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NIROP FRIDLEY
5090.3a

Calculation of Site-Specific Allowable Emission Rates Groundwater Treatment Facility

Revision 1

NIROP Fridley
Fridley, Minnesota

Unit Identification Code: N91192
Contract No. N62467-93-D-1106

October 1998

Southern Division
Naval Facilities Engineering Division
North Charleston, South Carolina
29429-9010

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CALCULATION OF SITE-SPECIFIC ALLOWABLE EMISSION RATES GROUNDWATER TREATMENT FACILITY

NIROP
FRIDLEY, MINNESOTA

September 1998

CONTRACT N62467-93-D-1106
DELIVERY ORDER #0042
STATEMENT OF WORK #050

Prepared for

SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Prepared by:

MORRISON KNUDSEN CORPORATION
2420 Mall Drive
Corporate Square 1 - Suite 211
North Charleston, South Carolina 29406

TABLE OF CONTENTS

SECTION		PAGE
1.0	SUMMARY OF FINDINGS	1
2.0	METHODOLOGY	2
3.0	RESULTS AND SITE-SPECIFIC ALLOWABLE EMISSION RATES	3
4.0	CONCLUSIONS AND RECOMMENDATIONS	4
5.0	REFERENCES	5

LIST OF TABLES

TABLE		PAGE
1	SITE-SPECIFIC ALLOWABLE EMISSION RATES AND GROUNDWATER CONCENTRATIONS	1
2	SOURCE PARAMETERS USED FOR ANALYSIS	2
3	MODEL RESULTS, SITE-SPECIFIC ALLOWABLE EMISSION RATES, AND ALLOWABLE GROUNDWATER CONCENTRATIONS	4

ATTACHMENT

1 CALCULATIONS AND MODEL INPUT/OUTPUT FILES

CALCULATION OF SITE-SPECIFIC ALLOWABLE EMISSION RATES FOR GROUNDWATER TREATMENT FACILITY AT NIROP FRIDLEY

1.0 SUMMARY OF FINDINGS

RMT, Inc. previously conducted an air quality analysis of the Groundwater Treatment Facility at NIROP Fridley. The analysis involved modeling three emission scenarios with a configuration of four 55-foot high emission stacks. The analysis is described in a February 7, 1997 memorandum from David Fox, Senior Project Meteorologist, to Eric Gredell (Ref 1).

The analysis described here was conducted to establish site-specific allowable emission rates (AERs) for the Groundwater Treatment Facility. Site-specific AERs are emission rate limits that ensure that maximum off-site ambient air impacts are below regulatory-defined allowable off-site concentrations. Allowable off-site air concentrations are based on an increased cancer risk to the public of 10^{-5}(10-in-one million). Site-specific AERs were calculated for carcinogenic compounds that were previously identified as potentially emitted contaminants from the operation of the Groundwater Treatment Facility (Ref 1).

The approach used in this analysis involved using the EPA-approved Industrial Source Complex Short-Term, Version 3 (ISCST3) (Ref 2), atmospheric dispersion model to "back model" from the maximum allowable off-site impact to annual average site-specific AERs. The site-specific AERs and the maximum groundwater production rate were then used to calculate maximum allowable concentrations for groundwater entering the facility. Table 1 presents the allowable air concentrations based on 10^{-5} risk, AERs, and allowable groundwater concentrations.

TABLE 1
SITE-SPECIFIC ALLOWABLE EMISSION RATES AND GROUNDWATER CONCENTRATIONS

Contaminant	Allowable Air Concentration ($\mu g/m^3$)	AER (μg/sec)	Allowable Groundwater Treatment Concentration (mg/liter or ppm)	Maximum Anticipated Groundwater Concentration (mg/liter or ppm)
trichloroethylene	5.9	1.6 E+6	25	3.0
methylene chloride	20	5.4 E+6	85	0.040
perchloroethylene	17.2	4.6 E+6	73	0.010
1,1-dichloroethylene	0.2	5.4 E+4	0.85	0.005
1,1-dichloroethane	500	1.35 E+8	2,100	0.010

2.0 METHODOLOGY

The method used to develop site-specific AERs involved back-calculating AERs from maximum allowable offsite contaminant concentrations. Dispersion modeling results were used to develop dispersion factors that define the relationship between emissions and maximum potential offsite impacts. The method involved the following:

1) Conduct dispersion modeling of the emission source using ISCST3 and a unit emission rate (0.1 g/sec) and determine the resulting maximum offsite annual average concentration.

2) Calculate a dispersion factor ($\mu g/m^3$ per g/sec) by dividing the maximum annual average modeled concentration by the emission rate.

3) Calculate site-specific AERs by dividing the allowable off-site contaminant concentrations by the dispersion factor.

Table 2 provides the parameters used to model the emissions from the Groundwater Treatment Facility. These parameters have changed somewhat from those used for the previous air quality analysis conducted by RMT, Inc. (Ref 1), and there will now only be a single stack associated with the facility. Because the stack location and the configuration of site buildings did not changed from the previous modeling, the building downwash parameter information (generated from the Building Profile Input Program [BPIP] [Ref 3]) from the previous ISCST3 input file was used for this analysis. For consistency with the previous modeling conducted, the rural dispersion coefficient option in ISCST3 was selected and the same receptor grid from the previous modeling analysis was also used for this analysis.

TABLE 2
SOURCE PARAMETERS USED FOR ANALYSIS

Parameter	Value
Emission rate used for model	0.1 g/sec
Emission stack height	60 ft (18.29 m)
Stack diameter at point of discharge	32 inches (0.813 m)
Offgas flow velocity (1,800 ft^3/min from each of four strippers)	21 m/sec
Offgas temperature (based on temperature of groundwater)	55° F (286 K)
Dispersion coefficient selection	rural

Dispersion modeling was conducted using Minneapolis National Weather Service surface meteorological data collected from Minneapolis-St. Paul International Airport for years 1987 through 1991 (Ref 4). Upper air data were obtained for the same years from St. Cloud, about 50 miles northwest of Minneapolis.

Dispersion model output provided the maximum off-site annual average concentration, for each of the five years of meteorological data, that resulted from the 0.1 g/sec emission rate. This concentration is not the impact associated with specific contaminant emissions from the facility; rather, it is the impact associated with an arbitrarily selected emission rate. The maximum annual average model result of the five years modeled was then used to establish a dispersion factor. The dispersion factor, obtained by dividing the maximum modeled concentration by the emission rate used in the model (0.1 g/sec), defines the relationship between emissions and the maximum potential off-site annual average contaminant concentrations. Site-specific allowable emission rates (AERs) (in g/sec) were then calculated by dividing the allowable offsite concentration (in $\mu g/m^3$) by the dispersion factor.

Site-specific allowable concentrations of contaminants in groundwater entering the facility were calculated using the following assumptions:

- 100 percent of the contaminants present in the groundwater will be stripped from the groundwater and emitted to the atmosphere during the treatment process.
- Groundwater will be treated at a rate of 1,000 gal/min.
- The treatment facility will operate at the above rate continuously at 8,760 hr/yr.

3.0 RESULTS AND SITE-SPECIFIC ALLOWABLE EMISSION RATES

Modeling results, calculated site-specific AERs, and allowable groundwater concentrations are presented in Table 3. The maximum modeled annual average concentration was obtained for year 1987 at receptor location -175 m in the X direction (east-west) and 100 m in the Y direction (north-south). Therefore, this location is northwest of the site along the site boundary and is the same location of predicted maximum concentration as was obtained for the previous analysis. ISCST3 output and the Mathcad calculation sheet used to derive site-specific AERs and allowable groundwater concentrations are presented in Attachment 1.

TABLE 3 MODEL RESULTS, SITE-SPECIFIC ALLOWABLE EMISSION RATES, AND ALLOWABLE GROUNDWATER CONCENTRATIONS	
Parameter	**Value**
Maximum modeled concentration (using 0.1 g/sec emission)	0.37 $\mu g/m^3$
Dispersion factor	3.7 ($\mu g/m^3$) / (g/sec)
Site-Specific Allowable Emission Rates	
trichloroethylene	1.5 E+6 μg/sec
methylene chloride	5.4 E+6 μg/sec
perchloroethylene	4.6 E+6 μg/sec
1,1-dichloroethylene	5.4 E+4 μg/sec
1,1-dichloroethane	1.35 E+8 μg/sec
Site-Specific Allowable Groundwater Treatment Concentrations	
trichloroethylene	25 mg/liter
methylene chloride	85 mg/liter
perchloroethylene	73 mg/liter
1,1-dichloroethylene	0.85 mg/liter
1,1-dichloroethane	2,100 mg/liter

4.0 CONCLUSIONS AND RECOMMENDATIONS

The site-specific AERs and allowable groundwater concentration values were calculated by backmodeling from allowable offsite ambient air concentrations. Dispersion factors used to relate off-site concentrations to emission rates were based on modeling results of the offsite receptor having the highest annual average modeled concentration of five years of local meteorological data. The conservatively estimated allowable groundwater contaminant concentrations are all well above previously measured groundwater contaminant concentrations. Therefore, it is anticipated that no emission control measures will be required for operating the Groundwater Treatment Facility.

5.0 REFERENCES

1. Project Memorandum. From David Fox, Senior Project Meteorologist, RMT, Inc. To Eric Gredell. Risk Assessment for Air Emissions from a Groundwater Treatment Facility at NIROP Fridley. February 7, 1997.

2. U.S. Environmental Protection Agency. User's Guide for the Industrial Source Complex (ISC3) Dispersion Models, Volume I - User Instructions. EPA-454/B-95-003a. September 1995.

3. U.S. Environmental Protection Agency. User's Guide to the Building Profile Input Program. EPA-454/R-93-038. October 1993.

4. U.S. Environmental Protection Agency. EPA TTN Web (Technology Transfer Network). http://www.epa.gov.ttn/ SCRAM page for regulatory air models and information.

ATTACHMENT 1

CALCULATIONS AND MODEL INPUT/OUTPUT FILES

MORRISON KNUDSEN CORPORATION

Sheet 1 of 2

Project NIROP Fridley — Contract No. ____ — File No. ____

Feature Groundwater Treatment Facility — Designed K. Schilling — Date 10/6/98

Item Allowable emission rates — Checked ____ — Date ____

Allowable processing rate for Groundwater Treatment Facility at NIROP Facility

Pollutants potentially emitted from process

$i := 1, 2 .. 5$

i	
1	trichloroethylene
2	methylene chloride
3	perchloroethylene
4	1,1-dichloroethylene
5	1,1-dichloroethane

Maximum annual average results from dispersion modeling (ug/m^3)

$ModelResult_i :=$

0.3714	trichloroethylene
0.3714	methylene chloride
0.3714	perchloroethylene
0.3714	1,1-dichloroethylene
0.3714	1,1-dichloroethane

$ModelEmission := 0.1$ emission rate used in model (g/sec)

$AllowableConc_i :=$ allowable annual concentration (ug/m^3)

5.9	trichloroethylene
20	methylene chloride
17.2	perchloroethylene
0.2	1,1-dichloroethylene
500	1,1-dichloroethane

$DispFactor_i := \frac{ModelResult_i}{ModelEmission}$ dispersion factor calculated from dispersion modeling results using the emission rate listed above (ug/m^3 / g/sec)

$AllowableEmit_i := AllowableConc_i \cdot \frac{1}{DispFactor_i}$ allowable emission rate (g/sec)

$AllowableEmit_i$

1.58858	trichloroethylene
5.38503	methylene chloride
4.63113	perchloroethylene
$5.38503 \cdot 10^{-2}$	1,1-dichloroethylene
$1.34626 \cdot 10^{2}$	1,1-dichloroethane

ENG 375/91

$ProcessRate := 1000$ (gal/min) groundwater processing rate

sec/min mg/g

$$WaterConc_i := AllowableEmit_i \cdot \frac{1}{ProcessRate} \cdot \frac{60 \cdot 1000}{3.7854}$$

(mg/liter) allowable concentration in groundwater treated

liters/gallon

(mg/liter or ppm)

$WaterConc_i$	
25.18	trichloroethylene
85.355	methylene chloride
73.405	perchloroethylene
0.854	1,1-dichloroethylene
$2.134 \cdot 10^3$	1,1-dichloroethane

ISC Input

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no echo

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**          SRCID SRCTYP        XS            YS            ZS

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*** Source Parameter Cards:
*** POINT:   SRCID       QS             HS          TS          VS          DS
*** VOLUME:  SRCID       QS             HS        SYINIT      SZINIT
*** AREA:    SRCID       QS             HS        XINIT

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SO BUILDWID STACKS       367.16  353.16  328.43  293.72  250.09  198.86
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SO BUILDWID STACKS       250.09  293.72  328.43  353.16  367.16  370.00


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RE FINISHED


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ME ANEMHGHT    10.00 METERS
ME SURFDATA  14922  1991            SURFNAME
ME UAIRDATA  14926  1991            UAIRNAME
ME WINDCATS    1.54    3.09    5.14    8.23   10.80
ME FINISHED


OU STARTING
OU MAXTABLE ALLAVE  50
OU FINISHED
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no echo

 ***********************************
 *** SETUP Finishes Successfully ***
 ***********************************
 *** ISCST3 - VERSION 96113 ***    *** NIROP  1987                                        ***       09/18/98
                                   *** MODELING TO ESTABLISH EMISSION LIMITS              ***       09:34:16
**MODELOPTs: CONC                        RURAL  FLAT        DFAULT                                  PAGE   1

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**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:     1 Source(s);       1 Source Group(s); and    219 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
         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: isc-5.inp                              ;  **Output Print File: isc-5.out
**Detailed Error/Message File:   ERRORS5.OUT
```

*** 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
STACKS	0	0.10000E+00	26.7	0.0	0.0	18.29	286.00	21.50	0.81	YES	

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	STACKS ,

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STACKS

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	15.6,	367.2,	0	2	15.6,	353.2,	0	3	15.6,	328.4,	0	4	15.6,	293.7,	0	5	15.6,	250.1,	0	6	15.6,	198.9,	0
7	15.6,	141.6,	0	8	15.6,	80.0,	0	9	15.6,	16.0,	0	10	15.6,	80.0,	0	11	15.6,	141.6,	0	12	15.6,	198.9,	0
13	15.6,	250.1,	0	14	15.6,	293.7,	0	15	15.6,	328.4,	0	16	15.6,	353.2,	0	17	15.6,	367.2,	0	18	15.6,	370.0,	0
19	15.6,	367.2,	0	20	15.6,	353.2,	0	21	15.6,	328.4,	0	22	15.6,	293.7,	0	23	15.6,	250.1,	0	24	15.6,	198.9,	0
25	15.6,	141.6,	0	26	15.6,	80.0,	0	27	15.6,	16.0,	0	28	15.6,	80.0,	0	29	15.6,	141.6,	0	30	15.6,	198.9,	0
31	15.6,	250.1,	0	32	15.6,	293.7,	0	33	15.6,	328.4,	0	34	15.6,	353.2,	0	35	15.6,	367.2,	0	36	15.6,	370.0,	0

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(-700.0,	700.0,	0.0,	0.0);	(-700.0,	600.0,	0.0,	0.0);
(-700.0,	500.0,	0.0,	0.0);	(-700.0,	400.0,	0.0,	0.0);
(-700.0,	300.0,	0.0,	0.0);	(-700.0,	200.0,	0.0,	0.0);
(-700.0,	100.0,	0.0,	0.0);	(-700.0,	0.0,	0.0,	0.0);
(-700.0,	-100.0,	0.0,	0.0);	(-700.0,	-200.0,	0.0,	0.0);
(-700.0,	-300.0,	0.0,	0.0);	(-700.0,	-400.0,	0.0,	0.0);
(-700.0,	-500.0,	0.0,	0.0);	(-700.0,	-600.0,	0.0,	0.0);
(-700.0,	-700.0,	0.0,	0.0);	(-600.0,	700.0,	0.0,	0.0);
(-600.0,	600.0,	0.0,	0.0);	(-600.0,	500.0,	0.0,	0.0);
(-600.0,	400.0,	0.0,	0.0);	(-600.0,	300.0,	0.0,	0.0);
(-600.0,	200.0,	0.0,	0.0);	(-600.0,	100.0,	0.0,	0.0);
(-600.0,	0.0,	0.0,	0.0);	(-600.0,	-100.0,	0.0,	0.0);
(-600.0,	-200.0,	0.0,	0.0);	(-600.0,	-300.0,	0.0,	0.0);
(-600.0,	-400.0,	0.0,	0.0);	(-600.0,	-500.0,	0.0,	0.0);
(-600.0,	-600.0,	0.0,	0.0);	(-600.0,	-700.0,	0.0,	0.0);
(-500.0,	700.0,	0.0,	0.0);	(-500.0,	600.0,	0.0,	0.0);
(-500.0,	500.0,	0.0,	0.0);	(-500.0,	400.0,	0.0,	0.0);
(-500.0,	300.0,	0.0,	0.0);	(-500.0,	200.0,	0.0,	0.0);
(-500.0,	100.0,	0.0,	0.0);	(-500.0,	0.0,	0.0,	0.0);
(-500.0,	-100.0,	0.0,	0.0);	(-500.0,	-200.0,	0.0,	0.0);
(-500.0,	-300.0,	0.0,	0.0);	(-500.0,	-400.0,	0.0,	0.0);
(-500.0,	-500.0,	0.0,	0.0);	(-500.0,	-600.0,	0.0,	0.0);
(-500.0,	-700.0,	0.0,	0.0);	(-400.0,	700.0,	0.0,	0.0);
(-400.0,	600.0,	0.0,	0.0);	(-400.0,	500.0,	0.0,	0.0);
(-400.0,	400.0,	0.0,	0.0);	(-400.0,	300.0,	0.0,	0.0);
(-400.0,	200.0,	0.0,	0.0);	(-400.0,	100.0,	0.0,	0.0);
(-400.0,	0.0,	0.0,	0.0);	(-400.0,	-100.0,	0.0,	0.0);
(-400.0,	-200.0,	0.0,	0.0);	(-400.0,	-300.0,	0.0,	0.0);
(-400.0,	-400.0,	0.0,	0.0);	(-400.0,	-500.0,	0.0,	0.0);
(-400.0,	-600.0,	0.0,	0.0);	(-400.0,	-700.0,	0.0,	0.0);
(-300.0,	700.0,	0.0,	0.0);	(-300.0,	600.0,	0.0,	0.0);
(-300.0,	500.0,	0.0,	0.0);	(-300.0,	400.0,	0.0,	0.0);
(-300.0,	300.0,	0.0,	0.0);	(-300.0,	200.0,	0.0,	0.0);
(-300.0,	100.0,	0.0,	0.0);	(-300.0,	0.0,	0.0,	0.0);
(-300.0,	-100.0,	0.0,	0.0);	(-300.0,	-200.0,	0.0,	0.0);
(-300.0,	-300.0,	0.0,	0.0);	(-300.0,	-400.0,	0.0,	0.0);
(-300.0,	-500.0,	0.0,	0.0);	(-300.0,	-600.0,	0.0,	0.0);
(-300.0,	-700.0,	0.0,	0.0);	(-200.0,	700.0,	0.0,	0.0);
(-200.0,	600.0,	0.0,	0.0);	(-200.0,	500.0,	0.0,	0.0);
(-200.0,	400.0,	0.0,	0.0);	(-200.0,	300.0,	0.0,	0.0);
(-200.0,	200.0,	0.0,	0.0);	(-200.0,	100.0,	0.0,	0.0);
(-200.0,	0.0,	0.0,	0.0);	(-200.0,	-100.0,	0.0,	0.0);
(-200.0,	-200.0,	0.0,	0.0);	(-200.0,	-300.0,	0.0,	0.0);
(-200.0,	-400.0,	0.0,	0.0);	(-200.0,	-500.0,	0.0,	0.0);
(-200.0,	-600.0,	0.0,	0.0);	(-200.0,	-700.0,	0.0,	0.0);

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(-100.0,	700.0,	0.0,	0.0);	(-100.0,	600.0,	0.0,	0.0);
(-100.0,	500.0,	0.0,	0.0);	(-100.0,	400.0,	0.0,	0.0);
(-100.0,	300.0,	0.0,	0.0);	(-175.0,	200.0,	0.0,	0.0);
(-175.0,	100.0,	0.0,	0.0);	(-175.0,	0.0,	0.0,	0.0);
(-175.0,	-100.0,	0.0,	0.0);	(-175.0,	-200.0,	0.0,	0.0);
(-175.0,	-300.0,	0.0,	0.0);	(-175.0,	-400.0,	0.0,	0.0);
(-100.0,	-500.0,	0.0,	0.0);	(-100.0,	-600.0,	0.0,	0.0);
(-100.0,	-700.0,	0.0,	0.0);	(0.0,	700.0,	0.0,	0.0);
(0.0,	600.0,	0.0,	0.0);	(0.0,	500.0,	0.0,	0.0);
(0.0,	400.0,	0.0,	0.0);	(0.0,	300.0,	0.0,	0.0);
(0.0,	241.0,	0.0,	0.0);	(0.0,	-460.0,	0.0,	0.0);
(0.0,	-500.0,	0.0,	0.0);	(0.0,	-600.0,	0.0,	0.0);
(0.0,	-700.0,	0.0,	0.0);	(100.0,	700.0,	0.0,	0.0);
(100.0,	600.0,	0.0,	0.0);	(100.0,	500.0,	0.0,	0.0);
(100.0,	400.0,	0.0,	0.0);	(100.0,	300.0,	0.0,	0.0);
(100.0,	241.0,	0.0,	0.0);	(100.0,	-460.0,	0.0,	0.0);
(100.0,	-500.0,	0.0,	0.0);	(100.0,	-600.0,	0.0,	0.0);
(100.0,	-700.0,	0.0,	0.0);	(200.0,	700.0,	0.0,	0.0);
(200.0,	600.0,	0.0,	0.0);	(200.0,	500.0,	0.0,	0.0);
(200.0,	400.0,	0.0,	0.0);	(200.0,	300.0,	0.0,	0.0);
(200.0,	241.0,	0.0,	0.0);	(200.0,	-460.0,	0.0,	0.0);
(200.0,	-500.0,	0.0,	0.0);	(200.0,	-600.0,	0.0,	0.0);
(200.0,	-700.0,	0.0,	0.0);	(300.0,	700.0,	0.0,	0.0);
(300.0,	600.0,	0.0,	0.0);	(300.0,	500.0,	0.0,	0.0);
(300.0,	400.0,	0.0,	0.0);	(300.0,	300.0,	0.0,	0.0);
(300.0,	241.0,	0.0,	0.0);	(300.0,	-460.0,	0.0,	0.0);
(300.0,	-500.0,	0.0,	0.0);	(300.0,	-600.0,	0.0,	0.0);
(300.0,	-700.0,	0.0,	0.0);	(400.0,	700.0,	0.0,	0.0);
(400.0,	600.0,	0.0,	0.0);	(400.0,	500.0,	0.0,	0.0);
(400.0,	400.0,	0.0,	0.0);	(400.0,	300.0,	0.0,	0.0);
(400.0,	241.0,	0.0,	0.0);	(450.0,	100.0,	0.0,	0.0);
(450.0,	0.0,	0.0,	0.0);	(450.0,	-100.0,	0.0,	0.0);
(450.0,	-200.0,	0.0,	0.0);	(450.0,	-300.0,	0.0,	0.0);
(450.0,	-400.0,	0.0,	0.0);	(400.0,	-500.0,	0.0,	0.0);
(400.0,	-600.0,	0.0,	0.0);	(400.0,	-700.0,	0.0,	0.0);
(500.0,	700.0,	0.0,	0.0);	(500.0,	600.0,	0.0,	0.0);
(500.0,	500.0,	0.0,	0.0);	(500.0,	400.0,	0.0,	0.0);
(500.0,	300.0,	0.0,	0.0);	(500.0,	200.0,	0.0,	0.0);
(500.0,	100.0,	0.0,	0.0);	(500.0,	0.0,	0.0,	0.0);
(500.0,	-100.0,	0.0,	0.0);	(500.0,	-200.0,	0.0,	0.0);
(500.0,	-300.0,	0.0,	0.0);	(500.0,	-400.0,	0.0,	0.0);
(500.0,	-500.0,	0.0,	0.0);	(500.0,	-600.0,	0.0,	0.0);
(500.0,	-700.0,	0.0,	0.0);	(600.0,	700.0,	0.0,	0.0);
(600.0,	600.0,	0.0,	0.0);	(600.0,	500.0,	0.0,	0.0);
(600.0,	400.0,	0.0,	0.0);	(600.0,	300.0,	0.0,	0.0);

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(600.0,	200.0,	0.0,	0.0);	(600.0,	100.0,	0.0,	0.0);
(600.0,	0.0,	0.0,	0.0);	(600.0,	-100.0,	0.0,	0.0);
(600.0,	-200.0,	0.0,	0.0);	(600.0,	-300.0,	0.0,	0.0);
(600.0,	-400.0,	0.0,	0.0);	(600.0,	-500.0,	0.0,	0.0);
(600.0,	-600.0,	0.0,	0.0);	(600.0,	-700.0,	0.0,	0.0);
(700.0,	700.0,	0.0,	0.0);	(700.0,	600.0,	0.0,	0.0);
(700.0,	500.0,	0.0,	0.0);	(700.0,	400.0,	0.0,	0.0);
(700.0,	300.0,	0.0,	0.0);	(700.0,	200.0,	0.0,	0.0);
(700.0,	100.0,	0.0,	0.0);	(700.0,	0.0,	0.0,	0.0);
(700.0,	-100.0,	0.0,	0.0);	(700.0,	-200.0,	0.0,	0.0);
(700.0,	-300.0,	0.0,	0.0);	(700.0,	-400.0,	0.0,	0.0);
(700.0,	-500.0,	0.0,	0.0);	(700.0,	-600.0,	0.0,	0.0);
(700.0,	-700.0,	0.0,	0.0);	(-159.0,	-77.0,	0.0,	0.0);
(-123.0,	-149.0,	0.0,	0.0);	(-111.0,	-198.0,	0.0,	0.0);
(-84.0,	-267.0,	0.0,	0.0);	(-175.0,	50.0,	0.0,	0.0);
(-175.0,	150.0,	0.0,	0.0);	(-175.0,	-50.0,	0.0,	0.0);
(-100.0,	241.0,	0.0,	0.0);	(-50.0,	241.0,	0.0,	0.0);
(0.0,	241.0,	0.0,	0.0);	(50.0,	241.0,	0.0,	0.0);
(100.0,	241.0,	0.0,	0.0);	(150.0,	241.0,	0.0,	0.0);
(200.0,	241.0,	0.0,	0.0);				

**MODELOPTs: 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 CATEGORY	WIND SPEED 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 CATEGORY	WIND SPEED 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

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: FRID87.ASC FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 14922 UPPER AIR STATION NO.: 14926
NAME: SURFNAME NAME: UAIRNAME
YEAR: 1987 YEAR: 1987

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
87	1	1	1	121.0	6.17	268.1	4	288.1	288.1	0.0000	0.0	0.0000	0	0.00
87	1	1	2	128.0	6.69	265.9	4	295.4	295.4	0.0000	0.0	0.0000	0	0.00
87	1	1	3	134.0	4.12	265.4	5	302.8	398.0	0.0000	0.0	0.0000	0	0.00
87	1	1	4	133.0	4.12	264.8	5	310.2	398.0	0.0000	0.0	0.0000	0	0.00
87	1	1	5	143.0	3.60	264.3	5	317.6	398.0	0.0000	0.0	0.0000	0	0.00
87	1	1	6	132.0	2.57	263.1	5	325.0	398.0	0.0000	0.0	0.0000	0	0.00
87	1	1	7	145.0	3.09	265.4	4	332.3	332.3	0.0000	0.0	0.0000	0	0.00
87	1	1	8	153.0	3.60	265.9	4	339.7	339.7	0.0000	0.0	0.0000	0	0.00
87	1	1	9	147.0	3.60	266.5	4	347.1	347.1	0.0000	0.0	0.0000	0	0.00
87	1	1	10	161.0	4.63	266.5	4	354.5	354.5	0.0000	0.0	0.0000	0	0.00
87	1	1	11	184.0	4.63	267.0	4	361.9	361.9	0.0000	0.0	0.0000	0	0.00
87	1	1	12	136.0	4.63	267.0	4	369.2	369.2	0.0000	0.0	0.0000	0	0.00
87	1	1	13	163.0	4.63	267.0	4	376.6	376.6	0.0000	0.0	0.0000	0	0.00
87	1	1	14	169.0	4.12	267.6	4	384.0	384.0	0.0000	0.0	0.0000	0	0.00
87	1	1	15	142.0	2.06	267.6	4	384.0	384.0	0.0000	0.0	0.0000	0	0.00
87	1	1	16	174.0	4.12	267.6	4	384.0	384.0	0.0000	0.0	0.0000	0	0.00
87	1	1	17	171.0	3.60	267.6	4	382.9	382.9	0.0000	0.0	0.0000	0	0.00
87	1	1	18	167.0	3.60	267.6	4	380.3	380.3	0.0000	0.0	0.0000	0	0.00
87	1	1	19	174.0	3.09	267.6	4	377.6	377.6	0.0000	0.0	0.0000	0	0.00
87	1	1	20	177.0	3.09	267.6	4	374.9	374.9	0.0000	0.0	0.0000	0	0.00
87	1	1	21	180.0	2.06	268.1	4	372.3	372.3	0.0000	0.0	0.0000	0	0.00
87	1	1	22	182.0	2.06	268.1	4	369.6	369.6	0.0000	0.0	0.0000	0	0.00
87	1	1	23	180.0	2.06	268.1	4	366.9	366.9	0.0000	0.0	0.0000	0	0.00
87	1	1	24	180.0	2.06	268.1	4	364.3	364.3	0.0000	0.0	0.0000	0	0.00

*** 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.

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
-700.00	700.00	0.08044	-700.00	600.00	0.08993
-700.00	500.00	0.11646	-700.00	400.00	0.13976
-700.00	300.00	0.13207	-700.00	200.00	0.10778
-700.00	100.00	0.07753	-700.00	0.00	0.06480
-700.00	-100.00	0.05793	-700.00	-200.00	0.05868
-700.00	-300.00	0.04938	-700.00	-400.00	0.04472
-700.00	-500.00	0.04184	-700.00	-600.00	0.03662
-700.00	-700.00	0.03243	-600.00	700.00	0.09130
-600.00	600.00	0.09512	-600.00	500.00	0.11035
-600.00	400.00	0.14665	-600.00	300.00	0.16198
-600.00	200.00	0.14541	-600.00	100.00	0.09535
-600.00	0.00	0.07769	-600.00	-100.00	0.06975
-600.00	-200.00	0.06900	-600.00	-300.00	0.05564
-600.00	-400.00	0.05181	-600.00	-500.00	0.04442
-600.00	-600.00	0.03889	-600.00	-700.00	0.03356
-500.00	700.00	0.09297	-500.00	600.00	0.10770
-500.00	500.00	0.11506	-500.00	400.00	0.14274
-500.00	300.00	0.19008	-500.00	200.00	0.18403
-500.00	100.00	0.12056	-500.00	0.00	0.09469
-500.00	-100.00	0.08602	-500.00	-200.00	0.07813
-500.00	-300.00	0.06505	-500.00	-400.00	0.05674
-500.00	-500.00	0.04789	-500.00	-600.00	0.04047
-500.00	-700.00	0.03711	-400.00	700.00	0.09521
-400.00	600.00	0.11286	-400.00	500.00	0.13091
-400.00	400.00	0.14398	-400.00	300.00	0.19248
-400.00	200.00	0.23110	-400.00	100.00	0.16390
-400.00	0.00	0.11750	-400.00	-100.00	0.10842
-400.00	-200.00	0.08690	-400.00	-300.00	0.07581
-400.00	-400.00	0.06111	-400.00	-500.00	0.05083
-400.00	-600.00	0.04358	-400.00	-700.00	0.03555
-300.00	700.00	0.09018	-300.00	600.00	0.10863
-300.00	500.00	0.13998	-300.00	400.00	0.16262
-300.00	300.00	0.18538	-300.00	200.00	0.26853
-300.00	100.00	0.24943	-300.00	0.00	0.14879
-300.00	-100.00	0.13782	-300.00	-200.00	0.10162
-300.00	-300.00	0.08008	-300.00	-400.00	0.06540
-300.00	-500.00	0.05230	-300.00	-600.00	0.04364
-300.00	-700.00	0.04237	-200.00	700.00	0.08292
-200.00	600.00	0.10242	-200.00	500.00	0.12961
-200.00	400.00	0.16615	-200.00	300.00	0.20931

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
-200.00	200.00	0.24570	-200.00	100.00	0.34764
-200.00	0.00	0.18841	-200.00	-100.00	0.15032
-200.00	-200.00	0.10650	-200.00	-300.00	0.08427
-200.00	-400.00	0.06724	-200.00	-500.00	0.06603
-200.00	-600.00	0.06411	-200.00	-700.00	0.05761
-100.00	700.00	0.07855	-100.00	600.00	0.09680
-100.00	500.00	0.12061	-100.00	400.00	0.15083
-100.00	300.00	0.19817	-175.00	200.00	0.25045
-175.00	100.00	0.37137	-175.00	0.00	0.19836
-175.00	-100.00	0.14694	-175.00	-200.00	0.10272
-175.00	-300.00	0.08317	-175.00	-400.00	0.07353
-100.00	-500.00	0.09064	-100.00	-600.00	0.07880
-100.00	-700.00	0.06812	0.00	700.00	0.08346
0.00	600.00	0.09887	0.00	500.00	0.11918
0.00	400.00	0.14582	0.00	300.00	0.18051
0.00	241.00	0.20578	0.00	-460.00	0.13235
0.00	-500.00	0.12376	0.00	-600.00	0.10525
0.00	-700.00	0.09030	100.00	700.00	0.08192
100.00	600.00	0.09675	100.00	500.00	0.11413
100.00	400.00	0.13377	100.00	300.00	0.16243
100.00	241.00	0.19656	100.00	-460.00	0.13241
100.00	-500.00	0.12116	100.00	-600.00	0.09920
100.00	-700.00	0.08378	200.00	700.00	0.07591
200.00	600.00	0.09518	200.00	500.00	0.11268
200.00	400.00	0.12491	200.00	300.00	0.14867
200.00	241.00	0.15925	200.00	-460.00	0.11636
200.00	-500.00	0.10316	200.00	-600.00	0.08625
200.00	-700.00	0.07813	300.00	700.00	0.07545
300.00	600.00	0.08478	300.00	500.00	0.10055
300.00	400.00	0.11456	300.00	300.00	0.13501
300.00	241.00	0.15361	300.00	-460.00	0.11258
300.00	-500.00	0.10275	300.00	-600.00	0.09184
300.00	-700.00	0.07268	400.00	700.00	0.07308
400.00	600.00	0.08145	400.00	500.00	0.09224
400.00	400.00	0.10670	400.00	300.00	0.12229
400.00	241.00	0.11774	450.00	100.00	0.09049
450.00	0.00	0.09035	450.00	-100.00	0.09836
450.00	-200.00	0.14150	450.00	-300.00	0.16483
450.00	-400.00	0.15965	400.00	-500.00	0.11515
400.00	-600.00	0.08396	400.00	-700.00	0.06881

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

X-COORD (M)	Y-COORD (M)	CONC
500.00	700.00	0.07040
500.00	500.00	0.08676
500.00	300.00	0.09492
500.00	100.00	0.08315
500.00	-100.00	0.08505
500.00	-300.00	0.14409
500.00	-500.00	0.12388
500.00	-700.00	0.07400
600.00	600.00	0.07263
600.00	400.00	0.07976
600.00	200.00	0.06644
600.00	0.00	0.06867
600.00	-200.00	0.09156
600.00	-400.00	0.11782
600.00	-600.00	0.10048
700.00	700.00	0.06233
700.00	500.00	0.06827
700.00	300.00	0.05887
700.00	100.00	0.06311
700.00	-100.00	0.05615
700.00	-300.00	0.08313
700.00	-500.00	0.10034
700.00	-700.00	0.08397
-123.00	-149.00	0.11448
-84.00	-267.00	0.12410
-175.00	150.00	0.30270
-100.00	241.00	0.23470
0.00	241.00	0.20578
100.00	241.00	0.19656
200.00	241.00	0.15925
500.00	600.00	0.07660
500.00	400.00	0.09968
500.00	200.00	0.08160
500.00	0.00	0.08222
500.00	-200.00	0.11845
500.00	-400.00	0.15230
500.00	-600.00	0.09446
600.00	700.00	0.06585
600.00	500.00	0.08221
600.00	300.00	0.07333
600.00	100.00	0.07227
600.00	-100.00	0.06753
600.00	-300.00	0.11107
600.00	-500.00	0.12089
600.00	-700.00	0.08013
700.00	600.00	0.06987
700.00	400.00	0.06534
700.00	200.00	0.05507
700.00	0.00	0.05812
700.00	-200.00	0.07238
700.00	-400.00	0.09652
700.00	-600.00	0.10029
-159.00	-77.00	0.17211
-111.00	-198.00	0.10376
-175.00	50.00	0.27971
-175.00	-50.00	0.18631
-50.00	241.00	0.22191
50.00	241.00	0.20402
150.00	241.00	0.17602

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.37137 AT (	-175.00, 100.00, 0.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.34764 AT (	-200.00, 100.00, 0.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.30270 AT (	-175.00, 150.00, 0.00, 0.00)	DC	NA
	4TH HIGHEST VALUE IS	0.27971 AT (	-175.00, 50.00, 0.00, 0.00)	DC	NA
	5TH HIGHEST VALUE IS	0.26853 AT (	-300.00, 200.00, 0.00, 0.00)	DC	NA
	6TH HIGHEST VALUE IS	0.25045 AT (	-175.00, 200.00, 0.00, 0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

==========

**MODELOPTs: CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 572 Informational Message(s)

A Total of 572 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

```
no echo
************************************
*** SETUP Finishes Successfully ***
************************************
 *** ISCST3 - VERSION 96113 ***    *** NIROP  1988                                                         ***          09/18/98
                                   *** MODELING TO ESTABLISH EMISSION LIMITS                                ***          09:29:14
                                                                                                                         PAGE   1
**MODELOPTs: CONC                             RURAL  FLAT         DFAULT

                                               ***      MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**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:     1 Source(s);       1 Source Group(s); and    219 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
         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: isc-4.inp                                    ;  **Output Print File: isc-4.out
**Detailed Error/Message File:   ERRORS4.OUT
```

**MODELOPTs: 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
STACKS	0	0.10000E+00	26.7	0.0	0.0	18.29	286.00	21.50	0.81	YES	

**MODELOPTs: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	STACKS ,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STACKS

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	15.6,	367.2,	0	2	15.6,	353.2,	0	3	15.6,	328.4,	0	4	15.6,	293.7,	0	5	15.6,	250.1,	0	6	15.6,	198.9,	0
7	15.6,	141.6,	0	8	15.6,	80.0,	0	9	15.6,	16.0,	0	10	15.6,	80.0,	0	11	15.6,	141.6,	0	12	15.6,	198.9,	0
13	15.6,	250.1,	0	14	15.6,	293.7,	0	15	15.6,	328.4,	0	16	15.6,	353.2,	0	17	15.6,	367.2,	0	18	15.6,	370.0,	0
19	15.6,	367.2,	0	20	15.6,	353.2,	0	21	15.6,	328.4,	0	22	15.6,	293.7,	0	23	15.6,	250.1,	0	24	15.6,	198.9,	0
25	15.6,	141.6,	0	26	15.6,	80.0,	0	27	15.6,	16.0,	0	28	15.6,	80.0,	0	29	15.6,	141.6,	0	30	15.6,	198.9,	0
31	15.6,	250.1,	0	32	15.6,	293.7,	0	33	15.6,	328.4,	0	34	15.6,	353.2,	0	35	15.6,	367.2,	0	36	15.6,	370.0,	0

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(-700.0,	700.0,	0.0,	0.0);	(-700.0,	600.0,	0.0,	0.0);
(-700.0,	500.0,	0.0,	0.0);	(-700.0,	400.0,	0.0,	0.0);
(-700.0,	300.0,	0.0,	0.0);	(-700.0,	200.0,	0.0,	0.0);
(-700.0,	100.0,	0.0,	0.0);	(-700.0,	0.0,	0.0,	0.0);
(-700.0,	-100.0,	0.0,	0.0);	(-700.0,	-200.0,	0.0,	0.0);
(-700.0,	-300.0,	0.0,	0.0);	(-700.0,	-400.0,	0.0,	0.0);
(-700.0,	-500.0,	0.0,	0.0);	(-700.0,	-600.0,	0.0,	0.0);
(-700.0,	-700.0,	0.0,	0.0);	(-600.0,	700.0,	0.0,	0.0);
(-600.0,	600.0,	0.0,	0.0);	(-600.0,	500.0,	0.0,	0.0);
(-600.0,	400.0,	0.0,	0.0);	(-600.0,	300.0,	0.0,	0.0);
(-600.0,	200.0,	0.0,	0.0);	(-600.0,	100.0,	0.0,	0.0);
(-600.0,	0.0,	0.0,	0.0);	(-600.0,	-100.0,	0.0,	0.0);
(-600.0,	-200.0,	0.0,	0.0);	(-600.0,	-300.0,	0.0,	0.0);
(-600.0,	-400.0,	0.0,	0.0);	(-600.0,	-500.0,	0.0,	0.0);
(-600.0,	-600.0,	0.0,	0.0);	(-600.0,	-700.0,	0.0,	0.0);
(-500.0,	700.0,	0.0,	0.0);	(-500.0,	600.0,	0.0,	0.0);
(-500.0,	500.0,	0.0,	0.0);	(-500.0,	400.0,	0.0,	0.0);
(-500.0,	300.0,	0.0,	0.0);	(-500.0,	200.0,	0.0,	0.0);
(-500.0,	100.0,	0.0,	0.0);	(-500.0,	0.0,	0.0,	0.0);
(-500.0,	-100.0,	0.0,	0.0);	(-500.0,	-200.0,	0.0,	0.0);
(-500.0,	-300.0,	0.0,	0.0);	(-500.0,	-400.0,	0.0,	0.0);
(-500.0,	-500.0,	0.0,	0.0);	(-500.0,	-600.0,	0.0,	0.0);
(-500.0,	-700.0,	0.0,	0.0);	(-400.0,	700.0,	0.0,	0.0);
(-400.0,	600.0,	0.0,	0.0);	(-400.0,	500.0,	0.0,	0.0);
(-400.0,	400.0,	0.0,	0.0);	(-400.0,	300.0,	0.0,	0.0);
(-400.0,	200.0,	0.0,	0.0);	(-400.0,	100.0,	0.0,	0.0);
(-400.0,	0.0,	0.0,	0.0);	(-400.0,	-100.0,	0.0,	0.0);
(-400.0,	-200.0,	0.0,	0.0);	(-400.0,	-300.0,	0.0,	0.0);
(-400.0,	-400.0,	0.0,	0.0);	(-400.0,	-500.0,	0.0,	0.0);
(-400.0,	-600.0,	0.0,	0.0);	(-400.0,	-700.0,	0.0,	0.0);
(-300.0,	700.0,	0.0,	0.0);	(-300.0,	600.0,	0.0,	0.0);
(-300.0,	500.0,	0.0,	0.0);	(-300.0,	400.0,	0.0,	0.0);
(-300.0,	300.0,	0.0,	0.0);	(-300.0,	200.0,	0.0,	0.0);
(-300.0,	100.0,	0.0,	0.0);	(-300.0,	0.0,	0.0,	0.0);
(-300.0,	-100.0,	0.0,	0.0);	(-300.0,	-200.0,	0.0,	0.0);
(-300.0,	-300.0,	0.0,	0.0);	(-300.0,	-400.0,	0.0,	0.0);
(-300.0,	-500.0,	0.0,	0.0);	(-300.0,	-600.0,	0.0,	0.0);
(-300.0,	-700.0,	0.0,	0.0);	(-200.0,	700.0,	0.0,	0.0);
(-200.0,	600.0,	0.0,	0.0);	(-200.0,	500.0,	0.0,	0.0);
(-200.0,	400.0,	0.0,	0.0);	(-200.0,	300.0,	0.0,	0.0);
(-200.0,	200.0,	0.0,	0.0);	(-200.0,	100.0,	0.0,	0.0);
(-200.0,	0.0,	0.0,	0.0);	(-200.0,	-100.0,	0.0,	0.0);
(-200.0,	-200.0,	0.0,	0.0);	(-200.0,	-300.0,	0.0,	0.0);
(-200.0,	-400.0,	0.0,	0.0);	(-200.0,	-500.0,	0.0,	0.0);
(-200.0,	-600.0,	0.0,	0.0);	(-200.0,	-700.0,	0.0,	0.0);

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(-100.0,	700.0,	0.0,	0.0);	(-100.0,	600.0,	0.0,	0.0);
(-100.0,	500.0,	0.0,	0.0);	(-100.0,	400.0,	0.0,	0.0);
(-100.0,	300.0,	0.0,	0.0);	(-175.0,	200.0,	0.0,	0.0);
(-175.0,	100.0,	0.0,	0.0);	(-175.0,	0.0,	0.0,	0.0);
(-175.0,	-100.0,	0.0,	0.0);	(-175.0,	-200.0,	0.0,	0.0);
(-175.0,	-300.0,	0.0,	0.0);	(-175.0,	-400.0,	0.0,	0.0);
(-100.0,	-500.0,	0.0,	0.0);	(-100.0,	-600.0,	0.0,	0.0);
(-100.0,	-700.0,	0.0,	0.0);	(0.0,	700.0,	0.0,	0.0);
(0.0,	600.0,	0.0,	0.0);	(0.0,	500.0,	0.0,	0.0);
(0.0,	400.0,	0.0,	0.0);	(0.0,	300.0,	0.0,	0.0);
(0.0,	241.0,	0.0,	0.0);	(0.0,	-460.0,	0.0,	0.0);
(0.0,	-500.0,	0.0,	0.0);	(0.0,	-600.0,	0.0,	0.0);
(0.0,	-700.0,	0.0,	0.0);	(100.0,	700.0,	0.0,	0.0);
(100.0,	600.0,	0.0,	0.0);	(100.0,	500.0,	0.0,	0.0);
(100.0,	400.0,	0.0,	0.0);	(100.0,	300.0,	0.0,	0.0);
(100.0,	241.0,	0.0,	0.0);	(100.0,	-460.0,	0.0,	0.0);
(100.0,	-500.0,	0.0,	0.0);	(100.0,	-600.0,	0.0,	0.0);
(100.0,	-700.0,	0.0,	0.0);	(200.0,	700.0,	0.0,	0.0);
(200.0,	600.0,	0.0,	0.0);	(200.0,	500.0,	0.0,	0.0);
(200.0,	400.0,	0.0,	0.0);	(200.0,	300.0,	0.0,	0.0);
(200.0,	241.0,	0.0,	0.0);	(200.0,	-460.0,	0.0,	0.0);
(200.0,	-500.0,	0.0,	0.0);	(200.0,	-600.0,	0.0,	0.0);
(200.0,	-700.0,	0.0,	0.0);	(300.0,	700.0,	0.0,	0.0);
(300.0,	600.0,	0.0,	0.0);	(300.0,	500.0,	0.0,	0.0);
(300.0,	400.0,	0.0,	0.0);	(300.0,	300.0,	0.0,	0.0);
(300.0,	241.0,	0.0,	0.0);	(300.0,	-460.0,	0.0,	0.0);
(300.0,	-500.0,	0.0,	0.0);	(300.0,	-600.0,	0.0,	0.0);
(300.0,	-700.0,	0.0,	0.0);	(400.0,	700.0,	0.0,	0.0);
(400.0,	600.0,	0.0,	0.0);	(400.0,	500.0,	0.0,	0.0);
(400.0,	400.0,	0.0,	0.0);	(400.0,	300.0,	0.0,	0.0);
(400.0,	241.0,	0.0,	0.0);	(450.0,	100.0,	0.0,	0.0);
(450.0,	0.0,	0.0,	0.0);	(450.0,	-100.0,	0.0,	0.0);
(450.0,	-200.0,	0.0,	0.0);	(450.0,	-300.0,	0.0,	0.0);
(450.0,	-400.0,	0.0,	0.0);	(400.0,	-500.0,	0.0,	0.0);
(400.0,	-600.0,	0.0,	0.0);	(400.0,	-700.0,	0.0,	0.0);
(500.0,	700.0,	0.0,	0.0);	(500.0,	600.0,	0.0,	0.0);
(500.0,	500.0,	0.0,	0.0);	(500.0,	400.0,	0.0,	0.0);
(500.0,	300.0,	0.0,	0.0);	(500.0,	200.0,	0.0,	0.0);
(500.0,	100.0,	0.0,	0.0);	(500.0,	0.0,	0.0,	0.0);
(500.0,	-100.0,	0.0,	0.0);	(500.0,	-200.0,	0.0,	0.0);
(500.0,	-300.0,	0.0,	0.0);	(500.0,	-400.0,	0.0,	0.0);
(500.0,	-500.0,	0.0,	0.0);	(500.0,	-600.0,	0.0,	0.0);
(500.0,	-700.0,	0.0,	0.0);	(600.0,	700.0,	0.0,	0.0);
(600.0,	600.0,	0.0,	0.0);	(600.0,	500.0,	0.0,	0.0);
(600.0,	400.0,	0.0,	0.0);	(600.0,	300.0,	0.0,	0.0);

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(600.0,	200.0,	0.0,	0.0);	(600.0,	100.0,	0.0,	0.0);
(600.0,	0.0,	0.0,	0.0);	(600.0,	-100.0,	0.0,	0.0);
(600.0,	-200.0,	0.0,	0.0);	(600.0,	-300.0,	0.0,	0.0);
(600.0,	-400.0,	0.0,	0.0);	(600.0,	-500.0,	0.0,	0.0);
(600.0,	-600.0,	0.0,	0.0);	(600.0,	-700.0,	0.0,	0.0);
(700.0,	700.0,	0.0,	0.0);	(700.0,	600.0,	0.0,	0.0);
(700.0,	500.0,	0.0,	0.0);	(700.0,	400.0,	0.0,	0.0);
(700.0,	300.0,	0.0,	0.0);	(700.0,	200.0,	0.0,	0.0);
(700.0,	100.0,	0.0,	0.0);	(700.0,	0.0,	0.0,	0.0);
(700.0,	-100.0,	0.0,	0.0);	(700.0,	-200.0,	0.0,	0.0);
(700.0,	-300.0,	0.0,	0.0);	(700.0,	-400.0,	0.0,	0.0);
(700.0,	-500.0,	0.0,	0.0);	(700.0,	-600.0,	0.0,	0.0);
(700.0,	-700.0,	0.0,	0.0);	(-159.0,	-77.0,	0.0,	0.0);
(-123.0,	-149.0,	0.0,	0.0);	(-111.0,	-198.0,	0.0,	0.0);
(-84.0,	-267.0,	0.0,	0.0);	(-175.0,	50.0,	0.0,	0.0);
(-175.0,	150.0,	0.0,	0.0);	(-175.0,	-50.0,	0.0,	0.0);
(-100.0,	241.0,	0.0,	0.0);	(-50.0,	241.0,	0.0,	0.0);
(0.0,	241.0,	0.0,	0.0);	(50.0,	241.0,	0.0,	0.0);
(100.0,	241.0,	0.0,	0.0);	(150.0,	241.0,	0.0,	0.0);
(200.0,	241.0,	0.0,	0.0);				

**MODELOPTs: 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 CATEGORY	WIND SPEED 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 CATEGORY	WIND SPEED 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

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: FRID88.ASC FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 14922 UPPER AIR STATION NO.: 14926
NAME: SURFNAME NAME: UAIRNAME
YEAR: 1988 YEAR: 1988

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-O (M)	IPCODE	PRATE (mm/HR)
88	1	1	1	71.0	3.60	252.0	5	667.1	221.0	0.0000	0.0	0.0000	0	0.00
88	1	1	2	68.0	5.14	251.5	5	665.1	221.0	0.0000	0.0	0.0000	0	0.00
88	1	1	3	64.0	4.63	251.5	5	663.1	221.0	0.0000	0.0	0.0000	0	0.00
88	1	1	4	73.0	4.63	250.9	5	661.1	221.0	0.0000	0.0	0.0000	0	0.00
88	1	1	5	63.0	4.12	250.9	5	659.1	221.0	0.0000	0.0	0.0000	0	0.00
88	1	1	6	62.0	4.12	250.4	5	657.1	221.0	0.0000	0.0	0.0000	0	0.00
88	1	1	7	55.0	3.60	250.4	5	655.1	221.0	0.0000	0.0	0.0000	0	0.00
88	1	1	8	53.0	3.60	250.9	4	30.0	224.2	0.0000	0.0	0.0000	0	0.00
88	1	1	9	57.0	4.63	252.0	4	110.9	293.6	0.0000	0.0	0.0000	0	0.00
88	1	1	10	81.0	4.63	253.1	3	216.9	363.1	0.0000	0.0	0.0000	0	0.00
88	1	1	11	84.0	4.63	254.8	3	322.9	432.6	0.0000	0.0	0.0000	0	0.00
88	1	1	12	36.0	3.60	256.5	3	428.9	502.1	0.0000	0.0	0.0000	0	0.00
88	1	1	13	63.0	4.63	258.1	3	535.0	571.5	0.0000	0.0	0.0000	0	0.00
88	1	1	14	59.0	6.17	258.7	4	641.0	641.0	0.0000	0.0	0.0000	0	0.00
88	1	1	15	72.0	6.69	259.3	4	641.0	641.0	0.0000	0.0	0.0000	0	0.00
88	1	1	16	74.0	6.69	258.7	4	641.0	641.0	0.0000	0.0	0.0000	0	0.00
88	1	1	17	81.0	5.66	257.6	4	639.0	639.0	0.0000	0.0	0.0000	0	0.00
88	1	1	18	57.0	5.66	257.0	4	634.2	634.2	0.0000	0.0	0.0000	0	0.00
88	1	1	19	54.0	6.69	256.5	4	629.4	629.4	0.0000	0.0	0.0000	0	0.00
88	1	1	20	47.0	6.69	255.9	4	624.6	624.6	0.0000	0.0	0.0000	0	0.00
88	1	1	21	50.0	5.66	255.4	4	619.8	619.8	0.0000	0.0	0.0000	0	0.00
88	1	1	22	52.0	4.12	254.8	5	615.0	282.6	0.0000	0.0	0.0000	0	0.00
88	1	1	23	10.0	5.14	253.1	5	610.2	216.3	0.0000	0.0	0.0000	0	0.00
88	1	1	24	40.0	4.12	253.7	5	605.4	150.0	0.0000	0.0	0.0000	0	0.00

*** 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.

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8784 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
-700.00	700.00	0.07693	-700.00	600.00	0.09208
-700.00	500.00	0.10205	-700.00	400.00	0.10961
-700.00	300.00	0.07852	-700.00	200.00	0.05451
-700.00	100.00	0.03377	-700.00	0.00	0.03956
-700.00	-100.00	0.03995	-700.00	-200.00	0.03511
-700.00	-300.00	0.03083	-700.00	-400.00	0.03502
-700.00	-500.00	0.03276	-700.00	-600.00	0.02914
-700.00	-700.00	0.02433	-600.00	700.00	0.09078
-600.00	600.00	0.09155	-600.00	500.00	0.10969
-600.00	400.00	0.12445	-600.00	300.00	0.11141
-600.00	200.00	0.07886	-600.00	100.00	0.04048
-600.00	0.00	0.04765	-600.00	-100.00	0.04636
-600.00	-200.00	0.03971	-600.00	-300.00	0.03925
-600.00	-400.00	0.03901	-600.00	-500.00	0.03454
-600.00	-600.00	0.02916	-600.00	-700.00	0.01826
-500.00	700.00	0.09479	-500.00	600.00	0.10796
-500.00	500.00	0.11137	-500.00	400.00	0.13529
-500.00	300.00	0.15324	-500.00	200.00	0.10710
-500.00	100.00	0.05183	-500.00	0.00	0.05847
-500.00	-100.00	0.05488	-500.00	-200.00	0.04582
-500.00	-300.00	0.04883	-500.00	-400.00	0.04338
-500.00	-500.00	0.03574	-500.00	-600.00	0.02146
-500.00	-700.00	0.01894	-400.00	700.00	0.09151
-400.00	600.00	0.11201	-400.00	500.00	0.13310
-400.00	400.00	0.14082	-400.00	300.00	0.17204
-400.00	200.00	0.15792	-400.00	100.00	0.07768
-400.00	0.00	0.07310	-400.00	-100.00	0.06512
-400.00	-200.00	0.05685	-400.00	-300.00	0.05777
-400.00	-400.00	0.04552	-400.00	-500.00	0.02667
-400.00	-600.00	0.02480	-400.00	-700.00	0.02427
-300.00	700.00	0.07897	-300.00	600.00	0.10175
-300.00	500.00	0.13402	-300.00	400.00	0.16779
-300.00	300.00	0.18324	-300.00	200.00	0.22571
-300.00	100.00	0.13892	-300.00	0.00	0.09280
-300.00	-100.00	0.07331	-300.00	-200.00	0.07451
-300.00	-300.00	0.05967	-300.00	-400.00	0.03532
-300.00	-500.00	0.03393	-300.00	-600.00	0.03457
-300.00	-700.00	0.03571	-200.00	700.00	0.08554
-200.00	600.00	0.09818	-200.00	500.00	0.11378
-200.00	400.00	0.15611	-200.00	300.00	0.21411

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8784 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
-200.00	200.00	0.24601	-200.00	100.00	0.23177
-200.00	0.00	0.11764	-200.00	-100.00	0.08472
-200.00	-200.00	0.08023	-200.00	-300.00	0.05084
-200.00	-400.00	0.05106	-200.00	-500.00	0.05464
-200.00	-600.00	0.05153	-200.00	-700.00	0.04605
-100.00	700.00	0.08484	-100.00	600.00	0.10401
-100.00	500.00	0.12702	-100.00	400.00	0.15345
-100.00	300.00	0.17845	-175.00	200.00	0.25048
-175.00	100.00	0.27137	-175.00	0.00	0.12377
-175.00	-100.00	0.09543	-175.00	-200.00	0.07312
-175.00	-300.00	0.05617	-175.00	-400.00	0.05978
-100.00	-500.00	0.07236	-100.00	-600.00	0.06250
-100.00	-700.00	0.05526	0.00	700.00	0.09691
0.00	600.00	0.11566	0.00	500.00	0.14041
0.00	400.00	0.17311	0.00	300.00	0.21536
0.00	241.00	0.24323	0.00	-460.00	0.12518
0.00	-500.00	0.11660	0.00	-600.00	0.09825
0.00	-700.00	0.08374	100.00	700.00	0.09414
100.00	600.00	0.11255	100.00	500.00	0.13651
100.00	400.00	0.16783	100.00	300.00	0.21473
100.00	241.00	0.25351	100.00	-460.00	0.11297
100.00	-500.00	0.10425	100.00	-600.00	0.08756
100.00	-700.00	0.07540	200.00	700.00	0.09150
200.00	600.00	0.11163	200.00	500.00	0.13634
200.00	400.00	0.16270	200.00	300.00	0.19851
200.00	241.00	0.21569	200.00	-460.00	0.12437
200.00	-500.00	0.11046	200.00	-600.00	0.08746
200.00	-700.00	0.07184	300.00	700.00	0.09416
300.00	600.00	0.10842	300.00	500.00	0.13065
300.00	400.00	0.14549	300.00	300.00	0.16374
300.00	241.00	0.17035	300.00	-460.00	0.15311
300.00	-500.00	0.13535	300.00	-600.00	0.10066
300.00	-700.00	0.07561	400.00	700.00	0.09292
400.00	600.00	0.10017	400.00	500.00	0.11671
400.00	400.00	0.12397	400.00	300.00	0.13486
400.00	241.00	0.14033	450.00	100.00	0.07899
450.00	0.00	0.08619	450.00	-100.00	0.12908
450.00	-200.00	0.16314	450.00	-300.00	0.18632
450.00	-400.00	0.18022	400.00	-500.00	0.14655
400.00	-600.00	0.11331	400.00	-700.00	0.08872

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8784 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
500.00	700.00	0.08394	500.00	600.00	0.09494
500.00	500.00	0.09759	500.00	400.00	0.10450
500.00	300.00	0.11228	500.00	200.00	0.09157
500.00	100.00	0.06992	500.00	0.00	0.07858
500.00	-100.00	0.10461	500.00	-200.00	0.14290
500.00	-300.00	0.15402	500.00	-400.00	0.17543
500.00	-500.00	0.13979	500.00	-600.00	0.11564
500.00	-700.00	0.09761	600.00	700.00	0.07947
600.00	600.00	0.07974	600.00	500.00	0.08377
600.00	400.00	0.09632	600.00	300.00	0.08242
600.00	200.00	0.06644	600.00	100.00	0.05711
600.00	0.00	0.06638	600.00	-100.00	0.07509
600.00	-200.00	0.11756	600.00	-300.00	0.12157
600.00	-400.00	0.13297	600.00	-500.00	0.13902
600.00	-600.00	0.11366	600.00	-700.00	0.09598
700.00	700.00	0.06728	700.00	600.00	0.07011
700.00	500.00	0.07927	700.00	400.00	0.07381
700.00	300.00	0.06597	700.00	200.00	0.05308
700.00	100.00	0.04914	700.00	0.00	0.05694
700.00	-100.00	0.05869	700.00	-200.00	0.09844
700.00	-300.00	0.09823	700.00	-400.00	0.10294
700.00	-500.00	0.11850	700.00	-600.00	0.11515
700.00	-700.00	0.09517	-159.00	-77.00	0.08941
-123.00	-149.00	0.08301	-111.00	-198.00	0.07403
-84.00	-267.00	0.10118	-175.00	50.00	0.14445
-175.00	150.00	0.28199	-175.00	-50.00	0.10324
-100.00	241.00	0.21782	-50.00	241.00	0.22226
0.00	241.00	0.24323	50.00	241.00	0.26159
100.00	241.00	0.25351	150.00	241.00	0.23902
200.00	241.00	0.21569			

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8784 HRS) RESULTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.28199 AT (	-175.00, 150.00, 0.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.27137 AT (	-175.00, 100.00, 0.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.26159 AT (	50.00, 241.00, 0.00, 0.00)	DC	NA
	4TH HIGHEST VALUE IS	0.25351 AT (	100.00, 241.00, 0.00, 0.00)	DC	NA
	5TH HIGHEST VALUE IS	0.25351 AT (	100.00, 241.00, 0.00, 0.00)	DC	NA
	6TH HIGHEST VALUE IS	0.25048 AT (	-175.00, 200.00, 0.00, 0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

==========

**MODELOPTs: CONC RURAL FLAT DFAULT

*** Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 492 Informational Message(s)

A Total of 492 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

```
no echo
************************************
*** SETUP Finishes Successfully ***
************************************
 *** ISCST3 - VERSION 96113 ***    *** NIROP  1989                                                 ***        09/18/98
                                   *** MODELING TO ESTABLISH EMISSION LIMITS                        ***        09:20:55
                                                                                                               PAGE   1
**MODELOPTs: CONC                        RURAL  FLAT         DFAULT

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**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:     1 Source(s);       1 Source Group(s); and    219 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
         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: isc-3.inp                                ;  **Output Print File: isc-3.out
**Detailed Error/Message File:   ERRORS3.OUT
```

**MODELOPTs: 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
STACKS	0	0.10000E+00	26.7	0.0	0.0	18.29	286.00	21.50	0.81	YES	

**MODELOPTs: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	STACKS ,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STACKS

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	15.6,	367.2,	0	2	15.6,	353.2,	0	3	15.6,	328.4,	0	4	15.6,	293.7,	0	5	15.6,	250.1,	0	6	15.6,	198.9,	0
7	15.6,	141.6,	0	8	15.6,	80.0,	0	9	15.6,	16.0,	0	10	15.6,	80.0,	0	11	15.6,	141.6,	0	12	15.6,	198.9,	0
13	15.6,	250.1,	0	14	15.6,	293.7,	0	15	15.6,	328.4,	0	16	15.6,	353.2,	0	17	15.6,	367.2,	0	18	15.6,	370.0,	0
19	15.6,	367.2,	0	20	15.6,	353.2,	0	21	15.6,	328.4,	0	22	15.6,	293.7,	0	23	15.6,	250.1,	0	24	15.6,	198.9,	0
25	15.6,	141.6,	0	26	15.6,	80.0,	0	27	15.6,	16.0,	0	28	15.6,	80.0,	0	29	15.6,	141.6,	0	30	15.6,	198.9,	0
31	15.6,	250.1,	0	32	15.6,	293.7,	0	33	15.6,	328.4,	0	34	15.6,	353.2,	0	35	15.6,	367.2,	0	36	15.6,	370.0,	0

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(-700.0,	700.0,	0.0,	0.0);	(-700.0,	600.0,	0.0,	0.0);
(-700.0,	500.0,	0.0,	0.0);	(-700.0,	400.0,	0.0,	0.0);
(-700.0,	300.0,	0.0,	0.0);	(-700.0,	200.0,	0.0,	0.0);
(-700.0,	100.0,	0.0,	0.0);	(-700.0,	0.0,	0.0,	0.0);
(-700.0,	-100.0,	0.0,	0.0);	(-700.0,	-200.0,	0.0,	0.0);
(-700.0,	-300.0,	0.0,	0.0);	(-700.0,	-400.0,	0.0,	0.0);
(-700.0,	-500.0,	0.0,	0.0);	(-700.0,	-600.0,	0.0,	0.0);
(-700.0,	-700.0,	0.0,	0.0);	(-600.0,	700.0,	0.0,	0.0);
(-600.0,	600.0,	0.0,	0.0);	(-600.0,	500.0,	0.0,	0.0);
(-600.0,	400.0,	0.0,	0.0);	(-600.0,	300.0,	0.0,	0.0);
(-600.0,	200.0,	0.0,	0.0);	(-600.0,	100.0,	0.0,	0.0);
(-600.0,	0.0,	0.0,	0.0);	(-600.0,	-100.0,	0.0,	0.0);
(-600.0,	-200.0,	0.0,	0.0);	(-600.0,	-300.0,	0.0,	0.0);
(-600.0,	-400.0,	0.0,	0.0);	(-600.0,	-500.0,	0.0,	0.0);
(-600.0,	-600.0,	0.0,	0.0);	(-600.0,	-700.0,	0.0,	0.0);
(-500.0,	700.0,	0.0,	0.0);	(-500.0,	600.0,	0.0,	0.0);
(-500.0,	500.0,	0.0,	0.0);	(-500.0,	400.0,	0.0,	0.0);
(-500.0,	300.0,	0.0,	0.0);	(-500.0,	200.0,	0.0,	0.0);
(-500.0,	100.0,	0.0,	0.0);	(-500.0,	0.0,	0.0,	0.0);
(-500.0,	-100.0,	0.0,	0.0);	(-500.0,	-200.0,	0.0,	0.0);
(-500.0,	-300.0,	0.0,	0.0);	(-500.0,	-400.0,	0.0,	0.0);
(-500.0,	-500.0,	0.0,	0.0);	(-500.0,	-600.0,	0.0,	0.0);
(-500.0,	-700.0,	0.0,	0.0);	(-400.0,	700.0,	0.0,	0.0);
(-400.0,	600.0,	0.0,	0.0);	(-400.0,	500.0,	0.0,	0.0);
(-400.0,	400.0,	0.0,	0.0);	(-400.0,	300.0,	0.0,	0.0);
(-400.0,	200.0,	0.0,	0.0);	(-400.0,	100.0,	0.0,	0.0);
(-400.0,	0.0,	0.0,	0.0);	(-400.0,	-100.0,	0.0,	0.0);
(-400.0,	-200.0,	0.0,	0.0);	(-400.0,	-300.0,	0.0,	0.0);
(-400.0,	-400.0,	0.0,	0.0);	(-400.0,	-500.0,	0.0,	0.0);
(-400.0,	-600.0,	0.0,	0.0);	(-400.0,	-700.0,	0.0,	0.0);
(-300.0,	700.0,	0.0,	0.0);	(-300.0,	600.0,	0.0,	0.0);
(-300.0,	500.0,	0.0,	0.0);	(-300.0,	400.0,	0.0,	0.0);
(-300.0,	300.0,	0.0,	0.0);	(-300.0,	200.0,	0.0,	0.0);
(-300.0,	100.0,	0.0,	0.0);	(-300.0,	0.0,	0.0,	0.0);
(-300.0,	-100.0,	0.0,	0.0);	(-300.0,	-200.0,	0.0,	0.0);
(-300.0,	-300.0,	0.0,	0.0);	(-300.0,	-400.0,	0.0,	0.0);
(-300.0,	-500.0,	0.0,	0.0);	(-300.0,	-600.0,	0.0,	0.0);
(-300.0,	-700.0,	0.0,	0.0);	(-200.0,	700.0,	0.0,	0.0);
(-200.0,	600.0,	0.0,	0.0);	(-200.0,	500.0,	0.0,	0.0);
(-200.0,	400.0,	0.0,	0.0);	(-200.0,	300.0,	0.0,	0.0);
(-200.0,	200.0,	0.0,	0.0);	(-200.0,	100.0,	0.0,	0.0);
(-200.0,	0.0,	0.0,	0.0);	(-200.0,	-100.0,	0.0,	0.0);
(-200.0,	-200.0,	0.0,	0.0);	(-200.0,	-300.0,	0.0,	0.0);
(-200.0,	-400.0,	0.0,	0.0);	(-200.0,	-500.0,	0.0,	0.0);
(-200.0,	-600.0,	0.0,	0.0);	(-200.0,	-700.0,	0.0,	0.0);

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(-100.0,	700.0,	0.0,	0.0);	(-100.0,	600.0,	0.0,	0.0);
(-100.0,	500.0,	0.0,	0.0);	(-100.0,	400.0,	0.0,	0.0);
(-100.0,	300.0,	0.0,	0.0);	(-175.0,	200.0,	0.0,	0.0);
(-175.0,	100.0,	0.0,	0.0);	(-175.0,	0.0,	0.0,	0.0);
(-175.0,	-100.0,	0.0,	0.0);	(-175.0,	-200.0,	0.0,	0.0);
(-175.0,	-300.0,	0.0,	0.0);	(-175.0,	-400.0,	0.0,	0.0);
(-100.0,	-500.0,	0.0,	0.0);	(-100.0,	-600.0,	0.0,	0.0);
(-100.0,	-700.0,	0.0,	0.0);	(0.0,	700.0,	0.0,	0.0);
(0.0,	600.0,	0.0,	0.0);	(0.0,	500.0,	0.0,	0.0);
(0.0,	400.0,	0.0,	0.0);	(0.0,	300.0,	0.0,	0.0);
(0.0,	241.0,	0.0,	0.0);	(0.0,	-460.0,	0.0,	0.0);
(0.0,	-500.0,	0.0,	0.0);	(0.0,	-600.0,	0.0,	0.0);
(0.0,	-700.0,	0.0,	0.0);	(100.0,	700.0,	0.0,	0.0);
(100.0,	600.0,	0.0,	0.0);	(100.0,	500.0,	0.0,	0.0);
(100.0,	400.0,	0.0,	0.0);	(100.0,	300.0,	0.0,	0.0);
(100.0,	241.0,	0.0,	0.0);	(100.0,	-460.0,	0.0,	0.0);
(100.0,	-500.0,	0.0,	0.0);	(100.0,	-600.0,	0.0,	0.0);
(100.0,	-700.0,	0.0,	0.0);	(200.0,	700.0,	0.0,	0.0);
(200.0,	600.0,	0.0,	0.0);	(200.0,	500.0,	0.0,	0.0);
(200.0,	400.0,	0.0,	0.0);	(200.0,	300.0,	0.0,	0.0);
(200.0,	241.0,	0.0,	0.0);	(200.0,	-460.0,	0.0,	0.0);
(200.0,	-500.0,	0.0,	0.0);	(200.0,	-600.0,	0.0,	0.0);
(200.0,	-700.0,	0.0,	0.0);	(300.0,	700.0,	0.0,	0.0);
(300.0,	600.0,	0.0,	0.0);	(300.0,	500.0,	0.0,	0.0);
(300.0,	400.0,	0.0,	0.0);	(300.0,	300.0,	0.0,	0.0);
(300.0,	241.0,	0.0,	0.0);	(300.0,	-460.0,	0.0,	0.0);
(300.0,	-500.0,	0.0,	0.0);	(300.0,	-600.0,	0.0,	0.0);
(300.0,	-700.0,	0.0,	0.0);	(400.0,	700.0,	0.0,	0.0);
(400.0,	600.0,	0.0,	0.0);	(400.0,	500.0,	0.0,	0.0);
(400.0,	400.0,	0.0,	0.0);	(400.0,	300.0,	0.0,	0.0);
(400.0,	241.0,	0.0,	0.0);	(450.0,	100.0,	0.0,	0.0);
(450.0,	0.0,	0.0,	0.0);	(450.0,	-100.0,	0.0,	0.0);
(450.0,	-200.0,	0.0,	0.0);	(450.0,	-300.0,	0.0,	0.0);
(450.0,	-400.0,	0.0,	0.0);	(400.0,	-500.0,	0.0,	0.0);
(400.0,	-600.0,	0.0,	0.0);	(400.0,	-700.0,	0.0,	0.0);
(500.0,	700.0,	0.0,	0.0);	(500.0,	600.0,	0.0,	0.0);
(500.0,	500.0,	0.0,	0.0);	(500.0,	400.0,	0.0,	0.0);
(500.0,	300.0,	0.0,	0.0);	(500.0,	200.0,	0.0,	0.0);
(500.0,	100.0,	0.0,	0.0);	(500.0,	0.0,	0.0,	0.0);
(500.0,	-100.0,	0.0,	0.0);	(500.0,	-200.0,	0.0,	0.0);
(500.0,	-300.0,	0.0,	0.0);	(500.0,	-400.0,	0.0,	0.0);
(500.0,	-500.0,	0.0,	0.0);	(500.0,	-600.0,	0.0,	0.0);
(500.0,	-700.0,	0.0,	0.0);	(600.0,	700.0,	0.0,	0.0);
(600.0,	600.0,	0.0,	0.0);	(600.0,	500.0,	0.0,	0.0);
(600.0,	400.0,	0.0,	0.0);	(600.0,	300.0,	0.0,	0.0);

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(600.0,	200.0,	0.0,	0.0);	(600.0,	100.0,	0.0,	0.0);
(600.0,	0.0,	0.0,	0.0);	(600.0,	-100.0,	0.0,	0.0);
(600.0,	-200.0,	0.0,	0.0);	(600.0,	-300.0,	0.0,	0.0);
(600.0,	-400.0,	0.0,	0.0);	(600.0,	-500.0,	0.0,	0.0);
(600.0,	-600.0,	0.0,	0.0);	(600.0,	-700.0,	0.0,	0.0);
(700.0,	700.0,	0.0,	0.0);	(700.0,	600.0,	0.0,	0.0);
(700.0,	500.0,	0.0,	0.0);	(700.0,	400.0,	0.0,	0.0);
(700.0,	300.0,	0.0,	0.0);	(700.0,	200.0,	0.0,	0.0);
(700.0,	100.0,	0.0,	0.0);	(700.0,	0.0,	0.0,	0.0);
(700.0,	-100.0,	0.0,	0.0);	(700.0,	-200.0,	0.0,	0.0);
(700.0,	-300.0,	0.0,	0.0);	(700.0,	-400.0,	0.0,	0.0);
(700.0,	-500.0,	0.0,	0.0);	(700.0,	-600.0,	0.0,	0.0);
(700.0,	-700.0,	0.0,	0.0);	(-159.0,	-77.0,	0.0,	0.0);
(-123.0,	-149.0,	0.0,	0.0);	(-111.0,	-198.0,	0.0,	0.0);
(-84.0,	-267.0,	0.0,	0.0);	(-175.0,	50.0,	0.0,	0.0);
(-175.0,	150.0,	0.0,	0.0);	(-175.0,	-50.0,	0.0,	0.0);
(-100.0,	241.0,	0.0,	0.0);	(-50.0,	241.0,	0.0,	0.0);
(0.0,	241.0,	0.0,	0.0);	(50.0,	241.0,	0.0,	0.0);
(100.0,	241.0,	0.0,	0.0);	(150.0,	241.0,	0.0,	0.0);
(200.0,	241.0,	0.0,	0.0);				

**MODELOPTs: 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 CATEGORY	WIND SPEED 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 CATEGORY	WIND SPEED 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

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: FRID89.ASC FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 14922 UPPER AIR STATION NO.: 14926
NAME: SURFNAME NAME: UAIRNAME
YEAR: 1989 YEAR: 1989

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-O (M)	IPCODE	PRATE (mm/HR)
89	1	1	1	331.0	4.12	268.1	5	441.6	672.0	0.0000	0.0	0.0000	0	0.00
89	1	1	2	328.0	4.12	268.7	4	455.5	455.5	0.0000	0.0	0.0000	0	0.00
89	1	1	3	334.0	4.12	268.7	4	469.4	469.4	0.0000	0.0	0.0000	0	0.00
89	1	1	4	23.0	4.63	270.4	5	483.3	672.0	0.0000	0.0	0.0000	0	0.00
89	1	1	5	73.0	5.66	271.5	4	497.1	497.1	0.0000	0.0	0.0000	0	0.00
89	1	1	6	72.0	6.17	270.4	4	511.0	511.0	0.0000	0.0	0.0000	0	0.00
89	1	1	7	135.0	8.23	269.3	4	524.9	524.9	0.0000	0.0	0.0000	0	0.00
89	1	1	8	133.0	7.72	268.1	4	538.8	538.8	0.0000	0.0	0.0000	0	0.00
89	1	1	9	127.0	5.66	267.6	4	552.6	552.6	0.0000	0.0	0.0000	0	0.00
89	1	1	10	111.0	4.12	267.6	4	566.5	566.5	0.0000	0.0	0.0000	0	0.00
89	1	1	11	84.0	5.14	266.5	4	580.4	580.4	0.0000	0.0	0.0000	0	0.00
89	1	1	12	86.0	5.66	265.4	4	594.3	594.3	0.0000	0.0	0.0000	0	0.00
89	1	1	13	93.0	7.20	264.8	4	608.1	608.1	0.0000	0.0	0.0000	0	0.00
89	1	1	14	119.0	6.69	264.3	4	622.0	622.0	0.0000	0.0	0.0000	0	0.00
89	1	1	15	112.0	6.17	263.7	4	622.0	622.0	0.0000	0.0	0.0000	0	0.00
89	1	1	16	84.0	6.69	263.7	4	622.0	622.0	0.0000	0.0	0.0000	0	0.00
89	1	1	17	131.0	7.20	262.6	4	617.4	617.4	0.0000	0.0	0.0000	0	0.00
89	1	1	18	107.0	5.66	261.5	4	606.1	606.1	0.0000	0.0	0.0000	0	0.00
89	1	1	19	124.0	7.20	260.9	4	594.8	594.8	0.0000	0.0	0.0000	0	0.00
89	1	1	20	107.0	7.20	259.8	4	583.5	583.5	0.0000	0.0	0.0000	0	0.00
89	1	1	21	90.0	4.12	259.3	5	572.2	454.2	0.0000	0.0	0.0000	0	0.00
89	1	1	22	112.0	5.14	258.1	5	560.9	416.1	0.0000	0.0	0.0000	0	0.00
89	1	1	23	120.0	4.12	257.0	5	549.6	378.1	0.0000	0.0	0.0000	0	0.00
89	1	1	24	110.0	5.14	257.0	5	538.3	340.0	0.0000	0.0	0.0000	0	0.00

*** 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.

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
-700.00	700.00	0.08197	-700.00	600.00	0.09782
-700.00	500.00	0.11419	-700.00	400.00	0.12019
-700.00	300.00	0.09188	-700.00	200.00	0.06014
-700.00	100.00	0.03459	-700.00	0.00	0.03038
-700.00	-100.00	0.03478	-700.00	-200.00	0.04098
-700.00	-300.00	0.04626	-700.00	-400.00	0.04939
-700.00	-500.00	0.03889	-700.00	-600.00	0.03336
-700.00	-700.00	0.02873	-600.00	700.00	0.09487
-600.00	600.00	0.09687	-600.00	500.00	0.11803
-600.00	400.00	0.13808	-600.00	300.00	0.12995
-600.00	200.00	0.08503	-600.00	100.00	0.04321
-600.00	0.00	0.03654	-600.00	-100.00	0.04270
-600.00	-200.00	0.05127	-600.00	-300.00	0.05953
-600.00	-400.00	0.05288	-600.00	-500.00	0.04049
-600.00	-600.00	0.03467	-600.00	-700.00	0.02837
-500.00	700.00	0.09604	-500.00	600.00	0.11071
-500.00	500.00	0.11728	-500.00	400.00	0.14845
-500.00	300.00	0.16864	-500.00	200.00	0.12003
-500.00	100.00	0.05772	-500.00	0.00	0.04481
-500.00	-100.00	0.05415	-500.00	-200.00	0.06603
-500.00	-300.00	0.07087	-500.00	-400.00	0.05136
-500.00	-500.00	0.04280	-500.00	-600.00	0.03417
-500.00	-700.00	0.03257	-400.00	700.00	0.11407
-400.00	600.00	0.11975	-400.00	500.00	0.13258
-400.00	400.00	0.14693	-400.00	300.00	0.19310
-400.00	200.00	0.18465	-400.00	100.00	0.08713
-400.00	0.00	0.05612	-400.00	-100.00	0.07152
-400.00	-200.00	0.08978	-400.00	-300.00	0.06999
-400.00	-400.00	0.05504	-400.00	-500.00	0.04342
-400.00	-600.00	0.03925	-400.00	-700.00	0.03392
-300.00	700.00	0.10746	-300.00	600.00	0.13399
-300.00	500.00	0.15684	-300.00	400.00	0.16217
-300.00	300.00	0.18967	-300.00	200.00	0.25112
-300.00	100.00	0.14838	-300.00	0.00	0.07121
-300.00	-100.00	0.09929	-300.00	-200.00	0.10758
-300.00	-300.00	0.07301	-300.00	-400.00	0.05784
-300.00	-500.00	0.04887	-300.00	-600.00	0.04641
-300.00	-700.00	0.04558	-200.00	700.00	0.09273
-200.00	600.00	0.11807	-200.00	500.00	0.15453
-200.00	400.00	0.19946	-200.00	300.00	0.21035

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
-200.00	200.00	0.25222	-200.00	100.00	0.26196
-200.00	0.00	0.08865	-200.00	-100.00	0.14492
-200.00	-200.00	0.09908	-200.00	-300.00	0.08016
-200.00	-400.00	0.06984	-200.00	-500.00	0.07076
-200.00	-600.00	0.06773	-200.00	-700.00	0.06421
-100.00	700.00	0.08243	-100.00	600.00	0.09903
-100.00	500.00	0.12651	-100.00	400.00	0.17012
-100.00	300.00	0.23884	-175.00	200.00	0.24973
-175.00	100.00	0.30647	-175.00	0.00	0.09208
-175.00	-100.00	0.15569	-175.00	-200.00	0.09843
-175.00	-300.00	0.08104	-175.00	-400.00	0.07935
-100.00	-500.00	0.10281	-100.00	-600.00	0.08691
-100.00	-700.00	0.07440	0.00	700.00	0.08829
0.00	600.00	0.10562	0.00	500.00	0.12894
0.00	400.00	0.16080	0.00	300.00	0.20459
0.00	241.00	0.23634	0.00	-460.00	0.14593
0.00	-500.00	0.13486	0.00	-600.00	0.11185
0.00	-700.00	0.09422	100.00	700.00	0.09142
100.00	600.00	0.10540	100.00	500.00	0.12137
100.00	400.00	0.13820	100.00	300.00	0.16531
100.00	241.00	0.20363	100.00	-460.00	0.12516
100.00	-500.00	0.11654	100.00	-600.00	0.09867
100.00	-700.00	0.08492	200.00	700.00	0.07321
200.00	600.00	0.09491	200.00	500.00	0.12099
200.00	400.00	0.14037	200.00	300.00	0.17590
200.00	241.00	0.18243	200.00	-460.00	0.11428
200.00	-500.00	0.10507	200.00	-600.00	0.08576
200.00	-700.00	0.07326	300.00	700.00	0.08497
300.00	600.00	0.09543	300.00	500.00	0.11818
300.00	400.00	0.12707	300.00	300.00	0.13695
300.00	241.00	0.15790	300.00	-460.00	0.11672
300.00	-500.00	0.10312	300.00	-600.00	0.08313
300.00	-700.00	0.07004	400.00	700.00	0.08472
400.00	600.00	0.09058	400.00	500.00	0.10122
400.00	400.00	0.10646	400.00	300.00	0.12762
400.00	241.00	0.11999	450.00	100.00	0.08936
450.00	0.00	0.09860	450.00	-100.00	0.11051
450.00	-200.00	0.16417	450.00	-300.00	0.21911
450.00	-400.00	0.18028	400.00	-500.00	0.11862
400.00	-600.00	0.08842	400.00	-700.00	0.06855

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
500.00	700.00	0.07443	500.00	600.00	0.08229
500.00	500.00	0.08590	500.00	400.00	0.10206
500.00	300.00	0.09848	500.00	200.00	0.09511
500.00	100.00	0.07989	500.00	0.00	0.08998
500.00	-100.00	0.09501	500.00	-200.00	0.14380
500.00	-300.00	0.17773	500.00	-400.00	0.18767
500.00	-500.00	0.13071	500.00	-600.00	0.09631
500.00	-700.00	0.07803	600.00	700.00	0.06897
600.00	600.00	0.07149	600.00	500.00	0.08362
600.00	400.00	0.08511	600.00	300.00	0.08016
600.00	200.00	0.07272	600.00	100.00	0.06612
600.00	0.00	0.07579	600.00	-100.00	0.07574
600.00	-200.00	0.11510	600.00	-300.00	0.13008
600.00	-400.00	0.15731	600.00	-500.00	0.14418
600.00	-600.00	0.10733	600.00	-700.00	0.08188
700.00	700.00	0.06132	700.00	600.00	0.07134
700.00	500.00	0.07308	700.00	400.00	0.06926
700.00	300.00	0.06920	700.00	200.00	0.06053
700.00	100.00	0.05681	700.00	0.00	0.06481
700.00	-100.00	0.06408	700.00	-200.00	0.08503
700.00	-300.00	0.10314	700.00	-400.00	0.11581
700.00	-500.00	0.13672	700.00	-600.00	0.11750
700.00	-700.00	0.09046	-159.00	-77.00	0.15458
-123.00	-149.00	0.11193	-111.00	-198.00	0.10717
-84.00	-267.00	0.13534	-175.00	50.00	0.15209
-175.00	150.00	0.30251	-175.00	-50.00	0.12113
-100.00	241.00	0.28617	-50.00	241.00	0.25604
0.00	241.00	0.23634	50.00	241.00	0.24120
100.00	241.00	0.20363	150.00	241.00	0.20549
200.00	241.00	0.18243			

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.30647 AT (	-175.00, 100.00, 0.00, 0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.30251 AT (	-175.00, 150.00, 0.00, 0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.28617 AT (	-100.00, 241.00, 0.00, 0.00)	DC	NA
	4TH HIGHEST VALUE IS	0.26196 AT (	-200.00, 100.00, 0.00, 0.00)	DC	NA
	5TH HIGHEST VALUE IS	0.25604 AT (	-50.00, 241.00, 0.00, 0.00)	DC	NA
	6TH HIGHEST VALUE IS	0.25222 AT (	-200.00, 200.00, 0.00, 0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

==========

**MODELOPTs: CONC RURAL FLAT DFAULT

Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 412 Informational Message(s)

A Total of 412 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

```
no echo
************************************
*** SETUP Finishes Successfully ***
************************************
 *** ISCST3 - VERSION 96113 ***    *** NIROP  1990                                                      ***        09/18/98
                                   *** MODELING TO ESTABLISH EMISSION LIMITS                            ***        09:12:03
                                                                                                                   PAGE   1
**MODELOPTs: CONC                           RURAL  FLAT          DFAULT

                                              ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**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:     1 Source(s);      1 Source Group(s); and    219 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
         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: isc-2.inp                               ;  **Output Print File: isc-2.out
**Detailed Error/Message File:   ERRORS2.OUT
```

**MODELOPTs: 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
STACKS	0	0.10000E+00	26.7	0.0	0.0	18.29	286.00	21.50	0.81	YES	

**MODELOPTs: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	STACKS ,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STACKS

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	15.6,	367.2,	0	2	15.6,	353.2,	0	3	15.6,	328.4,	0	4	15.6,	293.7,	0	5	15.6,	250.1,	0	6	15.6,	198.9,	0
7	15.6,	141.6,	0	8	15.6,	80.0,	0	9	15.6,	16.0,	0	10	15.6,	80.0,	0	11	15.6,	141.6,	0	12	15.6,	198.9,	0
13	15.6,	250.1,	0	14	15.6,	293.7,	0	15	15.6,	328.4,	0	16	15.6,	353.2,	0	17	15.6,	367.2,	0	18	15.6,	370.0,	0
19	15.6,	367.2,	0	20	15.6,	353.2,	0	21	15.6,	328.4,	0	22	15.6,	293.7,	0	23	15.6,	250.1,	0	24	15.6,	198.9,	0
25	15.6,	141.6,	0	26	15.6,	80.0,	0	27	15.6,	16.0,	0	28	15.6,	80.0,	0	29	15.6,	141.6,	0	30	15.6,	198.9,	0
31	15.6,	250.1,	0	32	15.6,	293.7,	0	33	15.6,	328.4,	0	34	15.6,	353.2,	0	35	15.6,	367.2,	0	36	15.6,	370.0,	0

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(-700.0,	700.0,	0.0,	0.0);	(-700.0,	600.0,	0.0,	0.0);
(-700.0,	500.0,	0.0,	0.0);	(-700.0,	400.0,	0.0,	0.0);
(-700.0,	300.0,	0.0,	0.0);	(-700.0,	200.0,	0.0,	0.0);
(-700.0,	100.0,	0.0,	0.0);	(-700.0,	0.0,	0.0,	0.0);
(-700.0,	-100.0,	0.0,	0.0);	(-700.0,	-200.0,	0.0,	0.0);
(-700.0,	-300.0,	0.0,	0.0);	(-700.0,	-400.0,	0.0,	0.0);
(-700.0,	-500.0,	0.0,	0.0);	(-700.0,	-600.0,	0.0,	0.0);
(-700.0,	-700.0,	0.0,	0.0);	(-600.0,	700.0,	0.0,	0.0);
(-600.0,	600.0,	0.0,	0.0);	(-600.0,	500.0,	0.0,	0.0);
(-600.0,	400.0,	0.0,	0.0);	(-600.0,	300.0,	0.0,	0.0);
(-600.0,	200.0,	0.0,	0.0);	(-600.0,	100.0,	0.0,	0.0);
(-600.0,	0.0,	0.0,	0.0);	(-600.0,	-100.0,	0.0,	0.0);
(-600.0,	-200.0,	0.0,	0.0);	(-600.0,	-300.0,	0.0,	0.0);
(-600.0,	-400.0,	0.0,	0.0);	(-600.0,	-500.0,	0.0,	0.0);
(-600.0,	-600.0,	0.0,	0.0);	(-600.0,	-700.0,	0.0,	0.0);
(-500.0,	700.0,	0.0,	0.0);	(-500.0,	600.0,	0.0,	0.0);
(-500.0,	500.0,	0.0,	0.0);	(-500.0,	400.0,	0.0,	0.0);
(-500.0,	300.0,	0.0,	0.0);	(-500.0,	200.0,	0.0,	0.0);
(-500.0,	100.0,	0.0,	0.0);	(-500.0,	0.0,	0.0,	0.0);
(-500.0,	-100.0,	0.0,	0.0);	(-500.0,	-200.0,	0.0,	0.0);
(-500.0,	-300.0,	0.0,	0.0);	(-500.0,	-400.0,	0.0,	0.0);
(-500.0,	-500.0,	0.0,	0.0);	(-500.0,	-600.0,	0.0,	0.0);
(-500.0,	-700.0,	0.0,	0.0);	(-400.0,	700.0,	0.0,	0.0);
(-400.0,	600.0,	0.0,	0.0);	(-400.0,	500.0,	0.0,	0.0);
(-400.0,	400.0,	0.0,	0.0);	(-400.0,	300.0,	0.0,	0.0);
(-400.0,	200.0,	0.0,	0.0);	(-400.0,	100.0,	0.0,	0.0);
(-400.0,	0.0,	0.0,	0.0);	(-400.0,	-100.0,	0.0,	0.0);
(-400.0,	-200.0,	0.0,	0.0);	(-400.0,	-300.0,	0.0,	0.0);
(-400.0,	-400.0,	0.0,	0.0);	(-400.0,	-500.0,	0.0,	0.0);
(-400.0,	-600.0,	0.0,	0.0);	(-400.0,	-700.0,	0.0,	0.0);
(-300.0,	700.0,	0.0,	0.0);	(-300.0,	600.0,	0.0,	0.0);
(-300.0,	500.0,	0.0,	0.0);	(-300.0,	400.0,	0.0,	0.0);
(-300.0,	300.0,	0.0,	0.0);	(-300.0,	200.0,	0.0,	0.0);
(-300.0,	100.0,	0.0,	0.0);	(-300.0,	0.0,	0.0,	0.0);
(-300.0,	-100.0,	0.0,	0.0);	(-300.0,	-200.0,	0.0,	0.0);
(-300.0,	-300.0,	0.0,	0.0);	(-300.0,	-400.0,	0.0,	0.0);
(-300.0,	-500.0,	0.0,	0.0);	(-300.0,	-600.0,	0.0,	0.0);
(-300.0,	-700.0,	0.0,	0.0);	(-200.0,	700.0,	0.0,	0.0);
(-200.0,	600.0,	0.0,	0.0);	(-200.0,	500.0,	0.0,	0.0);
(-200.0,	400.0,	0.0,	0.0);	(-200.0,	300.0,	0.0,	0.0);
(-200.0,	200.0,	0.0,	0.0);	(-200.0,	100.0,	0.0,	0.0);
(-200.0,	0.0,	0.0,	0.0);	(-200.0,	-100.0,	0.0,	0.0);
(-200.0,	-200.0,	0.0,	0.0);	(-200.0,	-300.0,	0.0,	0.0);
(-200.0,	-400.0,	0.0,	0.0);	(-200.0,	-500.0,	0.0,	0.0);
(-200.0,	-600.0,	0.0,	0.0);	(-200.0,	-700.0,	0.0,	0.0);

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(-100.0,	700.0,	0.0,	0.0);	(-100.0,	600.0,	0.0,	0.0);
(-100.0,	500.0,	0.0,	0.0);	(-100.0,	400.0,	0.0,	0.0);
(-100.0,	300.0,	0.0,	0.0);	(-175.0,	200.0,	0.0,	0.0);
(-175.0,	100.0,	0.0,	0.0);	(-175.0,	0.0,	0.0,	0.0);
(-175.0,	-100.0,	0.0,	0.0);	(-175.0,	-200.0,	0.0,	0.0);
(-175.0,	-300.0,	0.0,	0.0);	(-175.0,	-400.0,	0.0,	0.0);
(-100.0,	-500.0,	0.0,	0.0);	(-100.0,	-600.0,	0.0,	0.0);
(-100.0,	-700.0,	0.0,	0.0);	(0.0,	700.0,	0.0,	0.0);
(0.0,	600.0,	0.0,	0.0);	(0.0,	500.0,	0.0,	0.0);
(0.0,	400.0,	0.0,	0.0);	(0.0,	300.0,	0.0,	0.0);
(0.0,	241.0,	0.0,	0.0);	(0.0,	-460.0,	0.0,	0.0);
(0.0,	-500.0,	0.0,	0.0);	(0.0,	-600.0,	0.0,	0.0);
(0.0,	-700.0,	0.0,	0.0);	(100.0,	700.0,	0.0,	0.0);
(100.0,	600.0,	0.0,	0.0);	(100.0,	500.0,	0.0,	0.0);
(100.0,	400.0,	0.0,	0.0);	(100.0,	300.0,	0.0,	0.0);
(100.0,	241.0,	0.0,	0.0);	(100.0,	-460.0,	0.0,	0.0);
(100.0,	-500.0,	0.0,	0.0);	(100.0,	-600.0,	0.0,	0.0);
(100.0,	-700.0,	0.0,	0.0);	(200.0,	700.0,	0.0,	0.0);
(200.0,	600.0,	0.0,	0.0);	(200.0,	500.0,	0.0,	0.0);
(200.0,	400.0,	0.0,	0.0);	(200.0,	300.0,	0.0,	0.0);
(200.0,	241.0,	0.0,	0.0);	(200.0,	-460.0,	0.0,	0.0);
(200.0,	-500.0,	0.0,	0.0);	(200.0,	-600.0,	0.0,	0.0);
(200.0,	-700.0,	0.0,	0.0);	(300.0,	700.0,	0.0,	0.0);
(300.0,	600.0,	0.0,	0.0);	(300.0,	500.0,	0.0,	0.0);
(300.0,	400.0,	0.0,	0.0);	(300.0,	300.0,	0.0,	0.0);
(300.0,	241.0,	0.0,	0.0);	(300.0,	-460.0,	0.0,	0.0);
(300.0,	-500.0,	0.0,	0.0);	(300.0,	-600.0,	0.0,	0.0);
(300.0,	-700.0,	0.0,	0.0);	(400.0,	700.0,	0.0,	0.0);
(400.0,	600.0,	0.0,	0.0);	(400.0,	500.0,	0.0,	0.0);
(400.0,	400.0,	0.0,	0.0);	(400.0,	300.0,	0.0,	0.0);
(400.0,	241.0,	0.0,	0.0);	(450.0,	100.0,	0.0,	0.0);
(450.0,	0.0,	0.0,	0.0);	(450.0,	-100.0,	0.0,	0.0);
(450.0,	-200.0,	0.0,	0.0);	(450.0,	-300.0,	0.0,	0.0);
(450.0,	-400.0,	0.0,	0.0);	(400.0,	-500.0,	0.0,	0.0);
(400.0,	-600.0,	0.0,	0.0);	(400.0,	-700.0,	0.0,	0.0);
(500.0,	700.0,	0.0,	0.0);	(500.0,	600.0,	0.0,	0.0);
(500.0,	500.0,	0.0,	0.0);	(500.0,	400.0,	0.0,	0.0);
(500.0,	300.0,	0.0,	0.0);	(500.0,	200.0,	0.0,	0.0);
(500.0,	100.0,	0.0,	0.0);	(500.0,	0.0,	0.0,	0.0);
(500.0,	-100.0,	0.0,	0.0);	(500.0,	-200.0,	0.0,	0.0);
(500.0,	-300.0,	0.0,	0.0);	(500.0,	-400.0,	0.0,	0.0);
(500.0,	-500.0,	0.0,	0.0);	(500.0,	-600.0,	0.0,	0.0);
(500.0,	-700.0,	0.0,	0.0);	(600.0,	700.0,	0.0,	0.0);
(600.0,	600.0,	0.0,	0.0);	(600.0,	500.0,	0.0,	0.0);
(600.0,	400.0,	0.0,	0.0);	(600.0,	300.0,	0.0,	0.0);

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(600.0,	200.0,	0.0,	0.0);	(600.0,	100.0,	0.0,	0.0);
(600.0,	0.0,	0.0,	0.0);	(600.0,	-100.0,	0.0,	0.0);
(600.0,	-200.0,	0.0,	0.0);	(600.0,	-300.0,	0.0,	0.0);
(600.0,	-400.0,	0.0,	0.0);	(600.0,	-500.0,	0.0,	0.0);
(600.0,	-600.0,	0.0,	0.0);	(600.0,	-700.0,	0.0,	0.0);
(700.0,	700.0,	0.0,	0.0);	(700.0,	600.0,	0.0,	0.0);
(700.0,	500.0,	0.0,	0.0);	(700.0,	400.0,	0.0,	0.0);
(700.0,	300.0,	0.0,	0.0);	(700.0,	200.0,	0.0,	0.0);
(700.0,	100.0,	0.0,	0.0);	(700.0,	0.0,	0.0,	0.0);
(700.0,	-100.0,	0.0,	0.0);	(700.0,	-200.0,	0.0,	0.0);
(700.0,	-300.0,	0.0,	0.0);	(700.0,	-400.0,	0.0,	0.0);
(700.0,	-500.0,	0.0,	0.0);	(700.0,	-600.0,	0.0,	0.0);
(700.0,	-700.0,	0.0,	0.0);	(-159.0,	-77.0,	0.0,	0.0);
(-123.0,	-149.0,	0.0,	0.0);	(-111.0,	-198.0,	0.0,	0.0);
(-84.0,	-267.0,	0.0,	0.0);	(-175.0,	50.0,	0.0,	0.0);
(-175.0,	150.0,	0.0,	0.0);	(-175.0,	-50.0,	0.0,	0.0);
(-100.0,	241.0,	0.0,	0.0);	(-50.0,	241.0,	0.0,	0.0);
(0.0,	241.0,	0.0,	0.0);	(50.0,	241.0,	0.0,	0.0);
(100.0,	241.0,	0.0,	0.0);	(150.0,	241.0,	0.0,	0.0);
(200.0,	241.0,	0.0,	0.0);				

**MODELOPTs: 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 CATEGORY	WIND SPEED 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 CATEGORY	WIND SPEED 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

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: FRID90.ASC FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 14922 UPPER AIR STATION NO.: 14926
NAME: SURFNAME NAME: UAIRNAME
YEAR: 1990 YEAR: 1990

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-O (M)	IPCODE	PRATE (mm/HR)
90	1	1	1	121.0	5.14	265.9	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	2	118.0	3.09	265.9	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	3	104.0	4.12	265.4	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	4	73.0	3.09	264.8	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	5	63.0	3.60	264.8	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	6	52.0	4.12	264.3	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	7	55.0	6.17	263.7	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	8	53.0	4.12	263.7	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	9	37.0	5.14	263.7	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	10	11.0	4.12	263.7	3	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	11	4.0	4.63	264.8	3	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	12	326.0	5.14	265.9	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	13	3.0	5.14	267.0	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	14	329.0	6.17	267.6	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	15	352.0	7.20	268.1	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	16	344.0	5.14	269.3	4	403.0	403.0	0.0000	0.0	0.0000	0	0.00
90	1	1	17	341.0	6.17	269.3	4	398.0	398.0	0.0000	0.0	0.0000	0	0.00
90	1	1	18	357.0	4.12	268.1	5	385.7	336.1	0.0000	0.0	0.0000	0	0.00
90	1	1	19	14.0	7.20	269.3	4	373.4	373.4	0.0000	0.0	0.0000	0	0.00
90	1	1	20	17.0	8.23	269.8	4	361.1	361.1	0.0000	0.0	0.0000	0	0.00
90	1	1	21	20.0	8.75	270.4	4	348.8	348.8	0.0000	0.0	0.0000	0	0.00
90	1	1	22	22.0	8.23	269.8	4	336.6	336.6	0.0000	0.0	0.0000	0	0.00
90	1	1	23	30.0	7.72	270.4	4	324.3	324.3	0.0000	0.0	0.0000	0	0.00
90	1	1	24	20.0	4.63	268.7	5	312.0	51.0	0.0000	0.0	0.0000	0	0.00

*** 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.

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
-700.00	700.00	0.08576	-700.00	600.00	0.09358
-700.00	500.00	0.09988	-700.00	400.00	0.10473
-700.00	300.00	0.07396	-700.00	200.00	0.05407
-700.00	100.00	0.04474	-700.00	0.00	0.03783
-700.00	-100.00	0.04141	-700.00	-200.00	0.04876
-700.00	-300.00	0.05021	-700.00	-400.00	0.05660
-700.00	-500.00	0.05153	-700.00	-600.00	0.04648
-700.00	-700.00	0.03905	-600.00	700.00	0.09051
-600.00	600.00	0.10140	-600.00	500.00	0.11025
-600.00	400.00	0.12074	-600.00	300.00	0.10418
-600.00	200.00	0.07089	-600.00	100.00	0.05282
-600.00	0.00	0.04524	-600.00	-100.00	0.05053
-600.00	-200.00	0.05924	-600.00	-300.00	0.06361
-600.00	-400.00	0.06450	-600.00	-500.00	0.05533
-600.00	-600.00	0.04643	-600.00	-700.00	0.03464
-500.00	700.00	0.10571	-500.00	600.00	0.10773
-500.00	500.00	0.12248	-500.00	400.00	0.13430
-500.00	300.00	0.14576	-500.00	200.00	0.09755
-500.00	100.00	0.06380	-500.00	0.00	0.05500
-500.00	-100.00	0.06334	-500.00	-200.00	0.07223
-500.00	-300.00	0.08080	-500.00	-400.00	0.06832
-500.00	-500.00	0.05636	-500.00	-600.00	0.04096
-500.00	-700.00	0.03727	-400.00	700.00	0.12236
-400.00	600.00	0.13413	-400.00	500.00	0.13384
-400.00	400.00	0.15239	-400.00	300.00	0.16635
-400.00	200.00	0.14468	-400.00	100.00	0.08222
-400.00	0.00	0.06801	-400.00	-100.00	0.08259
-400.00	-200.00	0.09354	-400.00	-300.00	0.08817
-400.00	-400.00	0.07019	-400.00	-500.00	0.05028
-400.00	-600.00	0.04302	-400.00	-700.00	0.03309
-300.00	700.00	0.10568	-300.00	600.00	0.13890
-300.00	500.00	0.17406	-300.00	400.00	0.17213
-300.00	300.00	0.19349	-300.00	200.00	0.21235
-300.00	100.00	0.11995	-300.00	0.00	0.08524
-300.00	-100.00	0.10883	-300.00	-200.00	0.12081
-300.00	-300.00	0.08915	-300.00	-400.00	0.06350
-300.00	-500.00	0.04947	-300.00	-600.00	0.04274
-300.00	-700.00	0.04444	-200.00	700.00	0.09104
-200.00	600.00	0.11565	-200.00	500.00	0.15144
-200.00	400.00	0.21263	-200.00	300.00	0.23596

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
-200.00	200.00	0.25086	-200.00	100.00	0.20192
-200.00	0.00	0.10646	-200.00	-100.00	0.14046
-200.00	-200.00	0.11508	-200.00	-300.00	0.08113
-200.00	-400.00	0.06420	-200.00	-500.00	0.06750
-200.00	-600.00	0.06636	-200.00	-700.00	0.05961
-100.00	700.00	0.08494	-100.00	600.00	0.10394
-100.00	500.00	0.13010	-100.00	400.00	0.16829
-100.00	300.00	0.23259	-175.00	200.00	0.25729
-175.00	100.00	0.23846	-175.00	0.00	0.11148
-175.00	-100.00	0.15342	-175.00	-200.00	0.10915
-175.00	-300.00	0.07903	-175.00	-400.00	0.07215
-100.00	-500.00	0.09678	-100.00	-600.00	0.08707
-100.00	-700.00	0.07844	0.00	700.00	0.09891
0.00	600.00	0.11814	0.00	500.00	0.14363
0.00	400.00	0.17773	0.00	300.00	0.22252
0.00	241.00	0.25252	0.00	-460.00	0.14326
0.00	-500.00	0.13363	0.00	-600.00	0.11325
0.00	-700.00	0.09740	100.00	700.00	0.09989
100.00	600.00	0.11716	100.00	500.00	0.13804
100.00	400.00	0.16315	100.00	300.00	0.19737
100.00	241.00	0.22891	100.00	-460.00	0.12423
100.00	-500.00	0.11541	100.00	-600.00	0.09721
100.00	-700.00	0.08371	200.00	700.00	0.08482
200.00	600.00	0.10111	200.00	500.00	0.12131
200.00	400.00	0.15422	200.00	300.00	0.19449
200.00	241.00	0.19078	200.00	-460.00	0.11172
200.00	-500.00	0.10170	200.00	-600.00	0.08322
200.00	-700.00	0.07327	300.00	700.00	0.08379
300.00	600.00	0.10429	300.00	500.00	0.12787
300.00	400.00	0.13151	300.00	300.00	0.14261
300.00	241.00	0.15838	300.00	-460.00	0.11577
300.00	-500.00	0.10580	300.00	-600.00	0.08585
300.00	-700.00	0.06928	400.00	700.00	0.09104
400.00	600.00	0.09719	400.00	500.00	0.10017
400.00	400.00	0.10970	400.00	300.00	0.12687
400.00	241.00	0.12553	450.00	100.00	0.11140
450.00	0.00	0.09152	450.00	-100.00	0.12340
450.00	-200.00	0.15360	450.00	-300.00	0.17927
450.00	-400.00	0.16760	400.00	-500.00	0.12002
400.00	-600.00	0.08511	400.00	-700.00	0.07075

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
500.00	700.00	0.07606	500.00	600.00	0.08119
500.00	500.00	0.08797	500.00	400.00	0.09988
500.00	300.00	0.10123	500.00	200.00	0.09504
500.00	100.00	0.10086	500.00	0.00	0.08214
500.00	-100.00	0.10598	500.00	-200.00	0.13206
500.00	-300.00	0.14871	500.00	-400.00	0.16443
500.00	-500.00	0.12964	500.00	-600.00	0.09827
500.00	-700.00	0.07483	600.00	700.00	0.06883
600.00	600.00	0.07300	600.00	500.00	0.08113
600.00	400.00	0.08502	600.00	300.00	0.08143
600.00	200.00	0.07359	600.00	100.00	0.07837
600.00	0.00	0.06723	600.00	-100.00	0.08237
600.00	-200.00	0.10279	600.00	-300.00	0.11451
600.00	-400.00	0.12818	600.00	-500.00	0.12912
600.00	-600.00	0.10494	600.00	-700.00	0.08358
700.00	700.00	0.06281	700.00	600.00	0.06882
700.00	500.00	0.07313	700.00	400.00	0.06969
700.00	300.00	0.06825	700.00	200.00	0.06592
700.00	100.00	0.06141	700.00	0.00	0.05613
700.00	-100.00	0.06685	700.00	-200.00	0.08412
700.00	-300.00	0.09110	700.00	-400.00	0.09746
700.00	-500.00	0.11300	700.00	-600.00	0.10614
700.00	-700.00	0.08758	-159.00	-77.00	0.14809
-123.00	-149.00	0.12053	-111.00	-198.00	0.09936
-84.00	-267.00	0.12103	-175.00	50.00	0.13332
-175.00	150.00	0.26832	-175.00	-50.00	0.13691
-100.00	241.00	0.29805	-50.00	241.00	0.25211
0.00	241.00	0.25252	50.00	241.00	0.27047
100.00	241.00	0.22891	150.00	241.00	0.23560
200.00	241.00	0.19078			

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.29805 AT (	-100.00,	241.00,	0.00,	0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.27047 AT (	50.00,	241.00,	0.00,	0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.26832 AT (	-175.00,	150.00,	0.00,	0.00)	DC	NA
	4TH HIGHEST VALUE IS	0.25729 AT (	-175.00,	200.00,	0.00,	0.00)	DC	NA
	5TH HIGHEST VALUE IS	0.25252 AT (	0.00,	241.00,	0.00,	0.00)	DC	NA
	6TH HIGHEST VALUE IS	0.25252 AT (	0.00,	241.00,	0.00,	0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

**MODELOPTs: CONC RURAL FLAT DFAULT

Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 343 Informational Message(s)

A Total of 343 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****

no echo

```
************************************
*** SETUP Finishes Successfully ***
************************************

 *** ISCST3 - VERSION 96113 ***    *** NIROP  1991
***        09/18/98
                                   *** MODELING TO ESTABLISH EMISSION LIMITS
***        08:52:37

        PAGE   1
**MODELOPTs: CONC                          RURAL  FLAT          DFAULT

                                          ***     MODEL SETUP OPTIONS SUMMARY       ***
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  --  SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE =  F
**Model Uses NO WET DEPLETION.  WDPLETE =  F
**NO WET SCAVENGING Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**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:     1 Source(s);      1 Source Group(s); and    219 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
        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: isc-1.inp                                    ;  **Output Print File: isc-1.out

**Detailed Error/Message File:   ERRORS.OUT
```

**MODELOPTs: 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
STACKS	0	0.10000E+00	26.7	0.0	0.0	18.29	286.00	21.50	0.81	YES	

**MODELOPTs: CONC RURAL FLAT DFAULT

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
ALL	STACKS ,

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DIRECTION SPECIFIC BUILDING DIMENSIONS ***

SOURCE ID: STACKS

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	15.6,	367.2,	0	2	15.6,	353.2,	0	3	15.6,	328.4,	0	4	15.6,	293.7,	0	5	15.6,	250.1,	0	6	15.6,	198.9,	0
7	15.6,	141.6,	0	8	15.6,	80.0,	0	9	15.6,	16.0,	0	10	15.6,	80.0,	0	11	15.6,	141.6,	0	12	15.6,	198.9,	0
13	15.6,	250.1,	0	14	15.6,	293.7,	0	15	15.6,	328.4,	0	16	15.6,	353.2,	0	17	15.6,	367.2,	0	18	15.6,	370.0,	0
19	15.6,	367.2,	0	20	15.6,	353.2,	0	21	15.6,	328.4,	0	22	15.6,	293.7,	0	23	15.6,	250.1,	0	24	15.6,	198.9,	0
25	15.6,	141.6,	0	26	15.6,	80.0,	0	27	15.6,	16.0,	0	28	15.6,	80.0,	0	29	15.6,	141.6,	0	30	15.6,	198.9,	0
31	15.6,	250.1,	0	32	15.6,	293.7,	0	33	15.6,	328.4,	0	34	15.6,	353.2,	0	35	15.6,	367.2,	0	36	15.6,	370.0,	0

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(-700.0,	700.0,	0.0,	0.0);	(-700.0,	600.0,	0.0,	0.0);
(-700.0,	500.0,	0.0,	0.0);	(-700.0,	400.0,	0.0,	0.0);
(-700.0,	300.0,	0.0,	0.0);	(-700.0,	200.0,	0.0,	0.0);
(-700.0,	100.0,	0.0,	0.0);	(-700.0,	0.0,	0.0,	0.0);
(-700.0,	-100.0,	0.0,	0.0);	(-700.0,	-200.0,	0.0,	0.0);
(-700.0,	-300.0,	0.0,	0.0);	(-700.0,	-400.0,	0.0,	0.0);
(-700.0,	-500.0,	0.0,	0.0);	(-700.0,	-600.0,	0.0,	0.0);
(-700.0,	-700.0,	0.0,	0.0);	(-600.0,	700.0,	0.0,	0.0);
(-600.0,	600.0,	0.0,	0.0);	(-600.0,	500.0,	0.0,	0.0);
(-600.0,	400.0,	0.0,	0.0);	(-600.0,	300.0,	0.0,	0.0);
(-600.0,	200.0,	0.0,	0.0);	(-600.0,	100.0,	0.0,	0.0);
(-600.0,	0.0,	0.0,	0.0);	(-600.0,	-100.0,	0.0,	0.0);
(-600.0,	-200.0,	0.0,	0.0);	(-600.0,	-300.0,	0.0,	0.0);
(-600.0,	-400.0,	0.0,	0.0);	(-600.0,	-500.0,	0.0,	0.0);
(-600.0,	-600.0,	0.0,	0.0);	(-600.0,	-700.0,	0.0,	0.0);
(-500.0,	700.0,	0.0,	0.0);	(-500.0,	600.0,	0.0,	0.0);
(-500.0,	500.0,	0.0,	0.0);	(-500.0,	400.0,	0.0,	0.0);
(-500.0,	300.0,	0.0,	0.0);	(-500.0,	200.0,	0.0,	0.0);
(-500.0,	100.0,	0.0,	0.0);	(-500.0,	0.0,	0.0,	0.0);
(-500.0,	-100.0,	0.0,	0.0);	(-500.0,	-200.0,	0.0,	0.0);
(-500.0,	-300.0,	0.0,	0.0);	(-500.0,	-400.0,	0.0,	0.0);
(-500.0,	-500.0,	0.0,	0.0);	(-500.0,	-600.0,	0.0,	0.0);
(-500.0,	-700.0,	0.0,	0.0);	(-400.0,	700.0,	0.0,	0.0);
(-400.0,	600.0,	0.0,	0.0);	(-400.0,	500.0,	0.0,	0.0);
(-400.0,	400.0,	0.0,	0.0);	(-400.0,	300.0,	0.0,	0.0);
(-400.0,	200.0,	0.0,	0.0);	(-400.0,	100.0,	0.0,	0.0);
(-400.0,	0.0,	0.0,	0.0);	(-400.0,	-100.0,	0.0,	0.0);
(-400.0,	-200.0,	0.0,	0.0);	(-400.0,	-300.0,	0.0,	0.0);
(-400.0,	-400.0,	0.0,	0.0);	(-400.0,	-500.0,	0.0,	0.0);
(-400.0,	-600.0,	0.0,	0.0);	(-400.0,	-700.0,	0.0,	0.0);
(-300.0,	700.0,	0.0,	0.0);	(-300.0,	600.0,	0.0,	0.0);
(-300.0,	500.0,	0.0,	0.0);	(-300.0,	400.0,	0.0,	0.0);
(-300.0,	300.0,	0.0,	0.0);	(-300.0,	200.0,	0.0,	0.0);
(-300.0,	100.0,	0.0,	0.0);	(-300.0,	0.0,	0.0,	0.0);
(-300.0,	-100.0,	0.0,	0.0);	(-300.0,	-200.0,	0.0,	0.0);
(-300.0,	-300.0,	0.0,	0.0);	(-300.0,	-400.0,	0.0,	0.0);
(-300.0,	-500.0,	0.0,	0.0);	(-300.0,	-600.0,	0.0,	0.0);
(-300.0,	-700.0,	0.0,	0.0);	(-200.0,	700.0,	0.0,	0.0);
(-200.0,	600.0,	0.0,	0.0);	(-200.0,	500.0,	0.0,	0.0);
(-200.0,	400.0,	0.0,	0.0);	(-200.0,	300.0,	0.0,	0.0);
(-200.0,	200.0,	0.0,	0.0);	(-200.0,	100.0,	0.0,	0.0);
(-200.0,	0.0,	0.0,	0.0);	(-200.0,	-100.0,	0.0,	0.0);
(-200.0,	-200.0,	0.0,	0.0);	(-200.0,	-300.0,	0.0,	0.0);
(-200.0,	-400.0,	0.0,	0.0);	(-200.0,	-500.0,	0.0,	0.0);
(-200.0,	-600.0,	0.0,	0.0);	(-200.0,	-700.0,	0.0,	0.0);

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(-100.0,	700.0,	0.0,	0.0);	(-100.0,	600.0,	0.0,	0.0);
(-100.0,	500.0,	0.0,	0.0);	(-100.0,	400.0,	0.0,	0.0);
(-100.0,	300.0,	0.0,	0.0);	(-175.0,	200.0,	0.0,	0.0);
(-175.0,	100.0,	0.0,	0.0);	(-175.0,	0.0,	0.0,	0.0);
(-175.0,	-100.0,	0.0,	0.0);	(-175.0,	-200.0,	0.0,	0.0);
(-175.0,	-300.0,	0.0,	0.0);	(-175.0,	-400.0,	0.0,	0.0);
(-100.0,	-500.0,	0.0,	0.0);	(-100.0,	-600.0,	0.0,	0.0);
(-100.0,	-700.0,	0.0,	0.0);	(0.0,	700.0,	0.0,	0.0);
(0.0,	600.0,	0.0,	0.0);	(0.0,	500.0,	0.0,	0.0);
(0.0,	400.0,	0.0,	0.0);	(0.0,	300.0,	0.0,	0.0);
(0.0,	241.0,	0.0,	0.0);	(0.0,	-460.0,	0.0,	0.0);
(0.0,	-500.0,	0.0,	0.0);	(0.0,	-600.0,	0.0,	0.0);
(0.0,	-700.0,	0.0,	0.0);	(100.0,	700.0,	0.0,	0.0);
(100.0,	600.0,	0.0,	0.0);	(100.0,	500.0,	0.0,	0.0);
(100.0,	400.0,	0.0,	0.0);	(100.0,	300.0,	0.0,	0.0);
(100.0,	241.0,	0.0,	0.0);	(100.0,	-460.0,	0.0,	0.0);
(100.0,	-500.0,	0.0,	0.0);	(100.0,	-600.0,	0.0,	0.0);
(100.0,	-700.0,	0.0,	0.0);	(200.0,	700.0,	0.0,	0.0);
(200.0,	600.0,	0.0,	0.0);	(200.0,	500.0,	0.0,	0.0);
(200.0,	400.0,	0.0,	0.0);	(200.0,	300.0,	0.0,	0.0);
(200.0,	241.0,	0.0,	0.0);	(200.0,	-460.0,	0.0,	0.0);
(200.0,	-500.0,	0.0,	0.0);	(200.0,	-600.0,	0.0,	0.0);
(200.0,	-700.0,	0.0,	0.0);	(300.0,	700.0,	0.0,	0.0);
(300.0,	600.0,	0.0,	0.0);	(300.0,	500.0,	0.0,	0.0);
(300.0,	400.0,	0.0,	0.0);	(300.0,	300.0,	0.0,	0.0);
(300.0,	241.0,	0.0,	0.0);	(300.0,	-460.0,	0.0,	0.0);
(300.0,	-500.0,	0.0,	0.0);	(300.0,	-600.0,	0.0,	0.0);
(300.0,	-700.0,	0.0,	0.0);	(400.0,	700.0,	0.0,	0.0);
(400.0,	600.0,	0.0,	0.0);	(400.0,	500.0,	0.0,	0.0);
(400.0,	400.0,	0.0,	0.0);	(400.0,	300.0,	0.0,	0.0);
(400.0,	241.0,	0.0,	0.0);	(450.0,	100.0,	0.0,	0.0);
(450.0,	0.0,	0.0,	0.0);	(450.0,	-100.0,	0.0,	0.0);
(450.0,	-200.0,	0.0,	0.0);	(450.0,	-300.0,	0.0,	0.0);
(450.0,	-400.0,	0.0,	0.0);	(400.0,	-500.0,	0.0,	0.0);
(400.0,	-600.0,	0.0,	0.0);	(400.0,	-700.0,	0.0,	0.0);
(500.0,	700.0,	0.0,	0.0);	(500.0,	600.0,	0.0,	0.0);
(500.0,	500.0,	0.0,	0.0);	(500.0,	400.0,	0.0,	0.0);
(500.0,	300.0,	0.0,	0.0);	(500.0,	200.0,	0.0,	0.0);
(500.0,	100.0,	0.0,	0.0);	(500.0,	0.0,	0.0,	0.0);
(500.0,	-100.0,	0.0,	0.0);	(500.0,	-200.0,	0.0,	0.0);
(500.0,	-300.0,	0.0,	0.0);	(500.0,	-400.0,	0.0,	0.0);
(500.0,	-500.0,	0.0,	0.0);	(500.0,	-600.0,	0.0,	0.0);
(500.0,	-700.0,	0.0,	0.0);	(600.0,	700.0,	0.0,	0.0);
(600.0,	600.0,	0.0,	0.0);	(600.0,	500.0,	0.0,	0.0);
(600.0,	400.0,	0.0,	0.0);	(600.0,	300.0,	0.0,	0.0);

**MODELOPTs: CONC RURAL FLAT DFAULT

*** DISCRETE CARTESIAN RECEPTORS ***
(X-COORD, Y-COORD, ZELEV, ZFLAG)
(METERS)

(600.0,	200.0,	0.0,	0.0);	(600.0,	100.0,	0.0,	0.0);
(600.0,	0.0,	0.0,	0.0);	(600.0,	-100.0,	0.0,	0.0);
(600.0,	-200.0,	0.0,	0.0);	(600.0,	-300.0,	0.0,	0.0);
(600.0,	-400.0,	0.0,	0.0);	(600.0,	-500.0,	0.0,	0.0);
(600.0,	-600.0,	0.0,	0.0);	(600.0,	-700.0,	0.0,	0.0);
(700.0,	700.0,	0.0,	0.0);	(700.0,	600.0,	0.0,	0.0);
(700.0,	500.0,	0.0,	0.0);	(700.0,	400.0,	0.0,	0.0);
(700.0,	300.0,	0.0,	0.0);	(700.0,	200.0,	0.0,	0.0);
(700.0,	100.0,	0.0,	0.0);	(700.0,	0.0,	0.0,	0.0);
(700.0,	-100.0,	0.0,	0.0);	(700.0,	-200.0,	0.0,	0.0);
(700.0,	-300.0,	0.0,	0.0);	(700.0,	-400.0,	0.0,	0.0);
(700.0,	-500.0,	0.0,	0.0);	(700.0,	-600.0,	0.0,	0.0);
(700.0,	-700.0,	0.0,	0.0);	(-159.0,	-77.0,	0.0,	0.0);
(-123.0,	-149.0,	0.0,	0.0);	(-111.0,	-198.0,	0.0,	0.0);
(-84.0,	-267.0,	0.0,	0.0);	(-175.0,	50.0,	0.0,	0.0);
(-175.0,	150.0,	0.0,	0.0);	(-175.0,	-50.0,	0.0,	0.0);
(-100.0,	241.0,	0.0,	0.0);	(-50.0,	241.0,	0.0,	0.0);
(0.0,	241.0,	0.0,	0.0);	(50.0,	241.0,	0.0,	0.0);
(100.0,	241.0,	0.0,	0.0);	(150.0,	241.0,	0.0,	0.0);
(200.0,	241.0,	0.0,	0.0);				

**MODELOPTs: 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 CATEGORY	WIND SPEED 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 CATEGORY	WIND SPEED 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

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: FRID91.ASC FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
SURFACE STATION NO.: 14922 UPPER AIR STATION NO.: 14926
NAME: SURFNAME NAME: UAIRNAME
YEAR: 1991 YEAR: 1991

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-O (M)	IPCODE	PRATE (mm/HR)
91	1	1	1	1.0	3.09	263.7	5	336.7	219.0	0.0000	0.0	0.0000	0	0.00
91	1	1	2	8.0	4.63	262.6	5	330.9	219.0	0.0000	0.0	0.0000	0	0.00
91	1	1	3	4.0	4.63	262.6	5	325.2	219.0	0.0000	0.0	0.0000	0	0.00
91	1	1	4	3.0	5.14	262.6	5	319.5	219.0	0.0000	0.0	0.0000	0	0.00
91	1	1	5	353.0	5.66	262.6	4	313.7	313.7	0.0000	0.0	0.0000	0	0.00
91	1	1	6	352.0	4.63	262.0	5	308.0	219.0	0.0000	0.0	0.0000	0	0.00
91	1	1	7	15.0	6.17	263.1	4	302.2	302.2	0.0000	0.0	0.0000	0	0.00
91	1	1	8	13.0	4.63	263.7	4	296.5	296.5	0.0000	0.0	0.0000	0	0.00
91	1	1	9	47.0	4.63	264.8	4	290.7	290.7	0.0000	0.0	0.0000	0	0.00
91	1	1	10	81.0	5.14	265.9	4	285.0	285.0	0.0000	0.0	0.0000	0	0.00
91	1	1	11	94.0	4.12	267.6	4	279.2	279.2	0.0000	0.0	0.0000	0	0.00
91	1	1	12	136.0	4.63	268.1	4	273.5	273.5	0.0000	0.0	0.0000	0	0.00
91	1	1	13	133.0	5.14	268.7	4	267.7	267.7	0.0000	0.0	0.0000	0	0.00
91	1	1	14	129.0	6.69	269.3	4	262.0	262.0	0.0000	0.0	0.0000	0	0.00
91	1	1	15	132.0	7.72	268.1	4	262.0	262.0	0.0000	0.0	0.0000	0	0.00
91	1	1	16	134.0	8.23	265.9	4	262.0	262.0	0.0000	0.0	0.0000	0	0.00
91	1	1	17	121.0	8.75	264.8	4	267.2	267.2	0.0000	0.0	0.0000	0	0.00
91	1	1	18	137.0	8.75	262.6	4	280.1	280.1	0.0000	0.0	0.0000	0	0.00
91	1	1	19	134.0	8.75	260.9	4	292.9	292.9	0.0000	0.0	0.0000	0	0.00
91	1	1	20	127.0	7.20	259.3	4	305.8	305.8	0.0000	0.0	0.0000	0	0.00
91	1	1	21	140.0	6.69	258.1	4	318.6	318.6	0.0000	0.0	0.0000	0	0.00
91	1	1	22	152.0	8.23	256.5	4	331.5	331.5	0.0000	0.0	0.0000	0	0.00
91	1	1	23	150.0	7.20	255.9	4	344.3	344.3	0.0000	0.0	0.0000	0	0.00
91	1	1	24	130.0	6.69	254.8	4	357.2	357.2	0.0000	0.0	0.0000	0	0.00

*** 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.

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
-700.00	700.00	0.08328	-700.00	600.00	0.08974
-700.00	500.00	0.11623	-700.00	400.00	0.12633
-700.00	300.00	0.12440	-700.00	200.00	0.10886
-700.00	100.00	0.07045	-700.00	0.00	0.05971
-700.00	-100.00	0.06315	-700.00	-200.00	0.05537
-700.00	-300.00	0.05571	-700.00	-400.00	0.06071
-700.00	-500.00	0.05037	-700.00	-600.00	0.04487
-700.00	-700.00	0.03751	-600.00	700.00	0.09298
-600.00	600.00	0.09783	-600.00	500.00	0.11107
-600.00	400.00	0.14157	-600.00	300.00	0.14420
-600.00	200.00	0.14429	-600.00	100.00	0.08846
-600.00	0.00	0.07101	-600.00	-100.00	0.07296
-600.00	-200.00	0.06354	-600.00	-300.00	0.07196
-600.00	-400.00	0.06443	-600.00	-500.00	0.05276
-600.00	-600.00	0.04472	-600.00	-700.00	0.03673
-500.00	700.00	0.09464	-500.00	600.00	0.10930
-500.00	500.00	0.11763	-500.00	400.00	0.14441
-500.00	300.00	0.17612	-500.00	200.00	0.17653
-500.00	100.00	0.11427	-500.00	0.00	0.08591
-500.00	-100.00	0.08475	-500.00	-200.00	0.07664
-500.00	-300.00	0.08423	-500.00	-400.00	0.06537
-500.00	-500.00	0.05444	-500.00	-600.00	0.04353
-500.00	-700.00	0.03775	-400.00	700.00	0.10387
-400.00	600.00	0.11420	-400.00	500.00	0.13256
-400.00	400.00	0.14539	-400.00	300.00	0.19324
-400.00	200.00	0.20904	-400.00	100.00	0.15996
-400.00	0.00	0.10591	-400.00	-100.00	0.10131
-400.00	-200.00	0.10339	-400.00	-300.00	0.08623
-400.00	-400.00	0.06804	-400.00	-500.00	0.05291
-400.00	-600.00	0.04225	-400.00	-700.00	0.03302
-300.00	700.00	0.10209	-300.00	600.00	0.12549
-300.00	500.00	0.14359	-300.00	400.00	0.16412
-300.00	300.00	0.18380	-300.00	200.00	0.25541
-300.00	100.00	0.24311	-300.00	0.00	0.13320
-300.00	-100.00	0.11754	-300.00	-200.00	0.11849
-300.00	-300.00	0.08647	-300.00	-400.00	0.06479
-300.00	-500.00	0.04751	-300.00	-600.00	0.04080
-300.00	-700.00	0.03959	-200.00	700.00	0.08459
-200.00	600.00	0.10499	-200.00	500.00	0.14205
-200.00	400.00	0.18387	-200.00	300.00	0.20759

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
-200.00	200.00	0.23666	-200.00	100.00	0.31675
-200.00	0.00	0.16837	-200.00	-100.00	0.14530
-200.00	-200.00	0.11045	-200.00	-300.00	0.07733
-200.00	-400.00	0.05853	-200.00	-500.00	0.05889
-200.00	-600.00	0.05552	-200.00	-700.00	0.04908
-100.00	700.00	0.07662	-100.00	600.00	0.09287
-100.00	500.00	0.11658	-100.00	400.00	0.14919
-100.00	300.00	0.20514	-175.00	200.00	0.24571
-175.00	100.00	0.33440	-175.00	0.00	0.17728
-175.00	-100.00	0.15545	-175.00	-200.00	0.10236
-175.00	-300.00	0.07192	-175.00	-400.00	0.06471
-100.00	-500.00	0.07754	-100.00	-600.00	0.06803
-100.00	-700.00	0.06089	0.00	700.00	0.08819
0.00	600.00	0.10473	0.00	500.00	0.12649
0.00	400.00	0.15537	0.00	300.00	0.19280
0.00	241.00	0.21787	0.00	-460.00	0.12195
0.00	-500.00	0.11371	0.00	-600.00	0.09600
0.00	-700.00	0.08195	100.00	700.00	0.10011
100.00	600.00	0.11668	100.00	500.00	0.13526
100.00	400.00	0.15813	100.00	300.00	0.20173
100.00	241.00	0.24428	100.00	-460.00	0.10720
100.00	-500.00	0.10015	100.00	-600.00	0.08551
100.00	-700.00	0.07396	200.00	700.00	0.08742
200.00	600.00	0.11186	200.00	500.00	0.14036
200.00	400.00	0.17312	200.00	300.00	0.20041
200.00	241.00	0.20917	200.00	-460.00	0.09932
200.00	-500.00	0.09163	200.00	-600.00	0.07652
200.00	-700.00	0.06774	300.00	700.00	0.09949
300.00	600.00	0.11734	300.00	500.00	0.13337
300.00	400.00	0.14844	300.00	300.00	0.15205
300.00	241.00	0.17207	300.00	-460.00	0.10709
300.00	-500.00	0.09137	300.00	-600.00	0.07155
300.00	-700.00	0.06249	400.00	700.00	0.09494
400.00	600.00	0.10849	400.00	500.00	0.11273
400.00	400.00	0.11635	400.00	300.00	0.13491
400.00	241.00	0.12471	450.00	100.00	0.07633
450.00	0.00	0.08736	450.00	-100.00	0.11901
450.00	-200.00	0.18568	450.00	-300.00	0.20400
450.00	-400.00	0.15599	400.00	-500.00	0.10724
400.00	-600.00	0.08237	400.00	-700.00	0.06025

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE PERIOD (8760 HRS) AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): STACKS ,

*** 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
500.00	700.00	0.08846	500.00	600.00	0.08959
500.00	500.00	0.09317	500.00	400.00	0.10982
500.00	300.00	0.10238	500.00	200.00	0.07726
500.00	100.00	0.06884	500.00	0.00	0.07905
500.00	-100.00	0.10515	500.00	-200.00	0.14984
500.00	-300.00	0.18375	500.00	-400.00	0.15637
500.00	-500.00	0.11789	500.00	-600.00	0.08587
500.00	-700.00	0.07237	600.00	700.00	0.07510
600.00	600.00	0.07728	600.00	500.00	0.09085
600.00	400.00	0.08785	600.00	300.00	0.07357
600.00	200.00	0.06045	600.00	100.00	0.05724
600.00	0.00	0.06560	600.00	-100.00	0.08440
600.00	-200.00	0.10531	600.00	-300.00	0.14506
600.00	-400.00	0.14882	600.00	-500.00	0.12017
600.00	-600.00	0.09606	600.00	-700.00	0.07328
700.00	700.00	0.06631	700.00	600.00	0.07801
700.00	500.00	0.07641	700.00	400.00	0.07105
700.00	300.00	0.05648	700.00	200.00	0.04961
700.00	100.00	0.04859	700.00	0.00	0.05536
700.00	-100.00	0.06858	700.00	-200.00	0.08017
700.00	-300.00	0.10795	700.00	-400.00	0.12249
700.00	-500.00	0.12015	700.00	-600.00	0.09801
700.00	-700.00	0.08039	-159.00	-77.00	0.14948
-123.00	-149.00	0.11237	-111.00	-198.00	0.09017
-84.00	-267.00	0.10338	-175.00	50.00	0.26516
-175.00	150.00	0.29017	-175.00	-50.00	0.16418
-100.00	241.00	0.25889	-50.00	241.00	0.21169
0.00	241.00	0.21787	50.00	241.00	0.26806
100.00	241.00	0.24428	150.00	241.00	0.23947
200.00	241.00	0.20917			

**MODELOPTs: CONC RURAL FLAT DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (8760 HRS) RESULTS ***

** CONC OF OTHER IN (MICROGRAMS/CUBIC-METER) **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
ALL	1ST HIGHEST VALUE IS	0.33440 AT (	-175.00,	100.00,	0.00,	0.00)	DC	NA
	2ND HIGHEST VALUE IS	0.31675 AT (	-200.00,	100.00,	0.00,	0.00)	DC	NA
	3RD HIGHEST VALUE IS	0.29017 AT (	-175.00,	150.00,	0.00,	0.00)	DC	NA
	4TH HIGHEST VALUE IS	0.26806 AT (	50.00,	241.00,	0.00,	0.00)	DC	NA
	5TH HIGHEST VALUE IS	0.26516 AT (	-175.00,	50.00,	0.00,	0.00)	DC	NA
	6TH HIGHEST VALUE IS	0.25889 AT (	-100.00,	241.00,	0.00,	0.00)	DC	NA

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

**MODELOPTs: CONC RURAL FLAT DFAULT

Message Summary : ISCST3 Model Execution ***

--------- Summary of Total Messages --------

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 311 Informational Message(s)

A Total of 311 Calm Hours Identified

******** FATAL ERROR MESSAGES ********
*** NONE ***

******** WARNING MESSAGES ********
*** NONE ***

****
*** ISCST3 Finishes Successfully ***
****