403 (86071916)	391.35422 (86071916)	384.60535 (86012316)
110.0	798.00812 (86042916)	756.16809 (86042916)	710.86896 (86042916)	665.08582 (86042916)	620.56976 (86042[illegible]
120.0	790.17450 (86042916)	732.99811 (86042916)	676.64221 (86042916)	623.22540 (86042916)	573.69971 (86042916)
130.0	820.75354 (86012816)	779.75336 (86012816)	734.55914 (86012816)	688.38641 (86012816)	693.07239 (86102624)
140.0	510.16592c(86072416)	490.20770 (86090316)	467.94461 (86090316)	444.36465 (86090316)	458.09756 (86012508)
150.0	852.16772 (86101616)	786.74066 (86101616)	722.60510 (86101616)	661.87897 (86101616)	605.57233 (86101616)
160.0	965.04059 (86101616)	915.63940 (86101616)	872.06677 (86111508)	919.51355 (86111508)	951.77026 (86111508)
170.0	705.59326 (86110316)	737.03564 (86012408)	764.92688 (86012408)	776.41559 (86012408)	775.13715 (86012408)
180.0	889.24048 (86110316)	825.10645 (86110316)	762.95007 (86110316)	704.45105 (86110316)	650.32025 (86110316)
190.0	517.28613 (86102116)	475.05798 (86102116)	435.96387 (86102116)	437.73813c(86010208)	474.74316c(86010208)
200.0	819.44275 (86120416)	761.95837 (86120416)	731.03015 (86020908)	774.88971 (86020908)	802.27106 (86020908)
210.0	581.75549 (86111316)	552.52991 (86032716)	552.54510 (86032716)	548.86169 (86032716)	561.78320 (86010716)
220.0	741.21729 (86060516)	719.31659 (86060516)	691.35382 (86060516)	659.75806 (86060516)	626.63165 (86060516)
230.0	690.22772 (86102908)	738.69507 (86102908)	760.83472 (86102908)	762.49133 (86102908)	749.31952 (86102908)
240.0	571.28131 (86033116)	571.25854 (86033116)	584.04303 (86111416)	606.64783 (86111416)	622.68518 (86111416)
250.0	646.01099 (86091516)	613.64551 (86091516)	579.72528 (86091516)	585.15289 (86091016)	587.93604 (86091016)
260.0	537.53577 (86091016)	539.95197 (86091016)	536.87195 (86091016)	529.56049 (86091016)	519.14111 (86091016)
270.0	565.34540 (86040416)	568.46405 (86040416)	563.62433 (86040416)	552.89154 (86040416)	556.47516 (86031008)
280.0	732.14990 (86062316)	698.00952 (86062316)	662.79413 (86062316)	627.66364 (86062316)	593.42432 (86062316)
290.0	584.08936 (86062316)	566.79755 (86030924)	574.68427 (86030924)	575.48285 (86030924)	570.99957 (86030924)
300.0	554.63776 (86122316)	572.97449 (86122316)	583.48053 (86122316)	587.78473 (86122316)	587.04889 (86122316)
310.0	579.78027 (86112516)	543.22522 (86112516)	508.08691 (86112516)	474.86328 (86112516)	443.78680 (86112516)
320.0	520.44177 (86112516)	477.58804 (86112516)	437.96597 (86112516)	406.78659c(86083116)	386.44229c(86083116)
330.0	591.04767 (86082516)	544.36139 (86082516)	500.77585 (86082516)	460.62216 (86082516)	454.99274 (86031308)
340.0	821.67224 (86031216)	789.40088 (86031216)	754.46643 (86031216)	718.40881 (86031216)	682.36688 (86031216)
350.0	654.50043 (86100916)	601.50348 (86100916)	553.02600 (86100916)	531.33209 (86052008)	531.17487 (86061624)
360.0	877.25702 (86112616)	844.71710 (86112616)	808.56903 (86112616)	770.73370 (86112616)	732.71600 (86112[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	486.65927 (86113016)	482.62051 (86113016)	475.23837 (86113016)
20.0	577.81451 (86031108)	568.98712 (86031108)	557.93408 (86031108)
30.0	464.81790 (86021116)	454.80246 (86021116)	442.46979 (86021116)
40.0	449.45621 (86030416)	431.08316 (86030416)	413.22388 (86111908)
50.0	485.80859 (86112016)	476.89658 (86112016)	464.65042 (86112016)
60.0	588.27917 (86100416)	539.45612 (86100416)	514.09943 (86031116)
70.0	587.11884 (86081816)	547.96613 (86081816)	511.37125 (86081816)
80.0	506.36502 (86020716)	512.64502 (86020716)	516.27118 (86020716)
90.0	388.53488 (86020716)	363.23926 (86020716)	365.88214 (86021124)
100.0	393.36520 (86012316)	397.89957 (86012316)	398.89935 (86012316)
110.0	578.28302 (86042916)	538.69519 (86042916)	501.97424 (86042916)
120.0	528.36517 (86042916)	502.92798 (86012816)	478.45438 (86012816)
130.0	722.21759 (86102624)	744.40509 (86102624)	760.37006 (86102624)
140.0	476.06366 (86012508)	488.36240 (86012508)	495.76532 (86012508)
150.0	554.11133 (86101616)	507.33795 (86101616)	465.07870 (86101616)
160.0	971.20929 (86111508)	980.16290 (86111508)	980.58026 (86111508)
170.0	764.30994 (86012408)	746.65338 (86012408)	724.33362 (86012408)
180.0	659.71344 (86110216)	666.95160 (86110216)	667.31146 (86110216)
190.0	503.43320c(86010208)	524.59015c(86010208)	537.57635c(86010208)
200.0	816.13690 (86020908)	819.25214 (86020908)	810.85114 (86020908)
210.0	568.48187 (86010716)	567.56134 (86010716)	558.32733 (86010716)
220.0	592.75208 (86060516)	559.26813 (86060516)	526.22534 (86060516)
230.0	726.08826 (86102908)	696.24231 (86102908)	660.93402 (86102908)
240.0	632.08435 (86111416)	635.44354 (86111416)	632.85724 (86111416)
250.0	584.53735 (86091016)	575.53290 (86091016)	561.24872 (86091016)
260.0	506.54446 (86091016)	491.77167 (86091016)	474.61441 (86091016)
270.0	558.18927 (86031008)	555.58118 (86031008)	548.41705 (86031008)
280.0	560.55994 (86062316)	529.01978 (86062316)	498.87036 (86062316)
290.0	562.51117 (86030924)	549.99847 (86030924)	533.97198 (86030924)
300.0	582.14716 (86122316)	573.30762 (86122316)	560.34015 (86122316)
310.0	452.05145 (86050708)	472.06342 (86050708)	487.16113 (86050708)
320.0	375.93509 (86110616)	366.74185 (86110616)	356.15802 (86110616)
330.0	448.23160 (86031308)	439.10379 (86031308)	429.82370 (86031208)
340.0	647.29254 (86031216)	613.01465 (86031216)	579.98395 (86031216)
350.0	537.64624 (86061624)	539.39679 (86061624)	538.14380 (86061624)
360.0	694.86761 (86112616)	657.81934 (86112616)	622.34247 (86112616)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	355.01559	(86062616)	15.24	0.00	280.95486	(86091616)
30.48	0.00	255.71370c	(86082316)	45.72	0.00	233.74904c	(86082316)
60.96	0.00	201.14079c	(86082316)	76.20	0.00	160.75291c	(86082316)
91.44	0.00	118.77943c	(86082316)	106.68	0.00	168.84058	(86111324)
121.92	0.00	145.97603	(86032216)	137.16	0.00	235.34163	(86032216)
152.40	0.00	141.46764	(86032216)	167.64	0.00	115.69890	(86042316)
182.88	0.00	130.73360	(86011116)	198.12	0.00	132.00026	(86042316)
213.36	0.00	130.87314	(86042316)	213.36	15.24	129.88979	(86012808)
213.36	30.48	126.85608	(86042616)	213.36	45.72	121.23064	(86042616)
213.36	60.96	129.65970	(86011316)	213.36	76.20	147.83443	(86012724)
213.36	91.44	141.41411	(86012724)	213.36	106.68	115.34200	(86053116)
213.36	121.92	191.56828	(86053116)	213.36	137.16	252.00977	(86053116)
213.36	152.40	289.05847	(86053116)	213.36	167.64	308.08484	(86053116)
213.36	182.88	314.62625	(86053116)	213.36	198.12	323.76035	(86061716)
213.36	213.36	345.77771	(86061716)	213.36	221.29	352.48441	(86061716)
198.12	221.29	352.21371	(86060816)	182.88	221.29	366.67563	(86071316)
167.64	221.29	458.54410	(86071316)	152.40	221.29	523.33099	(86071316)
137.16	221.29	554.60138	(86071316)	121.92	221.29	554.15686	(86071316)
106.68	221.29	528.95605	(86071316)	91.44	221.29	487.38788	(86071316)
76.20	221.29	462.72476	(86080816)	60.96	221.29	555.22723	(86080816)
45.72	221.29	620.71844	(86080816)	30.48	221.29	656.08441	(86080816)
15.24	221.29	665.61957	(86080816)	0.00	221.29	659.48224	(86082516)
0.00	213.36	626.69452	(86080816)	0.00	198.12	560.33972	(86080816)
0.00	182.88	570.08545	(86052916)	0.00	167.64	594.83850	(86052916)
0.00	152.40	613.00165	(86052916)	0.00	137.16	603.84515	(86052916)
0.00	121.92	533.09241	(86052916)	0.00	106.68	434.03827	(86040616)
0.00	91.44	377.96280	(86040616)	0.00	76.20	366.29584	(86043016)
0.00	60.96	364.82697c	(86090816)	0.00	45.72	340.47665c	(86090816)
0.00	30.48	305.95306c	(86090816)	0.00	15.24	315.65640	(86051116)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	513.52820 (86091116)	663.35187 (86091116)	782.18610 (86091116)	836.67236 (86091116)	823.33435 (86091116)
20.0	435.66422 (86091116)	484.80618 (86080216)	526.69916 (86080216)	593.52325 (86101416)	632.56842 (86010216)
30.0	397.06531 (86100316)	436.69586 (86060816)	511.87640 (86101416)	529.73853 (86101416)	554.92389 (86061716)
40.0	346.05856 (86100316)	417.49582 (86080416)	508.84061 (86053116)	546.90338 (86053116)	590.65845 (86062916)
50.0	336.40472 (86053116)	419.64624 (86053116)	484.71759 (86053116)	632.86890 (86072616)	656.94037 (86080416)
60.0	363.46533 (86080416)	383.70792 (86053116)	483.25162 (86080416)	574.11346 (86100416)	648.78735 (86072616)
70.0	303.56949 (86080416)	335.91577 (86061416)	463.77066 (86072616)	574.24969 (86072016)	677.54810 (86072016)
80.0	249.40518 (86053116)	316.65875 (86072616)	380.80743 (86072016)	561.51794 (86091216)	673.44336 (86091216)
90.0	169.47916 (86100416)	276.21042 (86091216)	502.98318 (86091216)	586.84259 (86081816)	574.11578 (86081816)
100.0	124.42969 (86021516)	251.62416 (86080416)	350.32230 (86071516)	488.94043 (86071916)	603.74933 (86071916)
110.0	141.54108 (86021516)	249.02533 (86071516)	438.02362 (86071516)	524.48175 (86091216)	578.47449 (86050816)
120.0	115.50018 (86011316)	218.16751 (86050816)	415.06693c(86071416)	577.17517 (86091316)	654.34705 (86042816)
130.0	131.87088 (86012808)	163.60475 (86080116)	386.60800 (86042816)	615.91187 (86091316)	754.72595 (86042616)
140.0	114.51734 (86032116)	147.20085 (86032116)	340.02628 (86090216)	580.67981 (86042616)	731.77533 (86042616)
150.0	130.40475 (86011116)	155.32547 (86052316)	368.03241 (86101616)	490.89178 (86042816)	634.40692 (86042816)
160.0	106.93793 (86120524)	220.60365 (86052316)	453.96750c(86082316)	580.79120 (86101616)	741.25165 (86052316)
170.0	139.56520c(86082316)	233.63240 (86110316)	561.35907 (86110316)	916.32776 (86110316)	859.76080c(86082316)
180.0	175.11671 (86032216)	234.27684 (86080616)	473.09091c(86071416)	667.00873 (86041816)	831.65503 (86110316)
190.0	130.41914 (86111324)	277.01019 (86061116)	578.81799 (86092716)	800.31726 (86092716)	852.24353 (86092716)
200.0	173.40431 (86091616)	398.85767 (86050316)	575.86371 (86111316)	746.55920 (86111316)	809.62842 (86111316)
210.0	261.96222 (86091616)	450.81955 (86092316)	584.35101 (86050316)	636.53516 (86111316)	719.65179 (86111316)
220.0	303.46243 (86062616)	522.16998c(86082316)	746.88208 (86062616)	768.11249 (86062616)	723.58801 (86091616)
230.0	337.48248 (86062616)	493.09128 (86051116)	620.91504 (86051116)	684.20886 (86051116)	699.05542 (86091616)
240.0	370.82016 (86060116)	540.77295 (86051316)	602.40857 (86051316)	614.95013 (86091516)	733.82928 (86091516)
250.0	427.94382 (86043016)	542.85809 (86070616)	649.44598 (86062616)	660.30640 (86051316)	617.03656 (86091516)
260.0	462.27658 (86043016)	517.79376 (86051316)	633.26453 (86051316)	661.80554 (86070616)	599.25549 (86070616)
270.0	510.93979 (86043016)	576.43762 (86043016)	619.99799 (86062316)	687.95441 (86070616)	705.70496 (86070616)
280.0	579.23193 (86052916)	647.15698 (86043016)	679.44531 (86043016)	689.91760 (86062316)	679.99829 (86040616)
290.0	629.23126 (86040616)	663.64246 (86081016)	702.11047 (86093016)	697.10681 (86093016)	676.39105c(86090516)
300.0	595.93494 (86081016)	737.19928 (86081016)	787.95081 (86081016)	778.23120 (86081016)	775.09711 (86093016)
310.0	577.32422 (86082516)	667.80115 (86052916)	780.79480 (86081016)	781.49438 (86081016)	738.93854 (86081016)
320.0	658.34155 (86082516)	711.18579 (86080816)	714.18152 (86052916)	700.24103 (86052916)	701.02161 (86112516)
330.0	575.26605 (86082516)	697.31390 (86082516)	722.59436 (86080816)	720.37573 (86080816)	695.35870 (86080816)
340.0	499.64581 (86082716)	594.45343 (86082716)	673.06549 (86100916)	717.99939 (86082716)	740.42920 (86100916)
350.0	520.65564 (86080516)	659.42010 (86100916)	786.10712 (86100916)	818.60822 (86071316)	790.53693 (86071316)
360.0	511.48309 (86061416)	607.60889 (86091116)	729.41821 (86091116)	798.44238 (86091116)	817.43134 (86091116)

*** ISCST2 - VERSION 92062 ***   *** Foamex - 8 hour Avg Emission Rates - 1,1,1-Trichloroethane   ***   12/01/92
*** Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof   ***   18:36:37
PAGE 20

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	765.69629 (86091116)	689.77057 (86091116)	619.49097 (86080316)	577.71497 (86110616)	535.83856 (86110616)
20.0	656.33337 (86010216)	637.11871 (86101416)	635.51105 (86072316)	608.05243 (86010216)	620.74133c(86081824)
30.0	576.58929 (86061716)	567.60132 (86080416)	542.38757 (86061716)	504.26608 (86061716)	474.83813 (86080416)
40.0	643.29071 (86062916)	653.42657 (86062916)	634.12939 (86062916)	595.68225 (86062916)	548.26740 (86062916)
50.0	586.98083 (86080416)	526.61548 (86100416)	559.40961 (86100416)	566.47736 (86100416)	523.52466 (86072616)
60.0	618.70013 (86072616)	609.61572 (86073116)	612.67059 (86070116)	625.93420 (86070116)	622.27924 (86070116)
70.0	718.23663 (86072016)	741.11639 (86081816)	804.17957 (86081816)	753.16980 (86100416)	737.30029 (86031116)
80.0	702.89117 (86091216)	675.57379 (86091216)	645.59729 (86022616)	603.43372 (86022616)	555.56946 (86022616)
90.0	589.62604 (86071916)	602.58051 (86071916)	584.02600 (86071916)	548.27649 (86071916)	505.06744 (86071916)
100.0	609.00916 (86091216)	544.94666 (86091216)	484.98361c(86071416)	452.00854 (86030516)	419.35907 (86030516)
110.0	632.03302 (86052216)	610.53101 (86052216)	569.02966 (86012316)	601.82941 (86012316)	606.67651 (86012[illegible]
120.0	789.85229 (86091316)	787.97736 (86091316)	751.88092 (86091316)	699.46716 (86052216)	673.19098 (86012816)
130.0	827.99243 (86042616)	825.82080 (86042616)	783.34412 (86042616)	720.44440 (86042616)	682.33716 (86022016)
140.0	765.06085 (86042616)	736.55005 (86042616)	682.51044 (86042616)	618.73505 (86042616)	557.44006c(86072416)
150.0	674.34351 (86042816)	659.20276 (86042816)	618.80188 (86042816)	567.33777 (86042816)	544.90356 (86061016)
160.0	673.77789 (86101516)	722.73169 (86101516)	731.23657 (86101516)	714.24585 (86101516)	682.84210 (86101516)
170.0	707.51282 (86011216)	693.37396 (86011216)	652.61627 (86011216)	600.73804 (86011216)	618.10333 (86012408)
180.0	927.56238c(86082316)	810.80164 (86110416)	805.90314 (86110416)	774.97766 (86110416)	730.65002 (86110416)
190.0	806.53918 (86092716)	719.14368 (86120416)	639.64276 (86102116)	556.90576 (86120416)	480.60376 (86120416)
200.0	855.55237c(86082316)	754.11993 (86092716)	695.70313 (86092716)	630.34131 (86092716)	582.94659 (86102016)
210.0	751.30157 (86111316)	747.39703 (86112116)	717.19324 (86111316)	675.92212 (86111316)	629.32086 (86111316)
220.0	659.81622 (86112116)	723.87122 (86112116)	736.38147 (86060516)	746.49945 (86112116)	730.98688 (86112116)
230.0	720.39502 (86091616)	674.03296 (86062616)	606.55792 (86033116)	581.19409 (86033116)	560.70349 (86091616)
240.0	778.08667 (86091516)	730.86658 (86062616)	640.22443 (86062616)	585.51587 (86091716)	568.04224 (86091716)
250.0	671.36615 (86091516)	699.83807 (86091516)	669.89899 (86062616)	609.67938 (86062616)	550.75366 (86062616)
260.0	558.16467 (86062616)	539.67041 (86062616)	513.24310 (86020216)	512.21991 (86020216)	519.60742 (86121416)
270.0	683.14307 (86070616)	637.76105 (86070616)	583.56311 (86070616)	528.32074 (86070616)	502.36459 (86051616)
280.0	653.79425c(86090516)	628.47473c(86090516)	595.27344c(86090516)	558.54846c(86090516)	521.04034c(86090516)
290.0	680.68182c(86090516)	659.67285c(86090516)	624.63422c(86090516)	583.15857c(86090516)	539.90582c(86090516)
300.0	742.43323 (86093016)	691.32959 (86093016)	633.89856 (86093016)	576.67737 (86093016)	546.69678 (86030916)
310.0	721.07568 (86040616)	646.75702 (86040616)	591.42188 (86052816)	548.23376 (86100316)	514.10004 (86100316)
320.0	711.40283 (86112516)	667.71729 (86082516)	613.64459 (86082516)	563.36359 (86082516)	519.75305 (86081116)
330.0	655.38129 (86080816)	603.88055 (86080816)	548.55096 (86080816)	493.23981 (86080816)	461.74817 (86081116)
340.0	737.35071 (86100916)	718.90265 (86100916)	689.56525 (86100916)	654.01233 (86100916)	624.27313 (86070516)
350.0	734.41211 (86071316)	676.65210 (86031216)	634.66071 (86031216)	586.30170 (86031216)	537.95813 (86031216)
360.0	864.62683 (86112616)	785.62079 (86071316)	769.44470 (86102516)	744.21387 (86102516)	707.43225 (86102[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	493.16415 (86110616)	466.88290 (86080316)	471.93271 (86113016)	471.49484 (86073008)	462.81296 (86073008)
20.0	630.90326c(86081824)	630.10626c(86081824)	620.98676c(86081824)	598.26703 (86072316)	583.24268 (86031108)
30.0	448.34653 (86021116)	461.58627 (86062916)	439.67218 (86062916)	416.60495 (86062916)	399.19687 (86020708)
40.0	493.78162 (86080416)	450.18942 (86062916)	405.19284 (86062916)	406.88535 (86111908)	413.00745 (86111908)
50.0	467.73254 (86072616)	466.10855 (86112016)	477.83014 (86100416)	447.94882 (86100416)	418.79678 (86100416)
60.0	608.14484 (86070116)	587.93347 (86070116)	564.50830 (86070116)	545.81671 (86031116)	542.80414 (86031116)
70.0	720.85901 (86031116)	692.52124 (86031116)	657.72247 (86031116)	620.03955 (86031116)	581.74060 (86031116)
80.0	507.71817 (86022616)	462.56595 (86022616)	442.25006 (86081816)	457.83508 (86010308)	465.59341 (86010308)
90.0	470.20871 (86020716)	424.38382 (86091216)	383.13626 (86041616)	374.69373 (86070316)	371.01834 (86070316)
100.0	385.45041 (86030516)	352.63974 (86030516)	351.93356 (86012316)	370.96161 (86012316)	357.22266 (86071916)
110.0	593.22467 (86012316)	569.03888 (86012316)	539.32813 (86012316)	507.42609 (86012316)	475.35596 (86012316)
120.0	655.64471 (86012816)	632.93976 (86012816)	607.57416 (86012816)	581.08331 (86012816)	554.41779 (86012816)
130.0	700.07623 (86022016)	704.21667 (86022016)	698.85236 (86022016)	686.99231 (86022016)	670.80206 (86022016)
140.0	509.46439 (86090316)	478.36829 (86121716)	455.94394 (86121716)	433.60080 (86012508)	420.57550 (86090316)
150.0	516.39594 (86061016)	485.51001 (86061016)	454.39032 (86061016)	440.51361 (86032108)	446.12509 (86032108)
160.0	723.31848 (86111508)	807.20276 (86111508)	865.28760 (86101616)	815.89258 (86101616)	768.50372 (86101616)
170.0	689.06146 (86012408)	624.42834 (86110316)	574.75311 (86120508)	591.29309 (86120508)	598.77850 (86120508)
180.0	680.91913 (86110416)	640.23657 (86122616)	621.91199 (86122616)	621.02484 (86110216)	644.98523 (86110216)
190.0	438.92847 (86121716)	433.77454 (86111324)	434.88885 (86111324)	429.07941 (86111324)	428.02802 (86122616)
200.0	584.23206 (86020908)	668.00134 (86020908)	705.18781 (86120416)	651.11163 (86120416)	600.68732 (86120416)
210.0	580.90698 (86112116)	535.69293 (86111316)	517.22693 (86010716)	545.38928 (86010716)	541.77454 (86032716)
220.0	707.44165 (86112116)	679.52069 (86112116)	649.37885 (86112116)	618.34796 (86112116)	587.28986 (86112116)
230.0	537.90289 (86102216)	548.01501 (86011008)	567.52557 (86011008)	576.89502 (86011008)	578.15460 (86011008)
240.0	544.82202 (86091716)	554.49988 (86111416)	566.63354 (86033116)	558.21295 (86033116)	570.99689 (86011008)
250.0	527.25140 (86091016)	555.72791 (86091016)	574.81378 (86091016)	545.74652 (86091516)	512.65686 (86091516)
260.0	503.76752 (86121416)	485.02792 (86121416)	485.48578 (86122224)	485.00064 (86122224)	477.43768 (86122224)
270.0	500.63644 (86091016)	523.50256 (86031008)	540.42993 (86031008)	550.92944 (86031008)	538.07666 (86040416)
280.0	484.39236c(86090516)	449.52914c(86090516)	439.05045 (86040416)	433.00034 (86040416)	425.10638 (86040416)
290.0	549.84521 (86030924)	558.57043 (86062316)	532.79431 (86062316)	507.34750 (86062316)	488.20850 (86051908)
300.0	547.03040 (86030916)	540.83960 (86030916)	529.91321 (86030916)	516.16309 (86030916)	501.90958c(86120208)
310.0	478.75275 (86100316)	444.03619 (86100316)	412.64938 (86122316)	412.76355 (86122316)	424.35458 (86050708)
320.0	482.13882 (86081116)	446.98959c(86083116)	427.16812c(86083116)	401.80380 (86112516)	384.45493 (86110616)
330.0	458.41711 (86031308)	462.46985 (86031308)	462.78424 (86031308)	460.02979 (86031308)	423.94257 (86082516)
340.0	619.79657 (86070516)	610.19568 (86070516)	596.63269 (86070516)	580.13800 (86070516)	561.59143 (86070516)
350.0	524.81415 (86052008)	532.84570 (86052008)	534.68689 (86052008)	520.41364 (86061624)	524.06885 (86052008)
360.0	671.61340 (86110516)	634.99121 (86110516)	597.41187 (86110516)	560.32648 (86110516)	526.82867 (86112716)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	451.37595 (86073008)	437.09406 (86073008)	421.43497 (86073008)
20.0	563.74323c(86081824)	538.87262c(86081824)	512.81659c(86081824)
30.0	417.30075c(86121124)	429.61606c(86121124)	435.48080c(86121124)
40.0	415.75293 (86111908)	415.96335 (86111908)	411.43292 (86030416)
50.0	393.43329 (86042624)	402.84146 (86122008)	420.91483 (86122008)
60.0	535.97003 (86031116)	526.14496 (86031116)	495.42282 (86100416)
70.0	544.27130 (86031116)	508.31573 (86031116)	474.40347 (86031116)
80.0	466.16208 (86010308)	461.30182 (86010308)	455.34897 (86122516)
90.0	365.73691 (86070316)	359.43445 (86021124)	351.57880 (86070316)
100.0	326.54095 (86071916)	299.57684 (86022208)	320.39893 (86022208)
110.0	444.28265 (86012316)	414.82977 (86012316)	387.28769 (86012316)
120.0	528.25049 (86012816)	487.16965 (86042916)	470.34845 (86022016)
130.0	651.82849 (86022016)	631.18085 (86022016)	609.62231 (86022016)
140.0	397.27582 (86090316)	374.88354 (86090316)	369.89496 (86122908)
150.0	446.05374 (86032108)	441.47992 (86032108)	433.58029 (86032108)
160.0	723.84436 (86101616)	703.95135 (86101608)	703.58215 (86101608)
170.0	604.22321c(86103008)	616.38489c(86103008)	623.01947c(86103008)
180.0	641.40289c(86122608)	647.78314c(86122608)	648.18152c(86122608)
190.0	437.62622 (86122616)	442.79718 (86122616)	443.62772 (86122616)
200.0	554.27020 (86120416)	511.87198 (86120416)	497.52924 (86010316)
210.0	531.79559 (86032716)	519.54333 (86032716)	503.79535 (86032716)
220.0	556.97131 (86112116)	527.34528 (86112116)	498.32300 (86112116)
230.0	573.13336 (86011008)	562.94818 (86011008)	547.29816 (86011008)
240.0	583.83160 (86011008)	589.59949 (86011008)	588.06177 (86011008)
250.0	481.02136 (86091516)	474.25034 (86011816)	465.25665 (86011816)
260.0	464.86823 (86122224)	449.86865 (86102316)	442.80917 (86102316)
270.0	520.44373 (86040416)	500.86755 (86040416)	479.40894 (86040416)
280.0	415.64856 (86040416)	405.71811 (86110816)	394.94330 (86110816)
290.0	488.14886 (86051908)	484.62003 (86051908)	477.45215 (86051908)
300.0	515.32562c(86120208)	523.59149c(86120208)	524.42328c(86120208)
310.0	414.92346 (86112516)	395.69208 (86122316)	383.94934 (86122316)
320.0	366.53986c(86083116)	347.34073c(86083116)	329.00259c(86083116)
330.0	406.41425 (86031208)	419.63794 (86031208)	428.19556 (86031308)
340.0	541.71832 (86070516)	520.96460 (86070516)	499.57700 (86070516)
350.0	513.20349 (86052008)	499.75400 (86052008)	484.58334 (86052008)
360.0	520.41479 (86112716)	511.12402 (86112716)	501.19128 (86061224)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	331.39893	(86091616)	15.24	0.00	266.76599	(86051716)
30.48	0.00	224.05716	(86091616)	45.72	0.00	163.80156	(86091616)
60.96	0.00	122.15971	(86010816)	76.20	0.00	90.78387	(86041916)
91.44	0.00	111.91200	(86111324)	106.68	0.00	141.67409	(86032216)
121.92	0.00	138.04140	(86101924)	137.16	0.00	141.07599	(86011116)
152.40	0.00	97.87384	(86120524)	167.64	0.00	99.23101	(86011116)
182.88	0.00	127.52624	(86011108)	198.12	0.00	107.62588	(86032116)
213.36	0.00	129.11806	(86032116)	213.36	15.24	123.56622	(86032116)
213.36	30.48	121.21928	(86012808)	213.36	45.72	109.33421	(86032208)
213.36	60.96	118.93941	(86012724)	213.36	76.20	127.88477	(86021516)
213.36	91.44	102.05214	(86021516)	213.36	106.68	94.37222	(86071516)
213.36	121.92	130.29364	(86071516)	213.36	137.16	160.58215	(86080516)
213.36	152.40	207.28355	(86080516)	213.36	167.64	238.66637	(86080516)
213.36	182.88	286.70181	(86061716)	213.36	198.12	314.74951	(86053116)
213.36	213.36	325.68149	(86060816)	213.36	221.29	334.12598	(86060816)
198.12	221.29	347.21371	(86100316)	182.88	221.29	360.85117	(86100316)
167.64	221.29	373.56085	(86061416)	152.40	221.29	422.97256	(86061416)
137.16	221.29	461.00836	(86061416)	121.92	221.29	476.95047	(86061416)
106.68	221.29	466.28616	(86061416)	91.44	221.29	433.80417	(86080516)
76.20	221.29	454.44382	(86080516)	60.96	221.29	442.66025	(86080516)
45.72	221.29	485.32150	(86082516)	30.48	221.29	573.06976	(86082516)
15.24	221.29	634.44910	(86082516)	0.00	221.29	653.76740	(86080816)
0.00	213.36	623.32770	(86082516)	0.00	198.12	554.31110	(86052916)
0.00	182.88	493.90204	(86051816)	0.00	167.64	501.29324	(86051816)
0.00	152.40	489.90302	(86051816)	0.00	137.16	453.95071	(86051816)
0.00	121.92	441.58606	(86040616)	0.00	106.68	402.22345	(86052916)
0.00	91.44	371.78448	(86043016)	0.00	76.20	357.72031c	(86090816)
0.00	60.96	348.86926	(86043016)	0.00	45.72	308.76028	(86043016)
0.00	30.48	300.95255c	(86082216)	0.00	15.24	301.88135c	(86082216)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

** CONC OF OTHER IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,	YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,	YR)	OF TYPE
1.	1242.02734c	(86082316)	AT (	-43.32,	-149.17)	GP	26.	998.35486	(86110316)	AT (	193.50,	-381.76)	GP
2.	1217.84387c	(86082316)	AT (	21.17,	-124.28)	GP	27.	997.27832	(86101616)	AT (	331.68,	-279.07)	GP
3.	1197.46375c	(86082316)	AT (	4.07,	-171.27)	GP	28.	990.13202	(86100416)	AT (	482.56,	247.45)	GP
4.	1161.82190c	(86082316)	AT (	-68.32,	-192.47)	GP	29.	988.87054c	(86082316)	AT (	106.68,	-139.36)	GP
5.	1142.33960c	(86082316)	AT (	106.68,	-189.36)	GP	30.	988.15485	(86071316)	AT (	106.68,	410.64)	GP
6.	1139.51270	(86110316)	AT (	176.14,	-283.28)	GP	31.	982.88483c	(86082316)	AT (	158.77,	-184.80)	GP
7.	1133.47729c	(86082316)	AT (	-18.32,	-105.86)	GP	32.	982.04510	(86100416)	AT (	435.57,	230.35)	GP
8.	1106.67834	(86110316)	AT (	167.46,	-234.04)	GP	33.	980.82404	(86110316)	AT (	106.68,	-289.36)	GP
9.	1088.29346	(86110316)	AT (	184.82,	-332.52)	GP	34.	980.58026	(86111508)	AT (	448.70,	-829.05)	GP
10.	1075.05054c	(86082316)	AT (	106.68,	-239.36)	GP	35.	980.16290	(86111508)	AT (	431.60,	-782.07)	GP
11.	1060.75305	(86101616)	AT (	277.69,	-359.20)	GP	36.	971.20929	(86111508)	AT (	414.50,	-735.08)	GP
12.	1046.03845	(86100416)	AT (	539.69,	360.64)	GP	37.	968.34973	(86101616)	AT (	381.68,	-365.67)	GP
13.	1045.28137	(86101616)	AT (	294.79,	-406.19)	GP	38.	967.61737	(86101616)	AT (	243.49,	-265.23)	GP
14.	1043.22681	(86110316)	AT (	106.68,	-389.36)	GP	39.	966.77417	(86040616)	AT (	-153.13,	260.64)	GP
15.	1042.67834	(86110316)	AT (	106.68,	-339.36)	GP	40.	965.73578	(86100416)	AT (	626.30,	410.64)	[illegible]
16.	1041.69189	(86101616)	AT (	260.59,	-312.22)	GP	41.	965.04059	(86101616)	AT (	328.99,	-500.16)	GP
17.	1038.61658c	(86082316)	AT (	54.59,	-184.80)	GP	42.	959.08063	(86071316)	AT (	158.77,	406.08)	GP
18.	1036.41394c	(86082316)	AT (	-13.03,	-218.25)	GP	43.	957.93054	(86100416)	AT (	453.09,	310.64)	GP
19.	1030.94348	(86100416)	AT (	496.39,	335.64)	GP	44.	954.01251c	(86082316)	AT (	45.90,	-234.04)	GP
20.	1018.64886	(86100416)	AT (	582.99,	385.64)	GP	45.	953.63330	(86071316)	AT (	106.68,	360.64)	GP
21.	1012.11859c	(86082316)	AT (	63.27,	-135.56)	GP	46.	951.97534	(86110316)	AT (	106.68,	-489.36)	GP
22.	1010.15790	(86101616)	AT (	311.89,	-453.17)	GP	47.	951.77026	(86111508)	AT (	397.40,	-688.10)	GP
23.	1009.82257c	(86082316)	AT (	-93.32,	-235.77)	GP	48.	949.92828	(86071316)	AT (	106.68,	460.64)	GP
24.	1007.01605	(86110316)	AT (	106.68,	-439.36)	GP	49.	944.83002	(86120416)	AT (	-64.33,	-359.20)	GP
25.	1001.23877	(86101616)	AT (	356.68,	-322.37)	GP	50.	942.60974	(86071316)	AT (	150.09,	356.84)	GP

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	1242.02734c	ON 86082316: AT (	-43.32,	-149.17,	0.00,	0.00)	GP	POL1
	HIGH	2ND HIGH VALUE IS	927.56238c	ON 86082316: AT (	106.68,	-289.36,	0.00,	0.00)	GP	POL1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** Message Summary For ISC2 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 328 Informational Message(s)

A Total of 328 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST2 Finishes Successfully ***
****

Run: FMXTCA24

1,1,1-Trichloroethane 24-hour Average Emission Rates

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ISCST2 EXTENDED MODEL - (DATED 92062)

IBM-PC VERSION (1.01)
(C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8025 SOLD TO CROSS TESSITORE & ASSOCIATES
RUN BEGAN ON 12/01/92 AT 20:00:00


CO STARTING
CO TITLEONE Foamex - 24 hour Avg Emission Rates - 1,1,1-Trichloroethane
CO TITLETWO Foam Line & LBSR Stacks GEP - Exhaust Fans 12 ft Above Roof
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 24
CO POLLUTID OTHER
CO RUNORNOT RUN
CO FINISHED


SO STARTING

** Source Location Cards:
**          SRCID SRCTYP       XS            YS            ZS

SO LOCATION     1 POINT      175.8720      119.7880        .0000
SO LOCATION     2 POINT      152.4020       17.0690        .0000
SO LOCATION     3 POINT      108.5100       97.2320        .0000
SO LOCATION     4 POINT      108.5100      110.6440        .0000
SO LOCATION     5 POINT      108.5100      119.7880        .0000
SO LOCATION     6 POINT      108.5100      135.6380        .0000
SO LOCATION     7 POINT      108.5100      152.7070        .0000
SO LOCATION     8 POINT      108.5100      168.8610        .0000
SO LOCATION     9 POINT      108.5100      183.7970        .0000
SO LOCATION    10 POINT      108.5100      192.9410        .0000
SO LOCATION    11 POINT      147.5250       97.2320        .0000
SO LOCATION    12 POINT      147.5250      110.6440        .0000
SO LOCATION    13 POINT      147.5250      119.7880        .0000
SO LOCATION    14 POINT      147.5250      135.6380        .0000
SO LOCATION    15 POINT      147.5250      155.4500        .0000
SO LOCATION    16 POINT      147.5250      168.8610        .0000
SO LOCATION    17 POINT      147.5250      183.7970        .0000
SO LOCATION    18 POINT      147.5250      192.9410        .0000
SO LOCATION    19 POINT      182.8820      102.5660        .0000

** Source Parameter Cards:
** POINT:   SRCID      QS             HS         TS          VS          DS
** VOLUME:  SRCID      QS             HS       SYINIT      SZINIT
** AREA:    SRCID      QS             HS        XINIT

SO SRCPARAM     1    22.5803966625      38.1000   299.8200    24.3810       .70
SO SRCPARAM     2    13.171898053125      38.1000   299.8200    24.3810       .
SO SRCPARAM     3    0.1199527695874   13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     4    0.1199527695874   13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     5    0.1199527695874   13.1070   299.8200    24.3810     1.1100
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SO SRCPARAM     6    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     7    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     8    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM     9    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    10    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    11    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    12    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    13    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    14    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    15    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    16    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    17    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    18    0.1199527695874    13.1070   299.8200    24.3810     1.1100
SO SRCPARAM    19    0.1199527695874    15.8500   299.8200    24.3810     1.1100

** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     1
SO BUILDHGT     1      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     1        .00        .00        .00        .00        .00        .00
SO BUILDHGT     1        .00        .00      15.24      15.24      15.24        .00
SO BUILDHGT     1        .00      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     1        .00        .00        .00        .00        .00        .00
SO BUILDHGT     1        .00        .00      15.24      15.24      15.24      15.24
** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     2
SO BUILDHGT     2      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     2      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     2      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     2      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     2      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     2      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     3      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     3      12.19      12.19      15.24      15.24      15.24      15.24
SO BUILDHGT     3      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     3      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     3      12.19      12.19      15.24      15.24      15.24      15.24
SO BUILDHGT     3      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     4      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     4      10.67      12.19      12.19      15.24      15.24      15.24
SO BUILDHGT     4      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     4      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     4      10.67      12.19      12.19      15.24      15.24      15.24
SO BUILDHGT     4      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     5      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     5      10.67      12.19      12.19      12.19      15.24      15.24
SO BUILDHGT     5      15.24      10.67      10.67      12.19      12.19      12.19
SO BUILDHGT     5      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     5      10.67      12.19      12.19      12.19      15.24      15.24
SO BUILDHGT     5      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     6      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     6      10.67      10.67      10.67      12.19      12.19      10.67
SO BUILDHGT     6      10.67      10.67      10.67      10.67      12.19      12.19
SO BUILDHGT     6      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     6      10.67      10.67      10.67      12.19      12.19      15.24
SO BUILDHGT     6      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     7      10.67      10.67      10.67      10.67      10.67      10.67
```

SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	7	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	8	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	9	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	10	10.67	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	12.19	15.24	15.24	15.24
SO BUILDHGT	11	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	12	12.19	12.19	12.19	12.19	15.24	15.24
SO BUILDHGT	12	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	12.19
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	10.67
SO BUILDHGT	13	12.19	12.19	12.19	12.19	12.19	15.24
SO BUILDHGT	13	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	14	15.24	15.24	15.24	15.24	10.67	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	12.19	12.19	12.19
SO BUILDHGT	14	12.19	15.24	15.24	15.24	10.97	10.67
SO BUILDHGT	14	10.67	10.67	10.67	12.19	12.19	12.19
SO BUILDHGT	14	15.24	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	15	15.24	15.24	15.24	10.67	10.67	10.67
SO BUILDHGT	15	10.67	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	10.67	10.67	10.67	10.67	10.67
SO BUILDHGT	15	12.19	12.19	12.19	10.97	10.97	10.97
SO BUILDHGT	15	10.97	10.67	10.67	10.67	10.67	12.19
SO BUILDHGT	15	12.19	15.24	15.24	15.24	15.24	15.24
SO BUILDHGT	16	12.19	12.19	10.67	10.67	10.67	10.67

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SO BUILDHGT   16    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   16    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   16    10.67    10.67    10.67    10.97    10.97    10.97
SO BUILDHGT   16    10.97    10.97    10.97    10.67    10.67    10.67
SO BUILDHGT   16    12.19    12.19    12.19    12.19    12.19    12.19
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.97
SO BUILDHGT   17    10.97    10.97    10.97    10.97    10.97    10.67
SO BUILDHGT   17    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   18    10.67    10.97    10.97    10.97    10.97    10.97
SO BUILDHGT   18    10.97    10.67    10.67    10.67    10.67    10.67
SO BUILDHGT   19    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    12.19    12.19    12.19    12.19
SO BUILDHGT   19    12.19    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    15.24    15.24    15.24    15.24
SO BUILDHGT   19    15.24    15.24    12.19    12.19    12.19    12.19
SO BUILDHGT   19    12.19    15.24    15.24    15.24    15.24    15.24
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      1
SO BUILDWID    1    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    1      .00      .00      .00      .00      .00      .00
SO BUILDWID    1      .00      .00    93.84    90.70    83.88      .00
SO BUILDWID    1      .00    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    1      .00      .00      .00      .00      .00      .00
SO BUILDWID    1      .00      .00    93.84    90.70    83.88    75.55
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      2
SO BUILDWID    2    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    2    88.38    80.55    71.39    81.44    89.02    93.89
SO BUILDWID    2    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    2    84.68    91.23    95.01    95.96    95.84    93.53
SO BUILDWID    2    88.38    80.55    71.39    81.44    89.02    93.89
SO BUILDWID    2    95.91    95.96    94.76    90.70    83.88    75.55
SO BUILDWID    3   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    3   103.26   104.35    71.39    81.44    89.02    93.89
SO BUILDWID    3    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    3   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    3   103.26   104.35    71.39    81.44    89.02    93.89
SO BUILDWID    3    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    4   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    4   214.49   104.35   109.35    81.44    89.02    93.89
SO BUILDWID    4    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    4   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    4   214.49   104.35   109.35    81.44    89.02    93.89
SO BUILDWID    4    95.91    95.96    94.76    90.70    83.88    74.51
SO BUILDWID    5   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    5   214.49   104.34   109.35   118.25    89.02    93.89
SO BUILDWID    5    94.53   176.60   161.59   103.82    93.09    77.16
SO BUILDWID    5   154.11   178.03   196.53   209.06   215.24   215.89
SO BUILDWID    5   214.49   104.34   109.35   118.25    89.02    93.89
```

SO BUILDWID	5	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	118.94	192.50
SO BUILDWID	6	186.24	176.60	161.59	148.74	83.85	77.16
SO BUILDWID	6	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	6	214.49	206.95	193.13	118.25	123.55	93.89
SO BUILDWID	6	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	7	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	7	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	7	95.91	95.96	94.76	90.70	83.88	74.51
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	8	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	8	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	8	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	9	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	9	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	9	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	10	154.11	178.03	196.53	209.06	215.24	215.89
SO BUILDWID	10	214.49	206.95	193.13	194.58	194.74	192.50
SO BUILDWID	10	186.24	176.60	161.59	148.74	138.57	125.52
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	11	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	11	88.38	80.55	109.35	81.44	89.02	93.89
SO BUILDWID	11	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	12	84.68	91.23	95.01	95.96	95.84	93.53
SO BUILDWID	12	103.26	104.35	109.35	118.25	89.02	93.89
SO BUILDWID	12	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	77.16
SO BUILDWID	13	84.68	91.23	95.01	95.96	95.84	215.89
SO BUILDWID	13	103.26	104.35	109.35	118.25	123.55	93.89
SO BUILDWID	13	95.91	95.96	94.76	90.70	83.88	75.55
SO BUILDWID	14	84.68	91.23	95.01	95.24	215.24	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12
SO BUILDWID	14	95.91	95.96	94.76	105.03	93.09	77.16
SO BUILDWID	14	84.68	91.23	95.01	95.24	24.73	215.89
SO BUILDWID	14	214.49	206.95	193.13	118.25	123.55	125.12

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SO BUILDWID    14     95.91      95.96      94.76      90.70      83.88      75.55
SO BUILDWID    15     84.68      91.23      92.21     209.06     215.24     215.89
SO BUILDWID    15    214.49     206.95     193.13     194.58     194.74     125.12
SO BUILDWID    15    125.05     176.60     161.59     148.74     138.57     125.52
SO BUILDWID    15     84.68      91.23      91.74      25.00      24.73      23.71
SO BUILDWID    15     21.98     206.95     193.13     194.58     194.74     125.12
SO BUILDWID    15    125.05      95.01      94.76      90.70      83.88      75.55
SO BUILDWID    16     84.68      89.55     196.53     209.06     215.24     215.89
SO BUILDWID    16    214.49     206.95     193.13     194.58     194.74     192.50
SO BUILDWID    16    186.24     176.60     161.59     148.74     138.57     125.52
SO BUILDWID    16    154.11     178.03     196.53      24.84      24.73      23.71
SO BUILDWID    16     21.98      19.58      16.59     194.58     194.74     192.50
SO BUILDWID    16    123.25     122.42     116.07     106.20      93.09      77.16
SO BUILDWID    17    154.11     178.03     196.53     209.06     215.24     215.89
SO BUILDWID    17    214.49     206.95     193.13     194.58     194.74     192.50
SO BUILDWID    17    186.24     176.60     161.59     148.74     138.57     125.52
SO BUILDWID    17    154.11     178.03     196.53     209.06     215.24      22.19
SO BUILDWID    17     21.98      19.58      16.91      19.85      21.98     192.50
SO BUILDWID    17    186.24     176.60     161.59     148.74     138.57     125.52
SO BUILDWID    18    154.11     178.03     196.53     209.06     215.24     215.89
SO BUILDWID    18    214.49     206.95     193.13     194.58     194.74     192.50
SO BUILDWID    18    186.24     176.60     161.59     148.74     138.57     125.52
SO BUILDWID    18    154.11     178.03     196.53     209.06     215.24     215.89
SO BUILDWID    18    214.49      17.85      16.91      19.85      22.19      23.85
SO BUILDWID    18     24.21     176.60     161.59     148.74     138.57     125.52
SO BUILDWID    19     84.68      91.23      95.01      95.96      95.84      93.53
SO BUILDWID    19     88.38      80.55     109.35     118.25     123.55     125.12
SO BUILDWID    19    125.05      95.83      94.76      90.70      83.88      75.55
SO BUILDWID    19     84.68      91.23      95.01      95.96      95.84      93.53
SO BUILDWID    19     88.38      80.55     109.35     118.25     123.55     125.12
SO BUILDWID    19    125.05      95.83      94.76      90.70      83.88      75.55

SO SRCGROUP ALL
SO FINISHED


RE STARTING
RE GRIDPOLR POL1 STA
RE GRIDPOLR POL1 ORIG   106.68  110.6424
RE GRIDPOLR POL1 DIST   150. 200. 250. 300. 350. 400. 450. 500. 550.
RE GRIDPOLR POL1 DIST   600. 650. 700. 750. 800. 850. 900. 950. 1000.
RE GRIDPOLR POL1 GDIR   36  10.  10.
RE GRIDPOLR POL1 END
RE DISCCART         .00        .00
RE DISCCART       15.24        .00
RE DISCCART       30.48        .00
RE DISCCART       45.72        .00
RE DISCCART       60.96        .00
RE DISCCART       76.20        .00
RE DISCCART       91.44        .00
RE DISCCART      106.68        .00
RE DISCCART      121.92        .00
RE DISCCART      137.16        .00
RE DISCCART      152.40        .00
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RE DISCCART      167.64        .00
RE DISCCART      182.88        .00
RE DISCCART      198.12        .00
RE DISCCART      213.36        .00
RE DISCCART      213.36      15.24
RE DISCCART      213.36      30.48
RE DISCCART      213.36      45.72
RE DISCCART      213.36      60.96
RE DISCCART      213.36      76.20
RE DISCCART      213.36      91.44
RE DISCCART      213.36     106.68
RE DISCCART      213.36     121.92
RE DISCCART      213.36     137.16
RE DISCCART      213.36     152.40
RE DISCCART      213.36     167.64
RE DISCCART      213.36     182.88
RE DISCCART      213.36     198.12
RE DISCCART      213.36     213.36
RE DISCCART      213.36     221.29
RE DISCCART      198.12     221.29
RE DISCCART      182.88     221.29
RE DISCCART      167.64     221.29
RE DISCCART      152.40     221.29
RE DISCCART      137.16     221.29
RE DISCCART      121.92     221.29
RE DISCCART      106.68     221.29
RE DISCCART       91.44     221.29
RE DISCCART       76.20     221.29
RE DISCCART       60.96     221.29
RE DISCCART       45.72     221.29
RE DISCCART       30.48     221.29
RE DISCCART       15.24     221.29
RE DISCCART         .00     221.29
RE DISCCART         .00     213.36
RE DISCCART         .00     198.12
RE DISCCART         .00     182.88
RE DISCCART         .00     167.64
RE DISCCART         .00     152.40
RE DISCCART         .00     137.16
RE DISCCART         .00     121.92
RE DISCCART         .00     106.68
RE DISCCART         .00      91.44
RE DISCCART         .00      76.20
RE DISCCART         .00      60.96
RE DISCCART         .00      45.72
RE DISCCART         .00      30.48
RE DISCCART         .00      15.24
RE FINISHED

ME STARTING
ME INPUTFIL c:\models\iscst2\foamex\orltmp86.BIN      UNFORM
ME ANEMHGHT    10.000 METERS
ME SURFDATA  12815   1986            SURFNAME
```

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ME UAIRDATA  12842  1986          UAIRNAME
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED

OU STARTING
OU RECTABLE 24 FIRST SECOND
OU MAXTABLE 24 50
OU FINISHED

*************************************
*** SETUP Finishes Successfully ***
*************************************
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*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

el Calculates 1 Short Term Average(s) of: 24-HR

**This Run Includes: 19 Source(s); 1 Source Group(s); and 706 Receptor(s)

**The Model Assumes A Pollutant Type of: OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Input Runstream File: C:\MODELS\ISCST2\FOAMEX\FMXTCA24.NEW ; **Output Print File: C:\MODELS\ISCST2\FOAMEX\FMXTCA24.LST

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
1	0	0.22580E+02	175.9	119.8	0.0	38.10	299.82	24.38	0.70	YES	
2	0	0.13172E+02	152.4	17.1	0.0	38.10	299.82	24.38	0.00	YES	
3	0	0.11995E+00	108.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
4	0	0.11995E+00	108.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
5	0	0.11995E+00	108.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
6	0	0.11995E+00	108.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
7	0	0.11995E+00	108.5	152.7	0.0	13.11	299.82	24.38	1.11	YES	
8	0	0.11995E+00	108.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
9	0	0.11995E+00	108.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
10	0	0.11995E+00	108.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
11	0	0.11995E+00	147.5	97.2	0.0	13.11	299.82	24.38	1.11	YES	
12	0	0.11995E+00	147.5	110.6	0.0	13.11	299.82	24.38	1.11	YES	
13	0	0.11995E+00	147.5	119.8	0.0	13.11	299.82	24.38	1.11	YES	
14	0	0.11995E+00	147.5	135.6	0.0	13.11	299.82	24.38	1.11	YES	
15	0	0.11995E+00	147.5	155.4	0.0	13.11	299.82	24.38	1.11	YES	
16	0	0.11995E+00	147.5	168.9	0.0	13.11	299.82	24.38	1.11	YES	
17	0	0.11995E+00	147.5	183.8	0.0	13.11	299.82	24.38	1.11	YES	
18	0	0.11995E+00	147.5	192.9	0.0	13.11	299.82	24.38	1.11	YES	
19	0	0.11995E+00	182.9	102.6	0.0	15.85	299.82	24.38	1.11	YES	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs											
ALL	1	, 2	, 3	, 4	, 5	, 6	, 7	, 8	, 9	, 10	, 11	, 12 ,
	13	, 14	, 15	, 16	, 17	, 18	, 19	,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0.0,	0
13	0.0,	0.0,	0	14	0.0,	0.0,	0	15	15.2,	93.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	0.0,	0.0,	0
19	0.0,	0.0,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0.0,	0
31	0.0,	0.0,	0	32	0.0,	0.0,	0	33	15.2,	93.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	[illegible]

SOURCE ID: 3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	15.2,	71.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	15.2,	71.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 4

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	74.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 5

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	12.2,	104.3,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	94.5,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	12.2,	103.8,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	12.2,	104.3,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 6

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	118.9,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	12.2,	83.9,	0	18	12.2,	77.2,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 7

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	74.5,	0

SOURCE ID: 8

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 9

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 10

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5	[illegible]

SOURCE ID: 11

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	15.2,	81.4,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	15.2,	81.4,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 12

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	15.2,	89.0,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	15.2,	89.0,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 13

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	10.7,	215.9,	0
7	12.2,	103.3,	0	8	12.2,	104.4,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	15.2,	93.9,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	12.2,	77.2,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	10.7,	215.9,	0
25	12.2,	103.3,	0	26	12.2,	104.4,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	15.2,	93.9,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 14

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	95.2,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	15.2,	95.9,	0	14	15.2,	96.0,	0	15	15.2,	94.8,	0	16	12.2,	105.0,	0	17	12.2,	93.1,	0	18	12.2,	77.2,	0
19	12.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	95.2,	0	23	11.0,	24.7,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	15.2,	95.9,	0	32	15.2,	96.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 15

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	92.2,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	12.2,	84.7,	0	20	12.2,	91.2,	0	21	12.2,	91.7,	0	22	11.0,	25.0,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	10.7,	206.9,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.0,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 16

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	89.6,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	11.0,	24.8,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.6,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	123.3,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 17

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	11.0,	22.2,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.0,	0	30	10.7,	192.5,	0
31	10.7,	186.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	0

SOURCE ID: 18

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	10.7,	154.1,	0	2	10.7,	178.0,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	10.7,	215.2,	0	24	10.7,	215.9,	0
25	10.7,	214.5,	0	26	11.0,	17.8,	0	27	11.0,	16.9,	0	28	11.0,	19.8,	0	29	11.0,	22.2,	0	30	11.0,	23.8,	0
31	11.0,	24.2,	0	32	10.7,	176.6,	0	33	10.7,	161.6,	0	34	10.7,	148.7,	0	35	10.7,	138.6,	0	36	10.7,	125.5,	[illegible]

SOURCE ID: 19

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	15.2,	88.4,	0	8	15.2,	80.6,	0	9	12.2,	109.4,	0	10	12.2,	118.3,	0	11	12.2,	123.6,	0	12	12.2,	125.1,	0
13	12.2,	125.1,	0	14	15.2,	95.8,	0	15	15.2,	94.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	15.2,	75.6,	0
19	15.2,	84.7,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	15.2,	88.4,	0	26	15.2,	80.6,	0	27	12.2,	109.4,	0	28	12.2,	118.3,	0	29	12.2,	123.6,	0	30	12.2,	125.1,	0
31	12.2,	125.1,	0	32	15.2,	95.8,	0	33	15.2,	94.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 106.68 ; Y-ORIG = 110.64 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

150.0,	200.0,	250.0,	300.0,	350.0,	400.0,	450.0,	500.0,	550.0,	600.0,
650.0,	700.0,	750.0,	800.0,	850.0,	900.0,	950.0,	1000.0,		

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

```
(     0.0,      0.0,      0.0,      0.0);      (    15.2,      0.0,      0.0,      0.0);
(    30.5,      0.0,      0.0,      0.0);      (    45.7,      0.0,      0.0,      0.0);
(    61.0,      0.0,      0.0,      0.0);      (    76.2,      0.0,      0.0,      0.0);
(    91.4,      0.0,      0.0,      0.0);      (   106.7,      0.0,      0.0,      0.0);
(   121.9,      0.0,      0.0,      0.0);      (   137.2,      0.0,      0.0,      0.0);
(   152.4,      0.0,      0.0,      0.0);      (   167.6,      0.0,      0.0,      0.0);
(   182.9,      0.0,      0.0,      0.0);      (   198.1,      0.0,      0.0,      0.0);
(   213.4,      0.0,      0.0,      0.0);      (   213.4,     15.2,      0.0,      0.0);
(   213.4,     30.5,      0.0,      0.0);      (   213.4,     45.7,      0.0,      0.0);
(   213.4,     61.0,      0.0,      0.0);      (   213.4,     76.2,      0.0,      0.0);
(   213.4,     91.4,      0.0,      0.0);      (   213.4,    106.7,      0.0,      0.0);
(   213.4,    121.9,      0.0,      0.0);      (   213.4,    137.2,      0.0,      0.0);
(   213.4,    152.4,      0.0,      0.0);      (   213.4,    167.6,      0.0,      0.0);
(   213.4,    182.9,      0.0,      0.0);      (   213.4,    198.1,      0.0,      0.0);
(   213.4,    213.4,      0.0,      0.0);      (   213.4,    221.3,      0.0,      0.0);
(   198.1,    221.3,      0.0,      0.0);      (   182.9,    221.3,      0.0,      0.0);
(   167.6,    221.3,      0.0,      0.0);      (   152.4,    221.3,      0.0,      0.0);
(   137.2,    221.3,      0.0,      0.0);      (   121.9,    221.3,      0.0,      0.0);
(   106.7,    221.3,      0.0,      0.0);      (    91.4,    221.3,      0.0,      0.0);
(    76.2,    221.3,      0.0,      0.0);      (    61.0,    221.3,      0.0,      0.0);
(    45.7,    221.3,      0.0,      0.0);      (    30.5,    221.3,      0.0,      0.0);
(    15.2,    221.3,      0.0,      0.0);      (     0.0,    221.3,      0.0,      0.0);
(     0.0,    213.4,      0.0,      0.0);      (     0.0,    198.1,      0.0,      0.0);
(     0.0,    182.9,      0.0,      0.0);      (     0.0,    167.6,      0.0,      0.0);
(     0.0,    152.4,      0.0,      0.0);      (     0.0,    137.2,      0.0,      0.0);
(     0.0,    121.9,      0.0,      0.0);      (     0.0,    106.7,      0.0,      0.0);
(     0.0,     91.4,      0.0,      0.0);      (     0.0,     76.2,      0.0,      0.0);
(     0.0,     61.0,      0.0,      0.0);      (     0.0,     45.7,      0.0,      0.0);
(     0.0,     30.5,      0.0,      0.0);      (     0.0,     15.2,      0.0,      0.0);
```

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 1.0 METER OR 3*ZLB *
IN DISTANCE. CALCULATIONS MAY NOT BE PERFORMED.

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
2	121.9	0.0	34.94
2	137.2	0.0	22.88
2	152.4	0.0	17.07
2	167.6	0.0	22.88
2	182.9	0.0	34.93
10	121.9	221.3	31.36
10	106.7	221.3	28.41
18	152.4	221.3	28.77
18	137.2	221.3	30.18
19	213.4	91.4	32.45
19	213.4	106.7	30.75
19	213.4	121.9	36.10

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY			WIND SPEED CATEGORY			
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY			WIND SPEED CATEGORY			
CATEGORY	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: c:\models\iscst2\foamex\orltmp86.BIN FORMAT: UNFORM
SURFACE STATION NO.: 12815 UPPER AIR STATION NO.: 12842
NAME: SURFNAME NAME: UAIRNAME
YEAR: 1986 YEAR: 1986

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN
86	1	1	1	1.0	3.60	289.3	4	639.0	639.0
86	1	1	2	168.0	5.14	288.7	4	639.0	639.0
86	1	1	3	124.0	3.09	288.2	4	639.0	639.0
86	1	1	4	353.0	2.57	288.2	4	639.0	639.0
86	1	1	5	333.0	2.57	288.7	4	639.0	639.0
86	1	1	6	332.0	2.57	288.7	4	639.0	639.0
86	1	1	7	335.0	3.09	288.7	4	639.0	639.0
86	1	1	8	3.0	3.60	289.3	4	639.0	639.0
86	1	1	9	347.0	3.60	289.8	4	639.0	639.0
86	1	1	10	1.0	5.14	292.0	4	639.0	639.0
86	1	1	11	14.0	4.63	292.6	4	639.0	639.0
86	1	1	12	16.0	4.12	294.3	4	639.0	639.0
86	1	1	13	73.0	3.09	295.4	4	639.0	639.0
86	1	1	14	49.0	3.60	297.0	4	639.0	639.0
86	1	1	15	142.0	2.06	296.5	4	639.0	639.0
86	1	1	16	144.0	2.06	295.9	4	639.0	639.0
86	1	1	17	261.0	2.06	295.4	4	639.0	639.0
86	1	1	18	257.0	2.06	292.6	4	644.0	644.0
86	1	1	19	274.0	3.60	291.5	4	655.0	655.0
86	1	1	20	227.0	3.09	290.9	4	666.0	666.0
86	1	1	21	230.0	3.09	290.9	4	678.0	678.0
86	1	1	22	252.0	2.57	290.4	5	689.0	477.0
86	1	1	23	290.0	2.06	290.4	4	700.0	700.0
86	1	1	24	290.0	1.00	290.4	4	712.0	712.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	92.17918c(86071324)	120.30399c(86071324)	140.91164c(86071324)	149.48143c(86071324)	148.29745c(86071324)
20.0	81.32830c(86071324)	91.01736c(86071324)	94.00719c(86071324)	88.93753c(86071324)	92.14480c(86061124)
30.0	58.83722c(86100324)	64.74396c(86100324)	63.54430c(86100324)	68.93902c(86010224)	71.51684c(86061724)
40.0	51.28135c(86100324)	52.71646c(86053124)	70.58218 (86080424)	92.93229 (86080424)	107.08776 (86080424)
50.0	44.91625c(86053124)	63.48845 (86080424)	84.77294 (86080424)	94.40913 (86080424)	96.98364 (86072624)
60.0	49.62389c(86053124)	62.44173 (86080424)	69.27422 (86072624)	84.42545 (86072624)	93.64158c(86072024)
70.0	47.02176c(86053124)	49.04626 (86072624)	70.57586 (86100424)	98.01977 (86100424)	111.44297 (86100424)
80.0	39.92092c(86071524)	58.73063 (86100424)	87.41296 (86100424)	89.57529 (86100424)	101.87115c(86081824)
90.0	31.24275c(86071524)	52.80732 (86100424)	66.77888c(86081824)	88.04607c(86081824)	88.15457c(86081824)
100.0	27.72113 (86012724)	48.75429 (86091224)	71.43571 (86091224)	77.13349 (86091224)	92.81198c(86071924)
110.0	27.56140 (86011324)	46.33171 (86091224)	63.16519c(86071524)	69.68539c(86091324)	86.56024c(86030[illegible]
120.0	23.26401 (86011324)	38.55074c(86071524)	56.99534c(86050824)	73.23830c(86050824)	89.31924c(86091324)
130.0	27.49535c(86012824)	27.05584c(86012824)	50.44497 (86042824)	87.37613 (86042824)	112.66227 (86042824)
140.0	25.11227 (86032124)	28.97416 (86032124)	43.75175 (86042824)	78.79449 (86042824)	101.08533 (86042824)
150.0	39.18911 (86011124)	39.82429 (86011124)	48.28885c(86052324)	71.64449 (86101624)	95.63355 (86101624)
160.0	27.46436 (86011124)	29.39730 (86011124)	80.79939c(86052324)	99.52543c(86052324)	104.67962 (86101624)
170.0	33.02368 (86032224)	50.27792c(86082324)	97.26700c(86082324)	107.53374 (86110324)	132.82442 (86110324)
180.0	27.03988 (86032224)	56.78574c(86082324)	105.06129c(86082324)	121.31491c(86082324)	114.15259c(86082324)
190.0	29.58690c(86111324)	78.60168c(86082324)	107.54748c(86082324)	110.33323c(86082324)	104.45873c(86092724)
200.0	37.31740c(86082324)	93.95952c(86082324)	129.36871c(86082324)	127.18304c(86082324)	119.62542c(86111324)
210.0	37.41517c(86082324)	80.34175c(86082324)	120.50500c(86082324)	132.36632c(86082324)	124.24199c(86082324)
220.0	39.78154c(86051724)	69.32616 (86062624)	88.67879 (86062624)	96.83260c(86082324)	100.35070c(86082324)
230.0	42.59768c(86051724)	83.14983 (86062624)	107.25156 (86062624)	112.93996 (86062624)	112.56274 (86062624)
240.0	49.22020c(86051324)	80.58591c(86051324)	102.18684 (86062624)	113.42339 (86062624)	113.18650 (86062624)
250.0	55.65931c(86051724)	83.12160c(86051324)	98.78505c(86051324)	100.37747c(86051324)	95.88665 (86062624)
260.0	59.17805c(86051724)	80.21411c(86051324)	98.16006c(86051324)	104.98003c(86051324)	105.98306c(86051324)
270.0	74.40250 (86040624)	80.27625 (86040624)	85.63850c(86051324)	94.08679 (86062324)	99.91788 (86062324)
280.0	84.04946 (86040624)	101.92489 (86040624)	101.94192 (86040624)	94.17752 (86040624)	103.77033 (86062324)
290.0	88.68436c(86052924)	104.20716 (86040624)	115.20428 (86040624)	115.10400 (86040624)	109.46058 (86040624)
300.0	82.43639c(86052924)	94.10489 (86040624)	113.12518 (86040624)	120.80511 (86040624)	120.56329 (86040624)
310.0	77.58806c(86080824)	85.73875c(86052924)	98.65977 (86040624)	102.54885 (86040624)	98.28802 (86040624)
320.0	89.90369c(86080824)	96.03580c(86082524)	101.39102c(86082524)	99.77359c(86082524)	94.53545c(86082524)
330.0	88.85036c(86080824)	94.56441c(86080824)	96.65379c(86080824)	98.69480c(86082524)	99.84061c(86082524)
340.0	74.81770c(86080824)	80.62101c(86080824)	87.63987 (86031224)	100.51020 (86031224)	111.36203 (86031224)
350.0	72.04186c(86071324)	86.83054c(86071324)	97.76636c(86071324)	102.94073 (86100924)	109.72903 (86100924)
360.0	86.38813c(86071324)	112.34431c(86071324)	132.85275c(86071324)	142.74570c(86071324)	144.26759c(860713[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	141.71022c(86071324)	133.01157c(86071324)	123.89059c(86071324)	115.17957c(86071324)	111.74838 (86082024)
20.0	93.92980c(86061124)	91.82020c(86061124)	97.18644 (86072324)	102.85092 (86072324)	105.95127 (86072324)
30.0	77.47620c(86061724)	79.80016c(86061724)	84.36693c(86081924)	86.47759c(86081924)	86.41036c(86081924)
40.0	112.32824 (86080424)	111.07590 (86080424)	106.17858 (86080424)	99.03934 (86080424)	94.03841 (86072824)
50.0	103.10155 (86072624)	103.30029 (86072624)	100.59103 (86072624)	96.28292 (86072624)	91.34647 (86072624)
60.0	111.69541 (86100424)	123.07954 (86100424)	127.44727 (86100424)	126.10202 (86100424)	120.98515 (86100424)
70.0	112.10538 (86100424)	121.20813c(86081824)	133.73441c(86081824)	139.59607c(86081824)	140.63919c(86081824)
80.0	118.19231c(86081824)	124.67072c(86081824)	125.97505c(86081824)	124.77119c(86081824)	122.15291c(86081824)
90.0	93.93761c(86071924)	102.06268c(86071924)	104.48849c(86071924)	103.29263c(86071924)	100.17398c(86071924)
100.0	103.56699c(86071924)	109.35066c(86071924)	112.61840c(86071924)	113.94680c(86071924)	113.56521c(86071924)
110.0	94.29612c(86030524)	105.56732 (86042924)	112.40958 (86042924)	114.76315 (86042924)	114.08167 (86042924)
120.0	101.43515 (86042924)	115.51605 (86042924)	121.50260 (86042924)	121.49203 (86042924)	117.78442 (86042924)
130.0	122.44055 (86042824)	121.52032 (86042824)	119.14928c(86012824)	122.15016c(86012824)	121.58334c(86012824)
140.0	109.65402 (86042824)	109.76819 (86042824)	105.50852 (86042824)	99.03033 (86042824)	91.81365 (86042824)
150.0	112.23531 (86101624)	121.14858 (86101624)	123.85130 (86101624)	122.12015 (86101624)	117.54505 (86101624)
160.0	127.60868 (86101624)	144.91826 (86101624)	158.00938 (86101624)	167.66280 (86101624)	174.36440 (86101624)
170.0	141.80585 (86110324)	141.22960 (86110324)	135.59962 (86110324)	127.82571 (86110324)	121.52546 (86012424)
180.0	116.16317 (86110324)	129.52692 (86110324)	137.20871 (86110324)	140.55446 (86110324)	140.74893 (86110324)
190.0	100.05884c(86092724)	90.71018c(86092724)	79.89439c(86092724)	74.67804 (86121624)	75.37241 (86121624)
200.0	118.58882c(86111324)	112.42577c(86111324)	110.07574 (86120424)	107.47662 (86120424)	102.67819 (86120424)
210.0	108.08425c(86082324)	107.38463c(86111324)	106.62260c(86111324)	104.24662c(86111324)	100.74905c(86111324)
220.0	97.54725c(86082324)	99.80978 (86060524)	107.19404 (86060524)	111.88828 (86060524)	114.24409 (86060524)
230.0	109.54514 (86062624)	103.26211 (86062624)	94.56319 (86062624)	103.70804 (86010924)	114.59754 (86010924)
240.0	107.19449 (86062624)	102.42202 (86091524)	97.93037 (86091524)	91.30030 (86091524)	91.11909c(86082224)
250.0	94.21362 (86062624)	93.57603 (86091524)	94.86135 (86091524)	94.09821 (86091524)	91.98244 (86091524)
260.0	103.81010c(86051324)	99.40851c(86051324)	93.95970c(86051324)	88.25245c(86051324)	86.24384c(86091024)
270.0	98.65323 (86062324)	93.39880 (86062324)	86.58349 (86062324)	79.54379 (86062324)	81.06892 (86051624)
280.0	110.41547 (86062324)	112.89407 (86062324)	112.36698 (86062324)	109.83801 (86062324)	106.06678 (86062324)
290.0	101.69155 (86040624)	93.40485 (86040624)	91.60679 (86052624)	91.17527 (86052624)	89.62463 (86052624)
300.0	115.66785 (86040624)	108.04528 (86040624)	104.28860 (86030924)	110.47210 (86030924)	114.32899 (86030924)
310.0	90.62897 (86040624)	89.16477c(86100324)	86.08020c(86100324)	81.65409c(86100324)	78.27287 (86122324)
320.0	90.57473 (86081124)	89.84628 (86081124)	87.30102 (86081124)	83.81888 (86081124)	79.95216 (86081124)
330.0	98.33139c(86082524)	100.43411 (86031324)	108.20938 (86031324)	114.55149 (86031324)	119.42043 (86031324)
340.0	119.35383 (86031224)	124.14001 (86031224)	125.96804 (86031224)	125.37347 (86031224)	122.95200 (86031224)
350.0	112.08090 (86100924)	111.32123 (86100924)	108.53470 (86100924)	104.74692 (86100924)	100.57505 (86100924)
360.0	141.32271c(86071324)	136.37352c(86071324)	130.49017c(86071324)	124.32969c(86071324)	118.42049c(86071324)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	115.17039 (86082024)	117.18933 (86082024)	118.00925 (86082024)	117.84492 (86082024)	116.90469 (86082024)
20.0	106.97796 (86072324)	106.41251 (86072324)	104.70812 (86072324)	102.20214 (86072324)	99.17570 (86072324)
30.0	84.77042c(86081924)	84.19206 (86071024)	83.82452 (86071024)	83.23037 (86071024)	82.45939 (86071024)
40.0	89.56884 (86072824)	85.80819 (86070224)	85.65078 (86070224)	84.45293 (86070224)	82.51376 (86070224)
50.0	86.27232 (86072624)	81.27475 (86072624)	81.89648 (86112024)	83.57303 (86112024)	84.42121 (86112024)
60.0	113.85790 (86100424)	105.91055 (86100424)	97.85074 (86100424)	90.09405 (86100424)	82.85345c(86022624)
70.0	138.62369c(86081824)	134.81105c(86081824)	130.03307c(86081824)	124.81094c(86081824)	119.45911c(86081824)
80.0	118.65011c(86081824)	114.51534c(86081824)	109.92739c(86081824)	105.04618c(86081824)	100.01550c(86081824)
90.0	96.31936c(86071924)	92.45518c(86071924)	88.95094c(86071924)	85.92094c(86071924)	83.37346c(86071924)
100.0	111.67978c(86071924)	108.53027c(86071924)	104.40826c(86071924)	99.61260c(86071924)	94.42802c(860719[illegible]
110.0	111.47973 (86042924)	107.84223 (86042924)	103.67530 (86042924)	99.29446 (86042924)	94.91278 (86042[illegible]
120.0	112.03470 (86042924)	105.34015 (86042924)	98.34763 (86042924)	98.24938 (86022024)	97.94044 (86022024)
130.0	118.73844c(86012824)	114.53292c(86012824)	109.58308c(86012824)	104.30044c(86012824)	103.09555 (86102624)
140.0	85.66495 (86042624)	80.92632 (86042624)	82.08469c(86012524)	88.10126c(86012524)	92.70049c(86012524)
150.0	111.32619 (86101624)	104.29441 (86101624)	97.00288 (86101624)	89.80365 (86101624)	84.17178 (86032124)
160.0	178.53310 (86101624)	180.55170 (86101624)	180.79131 (86101624)	179.59889 (86101624)	177.28503 (86101624)
170.0	129.42213 (86120524)	136.92484 (86120524)	141.26787 (86120524)	143.01259 (86120524)	142.75223 (86120524)
180.0	138.74017 (86110324)	135.70648c(86122624)	140.66711c(86122624)	144.04695 (86122824)	146.13144 (86122824)
190.0	75.45084 (86121624)	76.35957c(86122624)	82.38012c(86122624)	86.83562c(86122624)	89.91580c(86122624)
200.0	96.87574 (86120424)	96.52126 (86121624)	101.54858 (86102824)	105.41821 (86102824)	108.13425 (86102824)
210.0	96.48916c(86111324)	91.76203c(86111324)	97.92407 (86010724)	102.08012 (86010724)	104.50405 (86010724)
220.0	114.62222 (86060524)	113.39954 (86060524)	112.88904 (86010824)	114.76929 (86010824)	115.30939 (86010824)
230.0	122.11581 (86010924)	126.75043 (86010924)	129.07622 (86010924)	129.64961 (86010924)	128.89395 (86010924)
240.0	96.25352c(86082224)	99.93845c(86082224)	102.28571c(86082224)	103.72726 (86010924)	105.06277 (86010924)
250.0	89.08630 (86091524)	88.79269c(86091024)	92.70226c(86091024)	95.08091c(86091024)	96.11279c(86091024)
260.0	89.05804c(86091024)	90.64816c(86091024)	91.24261c(86091024)	91.04058c(86091024)	90.20974c(86091024)
270.0	81.44404 (86051624)	80.85879c(86091024)	82.89006c(86091024)	83.92458c(86091024)	84.15244c(86091024)
280.0	101.57452 (86062324)	96.69965 (86062324)	91.69427 (86062324)	86.71835 (86062324)	81.87988 (86062324)
290.0	89.46738 (86030924)	90.00433 (86030924)	89.49599 (86030924)	88.21484 (86030924)	86.37894 (86030924)
300.0	116.18628 (86030924)	116.42063 (86030924)	115.39368 (86030924)	116.24807 (86122324)	116.25831 (86122324)
310.0	82.69410 (86122324)	85.72394 (86122324)	87.51749 (86122324)	88.26550 (86122324)	88.20095 (86122324)
320.0	76.02153 (86081124)	72.20080 (86081124)	68.57609 (86081124)	65.18295 (86081124)	62.02896 (86081124)
330.0	122.85410 (86031324)	124.95954 (86031324)	125.90708 (86031324)	125.99706 (86031324)	125.22608 (86031324)
340.0	119.24395 (86031224)	114.69462 (86031224)	109.64986 (86031224)	104.36701 (86031224)	99.03762 (86031224)
350.0	96.34305 (86100924)	92.22036 (86100924)	88.27473 (86100924)	84.52482 (86100924)	80.97116 (86100924)
360.0	112.93530c(86071324)	111.72234 (86082024)	116.27261 (86082024)	119.75463 (86082024)	122.25058 (86082[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	115.40403 (86082024)	113.34171 (86082024)	110.88981 (86082024)
20.0	95.84601 (86072324)	92.33709 (86072324)	89.88964 (86111724)
30.0	81.58234 (86071024)	80.60224 (86071024)	79.42194 (86071024)
40.0	80.10307 (86070224)	77.85390 (86021024)	77.23081 (86021024)
50.0	84.58312 (86112024)	84.18273 (86112024)	83.25058 (86112024)
60.0	80.67715c(86022624)	78.09227c(86022624)	75.21141c(86022624)
70.0	114.16135c(86081824)	109.02047c(86081824)	104.09043c(86081824)
80.0	94.95701c(86081824)	89.96688c(86081824)	85.11595c(86081824)
90.0	81.26720c(86071924)	79.52711c(86071924)	78.07917c(86071924)
100.0	89.08532c(86071924)	83.75886c(86071924)	78.57159c(86071924)
110.0	90.64056 (86042924)	86.54025 (86042924)	82.67786 (86042924)
120.0	96.89204 (86022024)	95.30514 (86022024)	93.28281 (86022024)
130.0	104.47193 (86102624)	105.22376 (86102624)	105.42776 (86102624)
140.0	96.06757c(86012524)	98.38062c(86012524)	99.78884c(86012524)
150.0	83.01938 (86032124)	81.30935 (86032124)	79.22762 (86032124)
160.0	174.11542 (86101624)	170.35551 (86101624)	166.12161 (86101624)
170.0	144.03250c(86103024)	145.44637c(86103024)	145.58670c(86103024)
180.0	146.39336 (86122824)	145.24951 (86122824)	142.89960 (86122824)
190.0	91.82850c(86122624)	92.77512c(86122624)	92.74705c(86122624)
200.0	109.84736 (86102824)	110.65668 (86102824)	110.44302 (86102824)
210.0	105.51359 (86010724)	105.39916 (86010724)	103.98649 (86010724)
220.0	114.68858 (86010824)	113.25179 (86010824)	110.85595 (86010824)
230.0	127.19291 (86010924)	124.66645 (86010924)	121.27761 (86010924)
240.0	105.53602 (86010924)	105.16876 (86010924)	103.95694 (86010924)
250.0	96.02451c(86091024)	94.91677c(86091024)	92.85209c(86091024)
260.0	88.88976c(86091024)	87.06432c(86091024)	84.62169c(86091024)
270.0	83.74261c(86091024)	84.37264 (86112824)	85.30968 (86112824)
280.0	77.24398 (86062324)	74.04517 (86052824)	73.27674 (86052824)
290.0	84.13526 (86030924)	81.49129 (86030924)	79.70957c(86051924)
300.0	115.48037 (86122324)	113.92013 (86122324)	111.47274 (86122324)
310.0	87.52528 (86122324)	86.25030 (86122324)	86.93414c(86050724)
320.0	60.46977 (86031324)	58.94621 (86031324)	57.20833 (86031324)
330.0	123.74279 (86031324)	121.56915 (86031324)	118.83077 (86031324)
340.0	93.81457 (86031224)	88.70697 (86031224)	83.77671 (86031224)
350.0	77.61194 (86100924)	75.92149 (86061624)	74.67511 (86061624)
360.0	123.90295 (86082024)	124.50460 (86082024)	124.39448 (86082024)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	42.88868c	(86051724)	15.24	0.00	35.91095c	(86051724)
30.48	0.00	28.70718	(86010824)	45.72	0.00	30.26637	(86010824)
60.96	0.00	27.44083	(86010824)	76.20	0.00	20.89317c	(86111324)
91.44	0.00	20.36349c	(86111324)	106.68	0.00	24.85730c	(86111324)
121.92	0.00	22.44281	(86032224)	137.16	0.00	35.89302	(86032224)
152.40	0.00	24.27587	(86032224)	167.64	0.00	24.60775	(86011124)
182.88	0.00	39.52921	(86011124)	198.12	0.00	25.25242	(86011124)
213.36	0.00	24.36061	(86032124)	213.36	15.24	25.51607c	(86012824)
213.36	30.48	26.02405c	(86012824)	213.36	45.72	21.97222c	(86012824)
213.36	60.96	24.82151	(86011324)	213.36	76.20	27.90706	(86012724)
213.36	91.44	29.92510	(86012724)	213.36	106.68	24.34828	(86012724)
213.36	121.92	25.54245c	(86053124)	213.36	137.16	33.60152c	(86053124)
213.36	152.40	38.54307c	(86053124)	213.36	167.64	41.08608c	(86053124)
213.36	182.88	41.97208c	(86053124)	213.36	198.12	42.01011c	(86053124)
213.36	213.36	41.81580c	(86053124)	213.36	221.29	44.18353c	(86100324)
198.12	221.29	51.44974c	(86100324)	182.88	221.29	53.46680c	(86100324)
167.64	221.29	58.11639c	(86071324)	152.40	221.29	68.75412c	(86071324)
137.16	221.29	71.57835c	(86071324)	121.92	221.29	69.80497c	(86071324)
106.68	221.29	66.43018c	(86071324)	91.44	221.29	59.73483c	(86071324)
76.20	221.29	61.71459c	(86080824)	60.96	221.29	74.05872c	(86080824)
45.72	221.29	82.80341c	(86080824)	30.48	221.29	87.53172c	(86080824)
15.24	221.29	88.81495c	(86080824)	0.00	221.29	87.25560c	(86080824)
0.00	213.36	83.67095c	(86080824)	0.00	198.12	74.91821c	(86080824)
0.00	182.88	74.10428c	(86052924)	0.00	167.64	79.47279c	(86052924)
0.00	152.40	83.11452c	(86052924)	0.00	137.16	79.99684c	(86052924)
0.00	121.92	69.55453c	(86052924)	0.00	106.68	52.99530c	(86052924)
0.00	91.44	47.08725c	(86051724)	0.00	76.20	46.02900c	(86051724)
0.00	60.96	43.71140c	(86051724)	0.00	45.72	40.66133c	(86051724)
0.00	30.48	38.57543c	(86051724)	0.00	15.24	39.13628c	(86051724)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	67.53756 (86091124)	85.86800 (86091124)	98.51661 (86091124)	103.75881 (86091124)	101.42850 (86091124)
20.0	52.27563 (86091124)	62.12761c(86100324)	72.08998c(86061124)	84.94910c(86061124)	80.82124c(86100324)
30.0	53.96190c(86071324)	52.15831c(86060824)	61.20513c(86010224)	62.65140 (86080224)	70.70761c(86010224)
40.0	42.91599c(86060824)	52.05397c(86061724)	68.69250c(86053124)	75.77538c(86081924)	84.49792c(86081924)
50.0	42.54946c(86061724)	56.26372c(86053124)	65.92733c(86053124)	82.00095 (86072624)	91.96661 (86080424)
60.0	42.43997 (86080424)	51.27267c(86053124)	63.40886 (86080424)	79.50135c(86072024)	91.63623 (86100424)
70.0	39.48608c(86071524)	48.03778c(86071524)	64.20128c(86072024)	89.00724c(86072024)	103.49582c(86072024)
80.0	33.25408c(86053124)	44.92998c(86071524)	55.38394c(86072024)	72.60587c(86081824)	80.42615 (86100424)
90.0	26.66004 (86012724)	35.24212c(86071524)	57.01999 (86100424)	73.78542 (86091224)	82.63465 (86091224)
100.0	17.51755c(86041624)	29.76895c(86081824)	52.41419c(86071524)	73.81570c(86071524)	80.02350c(86071524)
110.0	24.26886 (86012724)	35.31730c(86071524)	61.17638 (86091224)	68.29254c(86030524)	84.14761c(86071924)
120.0	21.64228c(86012824)	27.39739 (86042624)	54.69254c(86071524)	71.48547c(86091324)	84.14092 (86042824)
130.0	20.67691 (86032124)	23.12199 (86042624)	49.33555c(86050824)	74.80457c(86091324)	92.38486 (86042624)
140.0	24.14353 (86011124)	21.56824 (86011124)	42.73527 (86050324)	69.50865 (86042624)	91.39674 (86042624)
150.0	21.40470 (86032124)	27.12201 (86032124)	45.86570 (86101624)	61.23357c(86052324)	73.93951 (86042824)
160.0	23.91954 (86032224)	29.37051c(86082324)	50.94724 (86110324)	75.09161 (86101624)	94.21808c(86052324)
170.0	23.00505 (86120524)	29.80052 (86032224)	66.15254 (86110324)	104.35253c(86082324)	91.27390c(86082324)
180.0	23.41443 (86120524)	31.15638 (86032224)	54.12880 (86041824)	75.66727 (86041824)	95.52786 (86110324)
190.0	29.57437c(86082324)	47.15120c(86111324)	70.32492c(86092724)	97.34899c(86092724)	101.33335c(86082324)
200.0	34.27094c(86111324)	58.20536c(86111324)	89.51106c(86111324)	111.25437c(86111324)	110.07262c(86082324)
210.0	34.00280c(86051724)	59.34302 (86050324)	74.66753 (86050324)	89.67751c(86111324)	100.46617c(86111324)
220.0	35.30378 (86062624)	62.29777c(86051724)	81.89291c(86051124)	95.86169 (86062624)	98.99640c(86051124)
230.0	41.80474c(86051324)	63.52502c(86051324)	82.90814c(86051124)	93.56931c(86051124)	97.40083c(86051124)
240.0	48.17469c(86051724)	75.18231 (86062624)	90.26135c(86051324)	86.05414c(86051324)	95.47436 (86091524)
250.0	50.78062c(86051324)	64.64867c(86070624)	83.35926 (86062624)	93.46999 (86062624)	94.95018c(86051324)
260.0	53.65561 (86043024)	67.54290c(86051724)	80.52715c(86070624)	80.42683c(86070624)	77.27572 (86062624)
270.0	63.47356c(86093024)	68.43752c(86051724)	83.01974c(86070724)	93.43391c(86051324)	94.81578c(86051324)
280.0	77.24145c(86093024)	86.01765c(86093024)	83.39117c(86080924)	92.22690 (86062324)	86.13446c(86070724)
290.0	76.67802 (86040624)	91.99239c(86093024)	100.17839c(86093024)	100.48221c(86093024)	97.50990c(86093024)
300.0	70.08233c(86051824)	86.44289c(86052924)	101.43295c(86093024)	109.91329c(86093024)	111.10121c(86093024)
310.0	74.05011c(86052924)	82.17504c(86082524)	92.63370c(86052924)	94.12660c(86052924)	91.32933c(86093024)
320.0	80.38738c(86082524)	94.93452c(86080824)	93.39461c(86080824)	91.10532c(86052924)	88.26145 (86081124)
330.0	69.99195c(86082524)	84.80718c(86082524)	93.95741c(86082524)	96.73416c(86080824)	94.04495c(86080824)
340.0	60.85116c(86082724)	72.67886 (86031224)	84.56676c(86080824)	90.95155c(86082724)	92.44672c(86082724)
350.0	60.08112c(86082724)	76.18917c(86082724)	91.19021 (86100924)	101.31289c(86071324)	100.29585 (86082124)
360.0	62.48201 (86091124)	86.00260 (86091124)	103.63626 (86091124)	114.11303 (86091124)	118.65916 (86091124)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	93.98573 (86091124)	91.82190 (86082024)	100.12408 (86082024)	106.76217 (86082024)	107.36057c(86071324)
20.0	80.28350 (86080224)	88.54881 (86072324)	87.07086c(86061124)	80.71942c(86061124)	81.86971c(86081824)
30.0	72.24033c(86081924)	79.68061c(86081924)	80.15482 (86071024)	82.46359 (86071024)	83.71449 (86071024)
40.0	92.92205 (86072824)	98.00323 (86072824)	99.15313 (86072824)	97.48325 (86072824)	91.09768 (86080424)
50.0	82.75266 (86080424)	74.01792c(86072024)	73.04485c(86072024)	70.64545c(86072024)	69.94907 (86112024)
60.0	100.56602c(86072024)	101.66352c(86072024)	99.33856c(86072024)	95.10532c(86072024)	90.05206c(86072024)
70.0	108.24686c(86072024)	107.54606c(86072024)	104.75287c(86072024)	101.22166c(86072024)	97.53214c(86072024)
80.0	87.38309c(86022624)	89.42963 (86071124)	88.23939 (86071124)	84.28091 (86071124)	79.22063 (86071124)
90.0	83.88084 (86091224)	80.23591 (86091224)	74.15594 (86091224)	67.18471 (86091224)	65.85912c(86041624)
100.0	74.72954c(86071524)	78.40961c(86030524)	80.87117c(86030524)	80.70705c(86030524)	78.82011c(86030524)
110.0	93.80077c(86071924)	95.15999c(86071924)	91.55968c(86071924)	85.58401c(86071924)	80.36412c(86012[illegible]
120.0	98.50310c(86052224)	106.18208c(86052224)	108.45026c(86052224)	106.64171c(86052224)	102.36247c(86052224)
130.0	103.07915 (86042624)	110.98844c(86012824)	115.05543 (86042824)	105.85602 (86042824)	95.97541 (86042824)
140.0	100.58282 (86042624)	102.09249 (86042624)	99.77174 (86042624)	95.52807 (86042624)	90.61494 (86042624)
150.0	79.44837 (86042824)	80.28960c(86061024)	84.51814c(86061024)	85.85007c(86061024)	85.31966c(86061024)
160.0	82.90882c(86101524)	89.15216c(86101524)	92.01524c(86060224)	94.11593c(86060224)	93.43533c(86060224)
170.0	84.92890 (86121324)	91.14532 (86012424)	103.66494 (86012424)	113.93503 (86012424)	119.53058 (86110324)
180.0	98.48609c(86082324)	93.06750 (86121324)	96.93600 (86121324)	104.46891c(86122624)	117.88721c(86122624)
190.0	88.38935c(86082324)	80.11816 (86120424)	76.90559 (86102124)	74.48862 (86102124)	72.77714c(86111324)
200.0	100.63650 (86120424)	108.58444 (86120424)	104.28835c(86111324)	95.99200c(86111324)	89.38325 (86121624)
210.0	105.76835c(86111324)	91.06116c(86082324)	89.89282 (86112124)	86.68159 (86112124)	84.17075 (86010824)
220.0	96.19764c(86051124)	92.03683c(86082324)	89.49472 (86112124)	91.39698 (86112124)	96.16354 (86010824)
230.0	98.69927c(86051124)	97.61871c(86051124)	94.04859c(86051124)	88.60466c(86051124)	95.56417 (86102924)
240.0	102.62388 (86091524)	99.44825 (86062624)	92.46595 (86062624)	86.94241 (86062624)	87.40186 (86010924)
250.0	89.53182 (86091524)	90.40389 (86062624)	85.76302 (86062624)	80.84535 (86062624)	76.27163c(86091024)
260.0	78.12438 (86062624)	76.19313 (86062624)	77.45336c(86020224)	81.96515c(86091024)	82.84620c(86051324)
270.0	92.62009c(86051324)	88.48788c(86051324)	83.76399c(86051324)	79.44246 (86051624)	74.69833c(86051324)
280.0	83.63857c(86070724)	79.63053c(86070724)	75.84602c(86080924)	73.47086c(86080924)	71.36889c(86080924)
290.0	93.69559c(86093024)	90.41632 (86062324)	90.56857 (86062324)	89.81397 (86062324)	88.47230 (86062324)
300.0	107.93915c(86093024)	102.08263c(86093024)	99.46799 (86040624)	96.61048 (86122324)	103.95824 (86122324)
310.0	89.84786c(86100324)	82.42244 (86112524)	79.93089 (86112524)	76.70992 (86112524)	76.60146c(86100324)
320.0	88.03392c(86082524)	81.22072c(86082524)	74.68708c(86053024)	71.53547c(86053024)	68.16531c(86053024)
330.0	91.32629 (86031324)	94.69547c(86082524)	89.60692c(86082524)	83.78870c(86082524)	77.74267c(86082524)
340.0	90.25480c(86082724)	88.73956 (86100924)	87.40598 (86100924)	85.29260 (86100924)	82.75568 (86100924)
350.0	100.69961 (86082124)	99.35398 (86082124)	96.80768 (86082124)	93.56680 (86082124)	89.92625 (86082124)
360.0	118.79649 (86091124)	115.90887 (86091124)	110.68563 (86091124)	110.34394 (86112624)	109.23395 (86112[illegible]

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	100.53912c(86071324)	97.28461 (86121224)	97.14370 (86121224)	96.01111 (86121224)	94.15921 (86121224)
20.0	85.42422 (86111724)	88.36456 (86111724)	90.40784 (86111724)	91.62319 (86111724)	92.11642 (86111724)
30.0	84.21172 (86071024)	82.08690c(86081924)	78.76399c(86081924)	75.10258c(86081924)	71.31481c(86081924)
40.0	84.58263 (86070224)	84.58701 (86072824)	79.43089 (86072824)	75.04923 (86021024)	76.90234 (86021024)
50.0	75.27308 (86112024)	79.19572 (86112024)	76.44283 (86072624)	71.81168 (86072624)	70.95045 (86122024)
60.0	84.84668c(86072024)	84.45724c(86022624)	85.05884c(86022624)	84.40426c(86022624)	82.84014 (86100424)
70.0	93.89934c(86072024)	90.36203c(86072024)	86.88481c(86072024)	83.46514c(86072024)	80.10452c(86072024)
80.0	74.01093 (86071124)	69.07174 (86071124)	64.75580c(86010324)	65.26658c(86010324)	64.89191c(86010324)
90.0	66.66732c(86041624)	66.83557c(86041624)	66.52427c(86041624)	65.82929c(86041624)	64.82698c(86041624)
100.0	75.98734c(86030524)	72.71349c(86030524)	69.28998c(86030524)	65.88676c(86030524)	62.59062c(86030524)
110.0	78.92605c(86012324)	76.25140c(86012324)	72.97349c(86012324)	69.48032c(86012324)	65.99214c(86012324)
120.0	96.94709 (86042824)	95.77987 (86022024)	97.60513 (86022024)	91.44376 (86042924)	84.84188 (86042924)
130.0	89.74056c(86052224)	94.06118 (86102624)	98.03541 (86102624)	100.99456 (86102624)	98.96645c(86012824)
140.0	84.62937 (86042824)	77.89314 (86042824)	76.47465 (86042624)	78.32433 (86122924)	80.95080 (86122924)
150.0	83.63899c(86061024)	82.80416 (86032124)	84.27674 (86032124)	84.64834 (86032124)	82.90826 (86101624)
160.0	95.93753 (86111524)	105.13796 (86111524)	112.09426 (86111524)	116.99719 (86111524)	120.11771 (86111524)
170.0	126.43243 (86012424)	128.92302 (86012424)	129.39287 (86012424)	136.25433c(86103024)	141.08244c(86103024)
180.0	128.23898c(86122624)	135.24266 (86110324)	139.76422 (86122824)	143.55624c(86122624)	144.79167c(86122624)
190.0	71.85376c(86111324)	75.04408 (86121624)	74.22557 (86121624)	73.05352 (86121624)	71.68702 (86010724)
200.0	93.60595 (86121624)	96.34687 (86102824)	98.19782 (86121624)	98.77850 (86121624)	98.45471 (86121624)
210.0	87.85720 (86010824)	91.71967 (86010724)	89.32711 (86010824)	88.09328 (86010824)	86.07433 (86010824)
220.0	103.90421 (86010824)	109.40072 (86010824)	110.94859 (86060524)	108.88496 (86010924)	108.30853 (86010924)
230.0	107.75628 (86102924)	115.75820 (86102924)	120.02729 (86102924)	121.26608 (86102924)	120.20748 (86102924)
240.0	93.45770 (86010924)	98.09756 (86010924)	101.46432 (86010924)	103.46529c(86082224)	103.66145c(86082224)
250.0	83.27618c(86091024)	85.82806 (86091524)	82.48486 (86091524)	79.22221 (86091524)	76.12608 (86091524)
260.0	78.05652c(86051324)	73.96134c(86020224)	71.73683c(86011824)	70.01421c(86011824)	67.72814c(86011824)
270.0	77.63213c(86091024)	80.77394 (86051624)	79.29769 (86051624)	77.23940 (86051624)	79.23985 (86112824)
280.0	69.34911c(86080924)	69.12191 (86052824)	71.28532 (86052824)	72.82326 (86052824)	73.79172 (86052824)
290.0	87.37589 (86052624)	84.76497 (86062324)	82.61764 (86062324)	82.51337c(86051924)	82.64488c(86051924)
300.0	109.36964 (86122324)	113.05240 (86122324)	115.25245 (86122324)	113.50245 (86030924)	110.94895 (86030924)
310.0	71.48357 (86081124)	69.99413 (86031824)	69.69862 (86031824)	74.09477c(86050724)	78.60852c(86050724)
320.0	64.82841c(86053024)	63.94717 (86031324)	63.53774 (86031324)	62.83323 (86031324)	61.75778 (86031324)
330.0	71.78897c(86082524)	66.11515c(86082524)	65.77617 (86031224)	66.61803 (86031224)	67.34800 (86031224)
340.0	80.04349 (86100924)	81.42259c(86102524)	82.84755c(86102524)	83.57029c(86102524)	83.73989c(86102524)
350.0	86.07330 (86082124)	82.13715 (86082124)	78.20921 (86082124)	77.67113 (86061624)	77.49302 (86061624)
360.0	107.00358 (86112624)	107.89041c(86071324)	103.25014c(86071324)	98.96342c(86071324)	94.97926c(86071324)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	91.72175 (86121224)	88.80111 (86121224)	85.61993 (86121224)
20.0	91.98569 (86111724)	91.18622 (86111724)	88.77551 (86072324)
30.0	68.65282 (86061324)	69.87361 (86061324)	70.46496 (86061324)
40.0	77.79079 (86021024)	77.39158 (86070224)	74.48186 (86070224)
50.0	73.32423 (86122024)	75.17791 (86122024)	76.36790 (86122024)
60.0	76.17013 (86100424)	70.09973 (86100424)	67.96748c(86021824)
70.0	76.81464c(86072024)	73.61095c(86072024)	72.92902c(86020724)
80.0	63.84466c(86010324)	62.86246c(86020724)	63.15229c(86020724)
90.0	63.58003c(86041624)	62.17674c(86041624)	62.04538c(86022124)
100.0	59.43755c(86030524)	56.91383c(86041624)	55.47109c(86041624)
110.0	62.61607c(86012324)	59.40459c(86012324)	56.37879c(86012324)
120.0	80.53215c(86012324)	79.01365c(86012324)	77.66961c(86012324)
130.0	93.70518c(86012824)	88.60686c(86012824)	83.74266c(86012824)
140.0	82.63960 (86122924)	83.63961 (86122924)	83.90450 (86122924)
150.0	77.90206c(86121724)	77.88773c(86121724)	77.38670c(86121724)
160.0	121.75839 (86111524)	122.18365 (86111524)	121.63244 (86111524)
170.0	140.98549 (86120524)	138.12241 (86120524)	134.43936 (86120524)
180.0	144.68558c(86122624)	143.64381c(86122624)	141.78262c(86122624)
190.0	70.15585 (86010724)	69.47256 (86120624)	70.48285c(86020824)
200.0	97.42255 (86121624)	95.83143 (86121624)	93.57312 (86121624)
210.0	83.48565 (86010824)	81.75312 (86102924)	81.82424 (86103124)
220.0	106.56156 (86010924)	103.98664 (86010924)	100.44817 (86010924)
230.0	117.50677 (86102924)	113.65372 (86102924)	108.78659 (86102924)
240.0	103.05183c(86082224)	101.67271c(86082224)	99.56103c(86082224)
250.0	73.23093 (86091524)	70.49431 (86091524)	67.84951 (86091524)
260.0	65.84206 (86020924)	65.55250 (86020924)	64.81040 (86020924)
270.0	82.25210 (86112824)	82.68202c(86091024)	80.93627c(86091024)
280.0	74.22781 (86052824)	72.80439 (86062324)	68.56329 (86062324)
290.0	82.22101c(86051924)	81.24672c(86051924)	78.49502 (86030924)
300.0	107.85967 (86030924)	104.39346 (86030924)	100.43533 (86030924)
310.0	82.46388c(86050724)	85.13342c(86050724)	84.08683 (86122324)
320.0	59.10479 (86081124)	56.25502 (86081124)	53.58471 (86081124)
330.0	67.94621 (86031224)	68.22605 (86031224)	68.23921 (86031224)
340.0	83.33788c(86102524)	82.37560c(86102524)	80.97594c(86102524)
350.0	76.92473 (86061624)	74.30737 (86100924)	71.14742 (86100924)
360.0	91.26326c(86071324)	87.75576c(86071324)	84.41687c(86071324)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	41.75719	(86062624)	15.24	0.00	32.00753	(86091624)
30.48	0.00	28.02020c	(86051724)	45.72	0.00	25.02462c	(86111324)
60.96	0.00	24.22987c	(86111324)	76.20	0.00	20.06128	(86010824)
91.44	0.00	13.09882	(86050324)	106.68	0.00	23.16463	(86120524)
121.92	0.00	18.97175	(86120524)	137.16	0.00	30.75981	(86011124)
152.40	0.00	22.69463	(86011124)	167.64	0.00	18.35929	(86032224)
182.88	0.00	21.75039	(86032124)	198.12	0.00	24.42749	(86032124)
213.36	0.00	20.16518	(86011124)	213.36	15.24	21.62132	(86032124)
213.36	30.48	17.31330	(86032124)	213.36	45.72	18.48613	(86011324)
213.36	60.96	21.68415	(86012724)	213.36	76.20	23.37863	(86011324)
213.36	91.44	16.42589	(86042224)	213.36	106.68	15.37893c	(86053124)
213.36	121.92	19.63103	(86012724)	213.36	137.16	21.41818c	(86071524)
213.36	152.40	23.08768	(86080524)	213.36	167.64	29.41979c	(86060824)
213.36	182.88	35.15140c	(86060824)	213.36	198.12	38.51066c	(86060824)
213.36	213.36	40.53283c	(86060824)	213.36	221.29	41.84654c	(86053124)
198.12	221.29	42.58608c	(86060824)	182.88	221.29	45.18514c	(86071324)
167.64	221.29	48.69972c	(86100324)	152.40	221.29	49.08729c	(86061424)
137.16	221.29	53.50710c	(86061424)	121.92	221.29	55.38364c	(86061424)
106.68	221.29	54.27643c	(86061424)	91.44	221.29	50.77039c	(86061424)
76.20	221.29	53.39190c	(86071324)	60.96	221.29	53.63031c	(86082724)
45.72	221.29	59.04089c	(86082524)	30.48	221.29	69.81135c	(86082524)
15.24	221.29	77.44862c	(86082524)	0.00	221.29	80.75697c	(86082524)
0.00	213.36	76.44479c	(86082524)	0.00	198.12	71.18772c	(86052924)
0.00	182.88	64.20819c	(86080824)	0.00	167.64	60.90586c	(86051824)
0.00	152.40	58.94249c	(86051824)	0.00	137.16	54.32004c	(86051824)
0.00	121.92	52.13653c	(86093024)	0.00	106.68	49.40207	(86040624)
0.00	91.44	43.23147	(86043024)	0.00	76.20	42.49731	(86043024)
0.00	60.96	40.29805	(86043024)	0.00	45.72	36.15865c	(86090824)
0.00	30.48	34.94050c	(86060124)	0.00	15.24	37.86823c	(86051124)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 , 4 , 5 , 6 , 7 ,
8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 , 16 , 17 , 18 , 19 ,

** CONC OF OTHER IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH) AT	RECEPTOR (XR,YR) OF TYPE			RANK	CONC	(YYMMDDHH) AT	RECEPTOR (XR,YR) OF TYPE		
1.	180.79131	(86101624) AT (	363.20,	-594.13)	GP	26.	143.55624c	(86122624) AT (	106.68,	-689.36)	GP
2.	180.55170	(86101624) AT (	346.09,	-547.14)	GP	27.	143.01259	(86120524) AT (	245.60,	-677.20)	GP
3.	179.59889	(86101624) AT (	380.30,	-641.11)	GP	28.	142.89960	(86122824) AT (	106.68,	-889.36)	GP
4.	178.53310	(86101624) AT (	328.99,	-500.16)	GP	29.	142.75223	(86120524) AT (	254.28,	-726.44)	GP
5.	177.28503	(86101624) AT (	397.40,	-688.10)	GP	30.	142.74570c	(86071324) AT (	106.68,	410.64)	GP
6.	174.36440	(86101624) AT (	311.89,	-453.17)	GP	31.	141.80585	(86110324) AT (	176.14,	-283.28)	GP
7.	174.11542	(86101624) AT (	414.50,	-735.08)	GP	32.	141.78262c	(86122624) AT (	106.68,	-889.36)	GP
8.	170.35551	(86101624) AT (	431.60,	-782.07)	GP	33.	141.71022c	(86071324) AT (	176.14,	504.57)	GP
9.	167.66280	(86101624) AT (	294.79,	-406.19)	GP	34.	141.32271c	(86071324) AT (	106.68,	510.64)	GP
10.	166.12161	(86101624) AT (	448.70,	-829.05)	GP	35.	141.26787	(86120524) AT (	236.92,	-627.96)	GP
11.	158.00938	(86101624) AT (	277.69,	-359.20)	GP	36.	141.22960	(86110324) AT (	184.82,	-332.52)	GP
12.	149.48143c	(86071324) AT (	158.77,	406.08)	GP	37.	141.08244c	(86103024) AT (	254.28,	-726.44)	GP
13.	148.29745c	(86071324) AT (	167.46,	455.33)	GP	38.	140.98549	(86120524) AT (	262.96,	-775.68)	GP
14.	146.39336	(86122824) AT (	106.68,	-789.36)	GP	39.	140.91164c	(86071324) AT (	150.09,	356.84)	GP
15.	146.13144	(86122824) AT (	106.68,	-739.36)	GP	40.	140.84877	(86110224) AT (	106.68,	-889.36)	GP
16.	145.58670c	(86103024) AT (	280.33,	-874.17)	GP	41.	140.74893	(86110324) AT (	106.68,	-489.36)	GP
17.	145.44637c	(86103024) AT (	271.65,	-824.92)	GP	42.	140.66711c	(86122624) AT (	106.68,	-639.36)	GP
18.	145.24951	(86122824) AT (	106.68,	-839.36)	GP	43.	140.63919c	(86081824) AT (	670.50,	315.85)	GP
19.	144.91826	(86101624) AT (	260.59,	-312.22)	GP	44.	140.55446	(86110324) AT (	106.68,	-439.36)	GP
20.	144.79167c	(86122624) AT (	106.68,	-739.36)	GP	45.	139.76422	(86122824) AT (	106.68,	-639.36)	GP
21.	144.68558c	(86122624) AT (	106.68,	-789.36)	GP	46.	139.59607c	(86081824) AT (	623.51,	298.75)	GP
22.	144.26759c	(86071324) AT (	106.68,	460.64)	GP	47.	138.89792	(86110224) AT (	106.68,	-839.36)	GP
23.	144.04695	(86122824) AT (	106.68,	-689.36)	GP	48.	138.74017	(86110324) AT (	106.68,	-539.36)	GP
24.	144.03250c	(86103024) AT (	262.96,	-775.68)	GP	49.	138.62369c	(86081824) AT (	717.48,	332.96)	GP
25.	143.64381c	(86122624) AT (	106.68,	-839.36)	GP	50.	138.12241	(86120524) AT (	271.65,	-824.92)	GP

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID			AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	180.79131	ON 86101624: AT (	363.20,	-594.13,	0.00,	0.00)	GP	POL1
	HIGH	2ND HIGH VALUE IS	144.79167c	ON 86122624: AT (	106.68,	-739.36,	0.00,	0.00)	GP	POL1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** Message Summary For ISC2 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 328 Informational Message(s)

A Total of 328 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST2 Finishes Successfully ***
****

be virtually eliminated by employing the BCHP process, it may be possible to use less expensive materials for many system components (Leggett and Platt, 1990).

Liquid Absorption

The liquid absorption technique, in which the soluble component in a gas mixture is transferred into a liquid absorbent, has been used to remove particular substances from certain gas streams. The absorbent is placed in a packed or tray-type column, and the stream is bubbled through it. The quantity of organic compound recovered is removed from the liquid using heat or reduced pressure. 1-Hexanol has been found to be relatively effective for recovering methylene chloride (SRRP, 1990). The recovered material, however, would need to be restabilized before reuse.

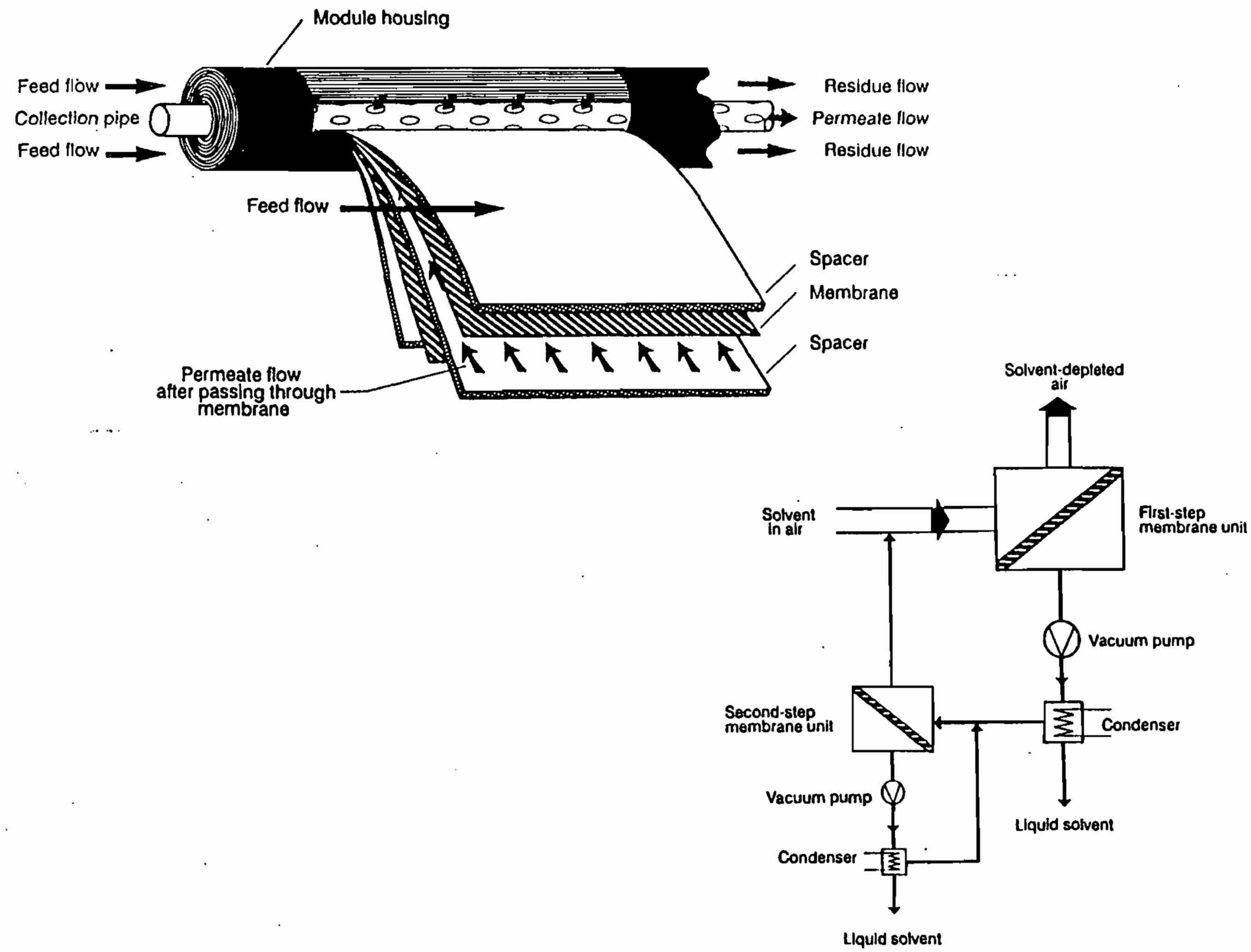
A significant obstacle to the application of this technology to the foam industry is that the dilute methylene chloride concentrations from the production area would require large scrubbing columns (Leggett and Platt, 1990). In addition, the presence of TDI in the gas stream may foul the absorbent column. Emissions of the liquid absorbent also may produce a significant odor problem (Leggett and Platt, 1990).

Membrane Technology

This relatively new technology uses a semipermeable composite membrane to separate the organic compound from the air stream. Several membranes are rolled into modules to increase the surface area in contact with the air stream (**Figure 9**). As the air moves through the center of the module, the organic compound is preferentially drawn through the membrane by a vacuum pump. As it travels through the membrane, it is condensed and removed as a liquid.

The data that have been collected indicate that the membrane system works best for low volume air streams with relatively high concentrations of 5,000 parts per million (ppm) or more (Wijmans and others, 1990). In order to be effectively applied to flexible foam production, the methylene chloride emissions would need to be concentrated before the air stream enters the membrane module (Wijmans and others, 1990).

* * * * *



Source: Membrane Technology & Research, Inc.

Figure 9. Expanded View of a Membrane Module and Two-Step Membrane Separation System.

Vapor Treatment

The TDI and amines in the air stream from the foam line present several technical and economic obstacles for recovery of the methylene chloride. Consequently, it may be more efficient to destroy the organic vapors than to collect them. Thermal oxidation, or incineration, is a common method for the disposal of industrial gas waste.

Like other chlorinated hydrocarbons, methylene chloride's low heat of combustion requires considerable supplemental fuel to raise the waste stream to the temperatures required for thermal destruction. The development of catalysts designed for exposure to chlorinated compounds, however, may improve the cost effectiveness of such thermal treatment.

In addition, a newer technology, biological treatment, is available and may have application in the flexible foam operations.

Thermal Oxidation (Incineration)

Thermal oxidation has been recommended by EPA to control air emissions of methylene chloride and other substances in some industrial processes. In such an operation, the waste air stream containing methylene chloride or other chlorinated hydrocarbons passes into the reactor where the substance is oxidized to carbon dioxide (CO_2) and hydrogen chloride (HCl). Although it has been found to be effective for controlling emissions in continuous manufacturing operations, its application in batch or intermittent operations like flexible foam manufacture may be limited (Leggett and Platt, 1990).

Application of thermal oxidation to foam production would require that large volumes of exhaust air be processed. This would increase both the cost of the equipment required and the energy costs necessary to effectively destroy the methylene chloride (Leggett and Platt, 1990). Additional equipment also may be required to neutralize the HCl emissions. Another concern is the potential production of chlorine (Cl_2) gas as the result of the oxidation of HCl (Welden and Senkan, 1986).

Catalytic Oxidation

While destruction of methylene chloride requires considerable energy, catalysts can be used to increase the rate of the combustion reaction, allowing combustion to occur at lower temperatures and reducing the need for supplemental fuel (**Figure 10**). The use of catalytic oxidation faces many of the same constraints as thermal oxidation. It can, however, improve the cost effectiveness of oxidation in operations with concentrated waste streams (Chemical Engineering, 1991a).[8]

The presence of chlorine or other halogens in a waste stream containing chlorinated hydrocarbons tends to poison traditional semi-precious metal catalysts (**Figure 11**), however, and to quickly deactivate them (Burns, 1990). Such deactivation occurs, not because of the reaction of the halogen with the metals in the catalyst, but because of the reaction with the catalyst carrier, or "wash coat," which is commonly composed of alumina (Chemical Engineering, 1991a).

Chlorinated compounds also can greatly reduce the conversion efficiency of other hydrocarbons that may be present in the air stream (van der Vaart and others, 1991). While alternative reactor designs (i.e., packed bed, fluidized bed) can alleviate some of these problems, they tend to have other undesirable effects or are large and costly (van der Vaart and others, 1991).

In recent years, several companies have developed poison-resistant catalysts that demonstrate high activity and stability and that appear to be highly selective in producing only HCl and CO_2 (Welden and Senkan, 1986; Hung and Pfefferle, 1989; Lester, 1989; Kittrell and others, 1991) (**Figure 12**). As noted above, the HCl emissions resulting from the oxidation process can be readily converted to brine by reaction with caustic soda (Kittrell and others, 1991).

8 The combination of vapor capture and oxidation systems, while representing a higher capital expenditure, may significantly reduce energy costs by reducing the air volumes requiring handling.

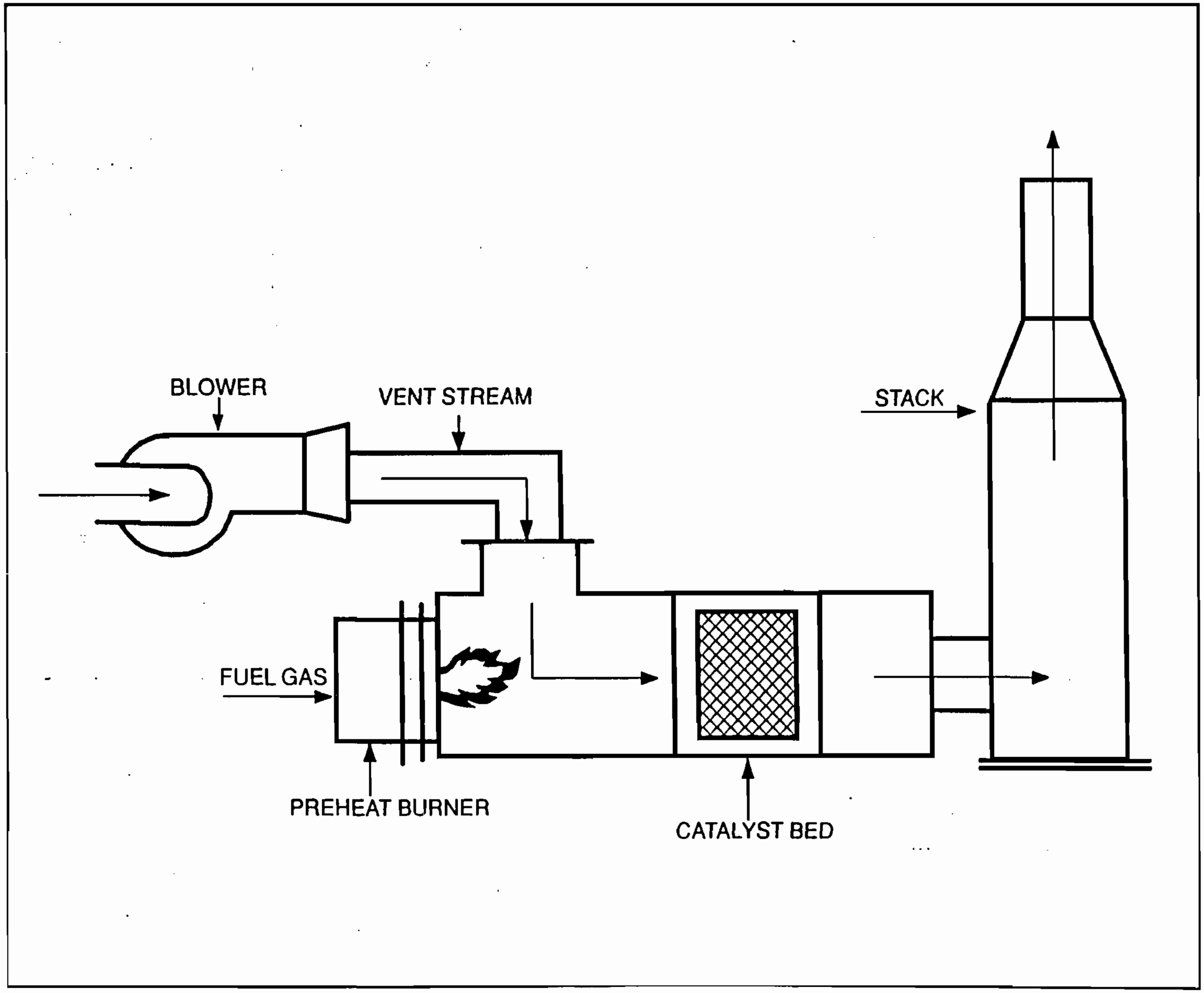


Figure 10. Diagram of Catalytic Oxidation Process.

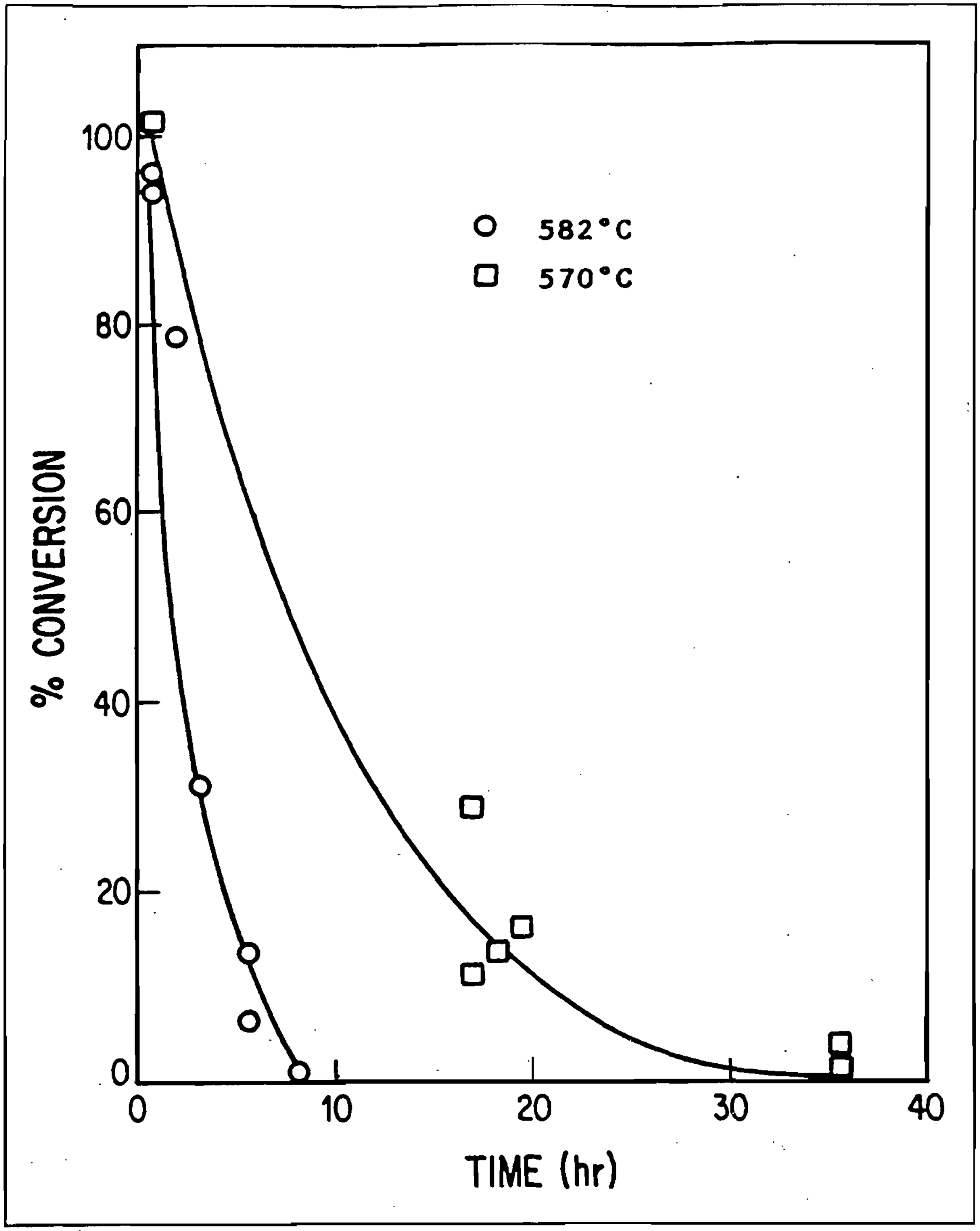


Figure 11. Deactivation of Typical Catalyst During Halogen Oxidation (Kittrell and others, 1991).

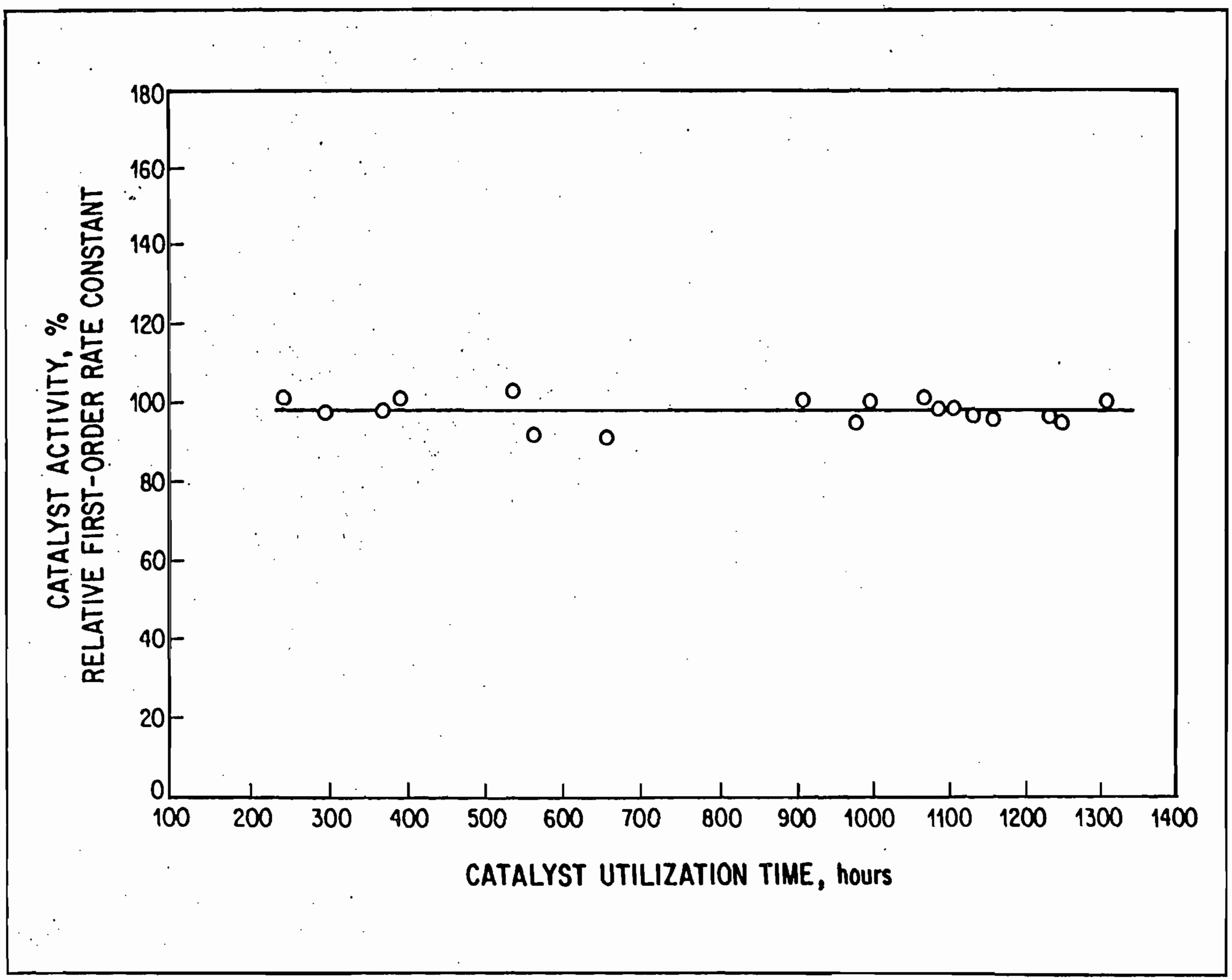


Figure 12. Stability of Catalyst Designed for Halogen Conversion (Kittrell and others, 1991).

Biotreatment

While still relatively new, the use of selected microbes to treat effluents from industrial processes has found favor in recent years. In these systems, specifically developed microorganisms are placed in a controlled environment, or bioreactor, where they can purify a liquid waste stream relatively rapidly. Such systems have been developed for treating effluents containing methylene chloride, and at least one has been adapted for the treatment of waste air streams.

Such a biotreatment system couples the bioreactor with a vapor collector. The collector is necessary to recover the substance from the air stream. The substance then enters the bioreactor where it is converted to water, CO_2, and salt. While the process requires an additional concentration step, it does not require the energy input necessary for thermal or catalytic destruction (Environmental Manager, 1991).

* * * * *

Recovery from Waste

Waste solvent produced during cleaning operations in the foam industry can be recycled for reuse. While the quantities of solvent are small, recycling practices can be implemented at relatively low cost. Solvent recovery can be conducted either on-site or by a commercial recycler.

On-Site Distillation

A few foam plants currently practice on-site recovery using an off-the-shelf distillation unit with a plastic liner. The methylene chloride is separated from the polyurethane and other contaminants for reuse in the cleaning process. It also may be possible to use the recycled methylene chloride in the blowing agent formulation, reducing the need for virgin solvent (SRRP, 1990). The residual sludge from the distillation process would need to be sent off-site for disposal.

Off-Site Recycling[9]

Depending on the quantity of solvent requiring reclamation, the use of a licensed commercial recycler may be more cost-effective than on-site distillation (SRRP, 1990). The spent methylene chloride could be sent off-site and recycled quantities of the substance purchased instead of virgin material. The presence of polyurethane contamination in the spent solvent may pose processing problems for the recycler, however, and increase the cost (SRRP, 1990).

* * * * *

9 Appendix 1 contains a list of available commercial recyclers.

Equipment Modification

Several equipment modifications have been developed to reduce emissions from the foam production process. While some of these modifications already have been installed in commercial operations, others are still relatively untested.

Many foamers have adopted the MAXFOAM™ process in their operations (EPA, 1991). Consequently the potential for emissions reduction in the industry may be small. In addition, the amount of methylene chloride that can be saved may be relatively low.

MAXFOAM™

In the MAXFOAM™ process, the methylene chloride and other ingredients are pre-mixed and introduced at the bottom of the production trough, at the entry of the foam tunnel (**Figure 13**). This configuration produces a flat-topped foam, or bunstock, that requires less trimming and minimizes trim waste. The process also increases the gas efficiency of the blowing agent by introducing the mixture at the bottom of the trough (Leggett and Platt, 1990).

VERTIFOAM™

The VERTIFOAM™ process reconfigures the foam production line to a totally enclosed, vertical (rather than horizontal) expansion chamber. Premixed feed is introduced at the bottom and the rising foam is drawn up through the chamber. Because the methylene chloride emissions move upward through the forming bunstock, the gas efficiency is improved over a horizontal arrangement (Leggett and Platt, 1990). In addition, the blowing agent emissions are more con-

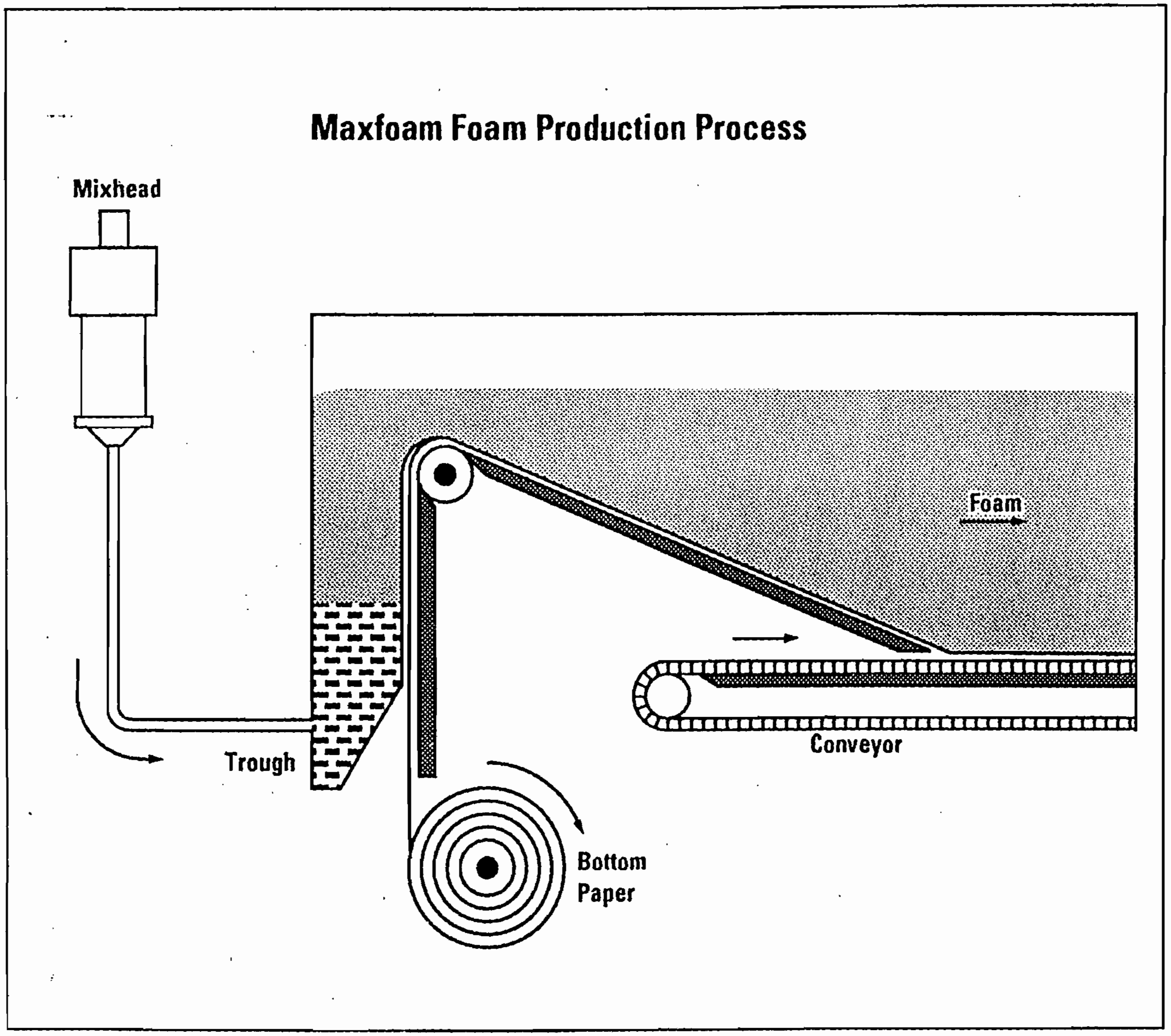


Figure 13. The MAXFOAM™ Production Process (EPA, 1991).

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fined in the vertical chamber and can be captured more easily by vapor recovery equipment. The foam produced also has a thin, porous skin that allows the auxiliary blowing agent to be emitted more rapidly (EPA, 1991).

VERTIFOAM™ units have been installed in a few plants in the United States (Webb and Griffiths, 1987). The unit is mechanically and structurally more complex than the horizontal system. While it occupies less floor space, the equipment, which can be forty-feet high, requires considerably higher ceilings. The height also limits the length of bunstock that can be produced.

Vacuum-Molded

Some potential exists for the reduction of emissions by producing the foam under vacuum conditions. As the air pressure within the mold is reduced, a given amount of blowing agent will occupy a greater space than under normal pressure. The "vacuum-molded" process, therefore, may result in the production of greater foam volume with less blowing agent. For certain density foams, in fact, it may be possible to eliminate auxiliary blowing agent use. While this technology has been employed in Europe for batch production, it has not been practically applied in a continuous foam line (Creyf and Veenendaal, 1990).

ENVIROCURE™

The ENVIROCURE™ process is designed to accelerate the foam curing by decreasing the cooling time (i.e., from full bun expansion to cure completion) from 10 to 12 hours or more to less than 40 minutes. In so doing, the process also consolidates the emissions, and may reduce the quantity of auxiliary blowing agent required (Ricciardi, 1990).

The ENVIROCURE™ process is designed to "add-on" to the VERTIFOAM™ system described above, and uses a set of three vacuum boxes in the foam tunnel to recirculate air through the bunstock. The recirculating air accelerates the cooling of the foam. The process also may include a carbon adsorption unit to collect blowing agent.

E-MAX™

The E-MAX™ process combines the production and curing steps by encapsulating the developing bunstock in a mold as the foaming mixture is introduced to the

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foam line (SRRP, 1990). The foam mold allows for all emissions from the process to be controlled and collected. Before the premixed foaming material is introduced, the bottom and sides of the foam tunnel are lined with a polyethylene film. As the foaming material enters the tunnel, the foam mold is enclosed with a PVC-coated fabric at the top (Leggett and Platt, 1990). Once the mold has been completely filled with foam, it is sealed. The mold is then ventilated to a vapor recovery system to collect the emissions.

As a result of the enclosure of the foam, the organic vapors can be drawn to a collection device in a concentrated form. This allows for more economical handling, because the reduced air flow and higher concentrations require smaller reduction/recovery units (Leggett and Platt, 1990). To date, the industry has had very little commercial experience with this technology (Leggett and Platt, 1990). It has been demonstrated on a pilot scale, however, achieving 85 percent recovery of CFC-11. In addition, the system requires new equipment and does not allow for retrofitting (Creyf and Veenendaal, 1989).

* * * * *

Process Modification

Several modifications to the basic framework of the polyurethane foam production reaction have been developed or proposed. These modifications would substitute or add new materials or ingredients to the basic production reactions to improve the effectiveness of CO_2 as the primary blowing agent. In so doing, they potentially could reduce the need for auxiliary blowing agents.

Alternative Blowing (AB™) Process

The AB™ process uses formic acid, instead of water, in the reaction with isocyanate to reduce the amount of auxiliary blowing agent that is necessary. While the isocyanate/water reaction produces only carbon dioxide, the reaction of isocyanate and formic acid produces equal volumes of carbon dioxide and carbon monoxide. Because twice as much blowing agent is produced in the formic acid reaction, the requirement for an auxiliary blowing agent is reduced, but not eliminated. Use of this process is expected to replace about 8 parts of auxiliary blowing agent (Creyf and Veenendaal, 1989).[10]

Some concern has been expressed about the inferior physical properties of the foam produced with the AB™ process, and it appears that some catalyst adjustment may need to be made (Creyf and Veenendaal, 1989). In addition, the use of formic acid, and the production of carbon monoxide (CO), may create workplace exposure concerns. Much of the CO is emitted after the foam has left the foam tunnel (EPA, 1991). The AB™ process also appears limited in its ability to produce low-density foams (UNEP, 1989; Leggett and Platt, 1990).

10 The amount of an ingredient used in a particular formulation generally is expressed in parts per hundred polyol, or php.

Extended-Range Polyol Systems

Foam plants generally use polyols based on diols or triols in the reaction with isocyanate to produce the urethane polymer. Several firms have developed alternative polyol systems that can soften the foam, thereby reducing or eliminating the need for an auxiliary blowing agent (Consoli and others, 1984; Thomas, 1989).[11] These "soft" polyols either replace the conventional polyol or are blended with it (Creyf and Veenendaal, 1989). They do not help to lower the density, however, and require that additional water be used in the formulations (EPA, 1991).

While extended-range polyols have been developed to produce most foam grades, no one polyol can produce all grades (Thomas, 1989; EPA, 1991).

High-Resilience (HR) Polyols

Alternative polyol systems have been developed for the production of high-resilience (HR) foams. These foams primarily are used for higher quality commercial furniture, and compose only a small percentage of U.S. production of flexible foam (SRRP, 1990). While some process changes may allow the use of HR polyols to account for a somewhat larger fraction of the foam produced, it does not appear promising for the production of low-density foams (Creyf and Veenendaal, 1989).

Examples of these HR polyol systems are the ULTRACEL™ and RESTEASY PLUS™ technologies. Both employ higher molecular-weight, blended polymer polyols, but the ULTRACEL™ process includes the addition of diethanolamine which acts as a softening agent and stabilizer. Both technologies can be used to produce foams of 1.3 to 1.5 lbs/ft^3 (21 to 24 kg/m^3) or greater (Leggett and Platt, 1990; EPA, 1991).

Softening Additives

A few additives have been developed to modify the chemistry of the foam production process to reduce the density and hardness of the foam with less auxiliary blowing agent.

ORTEGOL™ 310 has been shown to be effective for decreasing foam hardness and may be able to replace 6 to 8 parts of auxiliary blowing agent (EPA, 1991). It provides no cooling effect, however, and tends to be scorch-prone (Creyf and Veenendaal,

11 The amount of auxiliary blowing agent that potentially can be replaced depends on the specific polyol system and the foam grade produced.

1989). Its use is limited, therefore, to foam densities of about 1.3 lbs/ft^3 (21 kg/m^3) or higher.

GEOLITE™ is a recently introduced technology that may allow the production of soft foams without auxiliary blowing agents. Preliminary trials indicate, however, that lower-density foams produced with this process were of inferior quality (Leggett and Platt, 1990). Use of GEOLITE™ may require some auxiliary blowing agent to produce these foams.

Minimum Density Limits

Eliminating the production of low density foams would reduce the amount of auxiliary blowing agent required. The reduction in methylene chloride emissions that would be achieved depends on the density limit specified, and could be enhanced with the further commercial development of the polyol modifications and production additives described above. Elimination of the low-density foams, which compose the bulk of flexible foam production, however, would substantially increase costs (Simmons, 1990).

* * * * *

Alternative Chemicals

A few substances have been suggested as alternatives to methylene chloride as auxiliary blowing agents using conventional foam production techniques. Of these, only acetone appears to have potential for significantly greater use (**Table 1**). In addition, there may be some limited potential for replacing methylene chloride in solvent cleaning operations.

Acetone

Acetone is considered to be a technically suitable blowing agent, and is currently used by at least one foam plant. Its molecular weight is much lower than that of methylene chloride and, therefore, about 30 percent less chemical would be required to produce an equivalent amount of foam (Sullivan, 1990). The major drawback to using acetone is its flammability, which could cause a particular problem in the curing area where as much as half of the blowing agent emissions occur (Leggett and Platt, 1990). In addition, acetone is photochemically reactive, and its use would be restricted in most urban areas (SRRP, 1990).

Acetone does appear to have limited application, however, if certain precautions are taken, including special storage and handling procedures, and additional fire protection measures (EPA, 1991). The use of acetone as an auxiliary blowing agent is subject to a licensing arrangement for the technology.

Hydrochlorofluorocarbons (HCFCs)

Two of the hydrochlorofluorocarbons (HCFCs) under development as CFC replacements appear to have suitable properties for use as an auxiliary blowing agent. These two substances,

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	Molecular Weight	Boiling Point[1]	Vapor Pressure[2]	Flash Point[1]	Heat of Vaporization[3]
CFC-11	137.4	23.8	792	none	43.1
Methylene Chloride	84.9	39.8	352	none	78.7
1,1,1-Trichloro-ethane	133.4	74.1	104	none	56.7
Acetone	58.1	56.2	227	-20	122.4
HCFC-123	152.9	28.7	685	none	41.1
HCFC-141b	116.9	32.0	600	none	52.8
Isopropyl Chloride[a]	78.5	33-36	533	-32	87.3

1 - Units are °C. 2 - Units are millimeters Hg. 3 - Units are calories/gram.
a - Isopropyl chloride is being used as a blowing agent for rigid foams in Europe (Chemical Engineering, 1991b). Its applicability to flexible foam production is unknown.

Table 1. Properties of Current and Proposed Blowing Agents.

HCFC-123 and HCFC-141b, have stratospheric ozone depletion potentials (ODPs) that are considerably lower than CFC-11.[12] Under the Clean Air Act Amendments of 1990, however, use of HCFCs for non-insulating foams, except for foams used for motor vehicle safety purposes, is prohibited after January 1, 1994.

Both HCFCs are available in limited quantities, as are constant boiling blends of the two substances. Both currently are undergoing toxicity testing, but a preliminary assessment by EPA's Office of Toxic Substances concluded that neither substance appears to present a significant health concern (EPA, 1990).[13]

While HCFC use is prohibited in foam production, they may have limited applicability in the cleaning of foam equipment and molds. The most likely candidates are an HCFC-123 formulation or a mixture of HCFC-123 and HCFC-141b. The addition of

12 ODP is a measure of the compound's potential to deplete stratospheric ozone, relative to CFC-11, which is assigned a value of 1.0. Under this system, HCFC-123 and HCFC-141b have been assigned ODPs of 0.02 and 0.1-0.15.

13 Recent evidence of benign tumors in a 2-year bioassay has led some HCFC-123 manufacturers to recommend an occupational exposure limit of 10 ppm for an 8-hour time-weighted average (IRTA, 1991; Chemical Week, 1991).

HCFC-123 lowers the ozone depletion potential of HCFC-141b.

Other Solvents

Dibasic esters (DBE) and n-methyl-pyrrolidone (NMP) appear to be technically feasible substitutes for methylene chloride and other chlorinated solvents in certain solvent cleaning applications. Neither DBE or NMP appear to have applicability for solvent cleaning uses in the foam industry (SRRP, 1990). Neither substance likely would be a sufficiently strong solvent to remove the polyurethane and other contaminants from the foam heads, molds, and other equipment.

* * * * *

Summary

The control of auxiliary blowing agent emissions presents a difficult challenge to flexible polyurethane foam manufacturers. While several emission control options are potentially available, none are without drawbacks. The potential for reducing emissions of each of these options is summarized in **Table 2.** In some cases, the emission reduction will depend on the characteristics of the foam produced.

In addition, **Table 2** contains information on the commercial availability of the control options, and the applicability of each to manufacture of the full range of foam densities. The information was collected from several sources (Leggett and Platt, 1990; SRRP, 1990; EPA, 1991).

OPTION	EMISSION REDUCTION	AVAILA-BILITY	APPLICA-BILITY
<u>WORK PRACTICE</u>			
Leak Detection & Repair	2%	good	good
Storage Tank Control	3%	good	good
<u>VAPOR RECOVERY</u>			
Carbon Adsorption	40-50%	good	good
Vapor Condensation	10-30%	good	poor
Brayton Cycle	30-50%	fair	good
Liquid Absorption	30-45%	fair	fair
Membrane Technology	10-30%	fair	poor
<u>VAPOR TREATMENT</u>			
Thermal Oxidation	40-50%	good	poor
Catalytic Oxidation	40-50%	good	fair
Biotreatment	40-50%	fair	poor
<u>RECOVERY FROM WASTE</u>			
On-Site/Off-Site	5-10%	good	fair

Table 2. Qualitative Analysis of Emission Control Options

OPTION	EMISSION REDUCTION	AVAILA-BILITY	APPLICA-BILITY
<u>EQUIPMENT MODIFICATION</u>			
MAXFOAM	10%	good	good
VERTIFOAM	50%	good	good
Vacuum-Molded	~75%	poor	fair
ENVIROCURE	85-90%	fair	fair
E-MAX	~85%	poor	fair
<u>PROCESS MODIFICATION</u>			
AB Process	-	fair	poor
Modified Polyol	-	fair	fair
HR Polyols	-	fair	poor
Additives			
ORTEGOL 310	-	good	fair
GEOLITE	-	fair	fair
Minimum Density	100%	good	poor
<u>ALTERNATIVE CHEMICALS</u>			
Acetone	30%	good	fair

Table 2. Qualitative Analysis of Emission Control Options (continued)

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Appendix I

Commercial Solvent Recycling Companies[1]

Alabama

Attala
Oldver Corp.
Birmingham
Allworth
Emmelle
Chemical Waste Management

Arizona

Chandler
Romic Chemical Corp.

California

Azusa
Oil and Solvent Process Co.
East Palo Alto
Romic Chemical Corp.
Inglewood
Rho-Chem Corp.
Los Angeles
Detrex Corp.
Newark
Baron-Blakeslee/Genesolv
Reedley
Safety Kleen Corp.
San Diego
Baron-Blakeslee/Genesolv
San Jose
USPCI/Hydrocarbon Recycling Services

Canada

Edmonton, Alberta
Allied Environmental
Mississauga, Ontario
Anachemia Solvents
Surrey, Vancouver
Allied Environmental

Colorado

Henderson
Chemical Waste Management

Florida

Bartow
Laidlaw Environmental Services

1 List of Active Members of the National Association of Chemical Recyclers (Washington, D.C.), as of March 1991.

Georgia

Atlanta
M & J Solvents Company
Norcross
Southeastern Chemical and Solvent

Illinois

Chicago
Safety Kleen Corp.
Cicero
Baron-Blakeslee/Genesolv
Dolton
Safety Kleen Corp.
Sauget
Clayton Chemical Company

Indiana

Indianapolis
Detrex Corp.
Reclaimed Energy Company
South Bend
Industrial Fuels and Resources
Terre Haute
Avganic Industries

Louisiana

Lake Charles
Chemical Waste Management

Michigan

Detroit
Detrex Corp.
Nortru
Roseville
City Environmental

Missouri

Scott City
Industrial Fuels and Resources

New York

Model City
Chemical Waste Management
West Babylon
Pride Solvents and Chemicals

New Jersey

Clayton
Safety Kleen Corp.
Linden
Safety Kleen Corp.
Middlesex
Marisol

North Carolina

Charlotte
Detrex Corp.

Ohio

Avon
Chemtron Corp.
Bedford
Hukill Chemical Corp.
Cleveland
Chemical Solvents
Hebron
Safety Kleen Corp.

BEST AVAILABLE COPY

West Carrollton
CWM Resource Recovery

Oklahoma

Tulsa
USPCI/Hydrocarbon Recycling Services

Oregon

Portland
Baron-Blakeslee/Genesolv

Puerto Rico

Safety Kleen Corp.

Rhode Island

Cranston
Chem Pak Corp.

South Carolina

Holy Hill
Safety Kleen Corp.
Lexington
Safety Kleen Corp.
Sumter
Southeastern Chemical and Solvent

Tennessee

Memphis
Bryson Recovery Service

Texas

Arlington
Detrex Corp.
Avalon
Chemical Reclamation Services
Denton
Safety Kleen Corp.
San Antonio
USPCI/Hydrocarbon Recycling Services
Winona
Gibraltar Chemical Resources

Washington

Washougal
Burlington Environmental/Chempro

Wisconsin

Butler
Milsolv Company
Cottage Grove
Avganic Industries
Eau Claire
Waste Research and Reclamation

* * * * *

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6-C-56

Appendix 6-D

Economic Analysis of Alternative Blowing Agent Usage

Alternative Blowing Agent
Cost Evaluation

A. <u>1,1,1-Trichloroethane</u>

Total annual methylene chloride usage	= 633,500 lbs/yr
1,1,1-Trichloroethane substitution rate	= 20%
1,1,1-Trichloroethane substitution ratio	= 1.5 lb/lb methylene chloride
Total annual 1,1,1-Trichloroethane usage	= (633,500 lbs/yr) x (0.20) x (1.5 lb/lb) = 190,050 lbs/yr
1,1,1-Trichloroethane unit cost	= $0.34/lb
Methylene Chloride unit cost	= $0.165/lb
Annual cost for 1,1,1-Trichloroethane substitution	= (190,050 lbs/yr) x (0.34 - 0.165 $/lb) = $33,258.75 per year

Appendix 6-E

Design and Economic Analysis of Feasible BACT Options

a) Incineration/Absorption

Appendix C.3

Calculation Sheet for Thermal Incineration

2.1 Data Required

HAP Emission Stream Characteristics (after dilution)

Maximum flow rate	Q_e =	20000 scfm
Temperature of emission stream entering the incinerator		
(a). No heat recovery	T_e =	80 ^{0}F
(b). Heat exchanger used	T_{he} =	^{0}F
Heat content	h_e =	0.69 Btu/scf
Oxygen content	O_2 =	20.9 %
Halogenated organics: (Yes or No)	=	Yes
Required VOC destruction efficiency	DE =	98 %
Heat exchanger efficiency (assume 70% if no data available)	HR =	50 %
Lower heating value of natural gas (assume 21600 Bt/lb if no data available)	h_f =	21600 Btu/lb
Density of flue gas stream, (usually 0.0739)	D_e =	0.0739 lb/scf
Density of fuel gas, (usually 0.0408 for methane)	D_f =	0.0408 lb/scf

4.2.2 Pretreatment Of The Emissions Stream : Dilution Air Requirements

Typically, dilution will not be required. However, if the emission stream heat content (h_e) is greater than 176 btu/lb or 13 btu/scf with an oxygen concentration less than 20%.

Is pretreatment required for the emission stream	=	No
Emission stream desired heat content,	h_d =	Btu/scf
Dilution stream volume	$Q_d = [h_e/h_d)-1]Q_e$ =	0 scfm

4.2.3 Design Variables, Destruction Efficiency, And Typical Operation Problems

Base on the required DE, select appropriate values for Tc and tr from Table 4.2−2

T_c = = 1800 ^{0}F *

t_r = = 1 sec *

Incinerator should be equipped with automatic temperature monitoring and control system.

Note: If DE is less than 98%, obtain information from literature and incinerator vendors to determine appropriate values for Tc and tr')

Appendix C.3

Calculation Sheet for Thermal Incineration

2.4 Determination Of Incinerator Operation Variables

4.2.4.1 Supplementary Fuel Requirements

To estimate the supplementary fuel flow rate (Q_f)

$$Q_f = D_e \times Q_e \times [(Cp_{air})(1.1T_c - T_{he} - 0.1T_r) - h_e] / D_f [h_f - 1.1Cp_{air} (T_c - T_r)]$$

Where

D_e =	Density of flue gas stream, (usually 0.0739)	0.0739 lb/scf
D_f =	Density of flue gas, (usually 0.0408 for methane)	0.0408 lb/scf
h_f =	If no other data is available, assume 21600	21600 Btu/lb
Cp_{air} =	See Table C.8−1 for values at various temperatures	0.0196 Btu/scf−°F *
		0.269 Btu/lb−°F
T_c =	Combustion temperature	1800 ^{0}F
T_{he} =	Use the following equation if the value for T_{he} is not specified : $T_{he} = (HR/100)T_c + [1-(HR/100)]T_e$	940 ^{0}F
HR =	Where HR = (heat recovery in heat exchanger in % assume a value of 70% if no data available)	50 %
T_r =	Reference temperature	77 ^{0}F
Q_f =	Natural gas flow rate	476 scfm

2.4.2 Flue Gas Flow Rate

For dilute emission streams (Q_{fg})

$Q_{fg} = Q_e + Q_f + Q_d$ = 20476 scfm

4.2.4.3 Combustion Chamber Volume

$Q_{fg,a} = Q_{fg}[(T_c+460)/537]$ = 86174 acfm

$V_c = [(Q_{fg,a} / 60) \times t_r] \times 1.05$ = 1508.05 ft^3

Appendix C.3

Calculation Sheet for Thermal Incineration

4.2.6 Capital And Annual Costs Of Thermal Incinerators

Required Data Input

Auxiliary equipment cost (see Section 4.12) includes			$0
a. Fan purchase cost	=	$0	
b. Ductwork purchase cost	=	$0	
c. Stack purchase cost	=	$0	
d. Damper purchase cost	=	$0	
e. Cyclone purchase cost	=	$0	
Site preparation cost (SP)	=		$0
Building cost (Bldg.)	=		$0
Annual operating hours (HRS) (3 hr/day prod & 3 hr start up)			1248 hrs
System fan horsepower	=		195 hp

4.2.6.1 Thermal Incinerator Capital Costs

Use the appropriate Equation in Table 4.2–5 to obtain the thermal incinertor cost, TC

DIRECT COSTS

Purchased Equipment Cost (PEC);

Thermal Incinerator Cost (TC)			=	$204,433	*
Auxiliary Equipment Cost (see above)			=	$0	
Equipment Cost (EC) = TC + Auxiliary Equipment			=	$204,433	4/88 $'s
Equipment Cost (EC) = TC + Auxiliary Equipment			=	$218,766	8/93 $'s
Instrumentation	incl'd in EC	x EC	=	$0	
Sales Tax	0.06	x EC	=	$13,126	
Freight	0.05	x EC	=	$10,938	
Purchased Equipment Cost (PEC) =				**$242,831**	

Direct Installation Costs

Foundation and supports	0.08	x PEC	=	$19,426
Handling and erection	0.14	x PEC	=	$33,996
Electrical	0.04	x PEC	=	$9,713
Piping	0.02	x PEC	=	$4,857
Insulation for ductwork	0.01	x PEC	=	$2,428
Painting	0.01	x PEC	=	$2,428
Direct Installation Costs =				$72,849
Site Preparation				$0
Building Costs				$0
TOTAL DIRECT COST (DC) =				**$315,680**

Calculation Sheet for Thermal Incineration

Indirect Costs				
Engineering	0.10	x PEC	=	$24,283
Construction and field expense	0.05	x PEC	=	$12,142
Contractor fees	0.10	x PEC	=	$24,283
Start–up	0.02	x PEC	=	$4,857
Performance test	0.05	x PEC	=	$12,142
Contingencies (incl'd quench)	0.30	x PEC	=	$72,849
TOTAL INDIRECT COST (IC) =				$150,555

TOTAL CAPITAL COST (TCC)	$466,235

4.2.6.2 Thermal Incinerator Total Annual Cost, TAC

The TAC consists of direct and indirect annual costs. Direct annual costs include fuel, electricity, operating, supervisory and maintenance labor, and maintenance materials. Indirect annual costs consist of overhead, administrative, property taxes, insurance, and capital recovery costs.

Direct Annual Costs (DAC)

1. FUEL USAGE

The fuel usage is calculated in Section 4.2.4.1. Take this quantity (in scfm) and multiply by 60 to obtain schf and multiply this by the annual operating hours and the fuel cost.

Annual fuel cost = Q_f x 60 x HRS x $3.30/1000 ft^3 = $117,614

2. ELECTRIC COSTS

Estimate the fan power requirement, F_p

F_p =			195 hp
F_p =	0.746 x hp x HRS	=	181547 KWh/yr
Annual Electric Cost =	$0.059 x F_p	=	$10,711

3. OPERATING COSTS

Operating labor = [(0.5 hr/shift)/(8 hr/shift)](HRS)($13.25/hr)	=	$1,034
Supervisory costs = 0.15 x Operating labor costs	=	$155
Annual Operating and Supervisory labor Costs		$1,189

Calculation Sheet for Thermal Incineration

4. MAINTENANCE COSTS

Maintenance labor = [(0.5 hr/shift)/(8 hr/shift)](HRS)($14.58/hr)	=	$1,137
Maintenance materials = 1.0 x Maintenance labor costs	=	$1,137
Annual Maintenance Labor and Materials	=	$2,274

TOTAL DIRECT ANNUAL COSTS (DAC) = $131,788

Indirect Annual Costs (IAC)

These costs are obtained from factors given in Table 4.2−8

Overhead = 0.60 x (op labor and maint costs)			=	$2,078
Adminstrative	0.02	x TCC	=	$9,325
Property Taxes	0.01	x TCC	=	$4,662
Insurance	0.01	x TCC	=	$4,662
Capital recovery	0.1628	x TCC	=	$75,903

TOTAL DIRECT ANNUAL COSTS (IAC) = = $96,630

TOTAL ANNUAL COSTS (DAC + IAC) $228,418

Calculation Sheet for Absorption
(After incineration)

4.7.1 Data Required

HAP Emission Stream Characteristics

Maximum flow rate		Q_e =	20476 scfm
Temperature		T_e =	200 ^{0}F
HAP		=	Hydrogen Chloride
Maximum HAP content,		HAP_e =	7130 ppmv
Pressure,		P_e =	760 mmHg
Required VOC removal efficiency		RE =	90 %
Absorption factor usually between 1.25 and 2		AF =	1.6
Molecular weight of emission stream		MW_e =	28.8 lb/lb−mole
Solvent Used		=	Water
Slope of the equilibuirm curve,		m =	50
Type of packing used		=	Berl saddle 1.5 in
Value of ordinate (ORD) @ flooding condition		ORD =	0.012
Assume fraction of flooding velocity (0.6−0.75)		f =	0.7
Packing constant		a =	28
Packing constant		e =	0.74
Packing constant	(Tables C.7−1 & C.7−2)	b =	5.05
Packing constant	(Tables C.7−1 & C.7−2)	c =	0.32
Packing constant	(Tables C.7−1 & C.7−2)	d =	0.45
Packing constant	(Tables C.7−1 & C.7−2)	Y =	0.00625
Packing constant	(Tables C.7−1 & C.7−2)	s =	0.28
Packing constant	(Table C.7−5)	g =	5.66
Packing constant	(Table C.7−5)	r =	0.00225

Calculation Sheet for Absorption
(After incineration)

4.7.3 Determination of Absorber System Design and Operating Variables

4.7.3.1 Solvent Flow Rate

a. Assume a value for AF — AF = 1.6

Determine "m" from the equilibrium data for the HAP/solvent system under consideration (see Reference 1, 3, and 6 in Section 4.7)

m =			= 50
Q_e =			= 20476 scfm
G_{mol} =	$0.155 \times Q_e$		= 3174 lb moles/hr

b. Use Equation 4.7−2

L_{mol} =	$1.6 \times m \times G_{mol}$	(EQUATION 4.7−2)	= 253902 lb−moles/hr

c. Use Equation 4.7−5

L_{gal} =	$0.036 \times L_{mol}$	(EQUATION 4.7−5)	= 9140 gal/min

4.7.3.2 Column Diameter

a. Use Figure 4.7−2

$MW_{solvent}$ =			= 18 lb/lb−mole
L =	$L_{mol} \times MW_{solvent}$		= 4570236 lb/hr
MW_e =			= 28.8 lb/lb−mole
G =	$G_{mol} \times MW_e$		= 91405 lb/hr
D_G =	PM/RT		= 0.060 lb/ft^3
D_L =			= 60.13 lb/ft^3
Abscissa (ABS) =		$(L/G)(D_G/D_L)^{0.5}$	= 1.576

b. From Figure 4.7−2, determine the value of the ordinate (ORD) at flooding conditions.

ORD = 0.012

c. For the type of packing used, determine the packing constants from Reference 11, Section 4.7

a =	= 28
e =	= 0.74
μ_L =	= 0.30 cp
g_c =	= 32.2 ft/sec^2

Calculation Sheet for Absorption
(After incineration)

d. Use the following equation to calculate $G_{area,f}$

$G_{area,f}$ =	$\{(ORD \times D_G \times D_L \times g_c)/((a/e^3)(\mu_L)^{0.2})\}^{0.5}$	=	0.16 lb/sec−ft²

e. Assume a value for the fraction of flooding velocity for the proposed design

Assume f (usually between 0.6−0.75)		=	0.7
G_{area} =	$f \times G_{area,f}$	=	0.11 lb/sec−ft²

f. Calculate the column cross−section area (A_{column})

A_{column} =	$G / (3600 \times G_{area})$	=	226.85 ft²

g. Calculate the column diameter (D_{column})

D_{column} =	$1.13 \times A_{column}^{0.5}$	=	17.02 ft

4.7.3.3 Column Height

a. Calculate N_{og}

HAP_e =		=	7130 ppmv
HAP_o =	$HAP_e (1-RE/100)$	=	713
N_{og} =	$Ln\{(HAP_e/HAP_o)[1-(1/AF)]+(1/AF)\}/[1-(1/AF)]$		
N_{og} =		=	3.94

b. Calculate H_G, H_L, and H_{og}
Determine the packing constants using Tables C.7−1, and C.7−2

b =	=	5.05
c =	=	0.32
d =	=	0.45
Y =	=	0.00625
s =	=	0.28

Calculation Sheet for Absorption
(After incineration)

Determine Sc_G and Sc_L using Tables C.7−3 and C.7−4

Sc_G =		= 2
Sc_L =		= 381
L^* =	L / A_{column}	= 20146.26 lb/hr−ft^2
μ_L^* =	$2.42 \times \mu_L$	= 0.73 lb/hr−ft

Calculate H_G and H_L

H_G =	$[b \times (3600G_{area})^c/(L^*)^d](Sc_g)^{0.5}$	= 0.56 ft
H_L =	$Y \times (L^*/\mu_{L^*})^s(Sc_L)^{0.5}$	= 2.14 ft

c. Calculate H_{og} and Ht_{column}

H_{og} =	$H_G + (1/AF) \times H_L$	= 1.90 ft
Ht_{column} =	$N_{og} \times H_{og}$	= 7.48 ft

d. Calculate Ht_{total}

Ht_{total} =	$Ht_{column} + 2 + (0.25 \times D_{column})$	= 13.74 ft

e. Calculate $V_{packing}$

$V_{packing}$ =	$0.785 \times (D_{column})^2 \times Ht_{column}$	= 1701.06 ft^3

4.7.3.4 Pressure Drop Through the Column

a. Calculate P_a

Determine the constants using Table C.7−5

g=		= 5.66
r =		= 0.00225
P_a =	$g \times 10^{-8}[10^{(rL^*/D_L)}](3600G_{area})^2/D_G$	= 0.87 lb/ft^2 −ft

b. Calculate P_{total}

P_{total}=	$P_a \times (Ht_{column})$	= 6.53 lb/ft^2
P_{total} / 5.2 =		= 1.26 in water

Calculation Sheet for Absorption
(After incineration)

4.7.5 Capital and Annual Costs of Absorbers

Required Data Input		
Site preparation cost (SP)	=	$0
Building cost (Bldg.)	=	$0
Annual operating hours (HRS)	=	624
Absorber tower costs (use Figure 4.7–4)	=	$70,000
Unit cost (see Table 4.7–2)	=	$18.00
System fan horsepower	=	195 hp

4.7.5.1 Capital Costs of Absorbers

A. Absorber tower costs (use Figure 4.7–4) = $70,000

B. Packing cost = $30,619

Unit cost (see Table 4.7–2) = $18.00 $/ft^3

Total packing volume = 1701.06 ft^3

C. Auxiliary equipment cost (see Section 4.12) includes $0

a. Fan purchase cost = $0

b. Ductwork purchase cost = $0

c. Stack purchase cost = $0

d. Damper purchase cost = $0

e. Cyclone purchase cost = $0

DIRECT COSTS

Purchased Equipment Costs (PEC)

Equipment Costs (EC) = A+B+C				$100,619	4–88 $'s
Equipment Costs (EC)				$107,701	8–93 $'s
Instrumentation	0.10	x EC	=	$10,770	
Sales Tax	0.06	x EC	=	$6,462	
Freight	0.05	x EC	=	$5,385	
Purchased Equipment Cost (PEC)			=	**$130,318**	

Direct Installation Costs

Foundation and supports	0.12	x PEC	=	$15,638
Handling and erection	0.40	x PEC	=	$52,127
Electrical	0.01	x PEC	=	$1,303
Piping	0.30	x PEC	=	$39,095
Insulation for ductwork	0.01	x PEC	=	$1,303
Painting	0.01	x PEC	=	$1,303
Direct Installation Costs			=	$110,771

Calculation Sheet for Absorption
(After incineration)

Site Preparation			$0
Building Costs			$0
TOTAL DIRECT COST (DC) =			$241,089

Indirect Costs			
Engineering	0.10 x PEC	=	$13,032
Construction and field expense	0.10 x PEC	=	$13,032
Contractor fees	0.10 x PEC	=	$13,032
Start–up	0.01 x PEC	=	$1,303
Performance test (Incl'd in Inc cost)	0.00 x PEC	=	$0
Contingencies	0.30 x PEC	=	$39,095
TOTAL INDIRECT COST (IC) =			$79,494
TOTAL CAPITAL COST (TCC)			**$320,583**

4.7.5.2 Annual Costs for Absorbers

The TAC consists of direct and indirect annual costs. Direct annual costs include electricity, operating, supervisory and maintenance labor, and maintenance materials. Indirect annual costs consist of overhead, administrative, property taxes, insurance, and capital recovery costs.

Direct Annual Costs (DAC)

1. CAUSTIC USAGE

30% NaOH Usage Rate	2700 lb/hr	
NaOH Cost	$0.15 / lb	$252,720

2. ELECTRIC COSTS

Estimate the fan power requirement, F_p
(Included in Thermal Incinerator Costs)

F_p =			195 hp
F_p =	0.746 x hp x HRS	=	90773 KWh/yr
Annual Electric Cost =	$0.059 x F_p	=	$0

3. OPERATING COSTS

Operating labor = [(0.5 hr/shift)/(8 hr/shift)](HRS)($13.25/hr)	=	$517
Supervisory costs = 0.15 x Operating labor costs	=	$78
Annual Operating and Supervisory labor Costs		$594

Calculation Sheet for Absorption
(After incineration)

4. MAINTENANCE COSTS

Maintenance labor = [(0.5 hr/shift)/(8 hr/shift)](HRS)($14.58/hr)	=	$569
Maintenance materials = 1.0 x Maintenance labor costs	=	$569
Annual Maintenance Labor and Materials	=	$1,137

TOTAL DIRECT ANNUAL COSTS (DAC) = **$254,452**

Indirect Annual Costs (IAC)
These costs are obtained from factors given in Table 4.2-8

Overhead = 0.60 x (op labor and maint costs)		=	$1,039
Adminstrative	0.02 x TCC	=	$6,412
Property Taxes	0.01 x TCC	=	$3,206
Insurance	0.01 x TCC	=	$3,206
Capital recovery	0.1628 x TCC	=	$52,191

TOTAL INDIRECT ANNUAL COSTS (IAC) = = **$66,053**

TOTAL ANNUAL COSTS (DAC + IAC) $320,505

Appendix 6-F

Design and Economic Analysis of Feasible BACT Options

b) Carbon Adsorption

Appendix C.6

Calculation Sheet for Carbon Adsorption

4.6.1 Data Required

HAP Emission Stream Characteristics

If carbon adsorption approach is applicable (Yes, or No)[1]	=	Yes
Maximum flow rate	Q_e =	20000 scfm
Temperature	T_e =	80 ^{0}F
Relative humidity,	R_{hum} =	40 %
HAP	=	Methylene Chloride
Maximum HAP content,	HAP_e =	3667 ppmv
Required VOC removal efficiency	RE =	90 %
Number of beds Adsorbing	NA =	1
Number of beds desorbing	ND =	1
Emission stream velocity through the bed (Default =85)	U_e =	85 ft/min
Cycle time for drying & cooling the bed	$Ø_{reg} - Ø_{dry-cool}$ =	0.25 hrs

(1) If HAPe is greater than 10,000 ppmv, carbon adsorption may not be applicable

4.6.2 Adsorption Theory

1. Partial pressure of HAP, P

$P = (HAP_e) \times 14.696 \times 10^{-6}$ psia — P = 0.0539 psia

2. Equilibrium and working capacity, W_e and W_c

$W_e = kP^m$

Obtain k and m from Table 4.6–1 or appropriate reference

k (adsorption isotherm) =	=	
m (adsorption isotherm) =	=	
W_e =	=	0.1000 lb HAP/lb carbon
$W_c = 0.5 \times W_e$ (if no other data available)	=	0.0500 lb HAP/lb carbon

4.6.4 Pretreament of the Emission Stream

Cooling

Is pretreatment required for the emission stream	=	No
T_e =	=	80 ^{0}F

If the temperature of the emission streams is higher than 130 F, a heat exchanger is needed to cool it to 130 F or less.

Calculation Sheet for Carbon Adsorption

Dehumidification

Is pretreatment required for the emission stream	=	No
R_{hum} =	=	40 %

If the relative humidity level is above 50 % and the HAP concentration is less than 1000 ppmv, a condenser may be required to cool and condense the water vapor in the emission stream. Refer to Section 4.8

High VOC concentration

Is pretreatment required for the emission stream	=	No
HAP_e =	=	3667 ppmv
LEL =	=	82000 ppmv
25% of LEL =	=	20500 ppmv

If flammable vapors are present in the emission stream, the VOC content should be limited to below 25% of the LEL (from Table 4.2-1)

4.6.6 Fixed Bed Regenerative Systems

4.6.6.1 Fixed Bed Design

a. Calculate the required carbon amount C_{req}

C_{req} =	$M_{hap} \times Ø_{ad} \times (1+ND/NA) / W_c$	=	75833.10 lbs
C'_{req} =	$C_{req} / (1+ND/NA)$	=	37916.55 lbs

b. Obtain M_{hap} if not given

M_{hap} =	$6 \times 10^{-5} \times HAP_e \times Q_e \times D_{hap}$	=	948 lb HAP/hr
Where	$D_{hap} = PM/RT$	=	0.22 lb/ft^3
	P = System pressure, (usually 1.0)	=	1 atm
	M = HAP molecular weight	=	84.94 lb/lb-mole R
	R = Gas constant	=	0.7302
	T = Temperature	=	540 °R

Calculation Sheet for Carbon Adsorption

Obtain the vessel diameter, D_v, and the vessel length L_v, and the vessel size, S :

$D_v =$ $0.127 \times C'_{req} \times U_e / Q'_{e,a}$

Where

Diameter of vessel	$D_v =$	20.35 ft
Carbon required per vessel	$C'_{req} =$	37917 lb
Emissionstream bed velocity	$U_e =$	85 ft/min
Emission stream flow rate = Q_e $(T_e+460)/537$	$Q_{e,a} =$	20112 acfm
Flow rate per adsorbing bed = $Q_{e,a}$ / NA	$Q'_{e,a} =$	20112 acfm

$L_v =$ $7.87 \times (Q'_{e,a}/U_e)^2/C'_{req}$ = 11.62 ft

$S =$ $3.14 \times D_v \times (L_v+D_v/2)$ = 1393.56 ft^2

4.6.6.2 Carbon Adsorber Efficiency

Use Table 4.6.2 to determine the adsorption time, regeneration time , and steam requirement S_t, for a given outlet concentration.

	Outlet concentration	= 367 ppmv
*	$Ø_{ad}$ =	= 2 hr
*	$Ø_{reg}$ =	= 2 hr
*	S_t =	= 0.30 lb steam/lb carbon

4.6.6.3 Steam Required for Regeneration

Calculate steam requirements

$Q_s = NA\ [\ S_t \times C'_{req}/(Ø_{reg} - Ø_{dry-cool})]\ /\ 60$ = 108.33 lbs/min

Assume $Ø_{reg} - Ø_{dry-cool}$ = = 0.25 hrs

Calculate Q_s / A_{bed}

$A_{bed} = Q'_{e,a} / U_e$ = 236.61 sq ft

(2) Q_s / A_{bed} = = 0.458 lb steam/min$-ft^2$

(2) if As/A_{bed} is greater than 4 lb steam/min$-ft^2$, fluidization of the carbon bed may occur bed may occur

Calculation Sheet for Carbon Adsorption

4.6.8 Capital and Annual Costs of Fixed Bed Regenerative Adsorbers

Required Data Input		
Vessel material	=	304 stainless steel
Cost for ductwork and dampers	=	$200,000
Site preparation cost (SP)	=	$0
Buildings cost (Bldg.)	=	$0
Annual operating hours (HRS)	=	624 hr
Value of HAP	=	0 $/lb
Construction factor, F_m = (from Table 4.6−4)	=	1.0
H = Required head (usually 100 ft of water at 60 F)	=	100 ft
S_g = Specific gravity of fluid relative to water (usually 1)	=	1
n = Combined pump motor efficiency (usually 0.65)	=	0.65
System fan horsepower	=	195 hp

4.6.8.1 Costs of Carbon

Obtain the carbon costs, C_c

$C_c = 2 \times C_{req}$ = $151,666

4.6.8.2 Vessel Costs

Obtain the vessel costs, C_v

$C_v = 271 \times S^{0.778}$ = $75,701

If necessary, multiply C_v by the appropriate construction factor F_m given in Table 4.6−4

F_m = = 1

$C_v = F_m \times C_v$ = $75,701

4.6.8.3 Purchased Equipment Cost, PEC

Obtain the equipment costs, EC

$EC = R_c[C_c + C_v(NA + ND)]$ + Ductwork and dampers

Where $R_c = 5.82 \times Q_{e,a}^{-0.133}$ = 1.56

Thus, EC = = $672,176

Calculation Sheet for Carbon Adsorption

DIRECT COSTS				
Purchased Equipment Cost (PEC);				
Adsorber Cost		=	$672,176	
Auxiliary Equipment Cost (see above)		=	$200,000	
Equipment Cost (EC) = TC + Auxiliary Equipment			$872,176	4/88 $'s
Equipment Cost (EC) = TC + Auxiliary Equipment			$933,327	8/93 $'s
Instrumentation	incl'd in EC x EC		$0	
Sales Tax	0.06 x EC		$56,000	
Freight	0.05 x EC		$46,666	
Purchased Equipment Cost (PEC)		=	**$1,035,993**	
Direct Installation Costs				
Foundation and supports	0.08 x PEC		$82,879	
Handling and erection	0.14 x PEC		$145,039	
Electrical	0.04 x PEC		$41,440	
Piping	0.02 x PEC		$20,720	
Insulation for ductwork	0.01 x PEC		$10,360	
Painting	0.01 x PEC		$10,360	
Direct Installation Costs		=	**$310,798**	
Site Preparation			$0	
Building Costs			$0	
TOTAL DIRECT COST (DC)		=	**$1,346,791**	
Indirect Costs				
Engineering	0.10 x PEC		$103,599	
Construction and field expense	0.05 x PEC		$51,800	
Contractor fees	0.10 x PEC		$103,599	
Start–up	0.02 x PEC		$20,720	
Performance test	0.05 x PEC		$51,800	
Contingencies	0.30 x PEC		$310,798	
TOTAL INDIRECT COST (IC)		=	**$642,316**	

4.6.8.4 Total Capital Cost, (TCC)

TOTAL CAPITAL COST (TCC)	**$1,989,107**

Calculation Sheet for Carbon Adsorption

6.8.5 Fixed Bed Carbon Adsorption Annual Cost Estimates

The annual cost estimate consists of the sum of direct and indirect costs, as well as recovery credits.

Direct Annual Costs (DAC)

1. Steam costs, C_s

   $C_s = Q_s \times 60 \times HRS \times P_s / 1000$ = $24,336

   Where, P_s (steam price) = $6 /1000 lb steam

2. Cooling water costs, C_{cw}

   $C_{cw} = 3.43 \times (C_s/P_s) \times (P_{cw})$ = $2,782

   Where, P_{cw} (cooling water price) = $0.2 /1000 gal

3. Electricity cost, AEC

a. Pressure drop through the bed, P_b

   $P_b = [0.03679U_e + 1.107 \times 10^{-4}U_e^2][0.0333 \times C'_{req}/ L_vD_v]$ = 20.97 in water

b. System fan horsepower, hp_{sf} = 195 hp

c. Bed drying /cooling fan

   Operating time $Ø_{dcf}$

   $Ø_{dcf} = 0.4\ Ø_{reg} \times NA \times HRS / Ø_{ad}$ = 250 hr/yr

   Flow rate, FR_{dcf}

   $FR_{dcf} = 100 \times (C_{req}) / Ø_{dry-cool}$ = 505554 cfm

   Power requirement, P_{dcf}

   $P_{dcf} = 1.86 \times 10^{-4} \times FR_{dcf} \times (P_b+1) \times Ø_{dcf}$ = 515562 Kwh/yr

d. Cooling water pump horsepower, hp_{cwp}

   $hp_{cwp} = 2.52 \times 10^{-4} \times q_{cw} \times H \times S_g / n$ = 14.41

   Where:

   Cooling water flow rate (= $3.43Q_s$) q_{cw} = 371.58 gal/min

   Req'd head (usually 100ft H2O @ 60F) H = 100 ft

   Specific gravity of fluid relative to water S_g = 1

   Combined pump motor efficiency n = 0.65

e. Electricity usage, F_p

   $F_p = 0.746\ [hp_{sf} + hp_{cwp}] \times HRS + P_{dcf}$ = 613041 KWh/yr

Calculation Sheet for Carbon Adsorption

f. Annual electricity cost, AEC
   AEC = 0.059 x F_p = $36,169

4. Carbon replacement cost, CRC_c
   $CRC_c = CRF_c\ (1.08C_c + C_{cl})$
   $CRC_c = 0.2638 \times (1.08\ C_c + 0.05\ C_{req})$ = $44,211

5. Operating costs
   Oper labor = [(0.5 hr/shift)/(8 hr/shift)](HRS)($13.25/hr) $517
   Supervisory = 0.15 x Operating labor costs = $78
   Annual Operating and Supervisory labor Costs $594

6. Maintenance costs
   Maint labor = [(0.5 hr/shift)/(8 hr/shift)](HRS)($14.58/hr) $569
   Maint mat'l = 1.0 x Maintenance labor costs = $569
   Annual Maintenance Labor and Materials = $1,137

TOTAL DIRECT ANNUAL COSTS (DAC) = **$109,229**

Indirect Annual Costs (IAC)
These costs are obtained from factors given in Table 4.6−7

Overhead = 0.60 x (op labor and maint costs)		$1,039
Adminstrative	0.02 x TCC	$39,782
Property Taxes	0.01 x TCC	$19,891
Insurance	0.01 x TCC	$19,891
Capital recovery	0.1628 x TCC	$323,827

TOTAL DIRECT ANNUAL COSTS (IAC) = = **$404,430**

Recovery credit (RC)
Estimate the quantity of recovered HAP (Q_{rec})
$Q_{rec} = M_{hap} \times HRS \times (RE/100)$ = 532,348 lb/hr

To obtain the value of recovery credits, multiply Q_{rec} by the value of the recovered HAP
Recovered credits = Q_{rec} x Value of HAP = **$0**

TOTAL ANNUAL COSTS (DAC + IAC) $513,659

FOAMEX

A Limited Partnership

BEST AVAILABLE COPY

October 23, 1992

Mr. C.H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2640 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: FDER File No. AC48-214902
Foamex LP
(C/TA # F21.816)

Dear Mr. Fancy:

Attached is a copy of the Orange County Order for the Foamex LP facility. As stated in the John Bateman cover letter that a completed permit application is to be submitted to the FDER sixty days from the effective date of the Consent Order. Based on concurrence with Orange County, the effective date of the Consent Order was determined to be the date it was received by Foamex, October 5, 1992.

Based on the above, Foamex will submit a revised permit application by December 4, 1992 which will include your request for additional information of June 26, 1992.

If you have any questions, and/or require any additional information, please do not hesitate to call upon me.

Sincerely,

Charles Eavenson

Charles Eavenson

CC: Linda Spellman
Norm Simineau
Joe Tessitore
Cliff Schulman

RECEIVED

OCT 29 1992

Division of Air
Resources Management

Regency Industrial Park
1351 Gemini Blvd
Orlando FL 32821-9276
Phone: 407 857 2510
FAX: 407 826 9400

BEST AVAILABLE COPY

Is your RETURN ADDRESS completed on the reverse side?

Fold at line over top of envelope to the right of the return address.

CERTIFIED

P 831 800 501

MAIL

FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION
TWIN TOWERS OFFICE BUILDING
2640 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400
ATTN: MR. C.H. FANCY, P.E.
CHIEF, BUREAU OF AIR REGULATION

HHC #4

APPROVED BY THE BOARD OF COUNTY
COMMISSIONERS AT THEIR MEETING
SEP 1 5 1992 rep/ala

BEFORE THE ORANGE COUNTY

ENVIRONMENTAL PROTECTION DEPARTMENT

ORANGE COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT Complainant, vs. FOAMEX LP Respondent	IN THE OFFICE OF THE ORANGE COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT CASE NO. ORG-92-040

CONSENT ORDER

This Consent Order is made and entered into between the Orange County Environmental Protection Department ("Department") and Charles Eavenson, Plant Manager of FOAMEX LP, 1351 Gemini Boulevard, Orlando, Florida 32821. ("Respondent").

The Department finds the following:

1. The Department is the administrative agency in Orange County which has the authority to administer and enforce the provisions of Chapter 403, Florida Statutes, and the rules promulgated thereunder, Florida Administrative Code, Chapter 17.

2. Respondent is a person within the meaning of Section 403.031(5), Florida Statutes.

3. Respondent owns and operates a Flexible Polyuerethane Foam Manufacturing facility at 1351 Gemini Boulevard, Orlando, Orange County, Florida. Street, Orlando, Orange County, Florida.

4. On April 10, 1992, Department representatives conducted an investigation at Respondent's facility. The investigation revealed that the facility was operating without a valid Florida Department of Environmental Regulation permit.

5. Respondent was issued Warning Notice (ORG-92-040) on June 10, 1992, informing Respondent that he was operating a stationary source of air pollution without a valid permit issued by the Florida Department of Environmental Regulation in violation of Section 403.161(1)(b), Florida Statutes and Florida Administrative Code Rule 17-2.210, and requesting a meeting to be held to resolve this violation.

6. An informal meeting was held on June 12, 1992, between the Department and the Respondent to discuss the violation(s) referenced in this Consent Order, in order to bring about a satisfactory resolution of this matter.

THEREFORE, having reached a resolution of the matter pursuant to Florida Administrative Code Rule 17-103.110(3), the Department and the Respondent mutually agree and it is:

ORDERED

7. Respondent shall be permitted to operate subject facility for no longer than sixty (60) days, during which time an appropriate permit application shall be submitted to the Florida Department of Environmental Regulation(FDER), beginning upon the date of Respondent signing this order.

8. Upon submittal of an appropriate application to the Florida Department of Environmental Regulation, Respondent shall be permitted to operate subject facility during the FDER application review process. Modifications or substantial changes to any process that would result in the additional emission of air pollutants, shall not be installed or put into use without prior consent from the Department and FDER.

9. Respondent shall pay a penalty to the Department with either a money order, cashier's check, or certified check in the amount of ten thousand dollars ($10,000.00). Payment shall be made payable to the Orange County Environmental Protection Department and should be sent to the Department's office, 2002 East Michigan Street, Orlando, Florida 32806-4999.

10. Respondent shall allow authorized representatives of the Department access to the property at reasonable times without prior approval for purposes of determining compliance with this Order and the rules of the Department.

11. The Department hereby expressly reserves the right to initiate appropriate legal action to prevent or prohibit the future violation of applicable statutes or the rules promulgated thereunder.

12. The Department, for and in consideration of the complete and timely performance by Respondent of the obligations agreed to in this Consent Order, hereby waives its right to seek judicial imposition of damages, or civil or criminal penalties for the violation outlined in this Consent Order.

13. Respondent waives its right to a hearing or judicial review of the terms of this Consent Order.

14. Entry of this Consent Order does not relieve Respondent of the need to comply with applicable federal, state or local laws, regulations or ordinances. The entry of this Consent Order does not abrogate the rights of substantially affected persons who are not parties to this Consent Order, pursuant to Chapter 120, Florida Statutes.

15. Persons who are not parties to this consent order have a right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative hearing on it. The petition must contain the information set forth below and must be filed (received) at the County Attorney's office, 201 South Rosalind Avenue, Orlando, Florida 32802-1393; within 21 days of receipt of this notice. Failure to file a petition within the 21 days constitutes a waiver of any right such person has to an administrative hearing pursuant to Section 120.57, F.S.

The petition shall contain the following information (a) the name, address, and telephone number of each petitioner; the Department's consent order identification number; (b) a statement of how and when each petitioner received notice of the consent order; (c) a statement of how each petitioner's substantial interests are affected by the consent order; (d) a statement of the material facts disputed by petitioner, if any; (e) a statement of facts which petitioner contends warrant reversal or modification of the consent order; (f) a statement of which rules or statutes petitioner contends require reversal or modification of the consent order; (g) a statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the consent order.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the subject consent order have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 21 days of receipt of this notice in the office of the County Attorney at the above address. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a part to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

16. The terms and conditions set forth in the Consent Order may be enforced in a court of competent jurisdiction pursuant to Sections 120.69 and 403.121, Florida Statutes.

17. Respondent is fully aware a violation of the terms of this Consent Order may subject Respondent to Judicial imposition of damages, civil penalties of up to $10,000 per offense and criminal penalties.

18. By entering into this Consent Order and complying with its terms, Respondent does not admit any of the findings of fact or of law contained herein nor does Respondent admit in any way any liability whatsoever for any claims by any party arising out of activities or conditions at its Orlando facility.

19. Except as provided in this paragraph, this Consent Order shall not be admissible in evidence against Respondent or over Respondent's objection in any administrative or judicial proceeding arising out of or relating to any of the facts or circumstances referred to in the Consent Order. This Consent Order may be admitted into evidence in any action brought to enforce its terms and conditions.

FOR THE RESPONDENT:
FOAMEX LP

June 17, 1992
Date

By: Charles W. Evanson

DONE AND ORDERED this 15th day of SEPTEMBER, 1992, at Orlando, Orange County, Florida.

ATTEST: Martha O. Haynie, Clerk
to the Orange County Commission

Mary Jo Garrison
Deputy Clerk

ORANGE COUNTY, FLORIDA

By: Vera M. Carter
FOR THE Chairman,
Orange County Commission

DATE: SEP 15 1992

FOR THE USE AND RELIANCE
OF ORANGE COUNTY ONLY.
APPROVED AS TO FORM

June 29 1992

Alison M. Yurko
Assistant County Attorney

CROSS/TESSITORE & ASSOCIATES, P.A.
4763 S. CONWAY ROAD, SUITE F
ORLANDO, FLORIDA 32812
407/851-1484

RECEIVED
JUL 27 1992
Division of Air
Resources Management

July 24, 1992

Mr. Willard Hanks
Review Engineer
Florida Department of Environmental Regulation
2600 Blairstone Road
Tallahassee, Florida 32399

Subject: DER File No. AC 48-214-902, Foamex/Request for Information (C/TA # F21.816)

Dear Mr. Hanks:

As discussed in your telephone conversation with C/TA on July 2, 1992, and in response to FDER's request for information of June 26, 1992, to Mr. Charles Eavenson, Foamex LP is currently expecting to enter into a Consent Order with Orange County, and will respond to FDER's request within 60 days of execution of the Consent Order by Orange County. This is based on the fact that the Orange County Consent Order is still being processed and until the Consent Order is finalized, the Foamex response to FDER cannot be accurately completed. In this regard, Foamex is intending to comply with any request for additional information in connection with the permit application process within 60 days of the execution of the Orange County Consent Order.

Should you have any question, please do not hesitate to call.

Sincerely,

Joseph L. Tessitore

Joseph L. Tessitore, P.E.
Vice President

JLT/kp
cc: Art Pereira - Foamex LP
Linda Spellmon - Foamex LP
Charles Eavenson - Foamex LP
Cliff Shulman Esq - Greenberg-Taurig
C5839.Doc

W. Hanks
C. Holladay
J. Pennington
C. Collins, C Dist
D. Nester, OCEPD
J. Harper, EPA
C. Shaver, NPS
CHF/PL

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

JUL - 8 1992

RECEIVED

JUL 15 1992

Division of Air
Resources Management

4APT-AEB

Mr. Clair H. Fancy, P.E., Chief
Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Foamex, L.P., Orlando, Florida (PSD-FL-189)

Dear Mr. Fancy:

This is to acknowledge receipt of an application for a Prevention of Significant Deterioration (PSD) permit for the above referenced facility by your letter dated June 22, 1992. Foamex proposes to construct and operate a flexible polyurethane foam product plant in Orlando, Orange County, Florida.

As discussed between Mr. Willard Hanks of your staff and Mr. Stan Kukier of my staff on June 24, and July 2, 1992, much additional information is required before a review of this application by EPA-Region IV can continue. A process flow diagram, a description of all emissions units, both point source and fugitive emissions calculations, a Best Available Control Technology (BACT) analysis, as well as an air quality analysis, are not included in the application. Mr. Hanks also indicated that volatile organic compound (VOC) emissions may be significant.

The Florida Department of Environmental Regulation (FDER) has requested the information listed above, as well as other related information, in a letter to the applicant dated June 26, 1992 (see enclosed). When a copy of the additional information requested is received, Mr. Kukier will resume review of the Foamex PSD permit application. Mr. Hanks stated that the permit application as submitted will not be approved.

RECEIVED OCT 0 5 1992

Orange County

Environmental Protection Department
J. M. Bateman, P.E., Manager
2002 East Michigan Street
Orlando, Florida 32806-4999
Telephone (407) 836-7400

CERTIFIED
P 034 523 919

October 1, 1992

Mr. Charles Eavenson
Plant Manager
FOAMEX
Regency Industrial Park
1351 Gemini Boulevard
Orlando, Florida 32821

Dear Mr. Eavenson:

RE: Consent Order for FOAMEX LP

Attached is the fully executed copy of the Consent Order between our Department and FOAMEX LP. You have sixty (60) days from the effective date of this Consent Order to submit ten thousand dollars ($10,000) to the Orange County Environmental Protection Department and to submit a completed air permit application to the Florida Department of Environmental Regulation to complete the settlement of this agreement.

If you have any further questions, please contact Dennis Nester or Edythe Soklaski at 836-7400.

Sincerely,

John M. Bateman

John M. Bateman, P.E.
Environmental Protection Officer

JMB:DN:es

Attachment

Thank you for the opportunity to comment on this application. If you have any questions or comments, please contact Mr. Stan Kukier of my staff at (404) 347-5014.

Sincerely yours,

Jewell A. Harper, Chief
Air Enforcement Branch
Air, Pesticides, and Toxics
Management Division

Enclosure

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400
Lawton Chiles, Governor
Carol M. Browner, Secretary

June 26, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Charles Eavenson, Plant Manager
Foamex, L.P.
1351 Gemini Boulevard
Orlando, FL 32821

Dear Mr. Eavenson:

Re: File No. AC 48-214902, Foamex

The Department has made a preliminary review of your application for permit to construct a flexible polyurethane foam product plant in Orlando, Orange County, Florida. The Department will need the following additional information before this application can be processed. Applicable sections of the application are noted after each question.

1. A process flow diagram that includes: individual process equipment, maximum/average process rates for each chemical in lbs/hr and lbs/yr, maximum/average fugitive and stack emission estimates in lbs/hr and TPY (Section V-1 and 6).

2. Provide emission estimates (maximum/average in lbs/hr and TPY), and stack parameters for each source in the modified plant. The application fee may have to be adjusted depending on your response to this question (Section IIIC.).

3. Estimate, using a Department approved model, the maximum 8 hour, 24 hour, and annual ambient air impact of the methylene chloride emissions from the plant (Section VII).

4. Provide a Best Available Control Technology determination to justify the air pollution control equipment you proposed to install if the future emissions will exceed 100 TPY of any air pollutant, along with the other information required by F.A.C. Rule 17-2.500(5). The determination should include comparisons of a carbon adsorption unit, condenser unit, and other applicable air pollution control equipment (Section VI).

5. What is the maximum time each line in the plant will operate? These times may become limits in any permit issued for this plant (Section IIE).

6. Please clarify what is the maximum heat input to each indirect fired heater. Is distillate oil used as an alternate fuel in this plant (Section IIIE)?

7. Will any liquid or solid waste be generated by the modified plant and, if so, how will it be disposed of (Section IIIG)?

8. Complete Section V of the application for the air pollution control equipment you select (Section V-2, 3, 4, and 5).

9. What is the scale for the plot plan and what is the distance from the nearest emission point in the plant to the plant boundary (Section V-7)?

10. Provide a copy of the MSDS data sheet for methylene chloride.

Please respond to this letter within 30 days of its receipt. The Department will resume processing your application after you furnish the requested information. If you have any questions, please write to me or call Willard Hanks, Review Engineer, at (904) 488-1344.

Sincerely,

for C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/WH/plm

c: Charles Collins, CD
Dennis Nester, OCEPD
Joseph Tessitore, P.E.
Jewell Harper, EPA
Chris Shaver, NPS

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece next to the article number.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Charles Cavenson
Ioanex, L.P.
1351 Gemini Blvd.
Orlando, Fl 32821

4a. Article Number
P 710 058 494

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery
6-29-92

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent)
Nancie Boise

PS Form 3811, October 1990 ★U.S. GPO: 1990—273-861 **DOMESTIC RETURN RECEIPT**

P 710 058 494

Certified Mail Receipt
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to Charles Cavenson	
Street & No. Ioanex, L.P.	
P.O., State & ZIP Code Orlando, Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Address of Delivery	
TOTAL Postage & Fees	$
Postmark or Date 6-26-92 AC 48-214902	

PS Form 3800, June 1990

Florida Department of Environmental Regulation

Twin Towers Office Bldg. ● 2600 Blair Stone Road ● Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

June 22, 1992

Ms. Jewell A. Harper, Chief
Air Enforcement Branch
U.S. EPA, Region IV
345 Courtland Street, N.E.
Atlanta, Georgia 30308

Dear Ms. Harper:

RE: Foamex LP, Orange County
AC 48-214902, PSD-FL-189

Enclosed for your review is the above referenced permit application. Please forward your comments to the Department's Bureau of Air Regulation by July 7, 1992. The Bureau's FAX number is (904)922-6979.

If you have any questions, please contact Willard Hanks or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

Patricia G. Adams

for C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/pa

Enclosures

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

June 22, 1992

Mrs. Chris Shaver, Chief
Permit Review and Technical Support Branch
National Park Service-Air Quality Division
Post Office Box 25287
Denver, Colorado 80225

Dear Mrs. Shaver:

RE: Foamex LP, Orange County
AC 48-214902, PSD-FL-189

Enclosed for your review is the above referenced permit application. Please forward your comments to the Bureau of Air Regulation by July 7, 1992. The Bureau's FAX number is (904)922-6979.

If you have any questions, please call Willard Hanks or Cleve Holladay at (904)488-1344 or write to me at the above address.

Sincerely,

Patricia G. Adams

for C. H. Fancy, P.E.
Chief
Bureau of Air Regulation

CHF/pa

Enclosures

6-17-92

BEFORE THE ORANGE COUNTY

ENVIRONMENTAL PROTECTION DEPARTMENT

ORANGE COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT Complainant, vs. FOAMEX LP Respondent	IN THE OFFICE OF THE ORANGE COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT CASE NO. ORG-92-040

CONSENT ORDER

This Consent Order is made and entered into between the Orange County Environmental Protection Department ("Department") and Charles Eavenson, Plant Manager of FOAMEX LP, 1351 Gemini Boulevard, Orlando, Florida 32821. ("Respondent").

The Department finds the following:

1. The Department is the administrative agency in Orange County which has the authority to administer and enforce the provisions of Chapter 403, Florida Statutes, and the rules promulgated thereunder, Florida Administrative Code, Chapter 17.

2. Respondent is a person within the meaning of Section 403.031(5), Florida Statutes.

3. Respondent owns and operates a Flexible Polyuerethane Foam Manufacturing facility at 1351 Gemini Boulevard, Orlando, Orange County, Florida. Street, Orlando, Orange County, Florida.

Speed Letter®

To Willard Hanks Date 6/25/92

From Date

Subject FOAMEX LP

Message

Per our telephone conversation, attached is the Consent Order for FOAMEX LP

RECEIVED

JUN 29 1992

Division of Air Resources Management

Reply

Signed D. Nester
836-7400

Signed

WilsonJones
Carbonless

RECIPIENT—RETAIN WHITE COPY, RETURN PINK COPY.

4. On April 10, 1992, Department representatives conducted an investigation at Respondent's facility. The investigation revealed that the facility was operating without a valid Florida Department of Environmental Regulation permit.

5. Respondent was issued Warning Notice (ORG-92-040) on June 10, 1992, informing Respondent that he was operating a stationary source of air pollution without a valid permit issued by the Florida Department of Environmental Regulation in violation of Section 403.161(1)(b), Florida Statutes and Florida Administrative Code Rule 17-2.210, and requesting a meeting to be held to resolve this violation.

6. An informal meeting was held on June 12, 1992, between the Department and the Respondent to discuss the violation(s) referenced in this Consent Order, in order to bring about a satisfactory resolution of this matter.

THEREFORE, having reached a resolution of the matter pursuant to Florida Administrative Code Rule 17-103.110(3), the Department and the Respondent mutually agree and it is:

ORDERED

7. Respondent shall be permitted to operate subject facility for no longer than sixty (60) days, during which time an appropriate permit application shall be submitted to the Florida Department of Environmental Regulation(FDER), beginning upon the date of Respondent signing this order.

8. Upon submittal of an appropriate application to the Florida Department of Environmental Regulation, Respondent shall be permitted to operate subject facility during the FDER application review process. Modifications or substantial changes to any process that would result in the additional emission of air pollutants, shall not be installed or put into use without prior consent from the Department and FDER.

9. Respondent shall pay a penalty to the Department with either a money order, cashier's check, or certified check in the amount of ten thousand dollars ($10,000.00). Payment shall be made payable to the Orange County Environmental Protection Department and should be sent to the Department's office, 2002 East Michigan Street, Orlando, Florida 32806-4999.

10. Respondent shall allow authorized representatives of the Department access to the property at reasonable times without prior approval for purposes of determining compliance with this Order and the rules of the Department.

11. The Department hereby expressly reserves the right to initiate appropriate legal action to prevent or prohibit the future violation of applicable statutes or the rules promulgated thereunder.

12. The Department, for and in consideration of the complete and timely performance by Respondent of the obligations agreed to in this Consent Order, hereby waives its right to seek judicial imposition of damages, or civil or criminal penalties for the violation outlined in this Consent Order.

13. Respondent waives its right to a hearing or judicial review of the terms of this Consent Order.

14. Entry of this Consent Order does not relieve Respondent of the need to comply with applicable federal, state or local laws, regulations or ordinances. The entry of this Consent Order does not abrogate the rights of substantially affected persons who are not parties to this Consent Order, pursuant to Chapter 120, Florida Statutes.

15. Persons who are not parties to this consent order have a right, pursuant to Section 120.57, Florida Statutes, to petition for an administrative hearing on it. The petition must contain the information set forth below and must be filed (received) at the County Attorney's office, 201 South Rosalind Avenue, Orlando, Florida 32802-1393; within 21 days of receipt of this notice. Failure to file a petition within the 21 days constitutes a waiver of any right such person has to an administrative hearing pursuant to Section 120.57, F.S.

The petition shall contain the following information (a) the name, address, and telephone number of each petitioner; the Department's consent order identification number; (b) a statement of how and when each petitioner received notice of the consent order; (c) a statement of how each petitioner's substantial interests are affected by the consent order; (d) a statement of the material facts disputed by petitioner, if any; (e) a statement of facts which petitioner contends warrant reversal or modification of the consent order; (f) a statement of which rules or statutes petitioner contends require reversal or modification of the consent order; (g) a statement of the relief sought by petitioner, stating precisely the action petitioner wants the Department to take with respect to the consent order.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any decision of the Department with regard to the subject consent order have the right to petition to become a party to the proceeding. The petition must conform to the requirements specified above and be filed (received) within 21 days of receipt of this notice in the office of the County Attorney at the above address. Failure to petition within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, F.S., and to participate as a part to this proceeding. Any subsequent intervention will only be at the approval of the presiding officer upon motion filed pursuant to Rule 28-5.207, F.A.C.

16. The terms and conditions set forth in the Consent Order may be enforced in a court of competent jurisdiction pursuant to Sections 120.69 and 403.121, Florida Statutes.

17. Respondent is fully aware a violation of the terms of this Consent Order may subject Respondent to Judicial imposition of damages, civil penalties of up to $10,000 per offense and criminal penalties.

18. By entering into this Consent Order and complying with its terms, Respondent does not admit any of the findings of fact or of law contained herein nor does Respondent admit in any way any liability whatsoever for any claims by any party arising out of activities or conditions at its Orlando facility.

19. Except as provided in this paragraph, this Consent Order shall not be admissible in evidence against Respondent or over Respondent's objection in any administrative or judicial proceeding arising out of or relating to any of the facts or circumstances referred to in the Consent Order. This Consent Order may be admitted into evidence in any action brought to enforce its terms and conditions.

FOR THE RESPONDENT:
FOAMEX LP

June 17, 1992
Date

By: Charles W. Eversen

DONE AND ORDERED this ________ day of ____________________,

1992, at Orlando, Orange County, Florida.

ATTEST: Martha O. Haynie, Clerk
to the Orange County Commission

____
Deputy Clerk

ORANGE COUNTY, FLORIDA

By: ______________________
Chairman,
Orange County Commission

DATE: ______________________

FOR THE USE AND RELIANCE
OF ORANGE COUNTY ONLY.
APPROVED AS TO FORM

______________________ 1992

____
Assistant County Attorney

CROSS/TESSITORE & ASSOCIATES, P.A.
4763 S. CONWAY ROAD, SUITE F
ORLANDO, FLORIDA 32812
407/851-1484

RECEIVED
DER - MAIL ROOM
1992 JUN 11 PM 2: 49

June 10, 1992

Mr. Bruce Mitchell
Division of Air Resources Management
Permitting and Standards Section
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED
JUN 1 0 1992
Bureau of
Air Regulation

Subject: Foamex LP
(C/TA # F21.816)

Dear Mr. Mitchell:

At the request of the Central Florida FDER District office, please find enclosed:

1) Three (3) copies of FDER Form 17-1.202(1) Application to Operate/Construct Air Pollution Sources for the Flexible Polyurethane Foam Product subject facility.

2) A check in the amount of $7,500.00 made payable to the Florida Department of Environmental Regulation for the application processing fee.

It should be noted that by the filing of this application, Foamex does not admit to the necessity therefore or to the violation of any applicable federal, state or local laws, regulations, or ordinances and does not admit in any way, an liability whatsoever for any claims by any party arising from activities or conditions of its Orlando facility, but instead seeks to attempt to resolve this issue in the most expedient and satisfactory manner, consistent with existing laws, regulations and ordinances. Foamex will do everything possible to address this matter promptly and to your reasonable satisfaction.

Sincerely,

Joseph L. Tessitore

001031

Joseph L. Tessitore, P.E.
Vice President

JLT/slw
Enc: a/s
cc: Charles M. Collins - FDER - Central Florida District
Dennis Nester - OCEPD
Linda Spellmon - Foamex LP
Steve Bradley - Foamex LP
Charles A. Eavenson - Foamex LP
C3928.Doc

BEST AVAILABLE COPY

FEDERAL EXPRESS [redacted]

QUESTIONS? CALL 800-238-5355 TOLL FREE.

AIRBILL
PACKAGE
TRACKING NUMBER 2323239333

2323239333

RECIPIENT'S COPY

1 [redacted]
Date 6/10/92

From (Your Name) Please Print: Joe Tessitore
Your Phone Number (Very Important): [illegible]
Company: [illegible]
Department/Floor No.
Street Address: [illegible]
City: [illegible]
State: [illegible]
ZIP Required: [illegible]

2 To (Recipient's Name) Please Print: Bruce Mitchell
Recipient's Phone Number (Very Important): (904) 488-13[illegible]
Company: Div. of Air Resource Mgmt Permitti & Standards Section FDER
Department/Floor No.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): Twin Towers Office Bldg. 22600 Blair Stone Road
City: Tallahassee
State: FL
ZIP Required: 32399

YOUR INTERNAL BILLING REFERENCE INFORMATION (optional) (First 24 characters will appear on invoice.)
[illegible]#21.816

H IF HOLD FOR PICK-UP, Print FEDEX Address Here
Street Address
City
State
ZIP Required

3 PAYMENT 1 ☐ Bill Sender 2 ☐ Bill Recipient's FedEx Acct. No. 3 ☐ Bill 3rd Party FedEx Acct. No. 4 ☐ Bill Credit Card
5 ☐ Cash/Check [redacted]

4 SERVICES (Check only one box)

Priority Overnight (Delivery by next business morning†)	Standard Overnight (Delivery by next business afternoon†)
11 ☐ YOUR PACKAGING	51 ☐ YOUR PACKAGING
16 ☐ FEDEX LETTER *	56 ☐ FEDEX LETTER *
12 ☒ FEDEX PAK *	52 ☐ FEDEX PAK *
13 ☐ FEDEX BOX	53 ☐ FEDEX BOX
14 ☐ FEDEX TUBE	54 ☐ FEDEX TUBE
Economy Two-Day (Delivery by second business day†)	**Government Overnight** (Restricted for authorized users only)
30 ☐ ECONOMY	46 ☐ GOVT LETTER
	41 ☐ GOVT PACKAGE

Freight Service (for Extra Large or any package over 150 lbs.)
70 ☐ OVERNIGHT FREIGHT ** (Confirmed reservation required)
80 ☐ TWO-DAY FREIGHT **
† Delivery commitment may be later in some areas
*Declared Value Limit $100
**Call for delivery schedule

5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 ☐ HOLD FOR PICK-UP (Fill in Box H)
2 ☒ DELIVER WEEKDAY
3 ☐ DELIVER SATURDAY (Extra charge) (Not available to all locations)
4 ☐ DANGEROUS GOODS (Extra charge)
5 ☐
6 ☐ DRY ICE Lbs
7 ☐ OTHER SPECIAL SERVICE
8 ☐
9 ☐ SATURDAY PICK UP
10 ☐
11 ☐
12 ☐ HOLIDAY DELIVERY (If offered) (Extra charge)

6 PACKAGES | WEIGHT In Pounds Only | YOUR DECLARED VALUE
Total | Total | Total
DIM SHIPMENT (Chargeable Weight)

Emp. No. | Date
☐ Cash Received
☐ Return Shipment
☐ Third Party ☐ Chg. ☐ Del. ☐ Chg. To Hold
Street Address
City | State | Zip
Received By:
Date/Time Received | FedEx Employee Number

RECEIVED
JUN 11 1992
Division of Air Resources Management

7 Release Signature:
FedEx Emp. No. | Date/Time

Federal Express Use
Base Charges
Declared Value Charge
Other 1
Other 2
Total Charges

REVISION DATE 6/91
PART #[illegible] XLM 3/92
FORMAT #099
099

attention: Jack Wanat

Florida Department of Environmental Regulation

Central District • 3319 Maguire Boulevard, Suite 232 • Orlando, Florida 32803-3767

Lawton Chiles, Governor

Carol M. Browner, Secretary

June 1, 1992

Foamex
1500 E. Second Street
Eddystone, Pa. 19022

Dear Gentlemen:

Enclosed please find your check No. 228397 & 236656 in the amount of $ 1500.00 & 3500.00. This check is being returned to you for the following reason(s):

application needs to be resubmitted to Tallahassee office with a $7500.00 check attached. The address is as follows:
DEPARTMENT OF ENVIRONMENTAL REGULATION
TWIN TOWERS OFFICE BLDG
2600 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

Your cooperation in this matter is appreciated.

Sincerely,

Kris Tulloch

Kris Tulloch

KT/

Enclosure
Check No. 228397 & 236656

BEST AVAILABLE COPY

CROSS/TESSITORE & ASSOCIATES, P.A.
4763 S. CONWAY ROAD, SUITE F
ORLANDO, FLORIDA 32812
407/851-1484

236656
228397

May 26, 1992
F21.816

MAY 1992
RECEIVED
Central Florida
District

Mr. Alan Zahm, P.E.
Air Compliance Engineering
FDER-Central District
3319 Maguire Blvd., Suite 232
Orlando FL 32803-3767

SUBJECT: Foamex Application for Air Permit

Dear Mr. Zahm:

Please find enclosed:

(1) Three (3) copies of FDER Form 17-1.202(1) Application to Operate/Construct Air Pollution Sources for the Flexible Polyurethane Foam Product facility located in Kissimmee, Florida. One copy has been sent directly to the Orange County Environmental Protection Department.

(2) A check in the amount of $5,000.00 made payable to the Florida Department of Environmental Regulation, for the application processing fee.

It should be noted that this application is being submitted at this time "as is" at the request of the FDER and Orange County EPD in response to the public concern. C/TA had requested an extension to the original May 30, 1992, due date to conduct ISCST modeling for establishing better representation of the air emissions. These data were to be included in the initial submission of the application.

Please call if you have questions.

Sincerely,

Frank L. Cross, Jr., P.E., D.E.E.
President

FLC:kim
Enc.a/s
cc: Dennis Nester OCEPD
Linda Spellmon Foamex LP
Steve Bradley Foamex LP
Charles A. Eavenson Foamex LP

CHECK DATE - 6/05/92

FOAMEX

STATEMENT OF REMITTANCE

1
238474

No. 238474

INVOICE DATE MO.	DAY	YR.	INVOICE NUMBER	VOUCHER NO.	GROSS AMOUNT	DISCOUNT	NET AMOUNT
6	04	92	OPERPERMIT		7500.00	.00	7500.00
							7500.00

FOAMEX
A Limited Partnership

1500 E. SECOND ST., EDDYSTONE, PA 19022

1696-09

No. 238474

MO.	DAY	YR.
6	05	92

PAY EXACTLY *****7500 DOLLARS 00 CENTS

DOLLARS	CENTS
$7,500	.00

TO THE ORDER OF: FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION
TWIN TOWERS OFFICE BLDG
2600 BLAIR STONE ROAD
TALLAHASSEE FL 32399-2400

Kenneth R Fuette

MANUFACTURERS HANOVER BANK (DELAWARE)
1201 MARKET STREET
WILMINGTON, DELAWARE 19801

[redacted]

STATE OF FLORIDA

DEPARTMENT OF ENVIRONMENTAL REGULATION

7500 pd. 6-11-92 Recpt # 180771

CENTRAL FLORIDA DISTRICT
3319 MAGUIRE BOULEVARD
SUITE 232
ORLANDO, FLORIDA 32803

AC 48-214902
PSD-FL-189

MAY 1992 RECEIVED Central Florida District

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Flexible Polyurethane Foam Product [ ] New[1] [x] Existing[1]

APPLICATION TYPE: [x] Construction [ ] Operation [ ] Modification

COMPANY NAME: FOAMEX L.P. COUNTY: Orange

Identify the specific emission point source(s) addressed in this application (i.e. Lime Kiln No. 4 with Venturi Scrubber; Peaking Unit No. 2, Gas Fired) Foam Line Exhaust Stack Boiler Exhaust Stack: (13) Unit Heater Exhaust Stacks

SOURCE LOCATION: Street 1351 Gemini Boulevard City Orlando

UTM: East 461,037 North 3,142,939

Latitude 28 ° 24 ' 15 "N Longitude 81 ° 23 ' 40 "W

APPLICANT NAME AND TITLE: Charles Eavenson, Plant Manager

APPLICANT ADDRESS: 1351 Gemini Boulevard, Orlando, FL 32821

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of FOAMEX L.P.

I certify that the statements made in this application for a Construction Permit permit are true, correct and complete to the best of my knowledge and belief. Further, I agree to maintain and operate the pollution control source and pollution control facilities in such a manner as to comply with the provision of Chapter 403, Florida Statutes, and all the rules and regulations of the department and revisions thereof. I also understand that a permit, if granted by the department, will be non-transferable and I will promptly notify the department upon sale or legal transfer of the permitted establishment.

*Attach letter of authorization

Signed: Charles W. Eavenson

Charles Eavenson, Plant Manager
Name and Title (Please Type)

Date: 5/28/92 Telephone No. (407) 857-2510

B. PROFESSIONAL ENGINEER REGISTERED IN FLORIDA (where required by Chapter 471, F.S.)

This is to certify that the engineering features of this pollution control project have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of pollutants characterized in the permit application. There is reasonable assurance, in my professional judgment, that

[1] See Florida Administrative Code Rule 17-2.100(57) and (104)

DER Form 17-1.202(1)
Effective October 31, 1982

FOAMEX
A Limited Partnership

May 20, 1991

To Whom it May Concern:

It is FOAMEX L.P.'s policy to designate each Plant Manager as the authorized company representative for the certification of any permit applications and environmental compliance reports.

Mr. W.H. Bundy
Senior V.P. of Manufacturing
FOAMEX L.P.

WHB/LJS/r

cc: Mr. R.J. Hay
President
FOAMEX L.P.

823 Waterman Avenue
East Providence RI 02914
401 438 6000

the pollution control facilities, when properly maintained and operated, will discharge an effluent that complies with all applicable statutes of the State of Florida and the rules and regulations of the department. It is also agreed that the undersigned will furnish, if authorized by the owner, the applicant a set of instructions for the proper maintenance and operation of the pollution control facilities and, if applicable, pollution sources. THIS CERTIFICATION DOES NOT ATTEST TO THE COMPLIANCE OF THIS FACILITY WITH THE FDER "FLORIDA AIR TOXICS WORKING LIST" PERMITTING GUIDELINES.

Signed ____________________

Frank L. Cross, Jr., P.E., President
Name (Please Type)

Cross/Tessitore & Associates, P.A.
Company Name (Please Type)

4763 S. Conway Road, Orlando FL 32812
Mailing Address (Please Type)

Florida Registration No. 7916 Date: 5-27-92 Telephone No. (407) 851-1484

SECTION II: GENERAL PROJECT INFORMATION

A. Describe the nature and extent of the project. Refer to pollution control equipment, and expected improvements in source performance as a result of installation. State whether the project will result in full compliance. Attach additional sheet if necessary.

Please see page 2A

B. Schedule of project covered in this application (Construction Permit Application Only)

Start of Construction 1975 Completion of Construction 1976

C. Costs of pollution control system(s): (Note: Show breakdown of estimated costs only for individual components/units of the project serving pollution control purposes. Information on actual costs shall be furnished with the application for operation permit.)

N/A

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.

N/A

Section II: General Project Information

This process includes the following activities:

1) Production of flexible polyurethane foam using the slabstock production process.

2) A bonded foam (rebond) production process.

3) An industrial boiler: Clark Model D38-100-150, serial number A-2000, rated at 100 HP utilizing natural gas as a fuel source. The boiler is used to convert an average of 1,570 gallons of water to steam each day for the rebond process.(A)

4) 13 indirect fired heaters used as needed to produce heat. These sources do not operate over 400 hours/year.(A)

(A) Note: Reference FDER Section 17-2.210(2)(C)(3)

SLABSTOCK FOAM PRODUCTION ("Foam Line");

E. Requested permitted equipment operating time: hrs/day 3 ; days/wk 4 ; wks/yr 52 ;
Rebond foam production operating time: hrs/day 12: days/wk 6 ; wks/yr 52
if power plant, hrs/yr _____; if seasonal, describe: ____________

Industrial Boiler; 24 hrs/day; 7 days/wk; 52 weeks/year

F. If this is a new source or major modification, answer the following questions. (Yes or No)

1. Is this source in a non-attainment area for a particular pollutant? NO

   a. If yes, has "offset" been applied? N/A

   b. If yes, has "Lowest Achievable Emission Rate" been applied? N/A

   c. If yes, list non-attainment pollutants. N/A

2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. NO

3. Does the State "Prevention of Significant Deterioriation" (PSD) requirement apply to this source? If yes, see Sections VI and VII. NO

4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? NO

5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? NO

H. Do "Reasonably Available Control Technology" (RACT) requirements apply to this source? NO

   a. If yes, for what pollutants? N/A

   b. If yes, in addition to the information required in this form, any information requested in Rule 17-2.650 must be submitted.

Attach all supportive information related to any answer of "Yes". Attach any justification for any answer of "No" that might be considered questionable.

SECTION III: AIR POLLUTION SOURCES & CONTROL DEVICES (Other than Incinerators)

A. Raw Materials and Chemicals Used in your Process, if applicable:

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		
Please see				
Pages 4A and 4B				

B. Process Rate, if applicable: (See Section V, Item 1) (Maximum rates used for P120-32 Product)

1. Total Process Input Rate (lbs/hr): Slabstock: 40,125 lbs/hr; Rebond: 6,231 lbs/hr

2. Product Weight (lbs/hr): Slabstock: 36,199 lbs/hr; Rebond: 6,231 lbs/hr

C. Airborne Contaminants Emitted: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminent	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
Methylene Chloride	1,593	316.75	N/A	N/A	633,500	316.75	5,6
Toluene Diisocyanate	0.4	0.13	N/A	N/A	0.4	0.13	1: 5,6 2: 15, 17
1,1,1 Trichloroethane	4	0.81	N/A	N/A	4	0.81	11

[1]See Section V, Item 2. 1: Flow Diagram 1
2: Flow Diagram 2

[2]Reference applicable emission standards and units (e.g. Rule 17-2.600(5)(b)2. Table II, E. (1) - 0.1 pounds per million BTU heat input)

[3]Calculated from operating rate and applicable standard.

[4]Emission, if source operated without control (See Section V, Item 3).

SECTION III, A. RAW MATERIALS AND CHEMICALS USED IN YOUR PROCESS

I. SLABSTOCK POLYURETHANE FOAM PRODUCTION, MATERIAL BALANCE FOR A TYPICAL FORMULATION

DESCRIPTION	CONTAMINANTS (WT.%)	UTILIZATION RATE (LBS/HR) FOR TYPICAL FORMULATION [1]	TOTAL EMISSIONS [2] (LBS/HR)	PROUDCT (LBS/HR)	SECTION ON FLOW DIAGRAM 1
POLYOL - 100% POLYOXYPROPYLENE / GLYCOL	None listed on MSDS	24,000.			1
TDI - 100% TOLUENE DIISOCYANATE	None listed on MSDS	13,420.	0.37		1,5,6
AMINE CATALYST: DABCO R-8020 80% - 2 DIMETHYLAMINOETHANOL 20% - DIAZABICYCLO (2,2,2) OCTANE 1,4	None listed on MSDS	79.			1
TIN CATALYST: T-9 STANNOUS OCTOATE	STANNOUS 2-ETHYL HEXANUATE, 3%	58.			1
WATER:	NONE	1,068.			2
METHYLENE CHLORIDE (DICHLOROMETHANE)	PROPYLENE OXIDE, 0.45-0.55%	1,320	1,320 [3]		1,5,6
SURFACTANT: L-820 POLYALKLENEOXIDEMETHYLSILOXANE COPOLYMER	PROPYLENE OXIDE, 0.0003% TOLUENE, < 0.005%	180			1
SLABSTOCK FOAM PRODUCT		0		36,199	5
CARBON DIOXIDE		0	2,606 [4]		5,6

1. **TYPICAL FORMULATION:** Foam Grade P120-32, which represents the single largest foam grade produced at the Orlando Plant. Other formulations use varying quantities of process chemicals.
2. Total emissions consist of 50% stack and 50% fugitive emissions (estimated)
3. This conservative basis is used for air permitting purposes. Methylene Chloride is emitted throughout the cure cycle.
4. Not Regulated

II. REBOND POLYURETHANE FOAM PRODUCTION

DESCRIPTION	CONTAMINANTS (WT.%)	UTILIZATION RATE (LBS/HR) FOR TYPICAL FORMULATIONS	TOTAL EMISSIONS (LBS/HR)	PRODUCT (LBS/HR)	SECTION ON FLOW DIAGRAM 2
SCRAP FOAM (GROUND FOAM PIECES)	N/A	5,6Ø8.			1
POLYOL - 1ØØ% POLYOXYPROPYLENE / GLYCOL	NONE LISTED ON MSDS	459.			10
TDI - 1ØØ% TOLUENE DIISOCYANATE	NONE LISTED ON MSDS	164.	0.0037		10, 15
REBOND FOAM PRODUCT		Ø		6,321	17

III. GLUING DURING FABRICATION

DESCRIPTION		SECTION ON FLOW DIAGRAM 1
ALDOBOND 12Ø, 81%, 1,1,1 TRICHLOROETHANE	2.5	11

JS2

D. Control Devices: (See Section V, Item 4) NOT APPLICABLE

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	AVERAGE Ft³/hr	MAXIMUM Ft³/hr	
Boiler, Natural Gas	4,200	4,200	4.2
Indirect Fire Heaters, Natural Gas	200	200	0.2
(Unit Heaters)			

*Units: Natural Gas--MMCF/hr; Fuel Oils--gallons/hr; Coal, wood, refuse, other--lbs/hr.

Fuel Analysis:

Percent Sulfur: N/A Percent Ash: N/A

Density: Negligible lbs/gal Typical Percent Nitrogen: 0.4

Heat Capacity: 1000 BTU/Ft³ --- BTU/gal

Other Fuel Contaminants (which may cause air pollution): NONE

F. If applicable, indicate the percent of fuel used for space heating.

Annual Average ______ Maximum ______

G. Indicate liquid or solid wastes generated and method of disposal.

NONE

H. Emission Stack Geometry and Flow Characteristics (Provide data for each stack): See pg. 6A

Stack Height: ______________ ft. Stack Diameter: ______________ ft.

Gas Flow Rate: ________ ACFM ________ DSCFM Gas Exit Temperature: ________ °F.

Water Vapor Content: ______________ % Velocity: ______________ FPS

SECTION IV: INCINERATOR INFORMATION N/A

Type of Waste	Type O (Plastics)	Type I (Rubbish)	Type II (Refuse)	Type III (Garbage)	Type IV (Patholog-ical)	Type V (Liq.& Gas By-prod.)	Type VI (Solid By-prod.)
Actual lb/hr Inciner-ated							
Uncon-trolled (lbs/hr)							

Description of Waste ______________

Total Weight Incinerated (lbs/hr) ______________ Design Capacity (lbs/hr) ______________

Approximate Number of Hours of Operation per day ______ day/wk ______ wks/yr. ______

Manufacturer ______________

Date Constructed ______________ Model No. ______________

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: ________ ft. Stack Diamter: ________ Stack Temp. ________

Gas Flow Rate: ________ ACFM ________ DSCFM* Velocity: ________ FPS

*If 50 or more tons per day design capacity, submit the emissions rate in grains per standard cubic foot dry gas corrected to 50% excess air.

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) ______________

H. Emission Stack Geometry and Flow Characteristics

Summary

Point Source	Stack Height (Ft.)	Stack Dia.(Ft.)	Gas Flow Rate(ACFM)	Gas Exit Temp(°F)	Water Vapor Content %	Velocity (FPS)
1	80	3.6	28,863	60-95	1.0	47.3
2	15.5	1.22	70	450	6.0	1.0
3 - 15	27.5	0.67	174	190	1.0	8.3

Calculations

POINT SOURCE 1

$$A = \frac{\pi d^2}{4}$$

$$A = \frac{(3.14)3.6^2}{4}$$

$$A = 10.17 \text{ Ft}^2$$

$$\text{Velocity} = \frac{\text{Airflow Rate}}{\text{Stack Area}} \times \frac{1}{60 \text{ sec/min}}$$

$$V = \frac{28{,}863 \text{ Ft}^3\text{/min}}{10.17 \text{ Ft}^2} \times \frac{1}{60 \text{ sec/min}}$$

$$V = 47.3 \text{ Ft/sec}$$

POINT SOURCE 2

$$A = \frac{\pi d^2}{4}$$

$$A = \frac{(3.14)1.22^2}{4}$$

$$A = 1.17 \text{ Ft}^2$$

$$\text{Velocity} = \frac{\text{Airflow Rate}}{\text{Stack Area}} \times \frac{1}{60 \text{ sec/min}}$$

$$V = \frac{70 \text{ Ft}^3\text{/min}}{1.17 \text{ Ft}^2} \times \frac{1}{60 \text{ sec/min}}$$

$$V = 1.0 \text{ Ft/sec}$$

POINT SOURCES 3 - 15

$$A = \frac{\pi d^2}{4}$$

$$A = \frac{(3.14)0.67^2}{4}$$

$$A = 0.35 \text{ Ft}^2$$

H. (Continued)

$$\text{Velocity} = \frac{\text{Airflow Rate}}{\text{Stack Area}} \times \frac{1}{60 \text{ sec/min}}$$

$$V = \frac{174 \text{ Ft}^3/\text{min}}{0.35 \text{ Ft}^2} \times \frac{1}{60 \text{ sec/min}}$$

$$V = 8.3 \text{ Ft/sec}$$

Page 6A Continued

BEST AVAILABLE COPY

Brief description of operating characteristics of control devices: N/A

Ultimate disposal of any effluent other than that emitted from the stack (scrubber water, ash, etc.):

N/A

NOTE: Items 2, 3, 4, 6, 7, 8, and 10 in Section V must be included where applicable.

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY N/A

A. Are standards of performance for new stationary sources pursuant to 40 C.F.R. Part 60 applicable to the source?

[ ] Yes [X] No

Contaminant	Rate or Concentration

B. Has EPA declared the best available control technology for this class of sources (If yes, attach copy)

[ ] Yes [ ] No

Contaminant	Rate or Concentration

C. What emission levels do you propose as best available control technology?

Contaminant	Rate or Concentration

D. Describe the existing control and treatment technology (if any).

1. Control Device/System:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

E. Describe the control and treatment technology available (As many types as applicable, use additional pages if necessary).

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

2.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

F. Describe the control technology selected:

1. Control Device:

2. Efficiency:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

[1]Explain method of determining efficiency.
[2]Energy to be reported in units of electrical power - KWH design rate.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

[1]Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION N/A

A. Company Monitored Data

1. ____________ no. sites ____________ TSP ________ ( ) SO^2* ____________ Wind spd/dir

Period of Monitoring ____/____/____ to ____/____/____
month day year month day year

Other data recorded ______________________________

Attach all data or statistical summaries to this application.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [ ] Yes [ ] No

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from ____/____/____ to ____/____/____
month day year month day year

2. Surface data obtained from (location)______________________________

3. Upper air (mixing height) data obtained from (location)______________________________

4. Stability wind rose (STAR) data obtained from (location)______________________________

C. Computer Models Used

1. ______________________________ Modified? If yes, attach description.

2. ______________________________ Modified? If yes, attach description.

3. ______________________________ Modified? If yes, attach description.

4. ______________________________ Modified? If yes, attach description.

Attach copies of all final model runs showing input data, receptor locations, and principle output tables.

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate
TSP	______________________________ grams/sec
SO^2	______________________________ grams/sec

E. Emission Data Used in Modeling

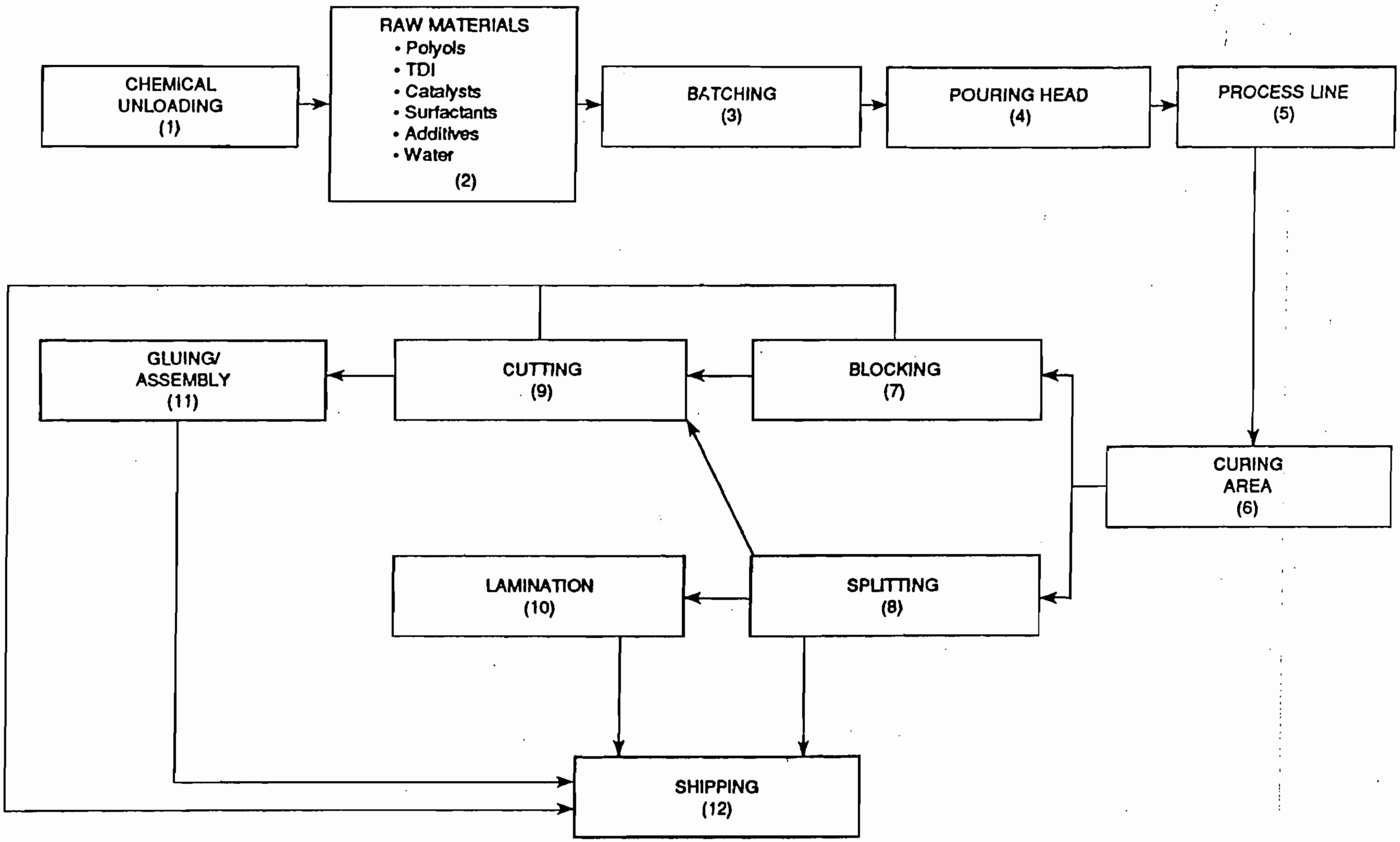
Attach list of emission sources. Emission data required is source name, description of point source (on NEDS point number), UTM coordinates, stack data, allowable emissions, and normal operating time.

F. Attach all other information supportive to the PSD review.

G. Discuss the social and economic impact of the selected technology versus other applicable technologies (i.e., jobs, payroll, production, taxes, energy, etc.). Include assessment of the environmental impact of the sources.

H. Attach scientific, engineering, and technical material, reports, publications, journals, and other competent relevant information describing the theory and application of the requested best available control technology.

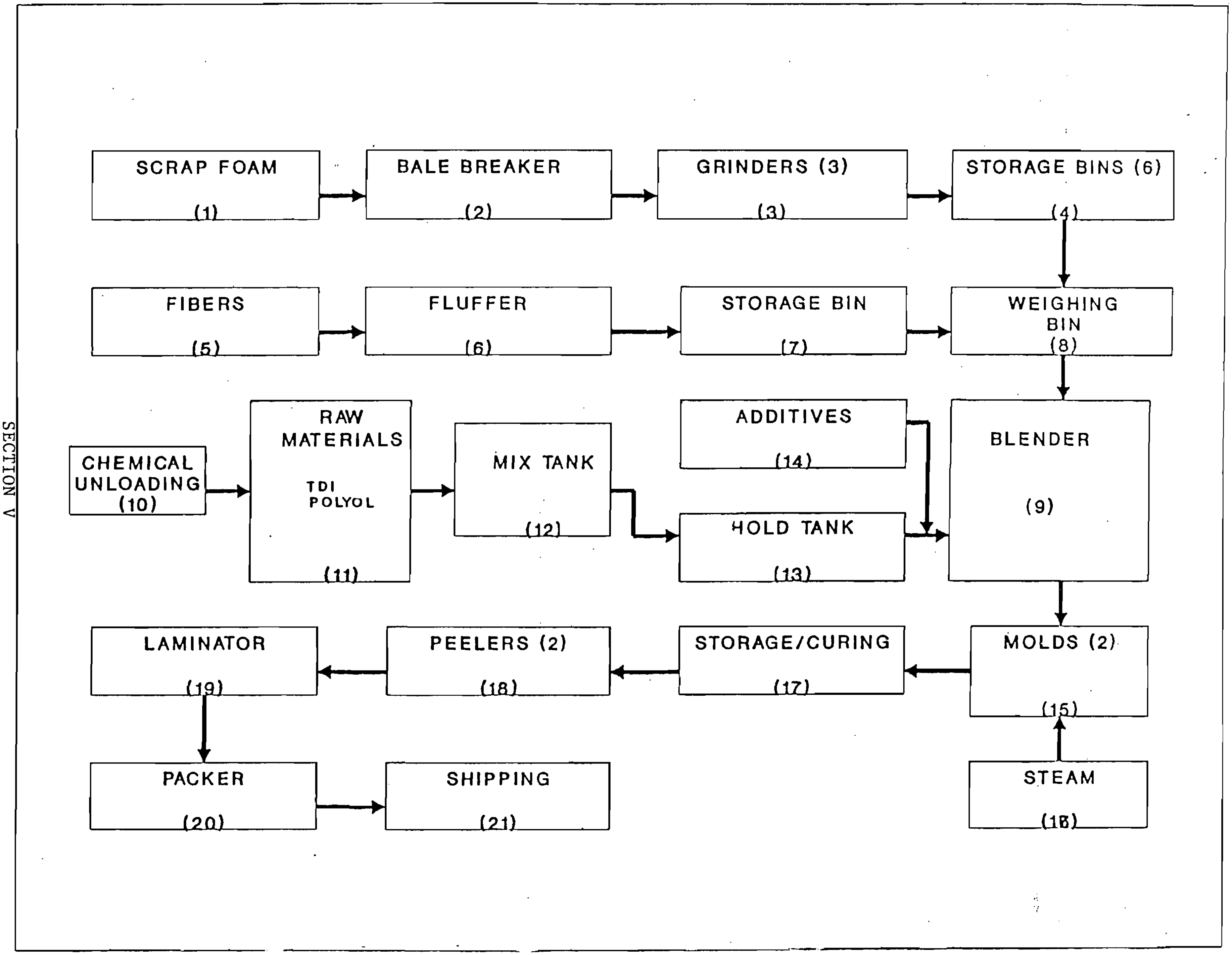
FLOW DIAGRAM 1: SLABSTOCK PRODUCTION OF FLEXIBLE POLYURETHANE FOAM



SECTION V
ITEM 6a
PROCESS FLOW DIAGRAM

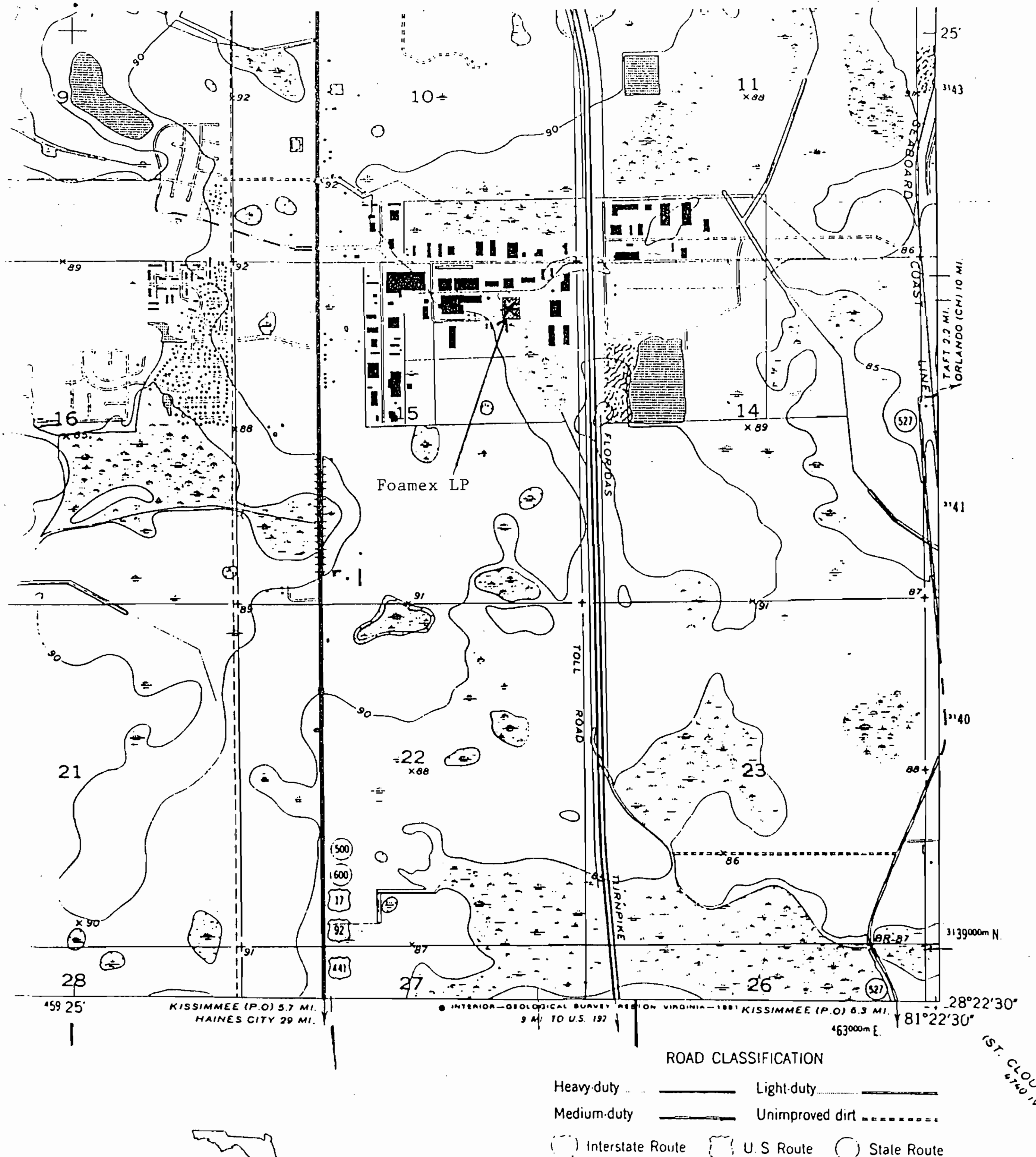
FLOW DIAGRAM 2:

REBOND PRODUCTION OF FLEXIBLE POLYURETHANE FOAM



SECTION V
ITEM 6b
PROCESS FLOW DIAGRAM

BEST AVAILABLE COPY



QUADRANGLE LOCATION

FOAMEX L.P.
SECTION V
ITEM 7
U.S.G.S. MAP

N2822.5—W8122.5/7.5

1953
PHOTOREVISED 1980
DMA 4740 IV NW—SERIES V847

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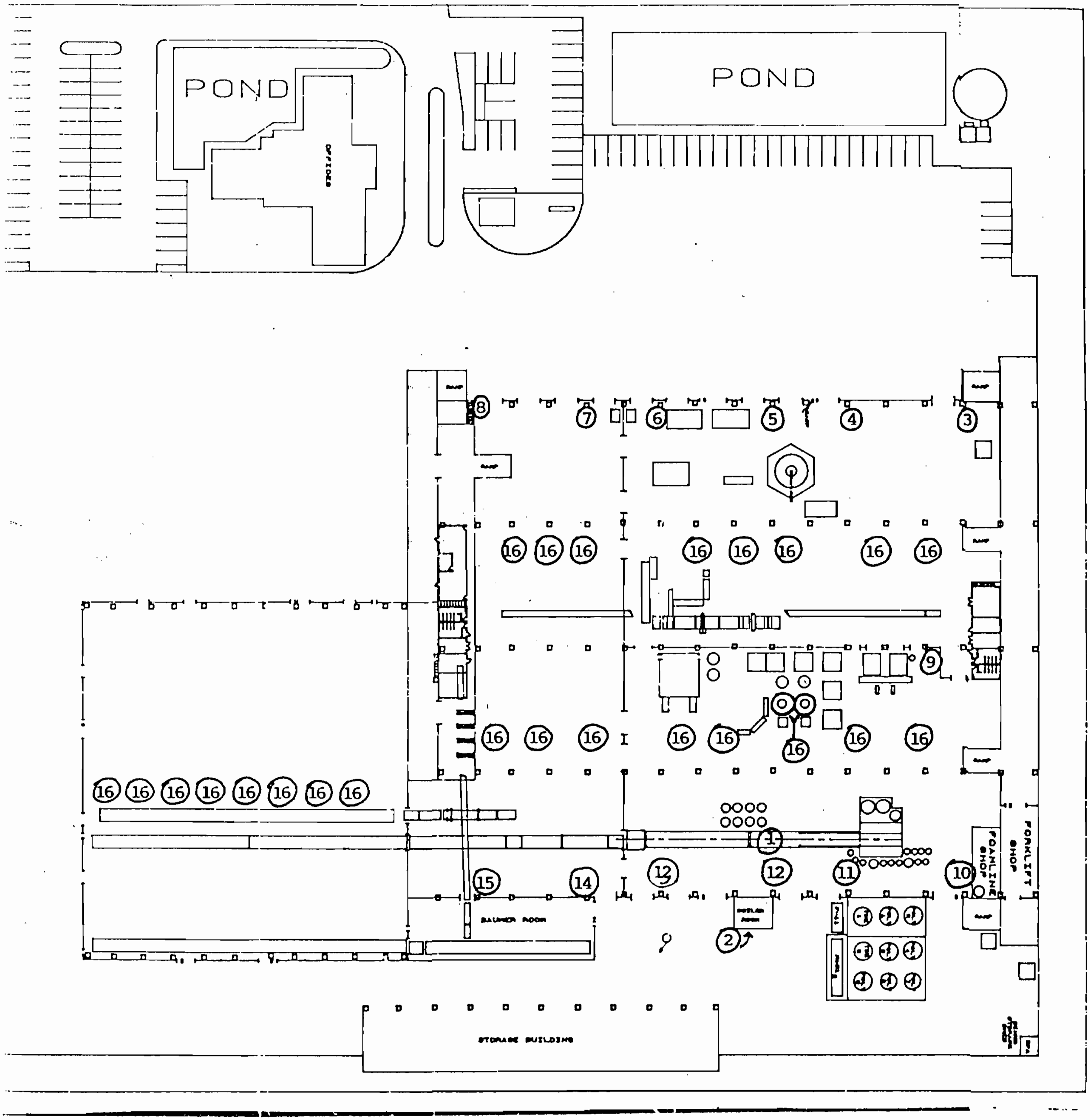

FIGURE 1 FOAMEX L.P. Orlando Plant
Locations of Emission Sources

PLOT PLAN
SECTION V
ITEM 8

KEY:
1: Foam Line Exhaust Stack
2: Boiler Exhaust Stack
3-15: Unit Heater (Indirect fired Heater) Exhaust Stacks
16: Exhaust Fans, 50,000 CFM x 25 Locations

CROSS/TESSITORE & ASSOCIATES, P.A.
4763 S. CONWAY ROAD, SUITE F
ORLANDO, FLORIDA 32812
407/851-1484

December 3, 1992

RECEIVED
DEC 4 1992
Bureau of
Air Regulation

Mr. Willard Hanks
Review Engineer
Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Foamex,L.P.
FDER File No. AC 48-214902
C/TA # F03.816

Dear Mr. Hanks:

Please find enclosed four (4) copies of the revised construction permit application for the Foamex polyurethane foam manufacturing facility located in Orlando.

The following paragraphs provide an itemized response to the June 26, 1992 letter from C.H. Fancy regarding the preliminary review conducted by FDER of the initial application submittal.

1. *A process flow diagram that includes: individual process equipment, maximum/average process rates for each chemical in lbs/hr and lbs/yr, maximum average fugitive and stack emission estimates in lbs/hr and TPY (Section V-1 and 6)*

Figures 5-3 and 5-4 in Section 5.0 of the application provide process flow diagrams as requested.

2. *Provide emission estimates (maximum/average in lbs/hr and TPY), and stack parameters for each source in the modified plant. The application fee may have to be adjusted depending on your response to this question (Section IIIC.)*

Section 5.0 of the application provides detailed calculations of emission rates for each source at the facility.

3. *Estimate, using a Department approved model, the maximum 8 hour, 24 hour, and annual ambient air impact of the methylene chloride emissions from the plant (Section VII).*

Section 7.0 of the application provides an air quality impact analysis which contains the requested impact levels.

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[redacted]

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2666404031

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1 [redacted]

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Company: ROSS-TESSITORE & ASSOCIATES	Department/Floor No.
Street Address: 763 S CONWAY RD	
City: ORLANDO	State: FL	ZIP Required: 32812

2 To (Recipient's Name) Please Print: Mr. Willard Hanks, Rev Eng	Recipient's Phone Number (Very Important): (904) 488-1344
Company: FDER-Bureau of Air Regulations	Department/Floor No.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): Twin Towers Office Building 2600 Blair Stone Road	
City: Tallahassee	State: Florida	ZIP Required: 32399

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F21.816

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*Declared Value Limit $500.
**Call for delivery schedule.

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[ ] Third Party [ ] Chg. To Del. [ ] Chg. To Hold
Street Address
City State Zip
Received By:
X
Date/Time Received FedEx Employee Number

7 Release Signature:

Federal Express Use
Base Charges
Declared Value Charge
Other 1
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Total Charges

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PART #137204 FXEM 5/92
FORMAT #126
126

FOAMEX

A Limited Partnership

October 23, 1992

Mr. C.H. Fancy, P.E.
Chief, Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2640 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: FDER File No. AC48-214902
Foamex LP
(C/TA # F21.816)

Dear Mr. Fancy:

Attached is a copy of the Orange County Order for the Foamex LP facility. As stated in the John Bateman cover letter that a completed permit application is to be submitted to the FDER sixty days from the effective date of the Consent Order. Based on concurrence with Orange County, the effective date of the Consent Order was determined to be the date it was received by Foamex, October 5, 1992.

Based on the above, Foamex will submit a revised permit application by December 4, 1992 which will include your request for additional information of June 26, 1992.

If you have any questions, and/or require any additional information, please do not hesitate to call upon me.

Sincerely,

Charles Eavenson

Charles Eavenson

CC: Linda Spellman
Norm Simineau
Joe Tessitore
Cliff Schulman
A. Hanks
C. Holladay
J. Pennington
E. Collins, C Dist.
J. Harper, EPA
B. Mitchell, NPS

Regency Industrial Park
1351 Gemini Blvd
Orlando FL 32821-9276
Phone: 407 857 2510
FAX: 407 826 9400

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OCT 29 1992
Division of Air
Resources Management

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FLORIDA DEPARTMENT OF
ENVIRONMENTAL REGULATION
TWIN TOWERS OFFICE BUILDING
2640 BLAIR STONE ROAD
TALLAHASSEE, FLORIDA 32399-2400

ATTN: MR. C.H. FANCY, P.E.
CHIEF, BUREAU OF AIR REGULATION

P 710 058 494

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PS Form 3800, June 1990

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- Print your name and address on the reverse of this form so that we can return this card to you.
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2. ☐ Restricted Delivery

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3. Article Addressed to:
Charles Eavenson
Foamex, L.P.
1351 Gemini Blvd.
Orlando, Fl 32821

4a. Article Number P 710 058 494

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery 6-29-92

5. Signature (Addressee)

8. Addressee's Address (Only if requested and fee is paid)

6. Signature (Agent) Nancie Boser

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6-17-92

BEFORE THE ORANGE COUNTY

ENVIRONMENTAL PROTECTION DEPARTMENT

ORANGE COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT Complainant, vs. FOAMEX LP Respondent	IN THE OFFICE OF THE ORANGE COUNTY ENVIRONMENTAL PROTECTION DEPARTMENT CASE NO. ORG-92-040

CONSENT ORDER

This Consent Order is made and entered into between the Orange County Environmental Protection Department ("Department") and Charles Eavenson, Plant Manager of FOAMEX LP, 1351 Gemini Boulevard, Orlando, Florida 32821. ("Respondent").

The Department finds the following:

1. The Department is the administrative agency in Orange County which has the authority to administer and enforce the provisions of Chapter 403, Florida Statutes, and the rules promulgated thereunder, Florida Administrative Code, Chapter 17.

2. Respondent is a person within the meaning of Section 403.031(5), Florida Statutes.

3. Respondent owns and operates a Flexible Polyuerethane Foam Manufacturing facility at 1351 Gemini Boulevard, Orlando, Orange County, Florida. Street, Orlando, Orange County, Florida.

Speed Letter®

To Willard Hanks Date 6/25/92

From ______ Date ______

Subject FOAMEX LP

—No. 9 & 10 FOLD

Message

Per our telephone conversation, attached is the Consent Order for FOAMEX LP

RECEIVED

JUN 29 1992

Division of Air Resources Management

Reply

—No. 9 FOLD

—No. 10 FOLD

Signed D. Nester

836-7400

Signed ______

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89

RECIPIENT—RETAIN WHITE COPY, RETURN PINK COPY.

CROSS/TESSITORE & ASSOCIATES, P.A.
4763 S. CONWAY ROAD, SUITE F
ORLANDO, FLORIDA 32812
407/851-1484

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June 10, 1992

Mr. Bruce Mitchell
Division of Air Resources Management
Permitting and Standards Section
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED
JUN 16 1992
Bureau of
Air Regulation

Subject: Foamex LP
(C/TA # F21.816)

Dear Mr. Mitchell:

At the request of the Central Florida FDER District office, please find enclosed:

1) Three (3) copies of FDER Form 17-1.202(1) Application to Operate/Construct Air Pollution Sources for the Flexible Polyurethane Foam Product subject facility.

2) A check in the amount of $7,500.00 made payable to the Florida Department of Environmental Regulation for the application processing fee.

It should be noted that by the filing of this application, Foamex does not admit to the necessity therefore or to the violation of any applicable federal, state or local laws, regulations, or ordinances and does not admit in any way, an liability whatsoever for any claims by any party arising from activities or conditions of its Orlando facility, but instead seeks to attempt to resolve this issue in the most expedient and satisfactory manner, consistent with existing laws, regulations and ordinances. Foamex will do everything possible to address this matter promptly and to your reasonable satisfaction.

Sincerely,

Joseph L. Tessitore

001031

Joseph L. Tessitore, P.E.
Vice President

JLT/slw
Enc: a/s
cc: Charles M. Collins - FDER - Central Florida District
Dennis Nester - OCEPD
Linda Spellmon - Foamex LP
Steve Bradley - Foamex LP
Charles A. Eavenson - Foamex LP
C3928.Doc H. Henks
C. Holladay
G. Bluem

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1 [redacted] Date 6/10/92

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Company: SS-TESSITORE & ASSOCIATES
Department/Floor No.
Street Address: 3 S CONWAY RD STE F
City: ANDO State: FL ZIP Required: 3 2 8 1 2

2 To (Recipient's Name) Please Print: Bruce Mitchell
Recipient's Phone Number (Very Important): (904) 488-1
Company: Div. of Air Resource Mgmt Permitti & Standards Section FDER
Department/Floor No.
Exact Street Address (We Cannot Deliver to P.O. Boxes or P.O. Zip Codes.): Twin Towers Office Bldg. 22600 Blair Stone Road
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3 PAYMENT 1 [X] Bill Sender 2 [ ] Bill Recipient's FedEx Acct. No. 3 [ ] Bill 3rd Party FedEx Acct. No. 4 [ ] Bill Credit Card
5 [ ] Cash/Check [redacted]

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16 [ ] FEDEX LETTER *	56 [ ] FEDEX LETTER *
12 [X] FEDEX PAK *	52 [ ] FEDEX PAK *
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14 [ ] FEDEX TUBE	54 [ ] FEDEX TUBE
Economy Two-Day (Delivery by second business day†)	**Government Overnight** (Restricted for authorized users only)
30 [ ] ECONOMY	46 [ ] GOV'T LETTER
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5 DELIVERY AND SPECIAL HANDLING (Check services required)
1 [ ] HOLD FOR PICK-UP (Fill in Box H)
2 [X] DELIVER WEEKDAY
3 [ ] DELIVER SATURDAY (Extra charge) (Not available to all locations)
4 [ ] DANGEROUS GOODS (Extra charge)
5 [ ]
6 [ ] DRY ICE ______ Lbs
7 [ ] OTHER SPECIAL SERVICE ______
8 [ ]
9 [ ] SATURDAY PICK-UP (Extra charge)
10 [ ]
11 [ ] DESCRIPTION
12 [ ] HOLIDAY DELIVERY (If offered) (Extra charge)

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Total 1 | Total 1 | Total

DIM SHIPMENT (Chargeable Weight) [ ] ______ lbs.
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Emp. No. Date
[ ] Cash Received
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Street Address
City State Zip

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Certified Fee	
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Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date Mailed: 10/5/93 Foamex, L.P. AC48-214902	

PS Form **3800**, June 1991

Is your RETURN ADDRESS completed on the reverse side?

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Mr. Joseph L. Tessitore
Cross/Tessitore & Associates
4763 South Conway Road
Orlando, Florida 32812

4a. Article Number
P 230 524 310

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)
Cassie Iorelli

6. Signature (Agent)
10/8/93

8. Addressee's Address (Only if requested and fee is paid)

Thank you for using Return Receipt Service.

PS Form 3811, December 1991 *U.S. GPO: 1992—323-402 **DOMESTIC RETURN RECEIPT**

UNITED STATES POSTAL SERVICE

Official Business

RECEIVED

OCT 11 1993

Division of Air
Resources Management

PENALTY FOR PRIVATE
USE TO AVOID PAYMENT
OF POSTAGE, $300

U.S.MAIL

Print your name, address and ZIP Code here

Patty Adams
Department of Environmental Protection
Bureau of Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

PS Form 3811, July 1983 447-845

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Charles Eavenson, Plant Mgr.
Foamex, L.P.
1351 Gemini Blvd
Orlando, Fl 32821

4. Type of Service: ☐ Registered ☐ Insured ☑ Certified ☐ COD ☐ Express Mail

Article Number: P062921936

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X N. Bowen

7. Date of Delivery 12/24/92

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

P 062 921 936

Receipt for Certified Mail
No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to: Charles Eavenson	
Street and No.: Foamex	
P.O., State and ZIP Code: Orlando. Fl	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date: 12-22-92	

PS Form 3800, June 1991

UNITED STATES POSTAL SERVICE

OFFICIAL BUSINESS

ORLANDO, FL 328
PM
24 DEC
1992

U.S. MAIL

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SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- **Complete items 1, 2, 3, and 4 on the reverse.**
- **Attach to front of article if space permits, otherwise affix to back of article.**
- **Endorse article "Return Receipt Requested" adjacent to number.**

RETURN TO

Patty Adams-DER-BAR
(Name of Sender)

2600 Blair Stone-Twin Towers
(No. and Street, Apt., Suite, P.O. Box or R.D. No.)

Tallahassee, Fl 32399-2400
(City, State, and ZIP Code)

Harding Lawson Associates

HLA/CTA

October 18, 1993

F21.816

RECEIVED
OCT 20 1993
Division of Air
Resources Management

Mr. Willard Hanks
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Foamex, L.P.
Application for Permit to Construct
a Flexible Polyurethane Foam Manufacturing Facility

Dear Mr. Hanks:

As you requested, please find enclosed the completed form for waiver of the 90 day time limit for permit application no. AC48-214902, for Foamex, L.P.. This form is provided in addition to the letter request for extension submitted on September 22, 1993.

Please do not hesitate to contact me should you have any questions or comments concerning this matter.

Yours very truly,

HLA-C/TA

Joseph L. Tessitore, P.E.
Managing Principal

JLT/PKR
c21001.doc

cc: Mr. Dennis Nester, Orange County Environmental Protection Division (OCEPD)
Mr. Charles Collins, P.E., FDER - Central Florida District
Mr. Charles Eavenson, Foamex L.P.
Mr. Art Pereira, Foamex, L.P

RECEIVED

OCT 13 1993

CROSS/TESSITORE

WAIVER OF 90 DAY TIME LIMIT
UNDER SECTIONS 120.60(2) and 403.0876, FLORIDA STATUTES

License (Permit, Certification) Application No. AC48-214902

Applicant's Name: Foamex, L. P.

With regard to the above referenced application, the applicant hereby with full knowledge and understanding of applicant's rights under Sections 120.60(2) and 403.0876, Florida Statutes, waives the right to have the application approved or denied by the State of Florida Department of Environmental Regulation within the 90 day time period prescribed by law. Said waiver is made freely and voluntarily by the applicant, with full knowledge, and without any pressure or coercion by anyone employed by the State of Florida Department of Environmental Regulation.

This waiver shall expire on the 21 day of December 1993.

The undersigned is authorized to make this waiver on behalf of the applicant.

Charles W. Eavenson
Signature

Charles W. Eavenson
Name (Please Type or Print)

Revised April, 1990

Lawton Chiles
Governor

Florida Department of
Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Virginia B. Wetherell
Secretary

October 6, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Joseph L. Tessitore
Cross/Tessitore & Associates
4763 South Conway Road
Orlando, Florida 32812

Re: Foamex, L.P.

Dear Mr. Tessitore:

The Department acknowledges receipt of your September 22, 1993, letter, granting another waiver of the 90 day time limit to process the application for permit to construct Foamex, L.P.'s flexible polyurethane foam manufacturing facility in Orlando, Orange County, Florida. We request you complete the Department's official form for this and future waivers. A copy of the form was faxed to your office on September 30, 1993.

We also confirm that the additional information requested in our June 9, 1993, meeting in Tallahassee on the application for Foamex, L.P., is needed before we can recommend a permit be issued for this plant. Basically, the needed information is the plan, schedule, and emissions proposed to bring this plant into compliance with the Department's regulation.

If you have any questions on this matter, please write to me or call Willard Hanks at (904) 488-1344.

Sincerely,

John C. Brown, Jr., P.E.
Administrator
Air Permitting and Standards

JB/WH/bjb

cc: Charles Collins, CFD
Dennis Nester, OCEPD
Charles Eavenson, Foamex, L.P.

your RETURN ADDRESS completed on the reverse side? Is

SENDER:

- Complete items 1 and/or 2 for additional services.
- Complete items 3, and 4a & b.
- Print your name and address on the reverse of this form so that we can return this card to you.
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- Write "Return Receipt Requested" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

I also wish to receive the following services (for an extra fee):

1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:

Mr. Joseph L. Tessitore
Cross/Tessitore & Associates
4763 South Conway Road
Orlando, Florida 32812

4a. Article Number
P 230 524 310

4b. Service Type
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail ☐ Return Receipt for Merchandise

7. Date of Delivery

5. Signature (Addressee)
Cassie Senelli

6. Signature (Agent)
10/8/92

8. Addressee's Address (Only if requested and fee is paid)

PS Form 3811, December 1991 ★U.S. GPO: 1992—323-402 **DOMESTIC RETURN RECEIPT**

Thank you for using Return Receipt Service.

P 230 524 310

UNITED STATES POSTAL SERVICE

Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

Sent to: Mr. Joseph L. Tessitore	
Street and No.: 4763 South Conway Road	
P.O., State and ZIP Code: Orlando, Florida 32812	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date: Mailed: 10/5/93 Foamex, L.P. AC48-214902	

PS Form 3800, June 1991

Harding Lawson Associates

HLA/CTA

September 22, 1993

F21.816

Mr. Willard Hanks
Bureau of Air Regulation
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RECEIVED
OCT 1 1993
Division of Air
Resources Management

Foamex, L.P.
Application for Permit to Construct
a Flexible Polyurethane Foam Manufacturing Facility

Dear Mr. Hanks:

As you are aware, HLA-C/TA is developing technical information to be submitted as an addendum to the existing Foamex, L.P. Application for Permit to Construct a Flexible Polyurethane Foam Manufacturing Facility currently under FDEP review. This information is being prepared to address the issues discussed during our meeting on June 9, 1993. It is estimated that the submittal document will be finalized in late October, however the current review schedule requires FDEP to act on the application by October 6, 1993. Considering the time that will be required for completion of the submittal document, an extension of 90 days is requested.

Please do not hesitate to contact me should you have any questions or comments concerning this matter.

Yours very truly,

HLA-C/TA

Joseph L. Tessitore

Joseph L. Tessitore, P.E.
Managing Principal

JLT/PKR
c21001.doc

cc: Mr. Dennis Nester, Orange County Environmental Protection Division (OCEPD)
Mr. Charles Collins, P.E., FDER - Central Florida District
Mr. Charles Eavenson, Foamex L.P.
Mr. Art Pereira, Foamex, L.P

Memorandum

Florida Department of
Environmental Protection

RECEIVED
AUG 08 1993
Division of Air
Resources Management

TO: Patrick Wong, Dade County DERM

FROM: Tom Tittle, FDEP/SED

DATE: August 3, 1993

SUBJECT: Urethane Foam Manufacturing Facilities

As a result of Tallahassee's visit to our respective offices, Willard Hanks asked us to look into emissions from Omni Foam Inc, Flexible Foam and Flori Foam which have been identified as Dade County facilities operating without Department air permits. Please send us what information you have about these facilities to assist us in determining whether or not these facilities need Department air permits.

cc: Willard Hanks, DARM, Tallahassee

CROSS/TESSITORE & ASSOCIATES, P.A.
4763 SOUTH CONWAY ROAD
ORLANDO, FLORIDA 32812
407/851-1484

July 6, 1993

RECEIVED
JUL 12 1993
Division of Air
Resources Management

Mr. Willard Hanks
Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Foamex, L.P.
(C/TA # F21.816)

Dear Mr. Hanks:

I would like to thank you for providing me with the opportunity to meet with you on Wednesday, June 9 along with Mr. Art Pereira, Mr. Charles Eavenson and Mr. Joseph Lunderville of Foamex, L.P.

Through our discussion during this meeting, it was clear that the Bureau of Air Regulation (BAR) feels that additional information should be submitted in support of the construction permit application currently under review for the Foamex Facility in Orlando. C/TA and Foamex have already begun to compile and develop the information requested, however, the completion of a document for submittal will require several more weeks. Considering the additional time required for BAR review of such a submittal document, an extension of the permit review schedule seems necessary. As the current schedule require FDER to act on the application by July 12, C/TA requests an extension of 90 days to provide sufficient time for submittal and review of the information requested by FDER.

Please do not hesitate to contact me should you have any questions or comments concerning this matter.

Sincerely,

Joseph L. Tessitore

Joseph L. Tessitore, P.E.
Vice President

JLT/kp
cc: Mr. Dennis Nester, OCEPD
Mr. Charles Collins, P.E., FDER - Central Florida District
Mr. Charles Eavenson, Foamex, L.P.
Mr. Art Pereira, Foamex, L.P.
C5993.Doc

Florida Department of Environmental Protection

Meeting Sign-In Sheet

Re: Florida Gas Transmission Date: 5/26/93

Name	Representing	Telephone
Barry Andrews	Florida Gas Trans. (ENSR)	(205) 740-8263
V. Duane Pierce	" " "	713 853-3569
Arthur R. Teixeira	Foamex L.P.	401-438-0900
JOSEPH H. LUNDERVILLE	FOAMEX L.P.	401-438-0900
Charles Earvenson	Foamex Orlando	407-857-2510
Joe Tessitore	C/TA	407-851-1484
PRESTON LEWIS	FDER – AIR Permitting	(904) 488-1344
SYED ARIF	FDER – AIR PERMITTING	(904) 488-1344
WILLARD HANISS	" "	"

FOAMEX 6/9/93

CROSS/TESSITORE & ASSOCIATES, P.A.
4763 SOUTH CONWAY ROAD
ORLANDO, FLORIDA 32812
407/851-1484

June 2, 1993

Mr. C. H. Fancy, P.E.
Chief
Bureau of Air Regulation
Florida Department of Environmental Regulation
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Subject: Foamex, L.P.
(C/TA #F21.816)

Dear Mr. Fancy:

This letter is to confirm a meeting scheduled with your staff on Wednesday, June 9, at 1:30 p.m. to discuss the Construction Permit application currently under review for the Foamex, L.P. facility located in Orlando. This meeting was scheduled during a phone conversation with Mr. Willard Hanks of your staff on Thursday, May 30, and will be attended by Mr. Joe Tessitore of C/TA, Mr. Art Pereira of Foamex, and Mr. Charles Eavenson of Foamex.

Please do not hesitate to contact me should you have any questions concerning this matter.

Sincerely,

Patricia Kay Rykowski
Project Engineer

cc: Mr. Art Pereira, Foamex, L.P.
Mr. Charles Eavenson, Foamex, L.P.

foamex3.doc
PKR/tbm

CROSS/TESSITORE & ASSOCIATES, P.A.
4763 SOUTH CONWAY ROAD
ORLANDO, FLORIDA 32812
407/851-1484

April 12, 1993

RECEIVED
APR 14 1993
Bureau of
Air Regulation

Mr. John C. Brown, Jr., P.E.
Administrator, Air Permitting and Standards
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Fl 32399-2400

Subject: Application for Permits to Construct a Flexible Polyurethane Foam Manufacturing Facility (Ref: Letter, J.C. Brown to C. Eavenson, 12/22/92)
(C/TA #F21.816)

Dear Mr. Brown:

Please find enclosed three (3) bound copies of the response developed to address the comments included in your letter of December 22, 1992 regarding the Foamex, L.P. facility in Orlando. This document contains a letter which provides an itemized response to your comments, as well as supporting information and analysis.

Please do not hesitate to contact me should you have any questions or comments concerning this information.

Sincerely,

Joseph L. Tessitore

Joseph L. Tessitore, P.E.
Vice President

cc:

Mr. Dennis Nester, OCEPD
Mr. Charles Collins, P.E., FDER -Central Florida District
Mr. Art Pereira, Foamex, L.P.
Mr. Charles Eavenson, Foamex, L.P.
Mr. Clifford A. Schulman, Greenberg and Traurig

F21.816/foamex1.doc

Copy given to: W H and C H 4/14/93

RESPONSE TO FDER REVIEW COMMENTS

FOAMEX, L.P.
Application for Permit to Construct
a Flexible Polyurethane Foam
Manufacturing Facility

April 7, 1993

Prepared for:

Foamex, L.P.
1351 Gemini Boulevard
Orlando, Florida 32821

Prepared by:

Cross/Tessitore & Associates, P.A.
4763 South Conway Road, Suite F.
Orlando, Florida 32812
(407) 851-1484 FAX: (407) 855-0369

C5951.Doc / F21.816

FOAMEX

A Limited Partnership

April 7, 1993

CERTIFIED MAIL - RETURN RECEIPT REQUESTED:

Mr. John C. Brown, Jr., P.E.
Administrator, Air Permitting and Standards
Florida Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Dear Mr. Brown:

Re: Application for Permits to Construct a Flexible Polyurethane Foam Manufacturing Facility (Ref: Letter, J. C. Brown to C. Eavenson, 12/22/92)

The following paragraphs provide an itemized response to the December 22, 1992 letter from Mr. Brown regarding the preliminary review conducted by FDER of the December 2, 1992 application submittal.

1. Where is the toluene diisocyanate incinerator located? If in Florida, does it have a Department air permit? If Foamex is the operator of this incinerator in Florida, please provide either the permit number or an application for permit for it.

   Response:
   ThermalKEM, an American NuKEM subsidiary located in Rock Hill, South Carolina operates a Part B permitted incineration plant (Permit Number: SCD 044 442 333). Other permitted hazardous waste incinerators may also be used in the future, depending on waste disposal requirements.

2. What are the 8-hour, 24-hour, and annual ambient air impacts of toluene diisocyanate emissions from the polyurethane foam facility?

   Response:
   Table 1 shows the results of the ISCST2 Modeling for the Foamex toluene diisocyanate (TDI) emissions. This table shows that the maximum off property TDI ground level concentrations are less than the FDER "No Threat Levels" for 8-hour, 24-hour, and annual averaging times. The details of the modeling results are presented in Attachment 1.

3. On Page 1-30 (VI. Foam Fabrication Operation) please clarify the 43.7 foot stack diameter listed in Section H.

   Response:
   The stack diameter on this page was inadvertently listed as 43.7 feet rather than 43.7 inches, or 3.64 feet.

Regency Industrial Park
1351 Gemini Boulevard
Orlando FL 32821
407 857 2510
Fax 407 8[illegible] C5951.Doc

4. Please provide a more detailed schedule on the company's investigation to use either another process or add air pollution control at this facility. We want to know what the ongoing studies are, what is expected to be learned from the study, and by what date.

<u>Response</u>:
In general, Foamex is working with other members of the industry through the Polyurethane Foam Association (PFA) to evaluate emission control technologies. Development work on various mechanical and chemical solutions for the industry is underway at several companies.

The PFA is formally evaluating emission control strategies and will present an update on the work at the annual PFA meeting in May, 1993. In addition, chemical suppliers are also developing alternative polyol technologies and additives to minimize the amount of auxiliary blowing agent necessary for foam production.

Specifically, Foamex is evaluating various options for emission control on a company-wide basis. These options are as follows:

1) Limitation of product mixture produced with blowing agents.
2) Capture and treatment of emissions.
3) Process and equipment modifications to reduce emissions.

The first option, to limit the product mixture produced, is based on the fact that not all foam grades require the use of auxiliary blowing agents. However, this is not a desired option for all facilities, since it would reduce the sales volume and thus mandate reductions in the plant work force. At a facility such as the Foamex Orlando Plant, which produces a significant amount of blown foam, the loss of this sales volume and subsequent market loss could have a serious impact.

The second option is to consider the capture and treatment of blowing agent emissions. The most promising approach being considered by the PFA, based on industry data and experience, is carbon adsorption. One PFA member has done pilot plant work on a carbon adsorption system, as discussed in question #7. Foamex will continue to follow this work and the development of other industry pilot systems and evaluate their application to emission control at the Orlando Facility. Foamex will also consider other applicable control options should they become available in the next 18 months.

The third option involves the use of several types of process equipment which are currently under development and which have the goal of producing a wide range of flexible urethane foams with little or no emissions of auxiliary blowing agents. These processes are described as follows:

a) The Rapid Cooling process involves the rapid cooling of a block of foam with the potential of recovering any volatile blowing agent.

b) The Environmental Cure process involves the elimination of blowing agents and produces water blown foam.

c) The Variable Pressure Foaming (VPF) process which allows the production of a wide range of flexible urethane foams without the use of blowing agents.

The processes described under a) and b) above, are best suited to plants in which the foam may be manufactured in short blocks to meet customer specifications, which are unlike the typical Foamex plants at this stage. Currently, Foamex is committed to the VPF system which is a new technology and is based on the fact that as the air pressure is reduced within the mold, a given amount of foam will occupy a greater space under normal air pressure. This approach results in the production of greater foam volume with no blowing agent, and allows the density of the foam to be varied based on the changes in the process pressure.

While this technology has been employed in Europe for batch production, it has not been practically demonstrated on a continuous foam line. Foamex has scheduled the installation of this type of process in one of their plants during the latter part of 1993. Several months after installation and startup, Foamex hopes to optimize the foam production variables and begin elimination of the auxiliary blowing agents.

Based on the above discussion of emission control and process modification options, and the fact that OSHA may seriously restrict the use of methylene chloride, and/or EPA may restrict the use of alternate blowing agents such as 1,1,1-Trichloroethane,, and HCFC-141b, Foamex estimates that a final decision concerning emission control measures for the Orlando plant can be made by December, 1994.

In order to keep FDER informed as to the status of the previously discussed emission control and process modification options, a reporting schedule is being proposed as shown in Attachment 2. This schedule, which assumes that a FDER Permit is issued during June 1993, shows that Foamex will submit semi-annual progress reports until December 1994 at which time a decision will be made. Details of the information to be submitted in the semi-annual progress reports are presented in Attachment 3. According to this schedule, Foamex will submit a permit application in March of 1995 identifying the selected emission control configuration and/or process modification which is consistent with the existing OSHA and EPA regulations. This system or equipment will then be installed on a schedule consistent with FDER's approval.

5. Why does the boiler operate longer than the slabstock polyurethane foam production facility? Is it on "stand-by" or do other operations at the facility use steam?

<u>Response</u>:
Currently, the boiler operates only to support the rebond polyurethane foam production facility. The intent of requesting longer boiler operating hours was to insure boiler availability for other plant operations such as environmental heating and/or steam production.

6. What means are used to contain spills and minimize fugitive emissions during process chemical storage and handling?

Response:
All bulk storage tanks currently in use are provided with secondary containment, which can contain at least 115% of the volume in the largest tank. Spill pigs and other absorbent materials are available to contain chemical spills within the building. The chemical suppliers provide training videotapes and standard procedures for bulk materials handling, which acts to minimize spills.

The piping system for toluene diisocyanate includes welded piping, where possible, to prevent spills and minimize fugitive emissions. All drums containing chemicals are tightly closed when not in use.

7. Can any of the blowing agents captured by a carbon adsorption system be recycled at the facility? If so, what is the value of the agent recovered? How does this affect the economics of the BACT determination?

Response:
It may be possible to recycle captured methylene chloride or other auxiliary blowing agents for reuse in the process. A Foamex competitor has worked on a pilot plant scale carbon adsorption unit. They reported that more work had to be done to determine whether the lack of stabilizer in recycled methylene chloride would cause acid buildup in storage or damage foam quality.

In general, as discussed in Item 4, Foamex will continue to pursue the development of collection and treatment options and the semi-annual report will provide an updated status of the viability of carbon adsorption based on PFA studies and data. Currently, it does not appear from the industry pilot plant data that the carbon adsorption process is applicable with the existing blowing agents. However, future changes in blowing agents may cause this situation to be reevaluated.

8. Please describe the equipment cleaning practices at this facility. How much and what types of solvents are used? What is done to minimize emissions of these solvents? How are the used solvents disposed of?

Response:
Typical equipment cleaning practices are described in the following paragraphs. Foamex is continuously working to refine these procedures. The goal is to use effective cleaning methods while minimizing emissions and waste generation.

Polyol is currently used for cleaning the mixhead on the foam machine during production runs. This material is collected and used as a raw material in the rebond foam production process. Approximately 30 gallons per month are used. Due to the low volatility of polyol, no special measures are necessary to minimize emissions.

Small quantities of isopropyl alcohol are used for soaking production equipment pieces. It is estimated that one to two gallons per month are used; the alcohol is replenished as needed. The material is kept in a small covered container. Isopropyl alcohol is also used as a hand cleaner. It is estimated that 387 gallons of isopropyl alcohol were utilized in 1992. N-propyl alcohol is also used as a solvent in an ink used at the plant, and in the cleaner.

Methylene chloride is used to clean the foam line trough after completion of production activities. Approximately three gallons of material will remain after cleaning. This material is transferred to a small covered container where it is kept for reuse. This material may also be used for the soaking of small equipment pieces. The amount of methylene chloride emitted due to cleaning activities, is a small fraction of the amount used in foam production.

The methylene chloride is generally replenished as necessary and reused until it evaporates, but if it does not meet the requirements for use as a cleaner (i.e., if the solids content is too great) it is declared as a hazardous waste and transferred to a hazardous waste satellite drum. The waste is then disposed of in accordance with RCRA requirements, typically by recycling.

A mixture of 1,1,1-trichloroethane and silicone is used as a saw blade lubricant. Approximately 5,770 pounds of 1,1,1-trichloroethane were utilized in 1992. A substitute for this material will be found in a timely manner, because the material will soon become unavailable since it has been classified as a Class 1 ozone depleting compound. The status of identifying a substitute material will be discussed and updated in the semi-annual reports, as discussed in Item 4. However, current Foamex plans are to adopt an alternate procedure and the use of this chemical will be eliminated within three (3) months.

The maintenance and loop slitter department also uses reclaimed mineral spirits supplied by Safety Kleen (105 Solvent MS) for equipment cleaning. Records for 1992 indicate that 292.5 pounds of spent material were returned to Safety Kleen for recycling and 97.5 pounds were emitted. The Safety Kleen "solvent use" workstation is designed to maximize capture of volatile material and minimize emissions.

9. Under the Clean Air Act Amendment of 1990, use of HCFC for non-insulating foams is prohibited after January 1, 1994 (page 6-A-45 of the Application). Any permit issued will reflect that limitation. What will be used after this date?

Response:
Several options are being considered for the replacement of HCFCs. Testing is underway to optimize the use of additives and alternative polyols to replace a portion of the auxiliary blowing agent.

The replacement of banned HCFCs will be considered in the semi-annual reports in context with the entire emissions control options. As discussed in Item 4, Foamex will continue to pursue the best combination of chemical substitution, emission and capture and control, and process or equipment modification which will results in the lowest ground level concentration which is consistent with OSHA and FDER/EPA regulatory requirements and the Orlando plant production economics.

Please contact Joseph Tessitore of C/TA, if you have any questions or comments concerning this information.

Sincerely,

Charles W. Eavenson

Charles W. Eavenson
Plant Manager

LJS 92-257

cc: Clifford Schulman, Greenberg Traurig
Joseph L. Tessitore, P.E., Cross/Tessitore & Assoc.
Arthur R. Pereira, Foamex L.P.
Linda J. Spellmon, Foamex L.P.

ATTACHMENT 1

FOAMEX L.P.

ISCST2 Modeling Results

(Orlando Flexible Polyurethane Foam Manufacturing Facility)

Foamex ISCST2 Modeling of Toluene Diisocyanate (TDI) Emissions

The 8-hour, 24-hour, and annual ambient air impacts of the toluene diisocyanate (TDI) emissions from the Foamex facility were estimated using the EPA Industrial Source Complex - Short Term (version 92062) model (ISCST2). This analysis was based on the same methodology and assumptions used in Section 7.0 of the original permit application. The only sources of TDI emissions from the facility are the foam line stack and the two (2) rebond process exhaust fans. The input parameters used this analysis are presented in Table 1. The locations of the foam line stack and rebond process exhausts are shown in Figure 1. A downwash analysis of the three sources was conducted as outlined in Table 7-4 of the permit application and the output listing of this analysis is presented in Attachment A. Table 1 also presents the results of the TDI modeling analysis and a comparison with the FDER No Threat Levels for TDI. The ISCST2 output listings are presented in Attachment B. The results show that in all cases the predicted maximum ambient air impact of TDI emissions from the Foamex facility are below the FDER No Threat Levels for TDI.

TABLE 1

Foamex ISCST2 Modeling of Toluene Diisocyanate (TDI) Emissions

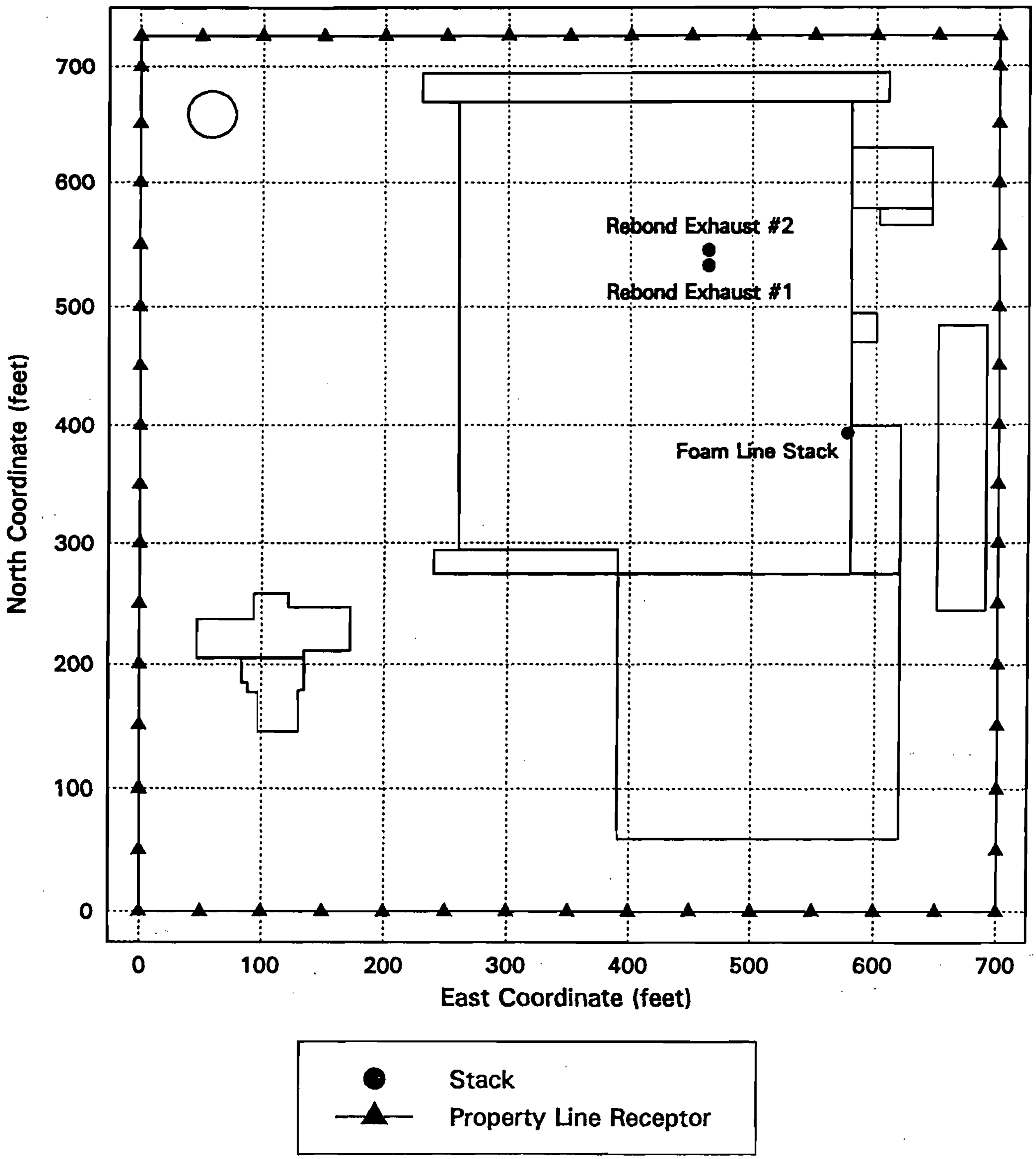
Source Input Parameters

Parameter	Units	Foam Line Stack	Rebond Exhaust #1	Rebond Exhaust #2
Stack Height	feet	125	41	41
Stack Inside Diameter	feet	2.303294	2.5	2.5
Stack Gas Flow Rate	ACFM	20000	1000	1000
Stack Gas Exit Velocity	ft/sec	80	3.395305	3.395305
Stack Gas Exit Temperature	°F	80	80	80
Stack Location East Coordinate	feet	577	464	464
Stack Location North Coordinate	feet	393	534	546
Hours of Operation per Day	hours/day	3	12	12
Hours of Operation per Year	hours/year	624	3744	3744
Maximum Hourly TDI Emission Rate	lb/hr	0.37	0.0023	0.0023
8-hour Average TDI Emission Rate	lb/hr	0.13875	0.0023	0.0023
24-hour Average TDI Emission Rate	lb/hr	0.04625	0.00115	0.00115
Annual Average TDI Emission Rate	lb/hr	0.026356	0.000983	0.000983

Modeling Results and Comparison with FDER No Threat Levels for TDI

Averaging Time	Maximum Off Property TDI Ground Level Concentration	FDER TDI No Threat Level
8-hour	0.32 $\mu g/m^3$	0.36 $\mu g/m^3$
24-hour	0.084 $\mu g/m^3$	0.0864 $\mu g/m^3$
Annual	0.0089 $\mu g/m^3$	N/A

Figure 1
Foamex ISCST2 Modeling of TDI Emissions
Source Locations and Property Line Receptor Locations



Attachment A

BREEZE WAKE Output Listing

for Sources of TDI Emissions

1

RBRZWAKE
IBM-PC VERSION (2.1)

RUN NAME: FMXTDI
RUN BEGAN ON 01-20-93 AT 13:07:26

1

BREEZE WAKE DOWNWASH ANALYSIS

The following options have been chosen:

(1) Calculations are made for the ISCST model.
(2) All stacks must be within 5L to be considered for direction specific downwash.
(3) Downwash is calculated in 360 radial directions.
(4) Buildings are combined.

Note: This analysis determines the direction specific downwash parameters for the flow vector pointing in the direction listed.

Round figures are converted into 8-sided figures for the downwash analysis.

Algorithms:

0 = No Downwash
1 = Huber-Snyder Downwash
2 = Schulman-Scire Downwash

1

Input Buildings

Description	Bldg #	Bldg Ht(m)	# of Corners	X(m)	Y(m)
Office A	1	4.27	10		
				29.57	44.20
				39.62	44.20
				39.62	54.56
				41.15	54.56
				41.15	62.49
				25.60	62.49
				25.60	56.39
				27.13	56.39
				27.13	53.95
				29.57	53.95

Offices B	2	4.27	10		
				14.33	62.49
				41.15	62.49
				41.15	64.31
				52.43	64.31
				52.43	75.29
				37.19	75.29
				37.19	78.64
				28.65	78.64
				28.65	72.24
				14.33	72.24
Tank	3	9.75	8		
				21.99	204.87
				23.78	200.56
				21.99	196.25
				17.68	194.46
				13.37	196.25
				11.58	200.56
				13.37	204.87
				17.68	206.66
Long Bun Storage Rm	4	15.24	4		
				118.87	17.98
				188.98	17.98
				188.98	83.52
				118.87	83.52
East Section 40 ft	5	12.19	4		
				176.79	83.52
				188.98	83.52
				188.98	121.62
				176.79	121.62
Loading Dock	6	4.88	4		
				73.15	83.52
				118.87	83.52
				118.87	89.61
				73.15	89.61
Main Roof 35 ft	7	10.67	6		
				79.25	89.61
				118.87	89.61
				118.87	83.52
				176.79	83.52
				176.79	203.91
				79.25	203.91
East Section 12 ft	8	3.66	4		
				176.79	142.95
				182.88	142.95
				182.88	150.57
				176.79	150.57
Storage Tanks	9	10.97	4		
				176.79	176.48
				196.60	176.48
				196.60	191.72
				176.79	191.72

North Section 16 ft	10	4.88	4		
				70.11	203.91
				185.93	203.91
				185.93	211.53
				70.11	211.53
Storge Bldg	11	6.71	4		
				198.12	74.37
				210.32	74.37
				210.32	147.53
				198.12	147.53
Methylene Chloride	12	3.05	4		
				183.80	172.52
				196.60	172.52
				196.60	176.48
				183.80	176.48

1

Input Stacks

Stack ID #	Stack #	Stack Ht(m)	X(m)	Y(m)
1	1	38.10	175.87	119.79
2	2	12.50	141.43	162.77
3	3	12.50	141.43	166.42

1

Downwash Structures

Structure 1: Ht= 15.24 m, MPW= 95.97 m, GEP= 38.10 m

Contains the following buildings:
  Building # 4: Long Bun Storage Rm
The following stacks are within 5L:
  Stack # 1: 1

Structure 2: Ht= 12.19 m, MPW= 125.12 m, GEP= 30.48 m

Contains the following buildings:
  Building # 4: Long Bun Storage Rm
  Building # 5: East Section 40 ft
The following stacks are within 5L:
  Stack # 1: 1
  Stack # 2: 2
  Stack # 3: 3

Structure 3: Ht= 10.97 m, MPW= 25.00 m, GEP= 27.43 m

Contains the following buildings:
  Building # 9: Storage Tanks
The following stacks are within 5L:
  Stack # 2: 2
  Stack # 3: 3

```
Structure   4:  Ht=  10.67 m, MPW=  215.90 m, GEP=  26.67 m
------------------------------------------------------------
      Contains the following buildings:
            Building #  4:  Long Bun Storage Rm
            Building #  5:  East Section 40 ft
            Building #  7:  Main Roof 35 ft
            Building #  9:  Storage Tanks
      The following stacks are within 5L:
            Stack #  1:   1
            Stack #  2:   2
            Stack #  3:   3

Structure   5:  Ht=   9.75 m, MPW=   12.19 m, GEP=  24.38 m
------------------------------------------------------------
      Contains the following buildings:
            Building #  3:  Tank
      The following stacks are within 5L:

Structure   6:  Ht=   6.71 m, MPW=  215.90 m, GEP=  16.76 m
------------------------------------------------------------
      Contains the following buildings:
            Building #  4:  Long Bun Storage Rm
            Building #  5:  East Section 40 ft
            Building #  7:  Main Roof 35 ft
            Building #  9:  Storage Tanks
            Building # 11:  Storge Bldg
      The following stacks are within 5L:
            Stack #  1:   1
            Stack #  2:   2
            Stack #  3:   3

Structure   7:  Ht=   4.88 m, MPW=  227.14 m, GEP=  12.19 m
------------------------------------------------------------
      Contains the following buildings:
            Building #  4:  Long Bun Storage Rm
            Building #  5:  East Section 40 ft
            Building #  6:  Loading Dock
            Building #  7:  Main Roof 35 ft
            Building #  9:  Storage Tanks
            Building # 10:  North Section 16 ft
            Building # 11:  Storge Bldg
      The following stacks are within 5L:
            Stack #  1:   1
            Stack #  2:   2
            Stack #  3:   3

Structure   8:  Ht=   4.27 m, MPW=   40.19 m, GEP=  10.67 m
------------------------------------------------------------
      Contains the following buildings:
            Building #  1:  Office A
            Building #  2:  Offices B
      The following stacks are within 5L:
```

```
Structure    9:  Ht=   3.66 m, MPW=  227.14 m, GEP=   9.14 m
---------------------------------------------------------------
       Contains the following buildings:
             Building #  4:  Long Bun Storage Rm
             Building #  5:  East Section 40 ft
             Building #  6:  Loading Dock
             Building #  7:  Main Roof 35 ft
             Building #  8:  East Section 12 ft
             Building #  9:  Storage Tanks
             Building # 10:  North Section 16 ft
             Building # 11:  Storge Bldg
       The following stacks are within 5L:
             Stack #  1:    1
             Stack #  2:    2
             Stack #  3:    3

Structure   10:  Ht=   3.05 m, MPW=  227.14 m, GEP=   7.62 m
---------------------------------------------------------------
       Contains the following buildings:
             Building #  4:  Long Bun Storage Rm
             Building #  5:  East Section 40 ft
             Building #  6:  Loading Dock
             Building #  7:  Main Roof 35 ft
             Building #  8:  East Section 12 ft
             Building #  9:  Storage Tanks
             Building # 10:  North Section 16 ft
             Building # 11:  Storge Bldg
             Building # 12:  Methylene Chloride
       The following stacks are within 5L:
             Stack #  1:    1
             Stack #  2:    2
             Stack #  3:    3

NUMBER OF SOURCES =   3
```

1 Stack ID # 1, Stack # 1

The Dominant Structure Within 5L is:
STRUC= 1 H= 15.24 W= 95.97 GEP= 38.10

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	1	15.24	84.68	38.10	1
20	1	15.24	91.23	38.10	1
30	1	15.24	95.01	38.10	1
40	1	15.24	95.96	38.10	1
50	1	15.24	95.84	38.10	1
60	1	15.24	93.53	38.10	1
70	0	.00	.00	.00	0
80	0	.00	.00	.00	0
90	0	.00	.00	.00	0
100	0	.00	.00	.00	0
110	0	.00	.00	.00	0
120	0	.00	.00	.00	0
130	0	.00	.00	.00	0
140	0	.00	.00	.00	0
150	1	15.24	93.84	38.10	1
160	1	15.24	90.70	38.10	1
170	1	15.24	83.88	38.10	1
180	0	.00	.00	.00	0
190	0	.00	.00	.00	0
200	1	15.24	91.23	38.10	1
210	1	15.24	95.01	38.10	1
220	1	15.24	95.96	38.10	1
230	1	15.24	95.84	38.10	1
240	1	15.24	93.53	38.10	1
250	0	.00	.00	.00	0
260	0	.00	.00	.00	0
270	0	.00	.00	.00	0
280	0	.00	.00	.00	0
290	0	.00	.00	.00	0
300	0	.00	.00	.00	0
310	0	.00	.00	.00	0
320	0	.00	.00	.00	0
330	1	15.24	93.84	38.10	1
340	1	15.24	90.70	38.10	1
350	1	15.24	83.88	38.10	1
360	1	15.24	75.55	38.10	1

1 Stack ID # 2, Stack # 2

The Dominant Structure Within 5L is:
STRUC= 2 H= 12.19 W= 125.12 GEP= 30.48

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	2	12.19	84.68	30.48	2
20	2	12.19	88.29	30.48	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	4	10.67	194.58	26.67	2
110	4	10.67	194.74	26.67	2
120	4	10.67	192.50	26.67	2
130	4	10.67	186.24	26.67	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	4	10.67	138.57	26.67	2
180	4	10.67	125.52	26.67	2
190	4	10.67	154.11	26.67	2
200	2	12.19	88.29	30.48	2
210	4	10.67	196.53	26.67	2
220	3	10.97	24.84	27.43	2
230	3	10.97	24.73	27.43	2
240	3	10.97	23.71	27.43	2
250	3	10.97	21.98	27.43	2
260	3	10.97	19.58	27.43	2
270	4	10.67	193.13	26.67	2
280	4	10.67	194.58	26.67	2
290	4	10.67	194.74	26.67	2
300	4	10.67	192.50	26.67	2
310	2	12.19	125.05	30.48	2
320	2	12.19	122.42	30.48	2
330	2	12.19	116.07	30.48	2
340	2	12.19	106.20	30.48	2
350	2	12.19	93.09	30.48	2
360	2	12.19	77.16	30.48	2

1 Stack ID # 3, Stack # 3

The Dominant Structure Within 5L is:
STRUC= 2 H= 12.19 W= 125.12 GEP= 30.48

Direction Specific Building Downwash

Degree	Structure #	Height	Width	GEP	Algorithm
10	2	12.19	84.68	30.48	2
20	2	12.19	87.62	30.48	2
30	4	10.67	196.53	26.67	2
40	4	10.67	209.06	26.67	2
50	4	10.67	215.24	26.67	2
60	4	10.67	215.89	26.67	2
70	4	10.67	214.49	26.67	2
80	4	10.67	206.95	26.67	2
90	4	10.67	193.13	26.67	2
100	4	10.67	194.58	26.67	2
110	4	10.67	194.74	26.67	2
120	4	10.67	192.50	26.67	2
130	4	10.67	186.24	26.67	2
140	4	10.67	176.60	26.67	2
150	4	10.67	161.59	26.67	2
160	4	10.67	148.74	26.67	2
170	4	10.67	138.57	26.67	2
180	4	10.67	125.52	26.67	2
190	4	10.67	154.11	26.67	2
200	4	10.67	178.03	26.67	2
210	4	10.67	196.53	26.67	2
220	4	10.67	209.06	26.67	2
230	3	10.97	24.58	27.43	2
240	3	10.97	23.71	27.43	2
250	3	10.97	21.98	27.43	2
260	3	10.97	19.58	27.43	2
270	4	10.67	193.13	26.67	2
280	4	10.67	194.58	26.67	2
290	4	10.67	194.74	26.67	2
300	4	10.67	192.50	26.67	2
310	2	12.19	124.83	30.48	2
320	2	12.19	122.42	30.48	2
330	2	12.19	116.07	30.48	2
340	2	12.19	106.20	30.48	2
350	2	12.19	93.09	30.48	2
360	2	12.19	77.16	30.48	2

```
1
                         Stack #    1
 Stack ID:  1,    Building Height: 15.240,    Building Width: 95.965
 15.24015.24015.24015.24015.24015.240.00000.00000.00000.00000.00000.00000
 .00000.0000015.24015.24015.240.00000.0000015.24015.24015.24015.24015.240
 .00000.00000.00000.00000.00000.00000.00000.0000015.24015.24015.24015.240
 84.67791.23295.01595.96595.84093.532.00000.00000.00000.00000.00000.00000
 .00000.0000093.84490.69983.876.00000.0000091.23295.01595.96595.84093.532
 .00000.00000.00000.00000.00000.00000.00000.0000093.84490.69983.87675.550
                         Stack #    2
 Stack ID:  2,    Building Height: 12.192,    Building Width: 125.12
 12.19212.19210.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
 10.66810.66810.66810.66810.66810.66810.66812.19210.66810.97310.97310.973
 10.97310.97310.66810.66810.66810.66812.19212.19212.19212.19212.19212.192
 84.67788.291196.53209.06215.24215.89214.49206.95193.13194.58194.74192.50
 186.24176.60161.59148.74138.57125.52154.1188.291196.5324.83924.72623.714
 21.98219.581193.13194.58194.74192.50125.05122.42116.07106.2093.09477.163
                         Stack #    3
 Stack ID:  3,    Building Height: 12.192,    Building Width: 125.12
 12.19212.19210.66810.66810.66810.66810.66810.66810.66810.66810.66810.668
 10.66810.66810.66810.66810.66810.66810.66810.66810.66810.66810.97310.973
 10.97310.97310.66810.66810.66810.66812.19212.19212.19212.19212.19212.192
 84.67787.621196.53209.06215.24215.89214.49206.95193.13194.58194.74192.50
 186.24176.60161.59148.74138.57125.52154.11178.03196.53209.0624.58323.714
 21.98219.581193.13194.58194.74192.50124.83122.42116.07106.2093.09477.163
1                    RUN ENDED ON 01-20-93 AT 13:07:32
```

Attachment B

ISCST2 Output Listings

for Modeling of TDI Emissions

Run: FMXTDI8

TDI 8-hour Average Emission Rates

```
                 ISCST2 EXTENDED MODEL - (DATED 92062)

                 IBM-PC VERSION (1.01)
                 (C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
                 SERIAL NUMBER 8025 SOLD TO CROSS TESSITORE & ASSOCIATES
                 RUN BEGAN ON 01/21/93 AT 10:40:44


CO STARTING
CO TITLEONE Foamex TDI Sources: Foam Line Stack & Rebond Process Exhaust
CO TITLETWO 8-hour Average Emission Rates
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 8
CO POLLUTID OTHER
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**         SRCID SRCTYP       XS           YS           ZS

SO LOCATION     1 POINT      175.8720     119.7880      .0000
SO LOCATION     2 POINT      141.4290     162.7650      .0000
SO LOCATION     3 POINT      141.4290     166.4230      .0000

** Source Parameter Cards:
** POINT:    SRCID       QS             HS         TS         VS         DS
** VOLUME:   SRCID       QS             HS       SYINIT     SZINIT
** AREA:     SRCID       QS             HS        XINIT

SO SRCPARAM     1     .0174822         38.1000   299.8200   24.3810      .7021
SO SRCPARAM     2     .0002898         12.4968   299.8200    1.0348      .7620
SO SRCPARAM     3     .0002898         12.4968   299.8200    1.0348      .7620

** NOTE:  Direction-Specific Building Heights Used for Non-SS Source      1
SO BUILDHGT     1      15.24      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     1        .00        .00        .00        .00        .00        .00
SO BUILDHGT     1        .00        .00      15.24      15.24      15.24        .00
SO BUILDHGT     1        .00      15.24      15.24      15.24      15.24      15.24
SO BUILDHGT     1        .00        .00        .00        .00        .00        .00
SO BUILDHGTSO BUILDHGT     1        .00        .00      15.24      15.24      15.24      15.24
SO BUILDHGT     2      12.19      12.19      10.67      10.67      10.67      10.67
SO BUILDHGT     2      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     2      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     2      10.67      12.19      10.67      10.97      10.97      10.97
SO BUILDHGT     2      10.97      10.97      10.67      10.67      10.67      10.67
SO BUILDHGT     2      12.19      12.19      12.19      12.19      12.19      12.19
SO BUILDHGT     3      12.19      12.19      10.67      10.67      10.67      10.67
SO BUILDHGT     3      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     3      10.67      10.67      10.67      10.67      10.67      10.67
SO BUILDHGT     3      10.67      10.67      10.67      10.67      10.97      10.97
SO BUILDHGT     3      10.97      10.97      10.67      10.67      10.67      10.67
SO BUILDHGT     3      12.19      12.19      12.19      12.19      12.19      12.19
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      1
SO BUILDWID     1      84.68      91.23      95.01      95.96      95.84      93.53
```

```
SO BUILDWID     1       .00       .00       .00       .00       .00       .00
[redacted] BUILDWID     1       .00       .00     93.84     90.70     83.88       .00
[redacted] BUILDWID     1       .00     91.23     95.01     95.96     95.84     93.53
SO BUILDWID     1       .00       .00       .00       .00       .00       .00
[redacted] BUILDWID     1       .00       .00     93.84     90.70     83.88     75.55
[redacted] BUILDWID     2     84.68     88.29    196.53    209.06    215.24    215.89
SO BUILDWID     2    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID     2    186.24    176.60    161.59    148.74    138.57    125.52
[redacted] BUILDWID     2    154.11     88.29    196.53     24.84     24.73     23.71
[redacted] BUILDWID     2     21.98     19.58    193.13    194.58    194.74    192.50
SO BUILDWID     2    125.05    122.42    116.07    106.20     93.09     77.16
[redacted] BUILDWID     3     84.68     87.62    196.53    209.06    215.24    215.89
[redacted] BUILDWID     3    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID     3    186.24    176.60    161.59    148.74    138.57    125.52
[redacted] BUILDWID     3    154.11    178.03    196.53    209.06     24.58     23.71
[redacted] BUILDWID     3     21.98     19.58    193.13    194.58    194.74    192.50
[redacted] BUILDWID     3    124.83    122.42    116.07    106.20     93.09     77.16
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
[redacted] SRCGROUP ALL
[redacted] FINISHED

[redacted] STARTING
[redacted] GRIDPOLR POL1 STA
RE GRIDPOLR POL1 ORIG   106.68  110.6424
RE GRIDPOLR POL1 DIST   150. 200. 250. 300. 350. 400. 450. 500. 550.
[redacted] GRIDPOLR POL1 DIST   600. 650. 700. 750. 800. 850. 900. 950. 1000.
[redacted] GRIDPOLR POL1 GDIR   36  10.  10.
RE GRIDPOLR POL1 END
[redacted] DISCCART          .00         .00
[redacted] DISCCART        15.24         .00
RE DISCCART        30.48         .00
[redacted] DISCCART        45.72         .00
[redacted] DISCCART        60.96         .00
RE DISCCART        76.20         .00
RE DISCCART        91.44         .00
[redacted] DISCCART       106.68         .00
[redacted] DISCCART       121.92         .00
RE DISCCART       137.16         .00
[redacted] DISCCART       152.40         .00
[redacted] DISCCART       167.64         .00
RE DISCCART       182.88         .00
[redacted] DISCCART       198.12         .00
[redacted] DISCCART       213.36         .00
RE DISCCART       213.36       15.24
RE DISCCART       213.36       30.48
[redacted] DISCCART       213.36       45.72
[redacted] DISCCART       213.36       60.96
RE DISCCART       213.36       76.20
[redacted] DISCCART       213.36       91.44
[redacted] DISCCART       213.36      106.68
RE DISCCART       213.36      121.92
[redacted] DISCCART       213.36      137.16
[redacted] DISCCART       213.36      152.40
[redacted] DISCCART       213.36      167.64
RE DISCCART       213.36      182.88
[redacted] DISCCART       213.36      198.12
[redacted] DISCCART       213.36      213.36
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RE DISCCART      213.36     221.29
RE DISCCART      198.12     221.29
RE DISCCART      182.88     221.29
RE DISCCART      167.64     221.29
RE DISCCART      152.40     221.29
RE DISCCART      137.16     221.29
RE DISCCART      121.92     221.29
RE DISCCART      106.68     221.29
RE DISCCART       91.44     221.29
RE DISCCART       76.20     221.29
RE DISCCART       60.96     221.29
RE DISCCART       45.72     221.29
RE DISCCART       30.48     221.29
RE DISCCART       15.24     221.29
RE DISCCART         .00     221.29
RE DISCCART         .00     213.36
RE DISCCART         .00     198.12
RE DISCCART         .00     182.88
RE DISCCART         .00     167.64
RE DISCCART         .00     152.40
RE DISCCART         .00     137.16
RE DISCCART         .00     121.92
RE DISCCART         .00     106.68
RE DISCCART         .00      91.44
RE DISCCART         .00      76.20
RE DISCCART         .00      60.96
RE DISCCART         .00      45.72
RE DISCCART         .00      30.48
RE DISCCART         .00      15.24
RE FINISHED


ME STARTING
ME INPUTFIL C:\modELS\iscst2\ORLTMP86.BIN    UNFORM
ME ANEMHGHT   10.000 METERS
ME SURFDATA  12815  1986           SURFNAME
ME UAIRDATA  12842  1986           UAIRNAME
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED


OU STARTING
OU RECTABLE 8 FIRST  SECOND
OU MAXTABLE 8 50
OU FINISHED

**********************************
*** SETUP Finishes Successfully ***
**********************************
```

```
*** ISCST2 - VERSION 92062 ***    *** Foamex TDI Sources: Foam Line Stack & Rebond Process Exhaust      ***        01/21/93
                                  *** 8-hour Average Emission Rates                                     ***        10:40:45
                                                                                                                   PAGE   1
*** MODELING OPTIONS USED:  CONC   RURAL  FLAT         DFAULT

                                        ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Model Is Setup For Calculation of Average CONCentration Values.

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
        1. Final Plume Rise.
        2. Stack-tip Downwash.
        3. Buoyancy-induced Dispersion.
        4. Use Calms Processing Routine.
        5. Not Use Missing Data Processing Routine.
        6. Default Wind Profile Exponents.
        7. Default Vertical Potential Temperature Gradients.
        8. "Upper Bound" Values for Supersquat Buildings.
        9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:   8-HR

**This Run Includes:    3 Source(s);      1 Source Group(s); and    706 Receptor(s)

**The Model Assumes A Pollutant Type of:  OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
       Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
       Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                               m for Missing Hours
                                                               b for Both Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =     10.00 ;    Decay Coef. =   0.0000     ;    Rot. Angle =      0.0
                 Emission Units = (GRAMS/SEC)                               ;  Emission Rate Unit Factor =   0.10000E+07
                 Output Units   = (MICROGRAMS/CUBIC-METER)

**Input Runstream File: D:\MODELDAT\ISCST2\FOAMEX\FMXTDI8.NEW   ;  **Output Print File: D:\MODELDAT\ISCST2\FOAMEX\FMXTDI8.LST
```

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
1	0	0.17482E-01	175.9	119.8	0.0	38.10	299.82	24.38	0.70	YES	
2	0	0.28980E-03	141.4	162.8	0.0	12.50	299.82	1.03	0.76	YES	
3	0	0.28980E-03	141.4	166.4	0.0	12.50	299.82	1.03	0.76	YES	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

OUP ID	SOURCE IDs
ALL	1 , 2 , 3 ,

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0.0,	0
13	0.0,	0.0,	0	14	0.0,	0.0,	0	15	15.2,	93.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	0.0,	0.0,	0
19	0.0,	0.0,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0.0,	0
31	0.0,	0.0,	0	32	0.0,	0.0,	0	33	15.2,	93.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	88.3,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	12.2,	88.3,	0	21	10.7,	196.5,	0	22	11.0,	24.8,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	125.1,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

SOURCE ID: 3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	87.6,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	11.0,	24.6,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	124.8,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 106.68 ; Y-ORIG = 110.64 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

150.0,	200.0,	250.0,	300.0,	350.0,	400.0,	450.0,	500.0,	550.0,	600.0,
650.0,	700.0,	750.0,	800.0,	850.0,	900.0,	950.0,	1000.0,		

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(0.0,	0.0,	0.0,	0.0);	(15.2,	0.0,	0.0,	0.0);
(30.5,	0.0,	0.0,	0.0);	(45.7,	0.0,	0.0,	0.0);
(61.0,	0.0,	0.0,	0.0);	(76.2,	0.0,	0.0,	0.0);
(91.4,	0.0,	0.0,	0.0);	(106.7,	0.0,	0.0,	0.0);
(121.9,	0.0,	0.0,	0.0);	(137.2,	0.0,	0.0,	0.0);
(152.4,	0.0,	0.0,	0.0);	(167.6,	0.0,	0.0,	0.0);
(182.9,	0.0,	0.0,	0.0);	(198.1,	0.0,	0.0,	0.0);
(213.4,	0.0,	0.0,	0.0);	(213.4,	15.2,	0.0,	0.0);
(213.4,	30.5,	0.0,	0.0);	(213.4,	45.7,	0.0,	0.0);
(213.4,	61.0,	0.0,	0.0);	(213.4,	76.2,	0.0,	0.0);
(213.4,	91.4,	0.0,	0.0);	(213.4,	106.7,	0.0,	0.0);
(213.4,	121.9,	0.0,	0.0);	(213.4,	137.2,	0.0,	0.0);
(213.4,	152.4,	0.0,	0.0);	(213.4,	167.6,	0.0,	0.0);
(213.4,	182.9,	0.0,	0.0);	(213.4,	198.1,	0.0,	0.0);
(213.4,	213.4,	0.0,	0.0);	(213.4,	221.3,	0.0,	0.0);
(198.1,	221.3,	0.0,	0.0);	(182.9,	221.3,	0.0,	0.0);
(167.6,	221.3,	0.0,	0.0);	(152.4,	221.3,	0.0,	0.0);
(137.2,	221.3,	0.0,	0.0);	(121.9,	221.3,	0.0,	0.0);
(106.7,	221.3,	0.0,	0.0);	(91.4,	221.3,	0.0,	0.0);
(76.2,	221.3,	0.0,	0.0);	(61.0,	221.3,	0.0,	0.0);
(45.7,	221.3,	0.0,	0.0);	(30.5,	221.3,	0.0,	0.0);
(15.2,	221.3,	0.0,	0.0);	(0.0,	221.3,	0.0,	0.0);
(0.0,	213.4,	0.0,	0.0);	(0.0,	198.1,	0.0,	0.0);
(0.0,	182.9,	0.0,	0.0);	(0.0,	167.6,	0.0,	0.0);
(0.0,	152.4,	0.0,	0.0);	(0.0,	137.2,	0.0,	0.0);
(0.0,	121.9,	0.0,	0.0);	(0.0,	106.7,	0.0,	0.0);
(0.0,	91.4,	0.0,	0.0);	(0.0,	76.2,	0.0,	0.0);
(0.0,	61.0,	0.0,	0.0);	(0.0,	45.7,	0.0,	0.0);
(0.0,	30.5,	0.0,	0.0);	(0.0,	15.2,	0.0,	0.0);

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: C:\modELS\iscst2\ORLTMP86.BIN   FORMAT: UNFORM
SURFACE STATION NO.: 12815   UPPER AIR STATION NO.: 12842
NAME: SURFNAME   NAME: UAIRNAME
YEAR: 1986   YEAR: 1986

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN
86	1	1	1	1.0	3.60	289.3	4	639.0	639.0
86	1	1	2	168.0	5.14	288.7	4	639.0	639.0
86	1	1	3	124.0	3.09	288.2	4	639.0	639.0
86	1	1	4	353.0	2.57	288.2	4	639.0	639.0
86	1	1	5	333.0	2.57	288.7	4	639.0	639.0
86	1	1	6	332.0	2.57	288.7	4	639.0	639.0
86	1	1	7	335.0	3.09	288.7	4	639.0	639.0
86	1	1	8	3.0	3.60	289.3	4	639.0	639.0
86	1	1	9	347.0	3.60	289.8	4	639.0	639.0
86	1	1	10	1.0	5.14	292.0	4	639.0	639.0
86	1	1	11	14.0	4.63	292.6	4	639.0	639.0
86	1	1	12	16.0	4.12	294.3	4	639.0	639.0
86	1	1	13	73.0	3.09	295.4	4	639.0	639.0
86	1	1	14	49.0	3.60	297.0	4	639.0	639.0
86	1	1	15	142.0	2.06	296.5	4	639.0	639.0
86	1	1	16	144.0	2.06	295.9	4	639.0	639.0
86	1	1	17	261.0	2.06	295.4	4	639.0	639.0
86	1	1	18	257.0	2.06	292.6	4	644.0	644.0
86	1	1	19	274.0	3.60	291.5	4	655.0	655.0
86	1	1	20	227.0	3.09	290.9	4	666.0	666.0
86	1	1	21	230.0	3.09	290.9	4	678.0	678.0
86	1	1	22	252.0	2.57	290.4	5	689.0	477.0
86	1	1	23	290.0	2.06	290.4	4	700.0	700.0
86	1	1	24	290.0	1.00	290.4	4	712.0	712.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	0.22243 (86012608)	0.16027 (86071708)	0.13039c(86041208)	0.13979 (86071316)	0.14025 (86071316)
20.0	0.20008c(86061808)	0.14181c(86081824)	0.09442c(86081824)	0.09179 (86071316)	0.08633 (86071316)
30.0	0.21945c(86072008)	0.16324c(86072008)	0.12263c(86072008)	0.09739c(86072008)	0.08297 (86080416)
40.0	0.23625c(86071608)	0.13676c(86021808)	0.12363 (86100608)	0.10919 (86100608)	0.11000 (86080416)
50.0	0.20215 (86042824)	0.19556 (86040808)	0.14775 (86072508)	0.13549 (86072508)	0.11257 (86072508)
60.0	0.25190c(86100508)	0.15294c(86041608)	0.13226c(86030108)	0.08165c(86030108)	0.10608 (86100416)
70.0	0.20874c(86071908)	0.15042 (86090308)	0.12815 (86090308)	0.11115 (86040808)	0.10022 (86072016)
80.0	0.13394c(86122524)	0.13710c(86101508)	0.09254c(86071908)	0.09617c(86071908)	0.11671 (86091216)
90.0	0.13943c(86012524)	0.12551c(86122524)	0.07675c(86070624)	0.07173 (86071516)	0.08452 (86071916)
100.0	0.15367 (86102624)	0.14435 (86060608)	0.07914c(86101024)	0.07247c(86012524)	0.07311c(86071416)
110.0	0.20230c(86031124)	0.13936 (86102624)	0.08663 (86100524)	0.08049 (86091316)	0.10677 (86042916)
120.0	0.20630c(86090408)	0.10044 (86031708)	0.12375c(86031124)	0.10248 (86090216)	0.12147 (86090216)
130.0	0.15000c(86111308)	0.11231 (86041908)	0.12807c(86090408)	0.09972 (86042616)	0.12404 (86042616)
140.0	0.16636 (86032808)	0.14827 (86090808)	0.09125c(86011608)	0.09007c(86111308)	0.09080 (86042816)
150.0	0.18005 (86120408)	0.13670 (86032408)	0.10986 (86032808)	0.10618 (86101616)	0.13799 (86101616)
160.0	0.13474 (86021608)	0.09000 (86021608)	0.12173 (86120408)	0.11493 (86120408)	0.09841 (86110316)
170.0	0.14433 (86122208)	0.14454c(86090208)	0.11130c(86082316)	0.12130 (86110316)	0.13738 (86110316)
180.0	0.15159c(86011608)	0.15393c(86011608)	0.11795c(86011608)	0.12609c(86082316)	0.12081c(86082316)
190.0	0.13245 (86121408)	0.10222c(86090208)	0.10806c(86082316)	0.11285c(86082316)	0.10736c(86082316)
200.0	0.09574 (86020908)	0.11290c(86082316)	0.12455c(86082316)	0.12086c(86082316)	0.10886 (86120416)
210.0	0.16107 (86091808)	0.13736 (86091808)	0.14633c(86082316)	0.14486c(86082316)	0.13204c(86082316)
220.0	0.18950c(86090108)	0.16135c(86090108)	0.13905c(86090108)	0.14105c(86082316)	0.13370c(86082316)
230.0	0.17891 (86091908)	0.11681 (86091908)	0.10544 (86051116)	0.10832 (86051116)	0.10382 (86051116)
240.0	0.13201 (86091524)	0.10890 (86091524)	0.10574 (86062616)	0.10913 (86062616)	0.10544 (86062616)
250.0	0.14761 (86092724)	0.12008c(86080708)	0.11066 (86062616)	0.11627 (86062616)	0.12179 (86091516)
260.0	0.11184c(86060308)	0.11310c(86021708)	0.11286c(86102408)	0.11019 (86062616)	0.11165 (86062616)
270.0	0.16260c(86060308)	0.07412 (86051316)	0.08864 (86051316)	0.09415 (86051316)	0.09364 (86051316)
280.0	0.14889c(86050508)	0.12517c(86100108)	0.10293 (86043016)	0.10803 (86043016)	0.10980 (86070616)
290.0	0.15603 (86052808)	0.14602 (86112808)	0.10582 (86043016)	0.10732 (86062316)	0.11684 (86062316)
300.0	0.16086c(86110508)	0.10692 (86092624)	0.12951 (86040616)	0.14154 (86040616)	0.14229 (86040616)
310.0	0.12667 (86092924)	0.13348 (86040616)	0.15830 (86040616)	0.16247 (86040616)	0.15463 (86040616)
320.0	0.14183c(86120208)	0.14198c(86081224)	0.13067 (86052916)	0.13133 (86052916)	0.12055 (86052916)
330.0	0.16065 (86050708)	0.14424 (86050708)	0.11323 (86052916)	0.10158 (86052916)	0.11090 (86082516)
340.0	0.14063 (86050708)	0.09471 (86082516)	0.10911 (86082516)	0.11651 (86082516)	0.11630 (86082516)
350.0	0.16689 (86031208)	0.19411c(86020408)	0.11607c(86020408)	0.10910 (86082716)	0.12094 (86100916)
360.0	0.14550 (86121008)	0.12544 (86100408)	0.11629 (86071316)	0.13561 (86071316)	0.14048 (86071316)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	0.13069 (86071316)	0.11716 (86071316)	0.10267 (86071316)	0.08905 (86091116)	0.08436 (86080316)
20.0	0.09285 (86010216)	0.09605 (86010216)	0.09601 (86010216)	0.09348 (86010216)	0.08942 (86010216)
30.0	0.08980 (86080416)	0.09174 (86080416)	0.08985 (86080416)	0.08552 (86080416)	0.07984 (86080416)
40.0	0.11713 (86080416)	0.11475 (86080416)	0.10770 (86080416)	0.09813 (86080416)	0.08798 (86080416)
50.0	0.10987 (86072616)	0.10836 (86072616)	0.10468 (86100416)	0.10542 (86100416)	0.10299 (86100416)
60.0	0.13375 (86100416)	0.14933 (86100416)	0.15519 (86100416)	0.15369 (86100416)	0.14717 (86100416)
70.0	0.11294 (86072016)	0.12729 (86081816)	0.13759 (86081816)	0.14070 (86081816)	0.13864 (86081816)
80.0	0.12359 (86091216)	0.11959 (86091216)	0.11071 (86091216)	0.09953 (86091216)	0.08822 (86022616)
90.0	0.09695 (86071916)	0.10038 (86071916)	0.09858 (86071916)	0.09345 (86071916)	0.08664 (86071916)
100.0	0.08125c(86071416)	0.08390 (86071916)	0.08487 (86071916)	0.08244 (86071916)	0.07804 (86071916)
110.0	0.13621 (86042916)	0.15372 (86042916)	0.16120 (86042916)	0.16094 (86042916)	0.15581 (86042916)
120.0	0.12399 (86090216)	0.11767 (86090216)	0.11476 (86091316)	0.10961 (86052216)	0.10709 (86012816)
130.0	0.13147 (86042616)	0.12894 (86042616)	0.12138 (86042616)	0.11118 (86042616)	0.11271 (86012816)
140.0	0.09855 (86042816)	0.09875 (86042816)	0.09435 (86042816)	0.08728 (86042816)	0.08061 (86030516)
150.0	0.16069 (86101616)	0.17285 (86101616)	0.17565 (86101616)	0.17174 (86101616)	0.16377 (86101616)
160.0	0.09119 (86110316)	0.09291 (86101616)	0.09850 (86101616)	0.10114 (86101616)	0.10162 (86101616)
170.0	0.14256 (86110316)	0.14035 (86110316)	0.13280 (86110316)	0.12270 (86110316)	0.11180 (86110316)
180.0	0.11295 (86110316)	0.12011 (86110316)	0.12203 (86110316)	0.12036 (86110316)	0.11641 (86110316)
190.0	0.09723c(86082316)	0.08501 (86102116)	0.08268 (86102116)	0.07866 (86102116)	0.07387 (86102116)
200.0	0.12067 (86120416)	0.12557 (86120416)	0.12534 (86120416)	0.12176 (86120416)	0.11622 (86120416)
210.0	0.11567c(86082316)	0.10536 (86111316)	0.10009 (86111316)	0.09384 (86111316)	0.08730 (86111316)
220.0	0.12182c(86082316)	0.10779c(86082316)	0.10777 (86060516)	0.10694 (86060516)	0.10437 (86060516)
230.0	0.09623 (86051116)	0.08885 (86091616)	0.08143 (86091616)	0.07653 (86102216)	0.07754 (86102216)
240.0	0.09868 (86062616)	0.09502 (86091616)	0.09097 (86091616)	0.09087 (86033116)	0.09110 (86033116)
250.0	0.12666 (86091516)	0.12633 (86091516)	0.12272 (86091516)	0.11723 (86091516)	0.11081 (86091516)
260.0	0.10867 (86062616)	0.10289 (86062616)	0.09580 (86062616)	0.08838 (86062616)	0.08113 (86062616)
270.0	0.08931 (86051316)	0.08685c(86082616)	0.08307c(86082616)	0.07850c(86082616)	0.07366c(86082616)
280.0	0.10950 (86062316)	0.10835 (86062316)	0.10527 (86062316)	0.10114 (86062316)	0.09652 (86062316)
290.0	0.12132 (86062316)	0.12227 (86062316)	0.12082 (86062316)	0.11786 (86062316)	0.11395 (86062316)
300.0	0.13655 (86040616)	0.12721 (86040616)	0.11649 (86040616)	0.10574 (86040616)	0.09561 (86040616)
310.0	0.14170 (86040616)	0.12681 (86040616)	0.11213 (86040616)	0.10036 (86100316)	0.09430 (86100316)
320.0	0.12506 (86112516)	0.12394 (86112516)	0.11884 (86112516)	0.11167 (86112516)	0.10366 (86112516)
330.0	0.11710 (86082516)	0.11813 (86082516)	0.11567 (86082516)	0.11085 (86082516)	0.10471 (86082516)
340.0	0.11067 (86082516)	0.10154 (86082516)	0.10725 (86031216)	0.11338 (86031216)	0.11627 (86031216)
350.0	0.12914 (86100916)	0.13043 (86100916)	0.12675 (86100916)	0.12013 (86100916)	0.11215 (86100916)
360.0	0.13541 (86071316)	0.12530 (86071316)	0.12019 (86112616)	0.12475 (86112616)	0.12649 (86112616)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

RECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	0.07936 (86080316)	0.07416 (86080316)	0.06901 (86080316)	0.06407 (86080316)	0.06440 (86073008)
20.0	0.08816 (86072316)	0.08808 (86072316)	0.08677 (86072316)	0.08459 (86072316)	0.08196 (86072316)
30.0	0.07718 (86062916)	0.07482 (86062916)	0.07176 (86062916)	0.06832 (86062916)	0.06616 (86021116)
40.0	0.07829 (86080416)	0.06947 (86080416)	0.06281 (86030416)	0.06251 (86030416)	0.06147 (86030416)
50.0	0.09865 (86100416)	0.09330 (86100416)	0.08755 (86100416)	0.08176 (86100416)	0.07614 (86100416)
60.0	0.13811 (86100416)	0.12807 (86100416)	0.11797 (86100416)	0.10828 (86100416)	0.09925 (86100416)
70.0	0.13346 (86081816)	0.12660 (86081816)	0.11900 (86081816)	0.11125 (86081816)	0.10367 (86081816)
80.0	0.08209 (86022616)	0.07571 (86022616)	0.06952 (86022616)	0.06372 (86022616)	0.06254 (86020716)
90.0	0.07936 (86071916)	0.07224 (86071916)	0.06560 (86071916)	0.05954 (86071916)	0.05409 (86071916)
100.0	0.07276 (86071916)	0.06726 (86071916)	0.06189 (86071916)	0.05683 (86071916)	0.05305 (86090616)
110.0	0.14802 (86042916)	0.13900 (86042916)	0.12962 (86042916)	0.12040 (86042916)	0.11161 (86042916)
120.0	0.10329 (86012816)	0.09883 (86012816)	0.09413 (86012816)	0.08998 (86022016)	0.08771 (86022016)
130.0	0.11192 (86012816)	0.10895 (86012816)	0.10466 (86012816)	0.09966 (86012816)	0.09435 (86012816)
140.0	0.07552 (86030516)	0.06996 (86030516)	0.06438 (86030516)	0.05903 (86030516)	0.05409 (86032116)
150.0	0.15364 (86101616)	0.14264 (86101616)	0.13156 (86101616)	0.12093 (86101616)	0.11086 (86101616)
160.0	0.10056 (86101616)	0.09845 (86101616)	0.09567 (86101616)	0.10099 (86111508)	0.10743 (86111508)
170.0	0.10107 (86110316)	0.10010 (86012408)	0.10574 (86012408)	0.11007 (86012408)	0.11174 (86012408)
180.0	0.11116 (86110316)	0.10525 (86110316)	0.09911 (86110316)	0.09302 (86110316)	0.08712 (86110316)
190.0	0.06886 (86102116)	0.06395 (86102116)	0.05931 (86102116)	0.05754 (86111324)	0.05647 (86111324)
200.0	0.10969 (86120416)	0.10278 (86120416)	0.09589 (86120416)	0.08924 (86120416)	0.08492 (86020908)
210.0	0.08083 (86111316)	0.07467 (86111316)	0.07297 (86032716)	0.07243 (86032716)	0.07130 (86032716)
220.0	0.10069 (86060516)	0.09634 (86060516)	0.09169 (86060516)	0.08693 (86060516)	0.08216 (86060516)
230.0	0.07787 (86102216)	0.07761 (86102216)	0.07857 (86050924)	0.08137 (86050924)	0.08308 (86050924)
240.0	0.09685 (86111416)	0.10186 (86111416)	0.10528 (86111416)	0.10772 (86111416)	0.10852 (86111416)
250.0	0.10406 (86091516)	0.09733 (86091516)	0.09085 (86091516)	0.08472 (86091516)	0.07900 (86091516)
260.0	0.07670 (86121416)	0.07651 (86091016)	0.07654 (86091016)	0.07684 (86091016)	0.07607 (86091016)
270.0	0.07619 (86031008)	0.08120 (86031008)	0.08507 (86031008)	0.08843 (86031008)	0.09034 (86031008)
280.0	0.09324 (86040416)	0.09321 (86040416)	0.09234 (86040416)	0.09132 (86040416)	0.08924 (86040416)
290.0	0.10949 (86062316)	0.10475 (86062316)	0.09990 (86062316)	0.09508 (86062316)	0.09057 (86062316)
300.0	0.09145 (86030924)	0.09424 (86030924)	0.09554 (86030924)	0.09564 (86030924)	0.09541 (86030924)
310.0	0.08789 (86100316)	0.08151 (86100316)	0.07649 (86122316)	0.07685 (86122316)	0.07654 (86122316)
320.0	0.09555 (86112516)	0.08774 (86112516)	0.08044 (86112516)	0.07373 (86112516)	0.06762 (86112516)
330.0	0.09799 (86082516)	0.09114 (86082516)	0.08447 (86082516)	0.07814 (86082516)	0.07222 (86082516)
340.0	0.11672 (86031216)	0.11538 (86031216)	0.11280 (86031216)	0.10953 (86031216)	0.10556 (86031216)
350.0	0.10382 (86100916)	0.09569 (86100916)	0.08807 (86100916)	0.08107 (86100916)	0.07478 (86100916)
360.0	0.12604 (86112616)	0.12397 (86112616)	0.12076 (86112616)	0.11676 (86112616)	0.11255 (86112616)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	0.06457 (86113016)	0.06553 (86113016)	0.06584 (86113016)
20.0	0.07885 (86072316)	0.07557 (86072316)	0.07425 (86031108)
30.0	0.06596 (86021116)	0.06510 (86021116)	0.06389 (86021116)
40.0	0.06000 (86030416)	0.05805 (86030416)	0.05789 (86021024)
50.0	0.07307 (86112016)	0.07130 (86112016)	0.06918 (86112016)
60.0	0.09263 (86031116)	0.09010 (86031116)	0.08736 (86031116)
70.0	0.09646 (86081816)	0.08971 (86081816)	0.08345 (86081816)
80.0	0.06480 (86020716)	0.06622 (86020716)	0.06744 (86020716)
90.0	0.05260c(86022116)	0.05261c(86022116)	0.05236c(86022116)
100.0	0.05417 (86090616)	0.05475 (86090616)	0.05494 (86090616)
110.0	0.10341 (86042916)	0.09582 (86042916)	0.08886 (86042916)
120.0	0.08494 (86022016)	0.08208 (86022016)	0.07916 (86022016)
130.0	0.08899 (86012816)	0.08375 (86012816)	0.08416 (86102624)
140.0	0.05207 (86032116)	0.05387 (86012508)	0.05632 (86012508)
150.0	0.10156 (86101616)	0.09304 (86101616)	0.08531 (86101616)
160.0	0.11264 (86111508)	0.11660 (86111508)	0.11939 (86111508)
170.0	0.11196 (86012408)	0.11097 (86012408)	0.10904 (86012408)
180.0	0.08152 (86110316)	0.07995 (86110216)	0.08134 (86110216)
190.0	0.05574c(86010208)	0.05885c(86010208)	0.06102c(86010208)
200.0	0.08775 (86020908)	0.08963 (86020908)	0.08984 (86020908)
210.0	0.06991 (86032716)	0.06831 (86032716)	0.06611 (86032716)
220.0	0.07752 (86060516)	0.07307 (86060516)	0.07089 (86010816)
230.0	0.08403 (86050924)	0.08418 (86050924)	0.08330 (86050924)
240.0	0.10842 (86111416)	0.10736 (86111416)	0.10533 (86111416)
250.0	0.07370 (86091516)	0.06881 (86091516)	0.06525c(86020724)
260.0	0.07510 (86091016)	0.07369 (86091016)	0.07179 (86091016)
270.0	0.09155 (86031008)	0.09181 (86031008)	0.09110 (86031008)
280.0	0.08685 (86040416)	0.08410 (86040416)	0.08097 (86040416)
290.0	0.08599 (86062316)	0.08156 (86062316)	0.07717 (86062316)
300.0	0.09377 (86030924)	0.09160 (86030924)	0.08855 (86030924)
310.0	0.07538 (86122316)	0.07383 (86122316)	0.07147 (86122316)
320.0	0.06210 (86112516)	0.05712 (86112516)	0.05402 (86110616)
330.0	0.06676 (86082516)	0.06181 (86031308)	0.06362 (86031208)
340.0	0.10129 (86031216)	0.09690 (86031216)	0.09243 (86031216)
350.0	0.07495 (86052008)	0.07448 (86052008)	0.07453 (86061624)
360.0	0.10777 (86112616)	0.10291 (86112616)	0.09805 (86112616)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	0.21329	(86091908)	15.24	0.00	0.18996c	(86090108)
30.48	0.00	0.12733c	(86090108)	45.72	0.00	0.20776	(86091808)
60.96	0.00	0.13814c	(86020108)	76.20	0.00	0.13234	(86091708)
91.44	0.00	0.15818	(86121408)	106.68	0.00	0.13769	(86060524)
121.92	0.00	0.21851c	(86011608)	137.16	0.00	0.20422	(86122208)
152.40	0.00	0.15148	(86012408)	167.64	0.00	0.16729	(86120408)
182.88	0.00	0.22097	(86032408)	198.12	0.00	0.18065	(86032808)
213.36	0.00	0.19322	(86090808)	213.36	15.24	0.15092	(86062608)
213.36	30.48	0.17086c	(86111308)	213.36	45.72	0.19673c	(86111308)
213.36	60.96	0.23567c	(86041408)	213.36	76.20	0.16224c	(86090408)
213.36	91.44	0.27136c	(86031124)	213.36	106.68	0.28134	(86102624)
213.36	121.92	0.27821	(86060608)	213.36	137.16	0.23556c	(86012524)
213.36	152.40	0.19908c	(86101508)	213.36	167.64	0.28253c	(86101108)
213.36	182.88	0.31579c	(86100508)	213.36	198.12	0.18158	(86120224)
213.36	213.36	0.28075	(86072508)	213.36	221.29	0.24429	(86072508)
198.12	221.29	0.23913c	(86071608)	182.88	221.29	0.20568c	(86082508)
167.64	221.29	0.26836c	(86082508)	152.40	221.29	0.25970c	(86081824)
137.16	221.29	0.31468	(86012608)	121.92	221.29	0.21545	(86121008)
106.68	221.29	0.24831	(86031208)	91.44	221.29	0.15822	(86031908)
76.20	221.29	0.28161	(86050708)	60.96	221.29	0.22547	(86050708)
45.72	221.29	0.22299c	(86081224)	30.48	221.29	0.17618c	(86120208)
15.24	221.29	0.13924c	(86120208)	0.00	221.29	0.11061	(86080924)
0.00	213.36	0.13680c	(86100324)	0.00	198.12	0.15725	(86092924)
0.00	182.88	0.18367c	(86110508)	0.00	167.64	0.20693	(86112808)
0.00	152.40	0.19605c	(86100108)	0.00	137.16	0.13477c	(86050508)
0.00	121.92	0.21523c	(86060308)	0.00	106.68	0.17226c	(86021708)
0.00	91.44	0.14078c	(86080708)	0.00	76.20	0.16022c	(86092908)
0.00	60.96	0.14339	(86091524)	0.00	45.72	0.13282	(86091524)
0.00	30.48	0.14484c	(86100208)	0.00	15.24	0.22442	(86091908)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	0.16966c(86071508)	0.14052c(86041208)	0.12332 (86071316)	0.11064 (86091116)	0.11990 (86091116)
20.0	0.19723c(86081824)	0.12854c(86061808)	0.09006 (86091308)	0.07674 (86060816)	0.08572 (86010216)
30.0	0.20840c(86121124)	0.13425c(86121124)	0.10600c(86100508)	0.09047c(86100508)	0.08038c(86072008)
40.0	0.22433c(86090708)	0.12986 (86100608)	0.11487c(86100508)	0.09592c(86100508)	0.09504 (86100608)
50.0	0.20144 (86022008)	0.15246 (86111808)	0.13448 (86040808)	0.08966c(86071908)	0.10238 (86072616)
60.0	0.20129 (86040808)	0.11228 (86030624)	0.11607 (86030624)	0.07620c(86060908)	0.08755 (86072016)
70.0	0.14720 (86071408)	0.12809c(86092808)	0.09034 (86020716)	0.09461 (86090308)	0.09251c(86100508)
80.0	0.12854c(86070624)	0.12496 (86042508)	0.08883 (86081524)	0.09585 (86091216)	0.08652c(86071908)
90.0	0.13272c(86101024)	0.10533 (86011308)	0.07507c(86122524)	0.06240 (86071916)	0.08257 (86071516)
100.0	0.14632c(86101508)	0.12633c(86012308)	0.07484c(86012524)	0.07079c(86101424)	0.07199 (86050816)
110.0	0.13258 (86102624)	0.10331c(86012308)	0.08096 (86102624)	0.07714 (86052216)	0.09469 (86052216)
120.0	0.15721c(86041408)	0.09769 (86041808)	0.07812 (86102624)	0.09587 (86042616)	0.10793 (86042616)
130.0	0.13487c(86011608)	0.10793 (86021408)	0.10627c(86041408)	0.08333c(86090408)	0.09149 (86042816)
140.0	0.14026 (86101708)	0.11988 (86062608)	0.08614 (86011408)	0.07152 (86042816)	0.07907c(86111308)
150.0	0.17614c(86041408)	0.12645c(86041408)	0.07935c(86092408)	0.09067 (86032808)	0.07902 (86101516)
160.0	0.12025 (86012408)	0.08653 (86033008)	0.08148 (86110316)	0.09699 (86110316)	0.08908c(86041408)
170.0	0.12111c(86090208)	0.13935 (86122208)	0.09791 (86122208)	0.11616c(86082316)	0.10567c(86082316)
180.0	0.11966c(86092308)	0.14012c(86092308)	0.11507c(86082316)	0.09120c(86011608)	0.09985 (86110316)
190.0	0.11594 (86111008)	0.09770c(86092208)	0.09087c(86090208)	0.08731 (86092716)	0.09092 (86120416)
200.0	0.09193c(86020108)	0.07358 (86102824)	0.08211 (86111316)	0.09065 (86111316)	0.10872c(86082316)
210.0	0.13988 (86051408)	0.12837c(86082316)	0.11930 (86091808)	0.10522 (86091808)	0.10825 (86111316)
220.0	0.14202 (86091908)	0.12535 (86091908)	0.13690c(86082316)	0.12147c(86090108)	0.10745c(86090108)
230.0	0.12635c(86090108)	0.10501c(86100208)	0.09976c(86100208)	0.10390 (86062616)	0.10074 (86062616)
240.0	0.12537c(86051708)	0.09118 (86062616)	0.09082 (86091524)	0.09379 (86091616)	0.09726 (86091616)
250.0	0.13939c(86092908)	0.10548 (86092724)	0.08907 (86091516)	0.10971 (86091516)	0.11427 (86062616)
260.0	0.11108c(86021708)	0.09746c(86060308)	0.10184 (86062616)	0.09487c(86060308)	0.08683 (86121416)
270.0	0.14405c(86042008)	0.07139 (86091016)	0.07707 (86092216)	0.08569 (86092216)	0.08882c(86082616)
280.0	0.11210 (86081108)	0.10536 (86112324)	0.10194c(86100108)	0.10482 (86070616)	0.10756 (86062316)
290.0	0.14534 (86092624)	0.11241c(86021708)	0.09847c(86110508)	0.09718 (86043016)	0.10309c(86090516)
300.0	0.13093 (86052724)	0.10250 (86092924)	0.10348 (86093016)	0.11245 (86093016)	0.11364 (86093016)
310.0	0.11657c(86092508)	0.10835 (86093016)	0.12981 (86093016)	0.13742 (86093016)	0.13390 (86093016)
320.0	0.12682 (86092424)	0.12001 (86040616)	0.11792 (86040616)	0.11637 (86081016)	0.11974 (86112516)
330.0	0.13409 (86112524)	0.11514 (86052916)	0.08776 (86051816)	0.09935 (86082516)	0.09991 (86080816)
340.0	0.13136c(86041308)	0.09101 (86080816)	0.09685 (86080816)	0.10118 (86080816)	0.10720 (86082716)
350.0	0.13757 (86062008)	0.09817c(86020808)	0.10285 (86082716)	0.10534 (86100916)	0.11140 (86031216)
360.0	0.14533c(86020408)	0.10377 (86061624)	0.09597 (86061416)	0.10562 (86100916)	0.10665 (86100916)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	0.11856 (86091116)	0.11095 (86091116)	0.10042 (86091116)	0.08879 (86080316)	0.08196 (86110516)
20.0	0.08678 (86101416)	0.08894 (86101416)	0.08699 (86101416)	0.08287 (86072316)	0.08657 (86072316)
30.0	0.07368 (86061716)	0.07809 (86061716)	0.07826 (86061716)	0.07776 (86062916)	0.07837 (86062916)
40.0	0.08863 (86072616)	0.08827 (86072616)	0.08434 (86072616)	0.07858 (86072616)	0.07414 (86070208)
50.0	0.09144 (86100416)	0.10021 (86100416)	0.10229 (86072616)	0.09394 (86072616)	0.08488 (86072616)
60.0	0.09290 (86072016)	0.09554 (86070116)	0.10213 (86070116)	0.10503 (86070116)	0.10511 (86070116)
70.0	0.10872 (86081816)	0.11569 (86072016)	0.11284 (86072016)	0.10669 (86072016)	0.09897 (86072016)
80.0	0.08675 (86022616)	0.09435 (86022616)	0.09596 (86022616)	0.09331 (86022616)	0.08784 (86091216)
90.0	0.08366 (86091216)	0.08775 (86091216)	0.08689 (86091216)	0.08260 (86091216)	0.07650 (86091216)
100.0	0.07822 (86071916)	0.08002c(86071416)	0.07438c(86071416)	0.06892 (86042916)	0.06423 (86030516)
110.0	0.10130 (86042816)	0.09970 (86042816)	0.09415 (86042816)	0.09639 (86012316)	0.09609 (86012316)
120.0	0.11393 (86091316)	0.11716 (86091316)	0.11328 (86042816)	0.10949 (86012816)	0.10385 (86052216)
130.0	0.09617 (86042816)	0.09426 (86042816)	0.10284 (86012816)	0.11016 (86012816)	0.10046 (86042616)
140.0	0.07502 (86030516)	0.08326 (86030516)	0.08590 (86030516)	0.08447 (86030516)	0.07932 (86042816)
150.0	0.08918 (86101516)	0.09242 (86101516)	0.09038 (86101516)	0.08510 (86101516)	0.07835 (86101516)
160.0	0.08476c(86041408)	0.08122 (86110316)	0.07784 (86101516)	0.07976 (86101516)	0.07965 (86101516)
170.0	0.10077 (86110416)	0.09422 (86110416)	0.08551 (86011216)	0.08004 (86011216)	0.08298 (86012408)
180.0	0.10822c(86082316)	0.09829 (86110416)	0.09950 (86110416)	0.09773 (86110416)	0.09411 (86110416)
190.0	0.09016 (86120416)	0.08495c(86082316)	0.07645 (86120416)	0.06804 (86120416)	0.06005 (86120416)
200.0	0.09678 (86092716)	0.09358 (86092716)	0.08787 (86092716)	0.08125 (86102016)	0.07947 (86102016)
210.0	0.10859 (86111316)	0.09881c(86082316)	0.09140 (86042416)	0.08770 (86042416)	0.08297 (86042416)
220.0	0.10078 (86060516)	0.10605 (86060516)	0.09353c(86082316)	0.09339 (86112116)	0.09254 (86112116)
230.0	0.09516 (86091616)	0.08714 (86051116)	0.07802 (86051116)	0.07390 (86091616)	0.07019 (86112116)
240.0	0.09738 (86091616)	0.09013 (86062616)	0.08929 (86033116)	0.08618 (86091616)	0.09001 (86111416)
250.0	0.10837 (86062616)	0.10011 (86062616)	0.09115 (86062616)	0.08274 (86091716)	0.08057 (86091716)
260.0	0.08960 (86121416)	0.08949 (86121416)	0.08752 (86121416)	0.08443 (86121416)	0.08071 (86121416)
270.0	0.08911c(86082616)	0.08487 (86092216)	0.08078 (86092216)	0.07621 (86092216)	0.07155 (86092216)
280.0	0.10921 (86070616)	0.10499 (86070616)	0.09875 (86070616)	0.09170 (86070616)	0.09218 (86040416)
290.0	0.10682c(86090516)	0.10574c(86090516)	0.10163c(86090516)	0.09592c(86090516)	0.08951c(86090516)
300.0	0.11040 (86093016)	0.10423 (86093016)	0.09665 (86093016)	0.08871 (86093016)	0.08692 (86030924)
310.0	0.12491 (86093016)	0.11322 (86093016)	0.10541 (86100316)	0.09866 (86040616)	0.08676 (86040616)
320.0	0.10538 (86052916)	0.09453 (86052816)	0.08675 (86052816)	0.08231 (86081116)	0.07806 (86081116)
330.0	0.09926 (86080816)	0.09466 (86080816)	0.08826 (86080816)	0.08054 (86080816)	0.07355 (86081116)
340.0	0.10697 (86082716)	0.10106 (86082716)	0.09275 (86082716)	0.08524 (86100916)	0.08314 (86100916)
350.0	0.11670 (86031216)	0.11478 (86031216)	0.10848 (86031216)	0.10026 (86031216)	0.09167 (86031216)
360.0	0.10902 (86091116)	0.11215 (86112616)	0.11326 (86071316)	0.10951 (86102516)	0.10766 (86102516)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

RECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	0.07627 (86110616)	0.07082 (86110616)	0.06542 (86110616)	0.06363 (86073008)	0.06290 (86113016)
20.0	0.08456 (86010216)	0.07936 (86010216)	0.07501 (86112916)	0.07353 (86112916)	0.07427 (86031108)
30.0	0.07366 (86080416)	0.06756 (86080416)	0.06474 (86021116)	0.06578 (86021116)	0.06474 (86062916)
40.0	0.07045 (86070208)	0.06654 (86070208)	0.06259 (86070208)	0.05874 (86070208)	0.05509 (86070208)
50.0	0.07851 (86073116)	0.07418 (86073116)	0.07420 (86112016)	0.07470 (86112016)	0.07420 (86112016)
60.0	0.10334 (86070116)	0.10042 (86070116)	0.09721 (86031116)	0.09625 (86031116)	0.09459 (86031116)
70.0	0.09089 (86072016)	0.08306 (86072016)	0.07639 (86031116)	0.07271 (86031116)	0.06884 (86031116)
80.0	0.07675 (86091216)	0.06710 (86091216)	0.05885 (86091216)	0.06065 (86020716)	0.05839 (86022616)
90.0	0.06954 (86091216)	0.06282 (86091216)	0.05663 (86091216)	0.05271 (86041616)	0.05202c(86022116)
100.0	0.05964 (86030516)	0.05495 (86030516)	0.05081 (86060616)	0.05124 (86090616)	0.05216 (86071916)
110.0	0.09358 (86012316)	0.08976 (86012316)	0.08524 (86012316)	0.08043 (86012316)	0.07560 (86012316)
120.0	0.09696 (86052216)	0.09395 (86022016)	0.09220 (86022016)	0.08942 (86012816)	0.08491 (86012816)
130.0	0.09023 (86042616)	0.09003 (86121716)	0.08998 (86121716)	0.08889 (86121716)	0.08725 (86121716)
140.0	0.07143 (86042816)	0.06408 (86042816)	0.05889c(86072416)	0.05581 (86032116)	0.05405 (86030516)
150.0	0.07120 (86101516)	0.06695 (86032108)	0.07025 (86032108)	0.07280 (86032108)	0.07389 (86032108)
160.0	0.07808 (86101516)	0.08322 (86111508)	0.09216 (86111508)	0.09252 (86101616)	0.09311 (86101608)
170.0	0.09241 (86012408)	0.09102 (86110316)	0.08186 (86110316)	0.07535 (86120508)	0.07769 (86120508)
180.0	0.08943 (86110416)	0.08427 (86110416)	0.07912 (86122616)	0.07769 (86122616)	0.07550 (86032216)
190.0	0.05575 (86111324)	0.05735 (86111324)	0.05779 (86111324)	0.05504 (86102116)	0.05410 (86122616)
200.0	0.07690 (86102016)	0.07390 (86102016)	0.07571 (86020908)	0.08108 (86020908)	0.08296 (86120416)
210.0	0.07781 (86042416)	0.07373 (86120416)	0.07034 (86120416)	0.06682 (86120416)	0.06566 (86010716)
220.0	0.09059 (86112116)	0.08788 (86112116)	0.08469 (86112116)	0.08130 (86112116)	0.07770 (86112116)
230.0	0.06961 (86050924)	0.07448 (86050924)	0.07708 (86102216)	0.07590 (86102216)	0.07439 (86102216)
240.0	0.09028 (86033116)	0.08870 (86033116)	0.08658 (86033116)	0.08459 (86102908)	0.08793 (86102908)
250.0	0.07783 (86091716)	0.07477 (86091716)	0.07154 (86091716)	0.06838 (86091716)	0.06512 (86091716)
260.0	0.07605 (86091016)	0.07261 (86121416)	0.06857 (86121416)	0.06700 (86122308)	0.06818 (86122308)
270.0	0.07029c(86020824)	0.07170 (86122224)	0.07426 (86122224)	0.07661 (86122224)	0.07747 (86122224)
280.0	0.09173 (86062316)	0.08696 (86062316)	0.08232 (86062316)	0.07788 (86062316)	0.07370 (86062316)
290.0	0.08297c(86090516)	0.07662c(86090516)	0.07062c(86090516)	0.06507c(86090516)	0.06445 (86120816)
300.0	0.08637 (86040616)	0.07807 (86040616)	0.07070 (86040616)	0.06708 (86030916)	0.06741 (86122316)
310.0	0.07808 (86030916)	0.07558 (86030916)	0.07539 (86100316)	0.06965 (86100316)	0.06640 (86030916)
320.0	0.07337 (86081116)	0.06860 (86081116)	0.06394 (86081116)	0.05951 (86081116)	0.05675 (86110616)
330.0	0.06950 (86081116)	0.06528 (86081116)	0.06328 (86031308)	0.06371 (86031308)	0.06337 (86031308)
340.0	0.08005 (86100916)	0.07962 (86070516)	0.08071 (86070516)	0.08110 (86070516)	0.08042 (86070516)
350.0	0.08351 (86031216)	0.07611 (86031216)	0.07112 (86052008)	0.07340 (86052008)	0.07476 (86052008)
360.0	0.10365 (86102516)	0.09842 (86102516)	0.09259 (86102516)	0.08661 (86102516)	0.08175 (86110516)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	0.06404 (86073008)	0.06313 (86073008)	0.06180 (86073008)
20.0	0.07475 (86031108)	0.07471 (86031108)	0.07223 (86072316)
30.0	0.06116 (86062916)	0.05767 (86062916)	0.05432 (86062916)
40.0	0.05645 (86021024)	0.05741 (86021024)	0.05588 (86030416)
50.0	0.07082 (86100416)	0.06586 (86100416)	0.06446 (86122008)
60.0	0.09096 (86100416)	0.08344 (86100416)	0.07679 (86070116)
70.0	0.06495 (86031116)	0.06114 (86031116)	0.06069 (86122424)
80.0	0.05657 (86122516)	0.05752 (86122516)	0.05813 (86122516)
90.0	0.05129 (86070316)	0.05073 (86070316)	0.05122c(86071908)
100.0	0.04790 (86071916)	0.04719 (86022208)	0.05010 (86022208)
110.0	0.07089 (86012316)	0.06639 (86012316)	0.06216 (86012316)
120.0	0.08052 (86012816)	0.07637 (86012816)	0.07245 (86012816)
130.0	0.08487 (86121716)	0.08216 (86121716)	0.07924 (86121716)
140.0	0.05089 (86012508)	0.05198 (86010116)	0.05430 (86010116)
150.0	0.07399 (86032108)	0.07341 (86032108)	0.07226 (86032108)
160.0	0.09592 (86101608)	0.09781 (86101608)	0.09888 (86101608)
170.0	0.07907 (86120508)	0.07962 (86120508)	0.07946 (86120508)
180.0	0.07760 (86110216)	0.07626 (86110316)	0.07586 (86122808)
190.0	0.05560 (86122616)	0.05664 (86122616)	0.05709 (86122616)
200.0	0.07710 (86120416)	0.07168 (86120416)	0.06670 (86120416)
210.0	0.06632 (86010716)	0.06631 (86010716)	0.06516 (86010716)
220.0	0.07407 (86112116)	0.07171 (86010816)	0.06868 (86060516)
230.0	0.07480 (86092008)	0.07693 (86092008)	0.07817 (86092008)
240.0	0.09065 (86102908)	0.09241 (86102908)	0.09286 (86102908)
250.0	0.06584c(86020724)	0.06592c(86020724)	0.06431 (86091516)
260.0	0.06879 (86122308)	0.06863 (86122308)	0.06780 (86122308)
270.0	0.07776 (86122224)	0.07727 (86122224)	0.07601 (86122224)
280.0	0.06973 (86062316)	0.06693 (86091016)	0.06491 (86091016)
290.0	0.06322 (86120816)	0.06165 (86120816)	0.05968 (86120816)
300.0	0.06859 (86122316)	0.06915 (86122316)	0.06983c(86120208)
310.0	0.06374 (86122324)	0.06378 (86122324)	0.06286 (86122324)
320.0	0.05606 (86110616)	0.05525 (86110616)	0.05264 (86112516)
330.0	0.06271 (86031308)	0.06174 (86082516)	0.06050 (86031308)
340.0	0.07915 (86070516)	0.07746 (86070516)	0.07533 (86070516)
350.0	0.07188 (86061624)	0.07350 (86061624)	0.07340 (86052008)
360.0	0.07710 (86110516)	0.07258 (86110516)	0.07081 (86012608)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	0.17491c	(86090108)	15.24	0.00	0.14330c	(86083008)
30.48	0.00	0.12390c	(86051808)	45.72	0.00	0.18048	(86051408)
60.96	0.00	0.13151	(86051408)	76.20	0.00	0.12125	(86111108)
91.44	0.00	0.13690	(86111008)	106.68	0.00	0.11127c	(86020208)
121.92	0.00	0.21092c	(86092308)	137.16	0.00	0.18946c	(86090208)
152.40	0.00	0.13475	(86021608)	167.64	0.00	0.13660	(86033008)
182.88	0.00	0.21414c	(86041408)	198.12	0.00	0.13373	(86111508)
213.36	0.00	0.13759	(86062608)	213.36	15.24	0.14814	(86090808)
213.36	30.48	0.14666c	(86011608)	213.36	45.72	0.16608	(86041908)
213.36	60.96	0.19107c	(86090408)	213.36	76.20	0.15887	(86031708)
213.36	91.44	0.16733	(86031708)	213.36	106.68	0.20817c	(86101508)
213.36	121.92	0.24649c	(86012308)	213.36	137.16	0.22109	(86011308)
213.36	152.40	0.16935	(86012108)	213.36	167.64	0.25824c	(86071908)
213.36	182.88	0.23934c	(86041608)	213.36	198.12	0.18122c	(86060808)
213.36	213.36	0.26135	(86040808)	213.36	221.29	0.19209c	(86061408)
198.12	221.29	0.22060c	(86090708)	182.88	221.29	0.20538c	(86071908)
167.64	221.29	0.25651c	(86121124)	152.40	221.29	0.25892c	(86061808)
137.16	221.29	0.25898c	(86071508)	121.92	221.29	0.19857c	(86020408)
106.68	221.29	0.20993c	(86020408)	91.44	221.29	0.12852	(86110616)
76.20	221.29	0.18755	(86031908)	60.96	221.29	0.17141	(86112524)
45.72	221.29	0.17407c	(86120208)	30.48	221.29	0.14688	(86092424)
15.24	221.29	0.13625c	(86051808)	0.00	221.29	0.10776c	(86100808)
0.00	213.36	0.12868	(86081024)	0.00	198.12	0.15227	(86092624)
0.00	182.88	0.15071	(86052724)	0.00	167.64	0.19770	(86092924)
0.00	152.40	0.15239	(86112324)	0.00	137.16	0.12358	(86112508)
0.00	121.92	0.19064c	(86042008)	0.00	106.68	0.16152c	(86060308)
0.00	91.44	0.11608	(86092724)	0.00	76.20	0.16020	(86092724)
0.00	60.96	0.11636c	(86042324)	0.00	45.72	0.12607c	(86051708)
0.00	30.48	0.14137	(86092608)	0.00	15.24	0.16133c	(86090108)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

RANK	CONC (YYMMDDHH) AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC (YYMMDDHH) AT	RECEPTOR (XR,YR)	OF TYPE
[illegible]	0.31579c(86100508) AT (	213.36, 182.88)	DC	26.	0.23567c(86041408) AT (	213.36, 60.96)	DC
2.	0.31468 (86012608) AT (	137.16, 221.29)	DC	27.	0.23556c(86012524) AT (	213.36, 137.16)	DC
3.	0.28253c(86101108) AT (	213.36, 167.64)	DC	28.	0.22555 (86071708) AT (	137.16, 221.29)	DC
[illegible]	0.28161 (86050708) AT (	76.20, 221.29)	DC	29.	0.22547 (86050708) AT (	60.96, 221.29)	DC
[illegible]	0.28134 (86102624) AT (	213.36, 106.68)	DC	30.	0.22442 (86091908) AT (	0.00, 15.24)	DC
6.	0.28075 (86072508) AT (	213.36, 213.36)	DC	31.	0.22433c(86090708) AT (	203.10, 225.55)	GP
[illegible]	0.27821 (86060608) AT (	213.36, 121.92)	DC	32.	0.22299c(86081224) AT (	45.72, 221.29)	DC
[illegible]	0.27136c(86031124) AT (	213.36, 91.44)	DC	33.	0.22249 (86111808) AT (	213.36, 213.36)	DC
9.	0.26836c(86082508) AT (	167.64, 221.29)	DC	34.	0.22243 (86012608) AT (	132.73, 258.36)	GP
10.	0.26135 (86040808) AT (	213.36, 213.36)	DC	35.	0.22228c(86071808) AT (	167.64, 221.29)	DC
[illegible]	0.25970c(86081824) AT (	152.40, 221.29)	DC	36.	0.22117c(86010324) AT (	137.16, 221.29)	DC
12.	0.25898c(86071508) AT (	137.16, 221.29)	DC	37.	0.22109 (86011308) AT (	213.36, 137.16)	DC
13.	0.25892c(86061808) AT (	152.40, 221.29)	DC	38.	0.22097 (86032408) AT (	182.88, 0.00)	DC
[illegible]	0.25824c(86071908) AT (	213.36, 167.64)	DC	39.	0.22060c(86090708) AT (	198.12, 221.29)	DC
[illegible]	0.25651c(86121124) AT (	167.64, 221.29)	DC	40.	0.22014c(86061008) AT (	167.64, 221.29)	DC
16.	0.25550c(86050808) AT (	152.40, 221.29)	DC	41.	0.21945c(86072008) AT (	181.68, 240.55)	GP
[illegible]	0.25190c(86100508) AT (	236.58, 185.64)	GP	42.	0.21851c(86011608) AT (	121.92, 0.00)	DC
[illegible]	0.24831 (86031208) AT (	106.68, 221.29)	DC	43.	0.21842 (86072324) AT (	152.40, 221.29)	DC
19.	0.24649c(86012308) AT (	213.36, 121.92)	DC	44.	0.21696 (86030408) AT (	213.36, 213.36)	DC
20.	0.24429 (86072508) AT (	213.36, 221.29)	DC	45.	0.21545 (86121008) AT (	121.92, 221.29)	DC
[illegible]	0.24198c(86013008) AT (	152.40, 221.29)	DC	46.	0.21523c(86060308) AT (	0.00, 121.92)	DC
22.	0.23934c(86041608) AT (	213.36, 182.88)	DC	47.	0.21472c(86053108) AT (	137.16, 221.29)	DC
23.	0.23913c(86071608) AT (	198.12, 221.29)	DC	48.	0.21414c(86041408) AT (	182.88, 0.00)	DC
[illegible]	0.23625c(86071608) AT (	203.10, 225.55)	GP	49.	0.21378c(86051208) AT (	167.64, 221.29)	DC
[illegible]	0.23584 (86072308) AT (	167.64, 221.29)	DC	50.	0.21332c(86041208) AT (	152.40, 221.29)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	HIGH 1ST HIGH VALUE IS	0.31579c	ON 86100508: AT (	213.36,	182.88,	0.00,	0.00)	DC	
	HIGH 2ND HIGH VALUE IS	0.26135	ON 86040808: AT (	213.36,	213.36,	0.00,	0.00)	DC	

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** Message Summary For ISC2 Model Execution ***

-------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
Total of 0 Warning Message(s)
Total of 328 Informational Message(s)

Total of 328 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST2 Finishes Successfully ***
****

Run: FMXTDI8

TDI 24-hour Average Emission Rates

```
ISCST2 EXTENDED MODEL - (DATED 92062)

IBM-PC VERSION (1.01)
(C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8025 SOLD TO CROSS TESSITORE & ASSOCIATES
RUN BEGAN ON 01/21/93 AT 10:56:06


CO STARTING
CO TITLEONE Foamex TDI Sources: Foam Line Stack & Rebond Process Exhaust
CO TITLETWO 24-hour Average Emission Rates
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 24
CO POLLUTID OTHER
CO RUNORNOT RUN
CO FINISHED

SO STARTING

** Source Location Cards:
**          SRCID SRCTYP        XS             YS             ZS

SO LOCATION     1 POINT       175.8720       119.7880        .0000
SO LOCATION     2 POINT       141.4290       162.7650        .0000
SO LOCATION     3 POINT       141.4290       166.4230        .0000

** Source Parameter Cards:
** POINT:   SRCID       QS             HS          TS          VS          DS
** VOLUME:  SRCID       QS             HS        SYINIT      SZINIT
** AREA:    SRCID       QS             HS         XINIT

SO SRCPARAM     1    .0058274        38.1000   299.8200    24.3810     .7021
SO SRCPARAM     2    .0001449        12.4968   299.8200     1.0348     .7620
SO SRCPARAM     3    .0001449        12.4968   299.8200     1.0348     .7620

** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     1
SO BUILDHGT     1     15.24     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     1       .00       .00       .00       .00       .00       .00
SO BUILDHGT     1       .00       .00     15.24     15.24     15.24       .00
SO BUILDHGT     1       .00     15.24     15.24     15.24     15.24     15.24
SO BUILDHGT     1       .00       .00       .00       .00       .00       .00
SO BUILDHGT     1       .00       .00     15.24     15.24     15.24     15.24
SO BUILDHGT     2     12.19     12.19     10.67     10.67     10.67     10.67
SO BUILDHGT     2     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     2     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     2     10.67     12.19     10.67     10.97     10.97     10.97
SO BUILDHGT     2     10.97     10.97     10.67     10.67     10.67     10.67
SO BUILDHGT     2     12.19     12.19     12.19     12.19     12.19     12.19
SO BUILDHGT     3     12.19     12.19     10.67     10.67     10.67     10.67
SO BUILDHGT     3     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     3     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT     3     10.67     10.67     10.67     10.67     10.97     10.97
SO BUILDHGT     3     10.97     10.97     10.67     10.67     10.67     10.67
SO BUILDHGT     3     12.19     12.19     12.19     12.19     12.19     12.19
** NOTE:  Direction-Specific Building Widths Used for Non-SS Source      1
SO BUILDWID     1     84.68     91.23     95.01     95.96     95.84     93.53
```

[redacted]

```
SO BUILDWID     1       .00       .00       .00       .00       .00       .00
[redacted]O BUILDWID     1       .00       .00     93.84     90.70     83.88       .00
[redacted]O BUILDWID     1       .00     91.23     95.01     95.96     95.84     93.53
SO BUILDWID     1       .00       .00       .00       .00       .00       .00
[redacted]O BUILDWID     1       .00       .00     93.84     90.70     83.88     75.55
[redacted]O BUILDWID     2     84.68     88.29    196.53    209.06    215.24    215.89
SO BUILDWID     2    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID     2    186.24    176.60    161.59    148.74    138.57    125.52
[redacted]O BUILDWID     2    154.11     88.29    196.53     24.84     24.73     23.71
[redacted]O BUILDWID     2     21.98     19.58    193.13    194.58    194.74    192.50
SO BUILDWID     2    125.05    122.42    116.07    106.20     93.09     77.16
[redacted]O BUILDWID     3     84.68     87.62    196.53    209.06    215.24    215.89
[redacted]O BUILDWID     3    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID     3    186.24    176.60    161.59    148.74    138.57    125.52
[redacted]O BUILDWID     3    154.11    178.03    196.53    209.06     24.58     23.71
[redacted]O BUILDWID     3     21.98     19.58    193.13    194.58    194.74    192.50
SO BUILDWID     3    124.83    122.42    116.07    106.20     93.09     77.16
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
[redacted]O SRCGROUP ALL
[redacted]O FINISHED

[redacted]E STARTING
[redacted]E GRIDPOLR POL1 STA
RE GRIDPOLR POL1 ORIG   106.68  110.6424
RE GRIDPOLR POL1 DIST   150. 200. 250. 300. 350. 400. 450. 500. 550.
[redacted]E GRIDPOLR POL1 DIST   600. 650. 700. 750. 800. 850. 900. 950. 1000.
RE GRIDPOLR POL1 GDIR   36  10.  10.
RE GRIDPOLR POL1 END
[redacted] DISCCART          .00         .00
[redacted] DISCCART        15.24         .00
RE DISCCART        30.48         .00
RE DISCCART        45.72         .00
[redacted] DISCCART        60.96         .00
RE DISCCART        76.20         .00
RE DISCCART        91.44         .00
[redacted] DISCCART       106.68         .00
[redacted] DISCCART       121.92         .00
RE DISCCART       137.16         .00
[redacted] DISCCART       152.40         .00
[redacted] DISCCART       167.64         .00
RE DISCCART       182.88         .00
[redacted] DISCCART       198.12         .00
[redacted] DISCCART       213.36         .00
RE DISCCART       213.36       15.24
RE DISCCART       213.36       30.48
[redacted] DISCCART       213.36       45.72
[redacted] DISCCART       213.36       60.96
RE DISCCART       213.36       76.20
[redacted] DISCCART       213.36       91.44
[redacted] DISCCART       213.36      106.68
RE DISCCART       213.36      121.92
[redacted] DISCCART       213.36      137.16
[redacted] DISCCART       213.36      152.40
RE DISCCART       213.36      167.64
RE DISCCART       213.36      182.88
[redacted] DISCCART       213.36      198.12
[redacted] DISCCART       213.36      213.36
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[redacted]

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RE DISCCART     213.36     221.29
[redacted] DISCCART     198.12     221.29
[redacted] DISCCART     182.88     221.29
RE DISCCART     167.64     221.29
[redacted] DISCCART     152.40     221.29
[redacted] DISCCART     137.16     221.29
RE DISCCART     121.92     221.29
RE DISCCART     106.68     221.29
[redacted] DISCCART      91.44     221.29
[redacted] DISCCART      76.20     221.29
RE DISCCART      60.96     221.29
[redacted] DISCCART      45.72     221.29
[redacted] DISCCART      30.48     221.29
RE DISCCART      15.24     221.29
RE DISCCART        .00     221.29
[redacted] DISCCART        .00     213.36
RE DISCCART        .00     198.12
RE DISCCART        .00     182.88
[redacted] DISCCART        .00     167.64
[redacted] DISCCART        .00     152.40
RE DISCCART        .00     137.16
[redacted] DISCCART        .00     121.92
[redacted] DISCCART        .00     106.68
RE DISCCART        .00      91.44
RE DISCCART        .00      76.20
[redacted] DISCCART        .00      60.96
RE DISCCART        .00      45.72
RE DISCCART        .00      30.48
[redacted] DISCCART        .00      15.24
[redacted] FINISHED

[redacted] STARTING
ME INPUTFIL C:\modELS\iscst2\ORLTMP86.BIN    UNFORM
ME ANEMHGHT   10.000 METERS
[redacted] SURFDATA  12815  1986           SURFNAME
[redacted] UAIRDATA  12842  1986           UAIRNAME
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
[redacted] FINISHED

OU STARTING
[redacted] RECTABLE 24 FIRST  SECOND
OU MAXTABLE 24 50
OU FINISHED

*[redacted]*********************************
*** SETUP Finishes Successfully ***
*[redacted]*********************************
```

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

Model Is Setup For Calculation of Average CONCentration Values.

**Model Uses RURAL Dispersion.

Model Uses Regulatory DEFAULT Options:

1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates 1 Short Term Average(s) of: 24-HR

This Run Includes: 3 Source(s); 1 Source Group(s); and 706 Receptor(s)

The Model Assumes A Pollutant Type of: OTHER

**Model Set To Continue RUNning After the Setup Testing.

Output Options Selected:

Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)

NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Input Runstream File: D:\MODELDAT\ISCST2\FOAMEX\FMXTDI24.NEW ; **Output Print File: D:\MODELDAT\ISCST2\FOAMEX\FMXTDI24.LST

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
1	0	0.58274E-02	175.9	119.8	0.0	38.10	299.82	24.38	0.70	YES	
2	0	0.14490E-03	141.4	162.8	0.0	12.50	299.82	1.03	0.76	YES	
3	0	0.14490E-03	141.4	166.4	0.0	12.50	299.82	1.03	0.76	YES	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

OUP ID	SOURCE IDs
ALL	1 , 2 , 3 ,

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0.0,	0
13	0.0,	0.0,	0	14	0.0,	0.0,	0	15	15.2,	93.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	0.0,	0.0,	0
19	0.0,	0.0,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0.0,	0
31	0.0,	0.0,	0	32	0.0,	0.0,	0	33	15.2,	93.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	88.3,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	12.2,	88.3,	0	21	10.7,	196.5,	0	22	11.0,	24.8,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	125.1,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

SOURCE ID: 3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	87.6,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	11.0,	24.6,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	124.8,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***

X-ORIG = 106.68 ; Y-ORIG = 110.64 (METERS)

*** DISTANCE RANGES OF NETWORK ***

(METERS)

150.0,	200.0,	250.0,	300.0,	350.0,	400.0,	450.0,	500.0,	550.0,	600.0,
650.0,	700.0,	750.0,	800.0,	850.0,	900.0,	950.0,	1000.0,		

*** DIRECTION RADIALS OF NETWORK ***

(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(	0.0,	0.0,	0.0,	0.0);	(	15.2,	0.0,	0.0,	0.0);
(	30.5,	0.0,	0.0,	0.0);	(	45.7,	0.0,	0.0,	0.0);
(	61.0,	0.0,	0.0,	0.0);	(	76.2,	0.0,	0.0,	0.0);
(	91.4,	0.0,	0.0,	0.0);	(	106.7,	0.0,	0.0,	0.0);
(	121.9,	0.0,	0.0,	0.0);	(	137.2,	0.0,	0.0,	0.0);
(	152.4,	0.0,	0.0,	0.0);	(	167.6,	0.0,	0.0,	0.0);
(	182.9,	0.0,	0.0,	0.0);	(	198.1,	0.0,	0.0,	0.0);
(	213.4,	0.0,	0.0,	0.0);	(	213.4,	15.2,	0.0,	0.0);
(	213.4,	30.5,	0.0,	0.0);	(	213.4,	45.7,	0.0,	0.0);
(	213.4,	61.0,	0.0,	0.0);	(	213.4,	76.2,	0.0,	0.0);
(	213.4,	91.4,	0.0,	0.0);	(	213.4,	106.7,	0.0,	0.0);
(	213.4,	121.9,	0.0,	0.0);	(	213.4,	137.2,	0.0,	0.0);
(	213.4,	152.4,	0.0,	0.0);	(	213.4,	167.6,	0.0,	0.0);
(	213.4,	182.9,	0.0,	0.0);	(	213.4,	198.1,	0.0,	0.0);
(	213.4,	213.4,	0.0,	0.0);	(	213.4,	221.3,	0.0,	0.0);
(	198.1,	221.3,	0.0,	0.0);	(	182.9,	221.3,	0.0,	0.0);
(	167.6,	221.3,	0.0,	0.0);	(	152.4,	221.3,	0.0,	0.0);
(	137.2,	221.3,	0.0,	0.0);	(	121.9,	221.3,	0.0,	0.0);
(	106.7,	221.3,	0.0,	0.0);	(	91.4,	221.3,	0.0,	0.0);
(	76.2,	221.3,	0.0,	0.0);	(	61.0,	221.3,	0.0,	0.0);
(	45.7,	221.3,	0.0,	0.0);	(	30.5,	221.3,	0.0,	0.0);
(	15.2,	221.3,	0.0,	0.0);	(	0.0,	221.3,	0.0,	0.0);
(	0.0,	213.4,	0.0,	0.0);	(	0.0,	198.1,	0.0,	0.0);
(	0.0,	182.9,	0.0,	0.0);	(	0.0,	167.6,	0.0,	0.0);
(	0.0,	152.4,	0.0,	0.0);	(	0.0,	137.2,	0.0,	0.0);
(	0.0,	121.9,	0.0,	0.0);	(	0.0,	106.7,	0.0,	0.0);
(	0.0,	91.4,	0.0,	0.0);	(	0.0,	76.2,	0.0,	0.0);
(	0.0,	61.0,	0.0,	0.0);	(	0.0,	45.7,	0.0,	0.0);
(	0.0,	30.5,	0.0,	0.0);	(	0.0,	15.2,	0.0,	0.0);

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
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NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: C:\modELS\iscst2\ORLTMP86.BIN   FORMAT: UNFORM
SURFACE STATION NO.: 12815   UPPER AIR STATION NO.: 12842
NAME: SURFNAME   NAME: UAIRNAME
YEAR: 1986   YEAR: 1986

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN
86	1	1	1	1.0	3.60	289.3	4	639.0	639.0
86	1	1	2	168.0	5.14	288.7	4	639.0	639.0
86	1	1	3	124.0	3.09	288.2	4	639.0	639.0
86	1	1	4	353.0	2.57	288.2	4	639.0	639.0
86	1	1	5	333.0	2.57	288.7	4	639.0	639.0
86	1	1	6	332.0	2.57	288.7	4	639.0	639.0
86	1	1	7	335.0	3.09	288.7	4	639.0	639.0
86	1	1	8	3.0	3.60	289.3	4	639.0	639.0
86	1	1	9	347.0	3.60	289.8	4	639.0	639.0
86	1	1	10	1.0	5.14	292.0	4	639.0	639.0
86	1	1	11	14.0	4.63	292.6	4	639.0	639.0
86	1	1	12	16.0	4.12	294.3	4	639.0	639.0
86	1	1	13	73.0	3.09	295.4	4	639.0	639.0
86	1	1	14	49.0	3.60	297.0	4	639.0	639.0
86	1	1	15	142.0	2.06	296.5	4	639.0	639.0
86	1	1	16	144.0	2.06	295.9	4	639.0	639.0
86	1	1	17	261.0	2.06	295.4	4	639.0	639.0
86	1	1	18	257.0	2.06	292.6	4	644.0	644.0
86	1	1	19	274.0	3.60	291.5	4	655.0	655.0
86	1	1	20	227.0	3.09	290.9	4	666.0	666.0
86	1	1	21	230.0	3.09	290.9	4	678.0	678.0
86	1	1	22	252.0	2.57	290.4	5	689.0	477.0
86	1	1	23	290.0	2.06	290.4	4	700.0	700.0
86	1	1	24	290.0	1.00	290.4	4	712.0	712.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	0.04591 (86081324)	0.03682 (86071724)	0.03102 (86071724)	0.02864c(86071324)	0.02690c(86071324)
20.0	0.06087 (86072324)	0.03891 (86072324)	0.02666 (86072324)	0.02055 (86072324)	0.01782 (86072324)
30.0	0.07349c(86012924)	0.04670c(86012924)	0.03465c(86060824)	0.02897c(86060824)	0.02419c(86060824)
40.0	0.05995 (86030324)	0.03962 (86030324)	0.02664c(86021824)	0.02037c(86021824)	0.01881 (86070224)
50.0	0.05003 (86121824)	0.04339 (86040824)	0.03321c(86072524)	0.03094c(86072524)	0.02659c(86072524)
60.0	0.04383c(86100524)	0.03103c(86081824)	0.02778 (86030624)	0.02013c(86060924)	0.01867c(86072024)
70.0	0.06169c(86071924)	0.02643c(86071424)	0.02137 (86090324)	0.02393 (86040824)	0.01955c(86072024)
80.0	0.03072c(86122524)	0.02404c(86042524)	0.02692c(86071924)	0.03181c(86071924)	0.03089c(86071924)
90.0	0.02844c(86012524)	0.02629c(86122524)	0.01663c(86122524)	0.01491c(86071424)	0.01472c(86071924)
100.0	0.03678c(86012324)	0.03305c(86012324)	0.01448c(86012524)	0.01878 (86042924)	0.02038 (86042924)
110.0	0.03082c(86031124)	0.03092c(86012324)	0.01968c(86012324)	0.02050c(86012324)	0.02371c(86012324)
120.0	0.02823c(86012824)	0.02181c(86012524)	0.01885c(86031124)	0.01736 (86102624)	0.01682 (86102624)
130.0	0.02821c(86111324)	0.02167c(86012824)	0.01773c(86012824)	0.01604 (86042624)	0.01810 (86042624)
140.0	0.03117 (86101624)	0.03089c(86090824)	0.01634 (86011424)	0.01635c(86111324)	0.01450c(86111324)
150.0	0.04299 (86120424)	0.02392 (86101624)	0.02280 (86101624)	0.02234 (86101624)	0.02298 (86101624)
160.0	0.03116 (86012424)	0.02258c(86103024)	0.02695 (86120424)	0.02694 (86120424)	0.02103 (86120424)
170.0	0.03212c(86122624)	0.02572 (86122224)	0.02440 (86122124)	0.02370 (86110324)	0.02506 (86110324)
180.0	0.02488 (86060524)	0.02188c(86090224)	0.02273c(86090224)	0.02093c(86090224)	0.01826c(86090224)
190.0	0.02592 (86121424)	0.01829 (86121424)	0.01634c(86041424)	0.01492c(86041424)	0.01344 (86060524)
200.0	0.02313 (86102824)	0.01870 (86102824)	0.01610 (86121624)	0.01571 (86042424)	0.01507 (86042424)
210.0	0.02939 (86091824)	0.02457 (86091824)	0.02104 (86091824)	0.01891c(86092724)	0.01808c(86092724)
220.0	0.03815c(86090124)	0.03252c(86090124)	0.02883c(86090124)	0.02599c(86090124)	0.02355c(86090124)
230.0	0.03102 (86091924)	0.02133 (86091924)	0.01970c(86100224)	0.01853c(86100224)	0.01752c(86100224)
240.0	0.03332 (86091524)	0.03046 (86091524)	0.02794 (86091524)	0.02573 (86091524)	0.02360 (86091524)
250.0	0.03901c(86092724)	0.03342c(86092724)	0.02523c(86092724)	0.01954c(86092724)	0.01827 (86091524)
260.0	0.02663c(86060324)	0.02344c(86051324)	0.02684c(86092724)	0.02616c(86092724)	0.02305c(86092724)
270.0	0.03014c(86092724)	0.02032 (86110924)	0.02209c(86051324)	0.02330c(86051324)	0.02305c(86051324)
280.0	0.03295c(86050524)	0.03193c(86051324)	0.03376c(86051324)	0.02647 (86062324)	0.02586 (86062324)
290.0	0.03959c(86051324)	0.03155 (86112824)	0.02406 (86052724)	0.02392c(86093024)	0.02598c(86093024)
300.0	0.03651 (86052724)	0.04266c(86093024)	0.02539c(86020424)	0.02333c(86080924)	0.02272c(86080924)
310.0	0.04088c(86020424)	0.03041c(86080924)	0.03132c(86100324)	0.02796c(86100324)	0.02441c(86100324)
320.0	0.04154c(86100324)	0.02949c(86100324)	0.02415 (86112524)	0.02046 (86112524)	0.01913c(86050724)
330.0	0.03412c(86050724)	0.03538c(86050724)	0.02798c(86052924)	0.02385c(86052924)	0.01741c(86052924)
340.0	0.03728c(86050724)	0.02055c(86082924)	0.01876 (86031224)	0.01972 (86031224)	0.01848 (86031224)
350.0	0.03448 (86031324)	0.03309c(86020424)	0.02233c(86020424)	0.02413 (86100924)	0.02567 (86100924)
360.0	0.04322 (86100924)	0.03158 (86100924)	0.02096 (86081324)	0.02045 (86081324)	0.02121c(86071324)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

RECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	0.02489c(86071324)	0.02285c(86071324)	0.02091c(86071324)	0.01912c(86071324)	0.01756c(86071324)
20.0	0.01689 (86072324)	0.01681 (86072324)	0.01704 (86072324)	0.01728 (86072324)	0.01741 (86072324)
30.0	0.02072 (86071024)	0.01947 (86071024)	0.01835 (86071024)	0.01737 (86071024)	0.01652 (86071024)
40.0	0.01946 (86080424)	0.01929 (86080424)	0.01860 (86070224)	0.01857 (86070224)	0.01842 (86070224)
50.0	0.02215c(86072524)	0.02009 (86072624)	0.01882 (86072624)	0.01757 (86100424)	0.01703 (86100424)
60.0	0.02095 (86100424)	0.02201 (86100424)	0.02198 (86100424)	0.02122 (86100424)	0.02000 (86100424)
70.0	0.02266c(86081824)	0.02519c(86081824)	0.02651c(86081824)	0.02680c(86081824)	0.02639c(86081824)
80.0	0.02693c(86071924)	0.02286c(86071924)	0.01964c(86071924)	0.01715c(86071924)	0.01517c(86071924)
90.0	0.01694c(86071924)	0.01812c(86071924)	0.01861c(86071924)	0.01856c(86071924)	0.01818c(86071924)
100.0	0.01749 (86042924)	0.01414 (86042924)	0.01387c(86122524)	0.01360c(86071924)	0.01338c(86071924)
110.0	0.02316c(86012324)	0.02116 (86042924)	0.02234 (86042924)	0.02263 (86042924)	0.02235 (86042924)
120.0	0.01943c(86012324)	0.02011c(86012324)	0.01934c(86012324)	0.01854c(86052224)	0.01784c(86052224)
130.0	0.01870 (86042624)	0.01830 (86042624)	0.01730 (86042624)	0.01707c(86012824)	0.01721c(86012824)
140.0	0.01312 (86042824)	0.01388 (86042824)	0.01410 (86042824)	0.01388 (86042824)	0.01338 (86042824)
150.0	0.02377 (86101624)	0.02420 (86101624)	0.02405 (86101624)	0.02336 (86101624)	0.02230 (86101624)
160.0	0.01818 (86110324)	0.01757 (86101624)	0.01869 (86101624)	0.01968 (86101624)	0.02054 (86101624)
170.0	0.02495 (86110324)	0.02403 (86110324)	0.02262 (86110324)	0.02106 (86110324)	0.01950 (86110324)
180.0	0.01731 (86110324)	0.01776 (86110324)	0.01792 (86110324)	0.01788 (86110324)	0.01770 (86110324)
190.0	0.01295 (86060524)	0.01248 (86060524)	0.01208 (86060524)	0.01172 (86060524)	0.01140 (86060524)
200.0	0.01461 (86120424)	0.01499 (86120424)	0.01484 (86120424)	0.01434 (86120424)	0.01431 (86102824)
210.0	0.01713c(86092724)	0.01601c(86092724)	0.01550c(86111324)	0.01496c(86111324)	0.01432c(86111324)
220.0	0.02138c(86090124)	0.01942c(86090124)	0.01766c(86090124)	0.01729 (86060524)	0.01707 (86060524)
230.0	0.01669c(86100224)	0.01596c(86100224)	0.01525c(86100224)	0.01454c(86100224)	0.01532 (86010924)
240.0	0.02156 (86091524)	0.01962 (86091524)	0.01782 (86091524)	0.01620 (86091524)	0.01525 (86010924)
250.0	0.01843 (86091524)	0.01815 (86091524)	0.01758 (86091524)	0.01683 (86091524)	0.01601 (86091524)
260.0	0.01990c(86092724)	0.01738c(86092724)	0.01551c(86092724)	0.01415c(86092724)	0.01315 (86121424)
270.0	0.02212c(86051324)	0.02103c(86051324)	0.01994c(86051324)	0.01891c(86051324)	0.01794c(86051324)
280.0	0.02336 (86062324)	0.02074 (86062324)	0.01855 (86062324)	0.01684 (86062324)	0.01547 (86062324)
290.0	0.02595c(86093024)	0.02406c(86093024)	0.02145c(86093024)	0.01890c(86093024)	0.01674c(86093024)
300.0	0.02243 (86040624)	0.02201 (86040624)	0.02069 (86040624)	0.01888 (86040624)	0.01840 (86030924)
310.0	0.02427c(86100324)	0.02363c(86100324)	0.02195c(86100324)	0.01980c(86100324)	0.01766c(86100324)
320.0	0.01747c(86050724)	0.01605 (86081124)	0.01563 (86081124)	0.01490 (86081124)	0.01409 (86081124)
330.0	0.01609c(86053024)	0.01509c(86082524)	0.01466c(86082524)	0.01397c(86082524)	0.01456 (86031324)
340.0	0.01795 (86031224)	0.01814 (86031224)	0.01852 (86031224)	0.01877 (86031224)	0.01880 (86031224)
350.0	0.02589 (86100924)	0.02508 (86100924)	0.02370 (86100924)	0.02209 (86100924)	0.02052 (86100924)
360.0	0.02097c(86071324)	0.02018c(86071324)	0.01919c(86071324)	0.01810c(86071324)	0.01708c(86071324)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

RECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	0.01628c(86071324)	0.01565 (86082024)	0.01613 (86082024)	0.01647 (86082024)	0.01680 (86082024)
20.0	0.01739 (86072324)	0.01719 (86072324)	0.01685 (86072324)	0.01640 (86072324)	0.01594 (86072324)
30.0	0.01579 (86071024)	0.01518 (86071024)	0.01474 (86071024)	0.01429 (86071024)	0.01395 (86071024)
40.0	0.01814 (86070224)	0.01774 (86070224)	0.01724 (86070224)	0.01668 (86070224)	0.01607 (86070224)
50.0	0.01637 (86100424)	0.01567 (86100424)	0.01497 (86100424)	0.01429 (86100424)	0.01363 (86100424)
60.0	0.01857 (86100424)	0.01710 (86100424)	0.01575 (86100424)	0.01442 (86100424)	0.01321 (86100424)
70.0	0.02558c(86081824)	0.02456c(86081824)	0.02347c(86081824)	0.02237c(86081824)	0.02130c(86081824)
80.0	0.01356c(86071924)	0.01221c(86071924)	0.01110c(86071924)	0.01011c(86071924)	0.00925c(86071924)
90.0	0.01766c(86071924)	0.01708c(86071924)	0.01656c(86071924)	0.01602c(86071924)	0.01553c(86071924)
100.0	0.01294c(86071924)	0.01238c(86071924)	0.01176c(86071924)	0.01112c(86071924)	0.01049c(86071924)
110.0	0.02175 (86042924)	0.02099 (86042924)	0.02015 (86042924)	0.01929 (86042924)	0.01845 (86042924)
120.0	0.01688c(86052224)	0.01591 (86022024)	0.01569 (86022024)	0.01542 (86022024)	0.01515 (86022024)
130.0	0.01703c(86012824)	0.01663c(86012824)	0.01608c(86012824)	0.01544c(86012824)	0.01478c(86012824)
140.0	0.01271 (86042824)	0.01196 (86042824)	0.01119 (86042824)	0.01054 (86032124)	0.01050 (86032124)
150.0	0.02101 (86101624)	0.01960 (86101624)	0.01816 (86101624)	0.01679 (86101624)	0.01546 (86101624)
160.0	0.02128 (86101624)	0.02181 (86101624)	0.02217 (86101624)	0.02251 (86101624)	0.02256 (86101624)
170.0	0.01945 (86012424)	0.01982 (86120524)	0.02053 (86120524)	0.02109 (86120524)	0.02119 (86120524)
180.0	0.01742 (86110324)	0.01705 (86110324)	0.01768 (86122824)	0.01850 (86122824)	0.01893 (86122824)
190.0	0.01113 (86060524)	0.01082 (86060524)	0.01074c(86122624)	0.01129c(86122624)	0.01161c(86122624)
200.0	0.01465 (86102824)	0.01494 (86102824)	0.01512 (86102824)	0.01531 (86102824)	0.01538 (86102824)
210.0	0.01361c(86111324)	0.01289c(86111324)	0.01216c(86111324)	0.01229 (86010724)	0.01245 (86010724)
220.0	0.01666 (86060524)	0.01627 (86010824)	0.01670 (86010824)	0.01695 (86010824)	0.01696 (86010824)
230.0	0.01604 (86010924)	0.01656 (86010924)	0.01697 (86010924)	0.01726 (86010924)	0.01729 (86010924)
240.0	0.01606 (86010924)	0.01667 (86010924)	0.01709 (86010924)	0.01751 (86010924)	0.01761 (86010924)
250.0	0.01519 (86091524)	0.01439 (86091524)	0.01362 (86091524)	0.01292 (86091524)	0.01227 (86091524)
260.0	0.01286c(86091024)	0.01285c(86091024)	0.01279c(86091024)	0.01286c(86091024)	0.01270c(86091024)
270.0	0.01706c(86051324)	0.01621c(86051324)	0.01540c(86051324)	0.01467c(86051324)	0.01396c(86051324)
280.0	0.01522 (86052724)	0.01481 (86052724)	0.01437 (86052724)	0.01395 (86052724)	0.01353 (86052724)
290.0	0.01580 (86062324)	0.01534 (86062324)	0.01487 (86062324)	0.01439 (86062324)	0.01395 (86062324)
300.0	0.01895 (86030924)	0.01921 (86030924)	0.01922 (86030924)	0.01904 (86030924)	0.01885 (86030924)
310.0	0.01638 (86122324)	0.01680 (86122324)	0.01703 (86122324)	0.01720 (86122324)	0.01716 (86122324)
320.0	0.01319 (86081124)	0.01232 (86081124)	0.01150 (86081124)	0.01076 (86081124)	0.01008 (86081124)
330.0	0.01546 (86031324)	0.01617 (86031324)	0.01669 (86031324)	0.01717 (86031324)	0.01733 (86031324)
340.0	0.01858 (86031224)	0.01817 (86031224)	0.01762 (86031224)	0.01699 (86031224)	0.01628 (86031224)
350.0	0.01902 (86100924)	0.01768 (86100924)	0.01650 (86100924)	0.01546 (86100924)	0.01460 (86100924)
360.0	0.01649 (86112624)	0.01602 (86112624)	0.01551 (86112624)	0.01545 (86082024)	0.01621 (86082024)

*** ISCST2 - VERSION 92062 *** *** Foamex TDI Sources: Foam Line Stack & Rebond Process Exhaust *** 01/21/93
*** 24-hour Average Emission Rates *** 10:56:07
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*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	0.01687 (86082024)	0.01684 (86082024)	0.01672 (86082024)
20.0	0.01536 (86072324)	0.01476 (86072324)	0.01415 (86072324)
30.0	0.01363 (86071024)	0.01334 (86071024)	0.01307 (86071024)
40.0	0.01547 (86070224)	0.01482 (86070224)	0.01418 (86070224)
50.0	0.01305 (86100424)	0.01259 (86112024)	0.01247 (86122024)
60.0	0.01268c(86022624)	0.01223c(86022624)	0.01178c(86022624)
70.0	0.02037c(86081824)	0.01939c(86081824)	0.01847c(86081824)
80.0	0.00860c(86081824)	0.00870c(86020724)	0.00883c(86122524)
90.0	0.01513c(86071924)	0.01473c(86071924)	0.01437c(86071924)
100.0	0.00988c(86071924)	0.00930c(86071924)	0.00875c(86071924)
110.0	0.01763 (86042924)	0.01684 (86042924)	0.01610 (86042924)
120.0	0.01480 (86022024)	0.01444 (86022024)	0.01406 (86022024)
130.0	0.01409c(86012824)	0.01341c(86012824)	0.01281 (86102624)
140.0	0.01034 (86032124)	0.01042 (86122924)	0.01061 (86122924)
150.0	0.01420 (86101624)	0.01304 (86101624)	0.01215 (86032124)
160.0	0.02250 (86101624)	0.02234 (86101624)	0.02208 (86101624)
170.0	0.02108 (86120524)	0.02081 (86120524)	0.02040 (86120524)
180.0	0.01919 (86122824)	0.01928 (86122824)	0.01919 (86122824)
190.0	0.01186c(86122624)	0.01202c(86122624)	0.01205c(86122624)
200.0	0.01540 (86102824)	0.01537 (86102824)	0.01521 (86102824)
210.0	0.01252 (86010724)	0.01249 (86010724)	0.01227 (86010724)
220.0	0.01686 (86010824)	0.01666 (86010824)	0.01628 (86010824)
230.0	0.01722 (86010924)	0.01704 (86010924)	0.01668 (86010924)
240.0	0.01759 (86010924)	0.01743 (86010924)	0.01711 (86010924)
250.0	0.01195 (86092024)	0.01173 (86092024)	0.01144 (86092024)
260.0	0.01253c(86091024)	0.01229c(86091024)	0.01197c(86091024)
270.0	0.01329c(86051324)	0.01266c(86051324)	0.01205c(86051324)
280.0	0.01312 (86052724)	0.01271 (86052724)	0.01228 (86052724)
290.0	0.01348 (86062324)	0.01301 (86062324)	0.01252 (86062324)
300.0	0.01841 (86030924)	0.01790 (86030924)	0.01726 (86030924)
310.0	0.01694 (86122324)	0.01664 (86122324)	0.01615 (86122324)
320.0	0.00947 (86081124)	0.00892 (86081124)	0.00841 (86081124)
330.0	0.01737 (86031324)	0.01730 (86031324)	0.01708 (86031324)
340.0	0.01554 (86031224)	0.01479 (86031224)	0.01404 (86031224)
350.0	0.01379 (86100924)	0.01308 (86100924)	0.01243 (86100924)
360.0	0.01672 (86082024)	0.01713 (86082024)	0.01744 (86082024)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	0.03610	(86091924)	15.24	0.00	0.03959c	(86090124)
30.48	0.00	0.02851c	(86090124)	45.72	0.00	0.03711	(86091824)
60.96	0.00	0.02797	(86121624)	76.20	0.00	0.02887	(86102824)
91.44	0.00	0.03132	(86121424)	106.68	0.00	0.03219	(86060524)
121.92	0.00	0.04024c	(86090224)	137.16	0.00	0.03926c	(86122624)
152.40	0.00	0.03791	(86012424)	167.64	0.00	0.03625	(86120424)
182.88	0.00	0.03683	(86032424)	198.12	0.00	0.03384	(86101624)
213.36	0.00	0.03985c	(86090824)	213.36	15.24	0.03298c	(86090824)
213.36	30.48	0.03203c	(86111324)	213.36	45.72	0.03549c	(86111324)
213.36	60.96	0.03934c	(86012824)	213.36	76.20	0.04058c	(86012524)
213.36	91.44	0.04134c	(86031124)	213.36	106.68	0.05893c	(86012324)
213.36	121.92	0.07088c	(86012324)	213.36	137.16	0.05953	(86042924)
213.36	152.40	0.03582	(86012724)	213.36	167.64	0.07934c	(86071924)
213.36	182.88	0.05142c	(86100524)	213.36	198.12	0.04799	(86030624)
213.36	213.36	0.06052c	(86072524)	213.36	221.29	0.04996c	(86072524)
198.12	221.29	0.06355	(86030324)	182.88	221.29	0.04340	(86080424)
167.64	221.29	0.06227c	(86012924)	152.40	221.29	0.08421	(86072324)
137.16	221.29	0.06731	(86082024)	121.92	221.29	0.06723	(86100924)
106.68	221.29	0.05521	(86031224)	91.44	221.29	0.04201c	(86052924)
76.20	221.29	0.06746c	(86050724)	60.96	221.29	0.04846c	(86050724)
45.72	221.29	0.04364c	(86100324)	30.48	221.29	0.04755c	(86100324)
15.24	221.29	0.03981c	(86100324)	0.00	221.29	0.03648c	(86080924)
0.00	213.36	0.03930c	(86080924)	0.00	198.12	0.05046c	(86093024)
0.00	182.88	0.04227	(86052724)	0.00	167.64	0.04849	(86112824)
0.00	152.40	0.04116c	(86051324)	0.00	137.16	0.03204c	(86050524)
0.00	121.92	0.04036c	(86092724)	0.00	106.68	0.03545c	(86060324)
0.00	91.44	0.03779c	(86092724)	0.00	76.20	0.04001c	(86092724)
0.00	60.96	0.03688	(86091524)	0.00	45.72	0.03182	(86091524)
0.00	30.48	0.02886c	(86100224)	0.00	15.24	0.03828	(86091924)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

RECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00
10.0	0.04366 (86082024)	0.03297c(86071324)	0.03026c(86071324)	0.02592c(86041224)	0.02154c(86041224)
20.0	0.04814c(86081824)	0.03265c(86081824)	0.02439c(86090624)	0.01983c(86090624)	0.01644c(86090624)
30.0	0.05515c(86060824)	0.04226c(86060824)	0.03333c(86012924)	0.02624c(86012924)	0.02221 (86071024)
40.0	0.04342c(86021824)	0.03597c(86021824)	0.02587 (86030324)	0.02031 (86100624)	0.01866 (86080424)
50.0	0.04268 (86042824)	0.03651 (86030424)	0.03012 (86040824)	0.02110 (86071024)	0.02059 (86071024)
60.0	0.04019 (86040824)	0.02732 (86030624)	0.02068c(86081824)	0.01890 (86030624)	0.01838 (86100424)
70.0	0.04259c(86071424)	0.02517 (86090324)	0.01850 (86040824)	0.01686c(86100524)	0.01893 (86040824)
80.0	0.02668c(86071424)	0.02267 (86012024)	0.02265 (86012024)	0.02072c(86071424)	0.01689c(86101124)
90.0	0.02690c(86042524)	0.02351 (86011324)	0.01574c(86071424)	0.01310c(86060224)	0.01252 (86100624)
100.0	0.03089 (86102624)	0.03104c(86060624)	0.01439c(86101024)	0.01595 (86082424)	0.01608 (86011324)
110.0	0.02551 (86102624)	0.02660 (86102624)	0.01722c(86060624)	0.01948c(86060624)	0.02153c(86060624)
120.0	0.02813c(86090424)	0.01803 (86031724)	0.01529 (86102624)	0.01320c(86090224)	0.01601c(86012324)
130.0	0.02348 (86011424)	0.01915 (86021424)	0.01746c(86090424)	0.01589 (86042824)	0.01604 (86042824)
140.0	0.03090 (86032824)	0.01998 (86062624)	0.01518c(86111324)	0.01227 (86050324)	0.01304 (86050324)
150.0	0.03218 (86101724)	0.02278 (86032424)	0.02223 (86032824)	0.01986 (86032824)	0.01522 (86032824)
160.0	0.02808 (86122124)	0.01874 (86021224)	0.01819 (86110324)	0.01964 (86110324)	0.01962 (86110324)
170.0	0.02928 (86110224)	0.02559 (86122124)	0.02050 (86110324)	0.02163 (86122124)	0.01923 (86012424)
180.0	0.02187c(86011624)	0.02139c(86011624)	0.01824c(86032724)	0.01620c(86032724)	0.01657 (86110324)
190.0	0.02295 (86091724)	0.01614 (86111024)	0.01383c(86092224)	0.01377 (86060524)	0.01314 (86102124)
200.0	0.02194 (86121624)	0.01773 (86121624)	0.01584 (86102824)	0.01533 (86121624)	0.01487c(86111324)
210.0	0.02861 (86121624)	0.02339 (86121624)	0.02037 (86121624)	0.01858 (86121624)	0.01738 (86121624)
220.0	0.03237 (86103124)	0.02556 (86103124)	0.02075 (86103124)	0.01778 (86091924)	0.01619 (86091924)
230.0	0.02332c(86090124)	0.02069c(86100224)	0.01723 (86092624)	0.01636c(86082324)	0.01568c(86082324)
240.0	0.02723c(86051724)	0.02218 (86112224)	0.02105 (86112224)	0.01982 (86112224)	0.01849 (86112224)
250.0	0.02793 (86102924)	0.01861 (86102924)	0.01739 (86062624)	0.01763 (86091524)	0.01696 (86062624)
260.0	0.02338c(86082224)	0.02237c(86092724)	0.02052c(86102424)	0.01787c(86102424)	0.01508 (86062624)
270.0	0.02646c(86060324)	0.01841c(86051324)	0.01851c(86050524)	0.02004c(86082624)	0.02056c(86082624)
280.0	0.02566c(86082624)	0.02402c(86082624)	0.02269 (86062324)	0.02636c(86051324)	0.02011c(86092924)
290.0	0.03429 (86062724)	0.02729 (86052724)	0.02345c(86100824)	0.02037c(86100824)	0.01979 (86040624)
300.0	0.03216c(86100824)	0.02761 (86040624)	0.02395c(86093024)	0.02141 (86081024)	0.02191 (86040624)
310.0	0.03511c(86082624)	0.02854 (86040624)	0.02695c(86051824)	0.02393c(86080924)	0.02137c(86093024)
320.0	0.03822c(86051824)	0.02614c(86093024)	0.02152c(86093024)	0.01983c(86050724)	0.01752 (86112524)
330.0	0.03208 (86112524)	0.02372c(86052924)	0.02091c(86050724)	0.01723c(86053024)	0.01726c(86053024)
340.0	0.03247c(86052924)	0.02048c(86052924)	0.01753c(86080824)	0.01841c(86080824)	0.01775c(86080824)
350.0	0.03425 (86031224)	0.02796 (86121024)	0.02108 (86100924)	0.02148c(86082724)	0.02053c(86082724)
360.0	0.03959 (86121024)	0.02596 (86113024)	0.01970 (86100924)	0.02043c(86071324)	0.01896 (86081324)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 400.00	450.00	500.00	550.00	600.00
10.0	0.01812c(86041224)	0.01572c(86060924)	0.01477c(86061124)	0.01441c(86061124)	0.01428 (86082024)
20.0	0.01465 (86111724)	0.01362 (86111724)	0.01343 (86081724)	0.01366 (86081724)	0.01357 (86081724)
30.0	0.02021c(86060824)	0.01710c(86060824)	0.01466c(86060824)	0.01372c(86081924)	0.01373c(86081924)
40.0	0.01852 (86070224)	0.01855 (86070224)	0.01849 (86080424)	0.01731 (86080424)	0.01595 (86080424)
50.0	0.02074 (86072624)	0.01836c(86072524)	0.01787 (86100424)	0.01735 (86072624)	0.01585 (86072624)
60.0	0.01982c(86072024)	0.02007c(86072024)	0.01963c(86072024)	0.01880c(86072024)	0.01776c(86072024)
70.0	0.02191c(86072024)	0.02226c(86072024)	0.02146c(86072024)	0.02014c(86072024)	0.01867c(86072024)
80.0	0.01648c(86101124)	0.01577c(86090724)	0.01415c(86101124)	0.01295c(86101124)	0.01190c(86022624)
90.0	0.01315c(86022624)	0.01257c(86022624)	0.01173c(86030524)	0.01154c(86041624)	0.01170c(86041624)
100.0	0.01450 (86011324)	0.01337c(86122524)	0.01350c(86071924)	0.01340c(86122524)	0.01286c(86030524)
110.0	0.02154c(86060624)	0.02097c(86012324)	0.01889c(86012324)	0.01717c(86012324)	0.01575c(86012324)
120.0	0.01668c(86052224)	0.01822c(86052224)	0.01877c(86052224)	0.01808c(86012324)	0.01682c(86012324)
130.0	0.01626 (86042824)	0.01605 (86042824)	0.01647c(86012824)	0.01594 (86042624)	0.01448 (86042624)
140.0	0.01290 (86050324)	0.01255c(86061024)	0.01250c(86061024)	0.01216c(86030524)	0.01172 (86042624)
150.0	0.01566c(86090824)	0.01554c(86090824)	0.01429c(86090824)	0.01269c(86090824)	0.01149 (86032124)
160.0	0.01634 (86101624)	0.01617 (86110324)	0.01428 (86032324)	0.01367 (86032324)	0.01295 (86032324)
170.0	0.01871 (86012424)	0.01850 (86012424)	0.01858 (86012424)	0.01885 (86012424)	0.01916 (86012424)
180.0	0.01569c(86122624)	0.01582c(86122624)	0.01595c(86122624)	0.01601c(86122624)	0.01598c(86122624)
190.0	0.01295 (86102124)	0.01247 (86102124)	0.01186 (86102124)	0.01121 (86102124)	0.01058 (86102124)
200.0	0.01442c(86111324)	0.01374 (86121624)	0.01364 (86102824)	0.01397 (86102824)	0.01365 (86120424)
210.0	0.01644 (86121624)	0.01589c(86111324)	0.01483c(86092724)	0.01392 (86121624)	0.01316 (86121624)
220.0	0.01609 (86060524)	0.01690 (86060524)	0.01726 (86060524)	0.01611c(86090124)	0.01486 (86010824)
230.0	0.01483c(86082324)	0.01415 (86033024)	0.01419 (86102224)	0.01443 (86010924)	0.01452 (86102224)
240.0	0.01716 (86112224)	0.01622c(86092724)	0.01589c(86092724)	0.01539c(86092724)	0.01488c(86092724)
250.0	0.01593 (86062624)	0.01472 (86062624)	0.01349 (86062624)	0.01270c(86082224)	0.01239c(86082224)
260.0	0.01452 (86062624)	0.01415 (86121424)	0.01392 (86121424)	0.01357 (86121424)	0.01312c(86092724)
270.0	0.01911c(86082624)	0.01729c(86082624)	0.01639 (86112324)	0.01606 (86112324)	0.01547 (86112324)
280.0	0.01968 (86112824)	0.01794 (86112824)	0.01587 (86112824)	0.01557 (86052724)	0.01542 (86052724)
290.0	0.01910 (86040624)	0.01728 (86062324)	0.01702 (86062324)	0.01665 (86062324)	0.01624 (86062324)
300.0	0.02033c(86080924)	0.01759c(86080924)	0.01630 (86052624)	0.01751 (86030924)	0.01695 (86040624)
310.0	0.02148c(86093024)	0.02079c(86093024)	0.01919c(86093024)	0.01708c(86093024)	0.01576 (86122324)
320.0	0.01610 (86112524)	0.01542c(86050724)	0.01404 (86112524)	0.01302 (86112524)	0.01201 (86112524)
330.0	0.01518c(86082524)	0.01438c(86053024)	0.01308 (86101324)	0.01348 (86031324)	0.01315c(86082524)
340.0	0.01671c(86020424)	0.01728c(86020424)	0.01701c(86020424)	0.01624c(86020424)	0.01523c(86020424)
350.0	0.01855c(86082724)	0.01662 (86031224)	0.01558 (86031224)	0.01434 (86031224)	0.01382 (86082124)
360.0	0.01729 (86112624)	0.01748 (86112624)	0.01744 (86112624)	0.01723 (86112624)	0.01690 (86112624)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 650.00	700.00	750.00	800.00	850.00
10.0	0.01502 (86082024)	0.01512c(86071324)	0.01413c(86071324)	0.01370 (86121224)	0.01377 (86121224)
20.0	0.01326 (86081724)	0.01279 (86081724)	0.01223 (86081724)	0.01198 (86011024)	0.01239 (86011024)
30.0	0.01353c(86081924)	0.01316c(86081924)	0.01270c(86081924)	0.01215c(86081924)	0.01157c(86081924)
40.0	0.01459 (86080424)	0.01329 (86080424)	0.01213 (86080424)	0.01106 (86080424)	0.01129 (86021024)
50.0	0.01446 (86072624)	0.01321 (86072624)	0.01250 (86112024)	0.01264 (86112024)	0.01268 (86112024)
60.0	0.01667c(86072024)	0.01560c(86072024)	0.01460c(86072024)	0.01368c(86072024)	0.01309c(86022624)
70.0	0.01726c(86072024)	0.01599c(86072024)	0.01494c(86072024)	0.01397c(86072024)	0.01314c(86072024)
80.0	0.01118c(86022624)	0.01041c(86022624)	0.00966c(86022624)	0.00902c(86081824)	0.00880c(86081824)
90.0	0.01173c(86041624)	0.01165c(86041624)	0.01171 (86012024)	0.01170 (86012024)	0.01157 (86012024)
100.0	0.01224c(86030524)	0.01157c(86030524)	0.01086c(86030524)	0.01016c(86030524)	0.00950c(86030524)
110.0	0.01452c(86012324)	0.01347c(86012324)	0.01248c(86012324)	0.01157c(86012324)	0.01076c(86012324)
120.0	0.01595 (86022024)	0.01582c(86052224)	0.01472c(86052224)	0.01366c(86052224)	0.01308c(86012324)
130.0	0.01306 (86042624)	0.01175 (86042624)	0.01139c(86121724)	0.01126 (86102624)	0.01180 (86102624)
140.0	0.01144 (86042624)	0.01113 (86042624)	0.01079 (86042624)	0.01043 (86042624)	0.01011 (86042624)
150.0	0.01197 (86032124)	0.01233 (86032124)	0.01256 (86032124)	0.01274 (86032124)	0.01273 (86032124)
160.0	0.01266 (86011124)	0.01359 (86011124)	0.01440 (86011124)	0.01517 (86011124)	0.01565 (86011124)
170.0	0.01878 (86120524)	0.01956 (86012424)	0.01952 (86012424)	0.01946 (86012424)	0.01912 (86012424)
180.0	0.01595c(86122624)	0.01680 (86122824)	0.01662 (86110324)	0.01620 (86110324)	0.01575 (86120524)
190.0	0.01001 (86102124)	0.01022c(86122624)	0.01051 (86060524)	0.01025 (86060524)	0.00995 (86060524)
200.0	0.01314 (86121624)	0.01311 (86121624)	0.01310 (86121624)	0.01306 (86121624)	0.01295 (86121624)
210.0	0.01247 (86121624)	0.01198 (86101924)	0.01195 (86101924)	0.01189 (86101924)	0.01168 (86101924)
220.0	0.01568 (86010824)	0.01613 (86060524)	0.01553 (86060524)	0.01491 (86060524)	0.01423 (86060524)
230.0	0.01461 (86102224)	0.01466 (86102224)	0.01470 (86102224)	0.01466 (86102224)	0.01454 (86102224)
240.0	0.01461 (86102924)	0.01519 (86102924)	0.01570 (86102924)	0.01633 (86102924)	0.01665 (86102924)
250.0	0.01238 (86092024)	0.01237 (86092024)	0.01231 (86092024)	0.01227 (86092024)	0.01212 (86092024)
260.0	0.01275 (86121424)	0.01228 (86121424)	0.01188 (86110924)	0.01178 (86110924)	0.01160 (86110924)
270.0	0.01475 (86112324)	0.01396 (86112324)	0.01318 (86112324)	0.01242 (86112324)	0.01217 (86051524)
280.0	0.01434 (86062324)	0.01337 (86062324)	0.01275c(86040324)	0.01245 (86040424)	0.01218 (86040424)
290.0	0.01501c(86093024)	0.01366c(86093024)	0.01279 (86052624)	0.01250 (86052624)	0.01222 (86052624)
300.0	0.01577 (86052624)	0.01531 (86052624)	0.01476 (86052624)	0.01417 (86052624)	0.01416 (86122324)
310.0	0.01573c(86100324)	0.01407c(86100324)	0.01305 (86112524)	0.01243 (86112524)	0.01179 (86112524)
320.0	0.01104 (86112524)	0.01013 (86112524)	0.00929 (86112524)	0.00853 (86112524)	0.00784c(86053024)
330.0	0.01227c(86082524)	0.01139c(86082524)	0.01054c(86082524)	0.00973c(86082524)	0.00957 (86031224)
340.0	0.01413c(86020424)	0.01305c(86020424)	0.01233c(86102524)	0.01270c(86102524)	0.01286c(86102524)
350.0	0.01331 (86082124)	0.01278 (86082124)	0.01224 (86082124)	0.01221 (86052024)	0.01223 (86052024)
360.0	0.01616c(86071324)	0.01535c(86071324)	0.01476 (86082024)	0.01497 (86112624)	0.01448 (86112624)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 900.00	950.00	1000.00
10.0	0.01361 (86121224)	0.01335 (86121224)	0.01303 (86121224)
20.0	0.01253 (86011024)	0.01256 (86011024)	0.01248 (86011024)
30.0	0.01099c(86081924)	0.01054 (86072824)	0.01029 (86072824)
40.0	0.01154 (86021024)	0.01158 (86021024)	0.01154 (86021024)
50.0	0.01270 (86112024)	0.01247 (86100424)	0.01243 (86112024)
60.0	0.01213 (86100424)	0.01177 (86121824)	0.01164 (86121824)
70.0	0.01244c(86072024)	0.01180c(86072024)	0.01123c(86072024)
80.0	0.00858c(86020724)	0.00867c(86122524)	0.00880c(86020724)
90.0	0.01140 (86012024)	0.01113 (86012024)	0.01082 (86012024)
100.0	0.00887c(86030524)	0.00858c(86090624)	0.00873c(86090624)
110.0	0.01002c(86012324)	0.00934c(86012324)	0.00882 (86011324)
120.0	0.01266c(86012324)	0.01231c(86012324)	0.01200c(86012324)
130.0	0.01219 (86102624)	0.01254 (86102624)	0.01275c(86012824)
140.0	0.01014 (86122924)	0.01013 (86032124)	0.01054c(86012524)
150.0	0.01260 (86032124)	0.01240 (86032124)	0.01198 (86101624)
160.0	0.01600 (86011124)	0.01623 (86011124)	0.01634 (86111524)
170.0	0.01870 (86012424)	0.01820 (86012424)	0.01773c(86103024)
180.0	0.01621 (86110224)	0.01678 (86110224)	0.01719 (86110224)
190.0	0.00968 (86060524)	0.00955 (86122724)	0.00961 (86122724)
200.0	0.01280 (86121624)	0.01262 (86121624)	0.01249 (86010724)
210.0	0.01142 (86101924)	0.01112 (86101924)	0.01074 (86101924)
220.0	0.01356 (86060524)	0.01333 (86111424)	0.01318 (86111424)
230.0	0.01438 (86102224)	0.01419 (86092024)	0.01414 (86092024)
240.0	0.01691 (86102924)	0.01702 (86102924)	0.01695 (86102924)
250.0	0.01167 (86091524)	0.01112 (86091524)	0.01066c(86082224)
260.0	0.01142 (86110924)	0.01124 (86020924)	0.01104 (86020924)
270.0	0.01193 (86051524)	0.01179c(86091024)	0.01157c(86091024)
280.0	0.01188 (86040424)	0.01153 (86040424)	0.01113 (86040424)
290.0	0.01183 (86052624)	0.01143 (86052624)	0.01098 (86052624)
300.0	0.01440 (86122324)	0.01452 (86122324)	0.01444 (86122324)
310.0	0.01116 (86112524)	0.01056 (86112524)	0.01014 (86031824)
320.0	0.00750c(86110624)	0.00737c(86110624)	0.00719c(86110624)
330.0	0.00988 (86031224)	0.01014 (86031224)	0.01029 (86031224)
340.0	0.01293c(86102524)	0.01293c(86102524)	0.01282c(86102524)
350.0	0.01209 (86052024)	0.01189 (86052024)	0.01162 (86052024)
360.0	0.01391 (86112624)	0.01336 (86112624)	0.01281 (86112624)

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
0.00	0.00	0.02892c	(86090124)	15.24	0.00	0.03397	(86103124)
30.48	0.00	0.02639	(86103124)	45.72	0.00	0.03157	(86121624)
60.96	0.00	0.02405	(86102824)	76.20	0.00	0.02741	(86091724)
91.44	0.00	0.02796	(86091724)	106.68	0.00	0.02414	(86122724)
121.92	0.00	0.03310c	(86122624)	137.16	0.00	0.03795	(86122224)
152.40	0.00	0.03785	(86122124)	167.64	0.00	0.03299c	(86103024)
182.88	0.00	0.03098	(86101724)	198.12	0.00	0.03345	(86032824)
213.36	0.00	0.02293	(86062624)	213.36	15.24	0.02515	(86062624)
213.36	30.48	0.02578	(86011424)	213.36	45.72	0.02768	(86041924)
213.36	60.96	0.03214c	(86041424)	213.36	76.20	0.03050c	(86012824)
213.36	91.44	0.03675c	(86012524)	213.36	106.68	0.05417	(86102624)
213.36	121.92	0.06106c	(86060624)	213.36	137.16	0.05314	(86011324)
213.36	152.40	0.03318c	(86042524)	213.36	167.64	0.05123c	(86071424)
213.36	182.88	0.04826c	(86041624)	213.36	198.12	0.03941c	(86020724)
213.36	213.36	0.05963	(86040824)	213.36	221.29	0.04659	(86100424)
198.12	221.29	0.04759c	(86021824)	182.88	221.29	0.04200	(86072624)
167.64	221.29	0.05682c	(86090624)	152.40	221.29	0.06444c	(86081824)
137.16	221.29	0.06526	(86081324)	121.92	221.29	0.06302	(86121024)
106.68	221.29	0.05402	(86031324)	91.44	221.29	0.03699c	(86050724)
76.20	221.29	0.03316	(86031924)	60.96	221.29	0.04123	(86112524)
45.72	221.29	0.03915c	(86081224)	30.48	221.29	0.04186c	(86080924)
15.24	221.29	0.03966c	(86051824)	0.00	221.29	0.02989c	(86100324)
0.00	213.36	0.03325c	(86100324)	0.00	198.12	0.03496c	(86020424)
0.00	182.88	0.03683c	(86100824)	0.00	167.64	0.04150c	(86092924)
0.00	152.40	0.03317c	(86082624)	0.00	137.16	0.02762	(86110924)
0.00	121.92	0.03577c	(86060324)	0.00	106.68	0.02939c	(86051324)
0.00	91.44	0.02701	(86111124)	0.00	76.20	0.03446	(86102924)
0.00	60.96	0.02615c	(86082224)	0.00	45.72	0.02612c	(86051724)
0.00	30.48	0.02476	(86092624)	0.00	15.24	0.02709c	(86090124)

*** ISCST2 - VERSION 92062 ***   *** Foamex TDI Sources: Foam Line Stack & Rebond Process Exhaust   ***   01/21/93
*** 24-hour Average Emission Rates   ***   10:56:07
PAGE 19

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE MAXIMUM 50 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

NK	CONC	(YYMMDDHH) AT	RECEPTOR (XR,	YR)	OF TYPE	RANK	CONC	(YYMMDDHH) AT	RECEPTOR (XR,	YR)	OF TYPE
1.	0.08421	(86072324) AT (	152.40,	221.29)	DC	26.	0.05556	(86063024) AT (	137.16,	221.29)	DC
2.	0.07934c	(86071924) AT (	213.36,	167.64)	DC	27.	0.05521	(86031224) AT (	106.68,	221.29)	DC
3.	0.07349c	(86012924) AT (	181.68,	240.55)	GP	28.	0.05515c	(86060824) AT (	181.68,	240.55)	GP
4.	0.07088c	(86012324) AT (	213.36,	121.92)	DC	29.	0.05485c	(86041224) AT (	152.40,	221.29)	DC
5.	0.06746c	(86050724) AT (	76.20,	221.29)	DC	30.	0.05417	(86102624) AT (	213.36,	106.68)	DC
6.	0.06731	(86082024) AT (	137.16,	221.29)	DC	31.	0.05402	(86031324) AT (	106.68,	221.29)	DC
7.	0.06723	(86100924) AT (	121.92,	221.29)	DC	32.	0.05392	(86030424) AT (	213.36,	213.36)	DC
8.	0.06526	(86081324) AT (	137.16,	221.29)	DC	33.	0.05314	(86011324) AT (	213.36,	137.16)	DC
9.	0.06444c	(86081824) AT (	152.40,	221.29)	DC	34.	0.05243	(86113024) AT (	121.92,	221.29)	DC
0.	0.06355	(86030324) AT (	198.12,	221.29)	DC	35.	0.05217	(86022224) AT (	167.64,	221.29)	DC
11.	0.06302	(86121024) AT (	121.92,	221.29)	DC	36.	0.05215c	(86061124) AT (	152.40,	221.29)	DC
12.	0.06227c	(86012924) AT (	167.64,	221.29)	DC	37.	0.05200	(86111724) AT (	152.40,	221.29)	DC
3.	0.06169c	(86071924) AT (	247.63,	161.95)	GP	38.	0.05198	(86071224) AT (	137.16,	221.29)	DC
4.	0.06106c	(86060624) AT (	213.36,	121.92)	DC	39.	0.05190c	(86071324) AT (	137.16,	221.29)	DC
15.	0.06087	(86072324) AT (	157.98,	251.60)	GP	40.	0.05142c	(86100524) AT (	213.36,	182.88)	DC
6.	0.06052c	(86072524) AT (	213.36,	213.36)	DC	41.	0.05129	(86112624) AT (	137.16,	221.29)	DC
7.	0.05995	(86030324) AT (	203.10,	225.55)	GP	42.	0.05129	(86071724) AT (	137.16,	221.29)	DC
18.	0.05991	(86012624) AT (	137.16,	221.29)	DC	43.	0.05123c	(86071424) AT (	213.36,	167.64)	DC
19.	0.05963	(86040824) AT (	213.36,	213.36)	DC	44.	0.05114	(86020524) AT (	152.40,	221.29)	DC
0.	0.05953	(86042924) AT (	213.36,	137.16)	DC	45.	0.05079c	(86102524) AT (	121.92,	221.29)	DC
21.	0.05893c	(86012324) AT (	213.36,	106.68)	DC	46.	0.05066c	(86050824) AT (	152.40,	221.29)	DC
22.	0.05730	(86072724) AT (	152.40,	221.29)	DC	47.	0.05046c	(86093024) AT (	0.00,	198.12)	DC
3.	0.05682c	(86090624) AT (	167.64,	221.29)	DC	48.	0.05003	(86121824) AT (	221.59,	207.06)	GP
4.	0.05643	(86061324) AT (	167.64,	221.29)	DC	49.	0.04996c	(86072524) AT (	213.36,	221.29)	DC
25.	0.05603	(86072324) AT (	167.64,	221.29)	DC	50.	0.04955	(86112724) AT (	137.16,	221.29)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

OUP ID		AVERAGE CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
L	HIGH 1ST HIGH VALUE IS	0.08421	ON 86072324: AT (	152.40,	221.29,	0.00,	0.00)	DC	
	HIGH 2ND HIGH VALUE IS	0.06526	ON 86081324: AT (	137.16,	221.29,	0.00,	0.00)	DC	

** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

```
*** MODELING OPTIONS USED:  CONC   RURAL  FLAT         DFAULT


*** Message Summary For ISC2 Model Execution ***

 -------- Summary of Total Messages --------

 Total of           0 Fatal Error Message(s)
 Total of           0 Warning Message(s)
 Total of         328 Informational Message(s)

 Total of         328 Calm Hours Identified


  ********* FATAL ERROR MESSAGES *********
           ***  NONE  ***


  *********   WARNING MESSAGES   *********
           ***  NONE  ***


  ***************************************
  *** ISCST2 Finishes Successfully ***
  ***************************************
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Run: FMXTDI8

TDI Annual Average Emission Rates

```
ISCST2 EXTENDED MODEL - (DATED 92062)

IBM-PC VERSION (1.01)
(C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 8025 SOLD TO CROSS TESSITORE & ASSOCIATES
RUN BEGAN ON 01/21/93 AT 11:11:26


CO STARTING
[redacted] TITLEONE Foamex TDI Sources: Foam Line Stack & Rebond Process Exhaust
[redacted] TITLETWO Annual Average Emission Rates
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME PERIOD
[redacted] POLLUTID OTHER
[redacted] RUNORNOT RUN
CO FINISHED

[redacted] STARTING

[redacted] Source Location Cards:
           SRCID SRCTYP        XS            YS             ZS

SO LOCATION     1 POINT      175.8720      119.7880        .0000
[redacted] LOCATION     2 POINT      141.4290      162.7650        .0000
[redacted] LOCATION     3 POINT      141.4290      166.4230        .0000

[redacted] Source Parameter Cards:
[redacted] POINT:    SRCID        QS            HS         TS         VS        DS
** VOLUME:   SRCID        QS            HS        SYINIT     SZINIT
** AREA:     SRCID        QS            HS         XINIT

[redacted] SRCPARAM    1    .0033208       38.1000   299.8200   24.3810     .7021
SO SRCPARAM    2    .0001239       12.4968   299.8200    1.0348     .7620
[redacted] SRCPARAM    3    .0001239       12.4968   299.8200    1.0348     .7620

** NOTE:  Direction-Specific Building Heights Used for Non-SS Source     1
[redacted] BUILDHGT    1     15.24     15.24     15.24     15.24     15.24     15.24
[redacted] BUILDHGT    1       .00       .00       .00       .00       .00       .00
SO BUILDHGT    1       .00       .00     15.24     15.24     15.24       .00
SO BUILDHGT    1       .00     15.24     15.24     15.24     15.24     15.24
[redacted] BUILDHGT    1       .00       .00       .00       .00       .00       .00
[redacted] BUILDHGT    1       .00       .00     15.24     15.24     15.24     15.24
SO BUILDHGT    2     12.19     12.19     10.67     10.67     10.67     10.67
[redacted] BUILDHGT    2     10.67     10.67     10.67     10.67     10.67     10.67
[redacted] BUILDHGT    2     10.67     10.67     10.67     10.67     10.67     10.67
SO BUILDHGT    2     10.67     12.19     10.67     10.97     10.97     10.97
[redacted] BUILDHGT    2     10.97     10.97     10.67     10.67     10.67     10.67
[redacted] BUILDHGT    2     12.19     12.19     12.19     12.19     12.19     12.19
SO BUILDHGT    3     12.19     12.19     10.67     10.67     10.67     10.67
SO BUILDHGT    3     10.67     10.67     10.67     10.67     10.67     10.67
[redacted] BUILDHGT    3     10.67     10.67     10.67     10.67     10.67     10.67
[redacted] BUILDHGT    3     10.67     10.67     10.67     10.67     10.97     10.97
SO BUILDHGT    3     10.97     10.97     10.67     10.67     10.67     10.67
[redacted] BUILDHGT    3     12.19     12.19     12.19     12.19     12.19     12.19
[redacted] NOTE:  Direction-Specific Building Widths Used for Non-SS Source     1
SO BUILDWID    1     84.68     91.23     95.01     95.96     95.84     93.53
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SO BUILDWID      1       .00       .00       .00       .00       .00       .00
[redacted] BUILDWID      1       .00       .00     93.84     90.70     83.88       .00
[redacted] BUILDWID      1       .00     91.23     95.01     95.96     95.84     93.53
SO BUILDWID      1       .00       .00       .00       .00       .00       .00
[redacted] BUILDWID      1       .00       .00     93.84     90.70     83.88     75.55
[redacted] BUILDWID      2     84.68     88.29    196.53    209.06    215.24    215.89
SO BUILDWID      2    214.49    206.95    193.13    194.58    194.74    192.50
[redacted] BUILDWID      2    186.24    176.60    161.59    148.74    138.57    125.52
[redacted] BUILDWID      2    154.11     88.29    196.53     24.84     24.73     23.71
SO BUILDWID      2     21.98     19.58    193.13    194.58    194.74    192.50
SO BUILDWID      2    125.05    122.42    116.07    106.20     93.09     77.16
[redacted] BUILDWID      3     84.68     87.62    196.53    209.06    215.24    215.89
[redacted] BUILDWID      3    214.49    206.95    193.13    194.58    194.74    192.50
SO BUILDWID      3    186.24    176.60    161.59    148.74    138.57    125.52
[redacted] BUILDWID      3    154.11    178.03    196.53    209.06     24.58     23.71
[redacted] BUILDWID      3     21.98     19.58    193.13    194.58    194.74    192.50
SO BUILDWID      3    124.83    122.42    116.07    106.20     93.09     77.16
SO EMISUNIT    .100000E+07 (GRAMS/SEC)          (MICROGRAMS/CUBIC-METER)
[redacted] SRCGROUP ALL
SO FINISHED

[redacted] STARTING
[redacted] GRIDPOLR POL1 STA
RE GRIDPOLR POL1 ORIG   106.68  110.6424
[redacted] GRIDPOLR POL1 DIST   150. 200. 250. 300. 350. 400. 450. 500. 550.
[redacted] GRIDPOLR POL1 DIST   600. 650. 700. 750. 800. 850. 900. 950. 1000.
RE GRIDPOLR POL1 GDIR   36  10.  10.
RE GRIDPOLR POL1 END
[redacted] DISCCART        .00        .00
[redacted] DISCCART      15.24        .00
RE DISCCART      30.48        .00
[redacted] DISCCART      45.72        .00
[redacted] DISCCART      60.96        .00
RE DISCCART      76.20        .00
[redacted] DISCCART      91.44        .00
[redacted] DISCCART     106.68        .00
RE DISCCART     121.92        .00
RE DISCCART     137.16        .00
[redacted] DISCCART     152.40        .00
[redacted] DISCCART     167.64        .00
RE DISCCART     182.88        .00
[redacted] DISCCART     198.12        .00
[redacted] DISCCART     213.36        .00
RE DISCCART     213.36      15.24
[redacted] DISCCART     213.36      30.48
[redacted] DISCCART     213.36      45.72
RE DISCCART     213.36      60.96
RE DISCCART     213.36      76.20
[redacted] DISCCART     213.36      91.44
[redacted] DISCCART     213.36     106.68
RE DISCCART     213.36     121.92
[redacted] DISCCART     213.36     137.16
[redacted] DISCCART     213.36     152.40
RE DISCCART     213.36     167.64
[redacted] DISCCART     213.36     182.88
[redacted] DISCCART     213.36     198.12
RE DISCCART     213.36     213.36
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RE DISCCART      213.36     221.29
RE DISCCART      198.12     221.29
RE DISCCART      182.88     221.29
RE DISCCART      167.64     221.29
RE DISCCART      152.40     221.29
RE DISCCART      137.16     221.29
RE DISCCART      121.92     221.29
RE DISCCART      106.68     221.29
RE DISCCART       91.44     221.29
RE DISCCART       76.20     221.29
RE DISCCART       60.96     221.29
RE DISCCART       45.72     221.29
RE DISCCART       30.48     221.29
RE DISCCART       15.24     221.29
RE DISCCART         .00     221.29
RE DISCCART         .00     213.36
RE DISCCART         .00     198.12
RE DISCCART         .00     182.88
RE DISCCART         .00     167.64
RE DISCCART         .00     152.40
RE DISCCART         .00     137.16
RE DISCCART         .00     121.92
RE DISCCART         .00     106.68
RE DISCCART         .00      91.44
RE DISCCART         .00      76.20
RE DISCCART         .00      60.96
RE DISCCART         .00      45.72
RE DISCCART         .00      30.48
RE DISCCART         .00      15.24
RE FINISHED

   STARTING
ME INPUTFIL C:\modELS\iscst2\ORLTMP86.BIN    UNFORM
   ANEMHGHT   10.000 METERS
   SURFDATA  12815  1986           SURFNAME
ME UAIRDATA  12842  1986           UAIRNAME
   WINDCATS    1.54     3.09     5.14     8.23    10.80
   FINISHED

   STARTING
   FINISHED

*************************************
** SETUP Finishes Successfully ***
*************************************
```

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** MODEL SETUP OPTIONS SUMMARY ***

- -

**Model Is Setup For Calculation of Average CONCentration Values.

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Assumes Receptors on FLAT Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates PERIOD Averages Only

**This Run Includes: 3 Source(s); 1 Source Group(s); and 706 Receptor(s)

**The Model Assumes A Pollutant Type of: OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of PERIOD Averages by Receptor

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = (GRAMS/SEC) ; Emission Rate Unit Factor = 0.10000E+07
Output Units = (MICROGRAMS/CUBIC-METER)

**Input Runstream File: D:\MODELDAT\ISCST2\FOAMEX\FMXTDIA.NEW ; **Output Print File: D:\MODELDAT\ISCST2\FOAMEX\FMXTDIA.LST

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BUILDING EXISTS	EMISSION RATE SCALAR VARY BY
1	0	0.33208E-02	175.9	119.8	0.0	38.10	299.82	24.38	0.70	YES	
2	0	0.12390E-03	141.4	162.8	0.0	12.50	299.82	1.03	0.76	YES	
3	0	0.12390E-03	141.4	166.4	0.0	12.50	299.82	1.03	0.76	YES	

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	1 , 2 , 3 ,

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: 1

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	15.2,	84.7,	0	2	15.2,	91.2,	0	3	15.2,	95.0,	0	4	15.2,	96.0,	0	5	15.2,	95.8,	0	6	15.2,	93.5,	0
7	0.0,	0.0,	0	8	0.0,	0.0,	0	9	0.0,	0.0,	0	10	0.0,	0.0,	0	11	0.0,	0.0,	0	12	0.0,	0.0,	0
13	0.0,	0.0,	0	14	0.0,	0.0,	0	15	15.2,	93.8,	0	16	15.2,	90.7,	0	17	15.2,	83.9,	0	18	0.0,	0.0,	0
19	0.0,	0.0,	0	20	15.2,	91.2,	0	21	15.2,	95.0,	0	22	15.2,	96.0,	0	23	15.2,	95.8,	0	24	15.2,	93.5,	0
25	0.0,	0.0,	0	26	0.0,	0.0,	0	27	0.0,	0.0,	0	28	0.0,	0.0,	0	29	0.0,	0.0,	0	30	0.0,	0.0,	0
31	0.0,	0.0,	0	32	0.0,	0.0,	0	33	15.2,	93.8,	0	34	15.2,	90.7,	0	35	15.2,	83.9,	0	36	15.2,	75.6,	0

SOURCE ID: 2

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	88.3,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	12.2,	88.3,	0	21	10.7,	196.5,	0	22	11.0,	24.8,	0	23	11.0,	24.7,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	125.1,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

SOURCE ID: 3

IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK	IFV	BH	BW	WAK
1	12.2,	84.7,	0	2	12.2,	87.6,	0	3	10.7,	196.5,	0	4	10.7,	209.1,	0	5	10.7,	215.2,	0	6	10.7,	215.9,	0
7	10.7,	214.5,	0	8	10.7,	206.9,	0	9	10.7,	193.1,	0	10	10.7,	194.6,	0	11	10.7,	194.7,	0	12	10.7,	192.5,	0
13	10.7,	186.2,	0	14	10.7,	176.6,	0	15	10.7,	161.6,	0	16	10.7,	148.7,	0	17	10.7,	138.6,	0	18	10.7,	125.5,	0
19	10.7,	154.1,	0	20	10.7,	178.0,	0	21	10.7,	196.5,	0	22	10.7,	209.1,	0	23	11.0,	24.6,	0	24	11.0,	23.7,	0
25	11.0,	22.0,	0	26	11.0,	19.6,	0	27	10.7,	193.1,	0	28	10.7,	194.6,	0	29	10.7,	194.7,	0	30	10.7,	192.5,	0
31	12.2,	124.8,	0	32	12.2,	122.4,	0	33	12.2,	116.1,	0	34	12.2,	106.2,	0	35	12.2,	93.1,	0	36	12.2,	77.2,	0

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

*** ORIGIN FOR POLAR NETWORK ***
X-ORIG = 106.68 ; Y-ORIG = 110.64 (METERS)

*** DISTANCE RANGES OF NETWORK ***
(METERS)

150.0,	200.0,	250.0,	300.0,	350.0,	400.0,	450.0,	500.0,	550.0,	600.0,
650.0,	700.0,	750.0,	800.0,	850.0,	900.0,	950.0,	1000.0,		

*** DIRECTION RADIALS OF NETWORK ***
(DEGREES)

10.0,	20.0,	30.0,	40.0,	50.0,	60.0,	70.0,	80.0,	90.0,	100.0,
110.0,	120.0,	130.0,	140.0,	150.0,	160.0,	170.0,	180.0,	190.0,	200.0,
210.0,	220.0,	230.0,	240.0,	250.0,	260.0,	270.0,	280.0,	290.0,	300.0,
310.0,	320.0,	330.0,	340.0,	350.0,	360.0,				

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

```
(     0.0,      0.0,      0.0,      0.0);        (    15.2,      0.0,      0.0,      0.0);
(    30.5,      0.0,      0.0,      0.0);        (    45.7,      0.0,      0.0,      0.0);
(    61.0,      0.0,      0.0,      0.0);        (    76.2,      0.0,      0.0,      0.0);
(    91.4,      0.0,      0.0,      0.0);        (   106.7,      0.0,      0.0,      0.0);
(   121.9,      0.0,      0.0,      0.0);        (   137.2,      0.0,      0.0,      0.0);
(   152.4,      0.0,      0.0,      0.0);        (   167.6,      0.0,      0.0,      0.0);
(   182.9,      0.0,      0.0,      0.0);        (   198.1,      0.0,      0.0,      0.0);
(   213.4,      0.0,      0.0,      0.0);        (   213.4,     15.2,      0.0,      0.0);
(   213.4,     30.5,      0.0,      0.0);        (   213.4,     45.7,      0.0,      0.0);
(   213.4,     61.0,      0.0,      0.0);        (   213.4,     76.2,      0.0,      0.0);
(   213.4,     91.4,      0.0,      0.0);        (   213.4,    106.7,      0.0,      0.0);
(   213.4,    121.9,      0.0,      0.0);        (   213.4,    137.2,      0.0,      0.0);
(   213.4,    152.4,      0.0,      0.0);        (   213.4,    167.6,      0.0,      0.0);
(   213.4,    182.9,      0.0,      0.0);        (   213.4,    198.1,      0.0,      0.0);
(   213.4,    213.4,      0.0,      0.0);        (   213.4,    221.3,      0.0,      0.0);
(   198.1,    221.3,      0.0,      0.0);        (   182.9,    221.3,      0.0,      0.0);
(   167.6,    221.3,      0.0,      0.0);        (   152.4,    221.3,      0.0,      0.0);
(   137.2,    221.3,      0.0,      0.0);        (   121.9,    221.3,      0.0,      0.0);
(   106.7,    221.3,      0.0,      0.0);        (    91.4,    221.3,      0.0,      0.0);
(    76.2,    221.3,      0.0,      0.0);        (    61.0,    221.3,      0.0,      0.0);
(    45.7,    221.3,      0.0,      0.0);        (    30.5,    221.3,      0.0,      0.0);
(    15.2,    221.3,      0.0,      0.0);        (     0.0,    221.3,      0.0,      0.0);
(     0.0,    213.4,      0.0,      0.0);        (     0.0,    198.1,      0.0,      0.0);
(     0.0,    182.9,      0.0,      0.0);        (     0.0,    167.6,      0.0,      0.0);
(     0.0,    152.4,      0.0,      0.0);        (     0.0,    137.2,      0.0,      0.0);
(     0.0,    121.9,      0.0,      0.0);        (     0.0,    106.7,      0.0,      0.0);
(     0.0,     91.4,      0.0,      0.0);        (     0.0,     76.2,      0.0,      0.0);
(     0.0,     61.0,      0.0,      0.0);        (     0.0,     45.7,      0.0,      0.0);
(     0.0,     30.5,      0.0,      0.0);        (     0.0,     15.2,      0.0,      0.0);
```

***** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT**

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1   1 1 1 1 1 1
```

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY	WIND SPEED CATEGORY					
CATEGORY	1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: C:\modELS\iscst2\ORLTMP86.BIN   FORMAT: UNFORM
SURFACE STATION NO.: 12815   UPPER AIR STATION NO.: 12842
NAME: SURFNAME   NAME: UAIRNAME
YEAR: 1986   YEAR: 1986

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN
86	1	1	1	1.0	3.60	289.3	4	639.0	639.0
86	1	1	2	168.0	5.14	288.7	4	639.0	639.0
86	1	1	3	124.0	3.09	288.2	4	639.0	639.0
86	1	1	4	353.0	2.57	288.2	4	639.0	639.0
86	1	1	5	333.0	2.57	288.7	4	639.0	639.0
86	1	1	6	332.0	2.57	288.7	4	639.0	639.0
86	1	1	7	335.0	3.09	288.7	4	639.0	639.0
86	1	1	8	3.0	3.60	289.3	4	639.0	639.0
86	1	1	9	347.0	3.60	289.8	4	639.0	639.0
86	1	1	10	1.0	5.14	292.0	4	639.0	639.0
86	1	1	11	14.0	4.63	292.6	4	639.0	639.0
86	1	1	12	16.0	4.12	294.3	4	639.0	639.0
86	1	1	13	73.0	3.09	295.4	4	639.0	639.0
86	1	1	14	49.0	3.60	297.0	4	639.0	639.0
86	1	1	15	142.0	2.06	296.5	4	639.0	639.0
86	1	1	16	144.0	2.06	295.9	4	639.0	639.0
86	1	1	17	261.0	2.06	295.4	4	639.0	639.0
86	1	1	18	257.0	2.06	292.6	4	644.0	644.0
86	1	1	19	274.0	3.60	291.5	4	655.0	655.0
86	1	1	20	227.0	3.09	290.9	4	666.0	666.0
86	1	1	21	230.0	3.09	290.9	4	678.0	678.0
86	1	1	22	252.0	2.57	290.4	5	689.0	477.0
86	1	1	23	290.0	2.06	290.4	4	700.0	700.0
86	1	1	24	290.0	1.00	290.4	4	712.0	712.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION (DEGREES)	DISTANCE (METERS) 150.00	200.00	250.00	300.00	350.00	400.00	450.00	500.00	550.00
10.00	0.00575	0.00420	0.00319	0.00261	0.00226	0.00203	0.00187	0.00174	0.00163
20.00	0.00602	0.00373	0.00276	0.00229	0.00201	0.00183	0.00169	0.00158	0.00148
30.00	0.00538	0.00354	0.00260	0.00213	0.00186	0.00166	0.00152	0.00140	0.00131
40.00	0.00444	0.00302	0.00230	0.00194	0.00172	0.00158	0.00146	0.00137	0.00129
50.00	0.00471	0.00340	0.00253	0.00206	0.00178	0.00159	0.00145	0.00134	0.00126
60.00	0.00379	0.00294	0.00230	0.00188	0.00165	0.00151	0.00141	0.00133	0.00126
70.00	0.00253	0.00200	0.00171	0.00157	0.00147	0.00140	0.00134	0.00128	0.00123
80.00	0.00237	0.00174	0.00126	0.00114	0.00113	0.00111	0.00108	0.00103	0.00099
90.00	0.00270	0.00182	0.00123	0.00107	0.00106	0.00104	0.00099	0.00094	0.00089
100.00	0.00271	0.00201	0.00144	0.00129	0.00122	0.00114	0.00106	0.00098	0.00090
110.00	0.00204	0.00168	0.00157	0.00146	0.00142	0.00137	0.00129	0.00121	0.00114
120.00	0.00225	0.00155	0.00123	0.00118	0.00122	0.00124	0.00124	0.00122	0.00119
130.00	0.00231	0.00162	0.00142	0.00128	0.00122	0.00118	0.00113	0.00108	0.00103
140.00	0.00262	0.00200	0.00152	0.00131	0.00120	0.00112	0.00106	0.00102	0.00097
150.00	0.00270	0.00203	0.00172	0.00153	0.00141	0.00131	0.00123	0.00115	0.00108
160.00	0.00248	0.00188	0.00172	0.00163	0.00152	0.00139	0.00128	0.00120	0.00112
170.00	0.00301	0.00248	0.00205	0.00174	0.00154	0.00139	0.00129	0.00121	0.00115
180.00	0.00257	0.00225	0.00202	0.00184	0.00169	0.00157	0.00147	0.00139	0.00133
190.00	0.00248	0.00207	0.00182	0.00163	0.00149	0.00137	0.00127	0.00119	0.00113
200.00	0.00225	0.00188	0.00167	0.00154	0.00143	0.00133	0.00126	0.00119	0.00113
210.00	0.00299	0.00249	0.00218	0.00196	0.00178	0.00164	0.00153	0.00143	0.00135
220.00	0.00313	0.00266	0.00236	0.00214	0.00196	0.00182	0.00169	0.00158	0.00149
230.00	0.00313	0.00269	0.00243	0.00224	0.00208	0.00196	0.00184	0.00175	0.00166
240.00	0.00339	0.00293	0.00262	0.00239	0.00222	0.00208	0.00196	0.00186	0.00177
250.00	0.00365	0.00301	0.00260	0.00233	0.00214	0.00199	0.00186	0.00175	0.00165
260.00	0.00352	0.00285	0.00248	0.00226	0.00209	0.00194	0.00181	0.00170	0.00160
270.00	0.00352	0.00280	0.00240	0.00217	0.00201	0.00188	0.00178	0.00169	0.00162
280.00	0.00328	0.00289	0.00273	0.00241	0.00212	0.00190	0.00175	0.00163	0.00154
290.00	0.00403	0.00286	0.00243	0.00224	0.00207	0.00188	0.00172	0.00159	0.00148
300.00	0.00366	0.00296	0.00239	0.00202	0.00179	0.00167	0.00160	0.00153	0.00146
310.00	0.00358	0.00271	0.00245	0.00211	0.00186	0.00169	0.00155	0.00142	0.00132
320.00	0.00378	0.00281	0.00219	0.00186	0.00165	0.00148	0.00133	0.00122	0.00112
330.00	0.00353	0.00239	0.00185	0.00156	0.00140	0.00130	0.00121	0.00113	0.00105
340.00	0.00309	0.00223	0.00193	0.00170	0.00153	0.00141	0.00132	0.00124	0.00117
350.00	0.00344	0.00274	0.00236	0.00207	0.00186	0.00170	0.00158	0.00148	0.00139
360.00	0.00462	0.00330	0.00256	0.00219	0.00198	0.00183	0.00172	0.00163	0.00155

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** NETWORK ID: POL1 ; NETWORK TYPE: GRIDPOLR ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

DIRECTION	DISTANCE (METERS)								
(DEGREES)	600.00	650.00	700.00	750.00	800.00	850.00	900.00	950.00	1000.00
10.00	0.00154	0.00147	0.00140	0.00134	0.00129	0.00124	0.00120	0.00115	0.00111
20.00	0.00141	0.00134	0.00128	0.00123	0.00118	0.00114	0.00109	0.00105	0.00101
30.00	0.00123	0.00116	0.00111	0.00106	0.00101	0.00097	0.00094	0.00091	0.00088
40.00	0.00122	0.00116	0.00111	0.00106	0.00102	0.00098	0.00095	0.00091	0.00088
50.00	0.00118	0.00112	0.00107	0.00102	0.00098	0.00094	0.00091	0.00088	0.00085
60.00	0.00121	0.00116	0.00111	0.00108	0.00104	0.00101	0.00098	0.00095	0.00092
70.00	0.00118	0.00113	0.00108	0.00105	0.00101	0.00097	0.00094	0.00091	0.00088
80.00	0.00094	0.00089	0.00085	0.00082	0.00078	0.00075	0.00072	0.00069	0.00067
90.00	0.00083	0.00078	0.00074	0.00070	0.00066	0.00063	0.00060	0.00057	0.00054
100.00	0.00083	0.00077	0.00072	0.00068	0.00064	0.00060	0.00057	0.00054	0.00052
110.00	0.00106	0.00100	0.00094	0.00089	0.00085	0.00081	0.00077	0.00073	0.00070
120.00	0.00115	0.00110	0.00106	0.00101	0.00097	0.00093	0.00089	0.00085	0.00082
130.00	0.00098	0.00092	0.00088	0.00083	0.00079	0.00076	0.00072	0.00069	0.00066
140.00	0.00093	0.00089	0.00086	0.00082	0.00078	0.00075	0.00072	0.00069	0.00066
150.00	0.00102	0.00097	0.00093	0.00089	0.00085	0.00082	0.00079	0.00076	0.00073
160.00	0.00107	0.00103	0.00099	0.00096	0.00093	0.00090	0.00088	0.00085	0.00083
170.00	0.00110	0.00106	0.00102	0.00099	0.00096	0.00093	0.00090	0.00087	0.00085
180.00	0.00128	0.00124	0.00120	0.00117	0.00115	0.00112	0.00109	0.00106	0.00104
190.00	0.00107	0.00103	0.00099	0.00095	0.00093	0.00090	0.00087	0.00085	0.00082
200.00	0.00108	0.00104	0.00100	0.00096	0.00093	0.00090	0.00087	0.00085	0.00082
210.00	0.00128	0.00122	0.00117	0.00112	0.00108	0.00104	0.00101	0.00097	0.00094
220.00	0.00141	0.00134	0.00128	0.00122	0.00117	0.00113	0.00109	0.00105	0.00101
230.00	0.00159	0.00152	0.00146	0.00141	0.00136	0.00131	0.00127	0.00122	0.00118
240.00	0.00170	0.00164	0.00158	0.00152	0.00148	0.00143	0.00138	0.00134	0.00129
250.00	0.00157	0.00150	0.00144	0.00138	0.00133	0.00128	0.00123	0.00119	0.00114
260.00	0.00152	0.00145	0.00138	0.00132	0.00127	0.00122	0.00118	0.00113	0.00109
270.00	0.00156	0.00151	0.00146	0.00141	0.00137	0.00133	0.00129	0.00124	0.00120
280.00	0.00146	0.00140	0.00135	0.00130	0.00126	0.00122	0.00118	0.00114	0.00110
290.00	0.00140	0.00132	0.00126	0.00120	0.00115	0.00111	0.00106	0.00102	0.00098
300.00	0.00139	0.00133	0.00128	0.00122	0.00117	0.00113	0.00109	0.00105	0.00100
310.00	0.00123	0.00116	0.00109	0.00104	0.00099	0.00095	0.00091	0.00087	0.00083
320.00	0.00104	0.00097	0.00091	0.00086	0.00081	0.00077	0.00073	0.00070	0.00067
330.00	0.00099	0.00093	0.00088	0.00083	0.00080	0.00076	0.00073	0.00070	0.00067
340.00	0.00112	0.00107	0.00102	0.00098	0.00094	0.00091	0.00088	0.00085	0.00082
350.00	0.00132	0.00125	0.00119	0.00114	0.00110	0.00106	0.00102	0.00098	0.00094
360.00	0.00148	0.00142	0.00136	0.00131	0.00127	0.00123	0.00119	0.00115	0.00112

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): 1 , 2 , 3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
0.00	0.00	0.00302	15.24	0.00	0.00322
30.48	0.00	0.00321	45.72	0.00	0.00332
60.96	0.00	0.00286	76.20	0.00	0.00274
91.44	0.00	0.00301	106.68	0.00	0.00308
121.92	0.00	0.00351	137.16	0.00	0.00375
152.40	0.00	0.00313	167.64	0.00	0.00281
182.88	0.00	0.00294	198.12	0.00	0.00272
213.36	0.00	0.00257	213.36	15.24	0.00262
213.36	30.48	0.00259	213.36	45.72	0.00264
213.36	60.96	0.00291	213.36	76.20	0.00303
213.36	91.44	0.00300	213.36	106.68	0.00353
213.36	121.92	0.00427	213.36	137.16	0.00397
213.36	152.40	0.00340	213.36	167.64	0.00361
213.36	182.88	0.00470	213.36	198.12	0.00500
213.36	213.36	0.00508	213.36	221.29	0.00447
198.12	221.29	0.00468	182.88	221.29	0.00544
167.64	221.29	0.00663	152.40	221.29	0.00850
137.16	221.29	0.00887	121.92	221.29	0.00727
106.68	221.29	0.00551	91.44	221.29	0.00462
76.20	221.29	0.00451	60.96	221.29	0.00455
45.72	221.29	0.00455	30.48	221.29	0.00425
15.24	221.29	0.00392	0.00	221.29	0.00344
0.00	213.36	0.00342	0.00	198.12	0.00403
0.00	182.88	0.00423	0.00	167.64	0.00473
0.00	152.40	0.00444	0.00	137.16	0.00417
0.00	121.92	0.00450	0.00	106.68	0.00443
0.00	91.44	0.00443	0.00	76.20	0.00438
0.00	60.96	0.00400	0.00	45.72	0.00364
0.00	30.48	0.00337	0.00	15.24	0.00318

*** MODELING OPTIONS USED: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

OUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
L	1ST HIGHEST VALUE IS	0.00887 AT (	137.16,	221.29,	0.00,	0.00)	DC	
	2ND HIGHEST VALUE IS	0.00850 AT (	152.40,	221.29,	0.00,	0.00)	DC	
	3RD HIGHEST VALUE IS	0.00727 AT (	121.92,	221.29,	0.00,	0.00)	DC	
	4TH HIGHEST VALUE IS	0.00663 AT (	167.64,	221.29,	0.00,	0.00)	DC	
	5TH HIGHEST VALUE IS	0.00602 AT (	157.98,	251.60,	0.00,	0.00)	GP	POL1
	6TH HIGHEST VALUE IS	0.00575 AT (	132.73,	258.36,	0.00,	0.00)	GP	POL1

** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

```
*** MODELING OPTIONS USED:  CONC   RURAL  FLAT        DFAULT

*** Message Summary For ISC2 Model Execution ***

-------- Summary of Total Messages --------

A Total of          0 Fatal Error Message(s)
  Total of          0 Warning Message(s)
A Total of        328 Informational Message(s)

  Total of        328 Calm Hours Identified

  ******** FATAL ERROR MESSAGES ********
           ***  NONE  ***

  ********   WARNING MESSAGES   ********
           ***  NONE  ***

  ************************************
  *** ISCST2 Finishes Successfully ***
  ************************************
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ATTACHMENT 2

FOAMEX L.P.

Progress Report & Emission Control Schedule

(Orlando Flexible Polyurethane Foam Manufacturing Facility)

ATTACHMENT 2

Foamex L.P. Progress Report & Emission Control Schedule

(Orlando Flexible Polyurethane Foam Manufacturing Facility)

FDER Permit Issued	June 1993
Submission to FDER 1st Progress Report	October 1993
Submission to FDER 2nd Progress Report	June 1994
Submission to FDER 3rd Progress Report	December 1994
Submission to FDER Permit Modification	March 1995
Begin Installation of Final Selection	June 1995
Submission to FDER of Certificate of Completion	December 1995

ATTACHMENT 3

FOAMEX L.P.

Progress Report Content

(Orlando Flexible Polyurethane Foam Manufacturing Facility)

ATTACHMENT 3

Foamex L.P. Progress Report Content

(Orlando Flexible Polyurethane Foam Manufacturing Facility)

1st Progress Report — December 1993

a) Status of engineering/design for Capture and Disperse concepts.

b) Current status of industry and EPA data for Capture and Treat concepts.

c) Current status of Process and Equipment Modification approaches. This report will include status of Foamex installation of VPF system.

2nd Progress Report — June 1994

a) Preliminary engineering/design drawings for Capture and Disperse concept.

b) Updated status of industry and EPA data for Capture and Treat concepts.

c) Updated status of Process and Equipment Modification approaches, including current operational data from Foamex VPF system.

3rd Progress Report — December 1994

a) Final engineering/design drawings for Capture and Disperse concept.

b) Final status of industry and EPA data for Capture and Treat concept.

c) Final status of Process and Equipment Modification approaches, including current operational data from Foamex VPF system.

d) Selection of final concept which may include any of the above concepts and/or combinations. This final selection will be based on existing criteria, including: 1) economics, 2) performance, and 3) current OSHA, FDER, and EPA regulations.

Submission of FDER Construction Permit Modification — March 1995

Based on the final selection of December 1994, a final permit application will be prepared and submitted. This application will reflect the final configuration including any of the studies concepts or combinations of controls, chemical substitution, and/or process or equipment modification.

Florida Department of Environmental Regulation

Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

Lawton Chiles, Governor

Carol M. Browner, Secretary

December 22, 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Charles Eavenson, Plant Manager
Foamex, L.P.
1351 Gemini Boulevard
Orlando, Florida 32821

Dear Mr. Eavenson:

Re: Applications for Permits to Construct a Flexible Polyurethane Foam Manufacturing Facility

The Bureau of Air Regulation has made a preliminary review of your December 2, 1992, applications for permits to construct a slabstock polyurethane foam production line, a rebond polyurethane foam production line, tank storage area, steam boiler, environmental heating systems, and foam fabrication operation.

Please provide the following additional information to complete these applications.

1. Where is the toluene diisocyanate incinerator located? If in Florida, does it have a Department air permit? If Foamex is the operator of this incinerator in Florida, please provide either the permit number or an application for permit for it.

2. What are the 8-hr, 24-hr, and annual ambient air impacts of toluene diisocyanate emissions from the polyurethane foam facility?

3. On page 1-30 (VI. Foam Fabrication Operation) please clarify the 43.7 foot stack diameter listed in Section H.

4. Please provide a more detailed schedule on the company's investigation to use either another process or add air pollution control at this facility. We want to know what the ongoing studies are, what is expected to be learned from the study, and by what date.

5. Why does the boiler operate longer than the slabstock polyurethane foam production facility? Is it on "stand-by" or do other operations at the facility use steam?

6. What means are used to contain spills and minimize fugitive emissions during process chemical storage and handling?

7. Can any of the blowing agents captured by a carbon adsorption system be recycled at the facility? If so, what is the value of the agent recovered? How does this affect the economics of the BACT determination?

8. Please describe the equipment cleaning practices at this facility. How much and what types of solvents are used? What is done to minimize emissions of these solvents? How are the used solvents disposed of?

9. Under the Clean Air Act Amendment of 1990, use of HCFC for non-insulating foams is prohibited after January 1, 1994 (page 6-A-45 of the application). Any permit issued will reflect that limitation. What will be used after this date?

The Department will resume processing your applications after receipt of the requested information. Please write to me or call Willard Hanks at (904) 488-1344, if you have any questions on this matter.

Sincerely,

John C. Brown, Jr.

John C. Brown, Jr., P.E.
Administrator
Air Permitting and Standards

JCB/WH/plm

cc: Charles Collins, CD
Joe Tessitore, P.E.

PS Form 3811, July 1983 447-845

DOMESTIC RETURN RECEIPT

● **SENDER:** Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Charles Eavenson, Plant Mgr.
Joannek, L.P.
1351 Gemini Blvd
Orlando, Fl 32821

4. Type of Service:	Article Number
☐ Registered ☐ Insured ☑ Certified ☐ COD ☐ Express Mail	P062921936

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X N. Bowden

7. Date of Delivery
12/24/92

8. Addressee's Address *(ONLY if requested and fee paid)*

P 062 921 936

Receipt for Certified Mail

No Insurance Coverage Provided
Do not use for International Mail
(See Reverse)

UNITED STATES POSTAL SERVICE

Sent to	Charles Eavenson
Street and No.	Joannek
P.O., State and ZIP Code	Orlando, Fl
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, and Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	12-22-92

PS Form **3800**, June 1991