

AIR QUALITY IMPACT ANALYSIS  
PROPOSED DIAMMONIUM PHOSPHATE FERTILIZER PLANT

W. R. GRACE AND COMPANY  
BARTOW, FLORIDA

FEBRUARY 1, 1980



SHOLTES & KOOGLER  
Environmental Consultants

1213 NW 6TH ST ■ GAINESVILLE, FL 32601 ■ 904-377-5822

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## 1.0 INTRODUCTION

W. R. Grace and Company has submitted to the Florida Department of Environmental Regulation an Application for Construction Permit for a proposed diammonium phosphate fertilizer plant. The proposed plant will be constructed at the W. R. Grace Bartow Chemical Complex.

The purpose of this air quality impact analysis is to summarize the impact of the proposed diammonium phosphate fertilizer plant as required by Chapter 17-2.03 of the Florida Administrative Code.

The procedures used in preparing the impact analysis are consistent with review procedures adopted by the Florida Department of Environmental Regulation. The initial modeling was conducted with the CRSTER air quality model. Meteorological data from Tampa representing the five year period from 1970 through 1974 were input to the CRSTER along with particulate matter and sulfur dioxide emission rates for the proposed source. The maximum annual impact of the source and the highest second-high 24-hour and 3-hour impacts of the source were isolated from the CRSTER results.

If the impact of either the sulfur dioxide emissions or the particulate matter emissions for a particular time period was not significant, as defined by Chapter 17-2.17 of the Florida Administrative Code, no further modeling was conducted. If the impact of a pollutant for a particular time period was significant; however, additional modeling was conducted with the air quality model PTMTPW. Meteorological data resulting in the impact being investigated, as determined from the CRSTER model, were

input to the PTMTPW along with emission data from the proposed source and all new sources of that pollutant at the W. R. Grace complex. New sources are defined as those constructed after January 6, 1975.

If the impact of the proposed source and all new sources at the subject complex resulted in an impact that was less than half the applicable PSD increment, no further PSD modeling was conducted. If the resulting new and proposed source impact was greater than one-half of the applicable PSD increment, new sources located at other complexes within a reasonable upwind distance were input to the model and the model again run.

In addition to the PSD modeling, when the impact of the source was determined to be significant, modeling of proposed, new, and existing sources was conducted to determine whether air quality standards would be threatened. This modeling was conducted with the PTMTPW using meteorological data determined from the CRSTER model runs and actual emission data for all sources.

## 2.0 METHODOLOGY

The emission data and stack parameters for the proposed diammonium phosphate fertilizer plant and all new and existing sources at the W. R. Grace Chemical Complex are summarized in Table 1.

The CRSTER model was first run with particulate matter emission data for the proposed DAP plant and Tampa meteorological for each of the five years 1970-1974. These model runs are contained in Appendix 1 of this report. In reviewing these data it was determined that the maximum annual impact of particulate matter emissions from the proposed source was 0.8 micrograms per cubic meter. This occurred with meteorological data for calendar year 1971. The maximum 24-hour impact was determined to be 7.6 micrograms per cubic meter. This impact occurred with meteorological data for day 173, 1972. These meteorological conditions resulted from extremely unusual conditions following the passage of a hurricane.

Since the maximum expected annual average particulate matter impact of the proposed source was not significant, no further annual average modeling was conducted. Since the proposed DAP plant is the only "new source" at the W. R. Grace complex the total new source consumption of the PSD increment is 7.6 micrograms per cubic meter or that resulting from the proposed DAP plant. This input is less than half the Class II 24-hour particulate matter increment of 37.0 micrograms per cubic meter.

The impact of all particulate matter sources at the W. R. Grace complex was determined with the PTMTPW model again utilizing meteorological data

TABLE 1

SOURCE EMISSION DATA  
W. R. GRACE AND COMPANY  
BARTOW, FLORIDA

Source	Emission Rate(1)		Stack Parameters				
	Particulate Matter (g/sec.)	Sulfur Dioxide (g/sec)	Height (meters)	Diameter (meters)	Temp. (° K)	Velocity (m/s)	
01 Dry mill rock stg.	5.80	0.0	16.8	1.1	322	15.8	
02 Dry mill rock transp.	5.80	0.0	16.8	0.3	319	7.1	
03 Rock grind (chemical plant)	4.41	0.0	35.1	0.6	322	16.2	
04 Rock grind (dry mill)	4.41	0.0	15.2	0.3	322	8.0	
06 GTSP-X	4.54	0.3	30.5	2.0	325	13.4	
4 07 GTSP-Y	4.54	0.3	24.4	2.0	319	13.4	
08 DAP	5.04	0.0	30.5	2.3	333	16.2	
09 Rock Dryer	5.04	0.0	15.2	2.0	333	17.3	
14 Sulfuric acid - 4	0.00	91.9	35.8	61.0	2.1	350	25.9
15 Sulfuric acid - 3	0.00	57.7	49.7	45.7	1.5	327	16.7
16 Sulfuric acid - 5	0.00	36.8	35.3	61.0	2.8	350	7.3
17 Sulfuric acid - 6	0.00	36.8	35.8	61.0	2.8	350	7.3
90 Proposed DAP	4.28	3.15	40.4	2.1	319	21.2	

(1) Allowable Emission Rates or, where no emission regulation exists, actual emission data.

7  
8

42  
42

Factor of  
1.14 x 5 or 6

Factors  
4 - 39  
3 - 86  
5,6 - 96

for day 173, 1972. This impact was determined to be 68.1 micrograms per cubic meter. When combined with a reasonable 24-hour particulate matter background for the area of 55.0 micrograms per cubic meter, (See Appendix 2) the total resulting particulate matter level is 123.0 micrograms per cubic meter. This is well below the 24-hour particulate matter standard established by the State of Florida of 150 micrograms per cubic meter. The PTMTPW results for particulate matter modeling are in Appendix 2.

The annual, 24-hour and 3-hour impacts of sulfur dioxide emissions from the proposed DAP plant were determined by proportioning the particulate matter impacts from the proposed DAP plant. This approach was taken since both particulate matter and sulfur dioxide are emitted from the same stack. The impact of each; therefore, is directly proportional to the emission rates of the pollutant. The maximum annual average sulfur dioxide impact, occurring with 1971 meteorology, was determined to be 0.6 micrograms per cubic meter. This impact is not significant as defined by Chapter 17-2.17 of the Florida Administrative Code.

The maximum 24-hour sulfur dioxide impact was determined to be 5.6 micrograms per cubic meter. This occurred with meteorological conditions from day 173, 1972. This impact is significant and hence, additional modeling was conducted with the PTMTPW.

Sulfur dioxide emission data from the proposed DAP plant and from other "new sources" at the W. R. Grace complex were input to the PTMTPW model with meteorological data from day 173, 1972. The maximum "new source" impact was determined to be 52.4 micrograms per cubic meter compared



with an allowable PSD increment of 91.0 micrograms per cubic meter. This "new source" impact is greater than one-half of the allowable PSD increment; however, there are no other "new sources" within a reasonable distance upwind (to the west) of the W. R. Grace complex. Because of this, and the fact that the sulfur dioxide impact of proposed source in all other directions was not significant, no further PSD modeling was conducted.

The impact of sulfur dioxide emissions from the proposed, new and existing W. R. Grace sources was also investigated using the PTMTPW model and meteorological data from day 173, 1972. The maximum expected impact of all sources was determined to be 188.0 micrograms per cubic meter compared with a standard of 260.0 micrograms per cubic meter. It should be stressed that this calculated impact occurs under extremely unusual meteorological conditions and that for all practical purposes the maximum impact of all sources at the W. R. Grace complex will be less than this calculated value. The modeling results for the 24-hour sulfur dioxide impact are in Appendix 4.

The 3-hour sulfur dioxide impact from the proposed DAP plant was determined to occur with meteorological data from day 214, period 5, 1972. The maximum 3-hour impact was calculated to be 13.4 micrograms per cubic meter which is less than the significant impact level of 25.0 micrograms per cubic meter established by the Florida Administrative Code. Because of this no further modeling was conducted for the 3-hour averaging time.

The modeling results are summarized in Table 2 and the points of maximum impact are shown graphically in Figure 1. It will be noted from Figure 1

TABLE 2

SUMMARY OF IMPACT  
OF PARTICULATE MATTER AND SULFUR DIOXIDE EMISSIONS  
FROM PROPOSED DAP PLANT AND OTHER NEW SOURCES

W. R. GRACE AND COMPANY  
BARTOW, FLORIDA

Pollutant/ Avg. Time	DAP Plant Impact (ug/m <sup>3</sup> )	Total New and Proposed Source Impact (ug/m <sup>3</sup> )	Significant Impact <sup>(1)</sup> (ug/m <sup>3</sup> )	Class II PSD Increment (ug/m <sup>3</sup> )	Impact of all WRG Sources (ug/m <sup>3</sup> )
<b>Particulate Matter</b>					
Annual	0.8	0.8 <sup>(3)</sup>	1	19	(2)
24-Hour	7.6	7.6 <sup>(3)</sup>	5	37	68.1
<b>Sulfur Dioxide</b>					
Annual	0.6	(2)	1	20	(2)
24-Hour	5.6	52.4	5	91	188
3-Hour	13.4	(2)	25	512	(2)

(1) Defined in Chapter 17-2.17 Florida Administrative Code.

(2) Not calculated since proposed source impact is not significant.

(3) Proposed DAP plant is the only "new" particulate matter source at the W. R. Grace Bartow Chemical Complex.

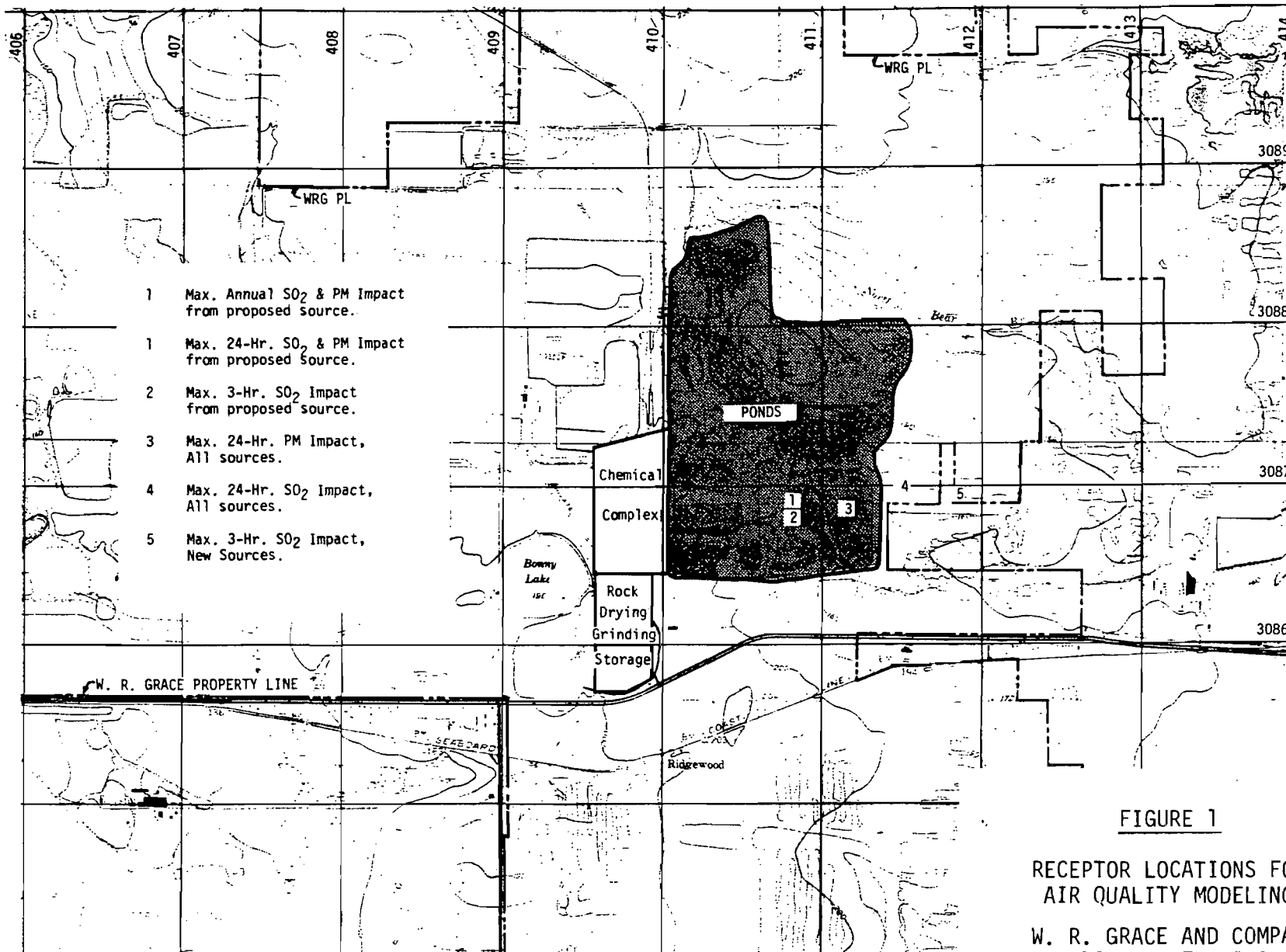


FIGURE 1

RECEPTOR LOCATIONS FOR  
AIR QUALITY MODELING

W. R. GRACE AND COMPANY  
BARTOW, FLORIDA

that the maximum reported impacts occur on W. R. Grace property within a cooling water pond.

It should also be stated that the use of meteorology from day 173, 1972 (post-hurricane meteorology) and the use of receptors on W. R. Grace property and in areas not accessible to the general public for purposes of this PSD review does not constitute an endorsement of the philosophy or policy that resulted in the selection of these meteorological data or receptor locations. The meteorological data and receptor locations were used in this review only because no threat to PSD increments and AAQS resulted even with the use of these data.

### 3.0 SUMMARY

Air quality modeling has shown that the impact of particulate matter and sulfur dioxide emissions from the proposed DAP plant will be significant only during a 24-hour averaging period. Further modeling has shown that during the 24-hour averaging period, the impact of emissions from the proposed source, when combined with emissions from other new sources at the W. R. Grace chemical complex, will not threaten applicable PSD increments. Modeling further shows that the impact of emissions from the proposed DAP plant over a 24-hour period when combined with emissions from all other new and existing sources at the W. R. Grace chemical complex will not threaten ambient air quality standards.

APPENDIX 1  
CRSTER MODELING



RING DISTANCES(KM)= 1.00 1.50 2.00 2.50 3.00

STACK # 1-- SOURCE NUMBER 1 D.A.P.

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	4.2800	43.40	2.13	21.21	319.00	75.58



PLANT NAME: W. R. GRACE

POLLUTANT: PART

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

MAXIMUM MEAN CONC= 6.1647E-07 DIRECTION= 9 DISTANCE= 1.0 KM

YEAR= 70

DIR	RANGE	ANNUAL MEAN CONCENTRATION AT EACH RECEPTOR				
		1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1		2.49401E-07	2.04794E-07	1.67867E-07	1.40347E-07	1.20104E-07
2		3.11289E-07	2.45404E-07	1.93421E-07	1.56330E-07	1.29697E-07
3		3.08556E-07	2.42621E-07	1.91533E-07	1.55266E-07	1.29305E-07
4		2.22658E-07	1.72379E-07	1.37996E-07	1.14329E-07	9.74987E-08
5		2.28192E-07	1.78161E-07	1.42314E-07	1.17105E-07	9.90635E-08
6		2.59818E-07	1.87188E-07	1.41220E-07	1.11800E-07	9.20866E-08
7		3.02254E-07	2.11479E-07	1.55397E-07	1.20145E-07	9.67793E-08
8		4.03364E-07	2.75069E-07	1.96279E-07	1.47942E-07	1.16623E-07
9		6.16468E-07	4.66090E-07	3.56488E-07	2.82105E-07	2.30416E-07
10		3.67910E-07	2.77105E-07	2.12415E-07	1.68544E-07	1.37982E-07
11		2.00186E-07	1.66853E-07	1.37642E-07	1.15570E-07	9.93430E-08
12		1.77191E-07	1.61592E-07	1.39531E-07	1.20397E-07	1.05458E-07
13		1.95637E-07	1.85290E-07	1.53754E-07	1.43778E-07	1.27753E-07
14		1.86032E-07	1.76399E-07	1.55785E-07	1.36273E-07	1.20291E-07
15		1.66311E-07	1.56395E-07	1.38187E-07	1.21692E-07	1.08738E-07
16		1.48740E-07	1.40002E-07	1.23824E-07	1.08951E-07	9.69586E-08
17		1.29784E-07	1.14228E-07	9.74778E-08	8.40419E-08	7.38599E-08
18		1.47841E-07	1.38247E-07	1.24672E-07	1.12405E-07	1.02502E-07
19		1.01825E-07	9.12771E-08	7.89368E-08	6.84909E-08	6.02406E-08
20		1.18067E-07	1.10257E-07	9.91859E-08	8.69456E-08	7.76279E-08
21		1.66951E-07	1.64759E-07	1.49122E-07	1.32332E-07	1.18039E-07
22		1.75959E-07	1.63378E-07	1.42258E-07	1.22658E-07	1.06981E-07
23		2.11285E-07	2.01178E-07	1.80989E-07	1.62312E-07	1.47326E-07
24		2.67024E-07	2.59023E-07	2.35896E-07	2.12603E-07	1.93319E-07
25		2.68857E-07	2.49983E-07	2.25147E-07	2.03373E-07	1.86272E-07
26		3.22407E-07	2.94776E-07	2.59722E-07	2.29895E-07	2.06889E-07
27		4.90643E-07	4.64242E-07	4.17505E-07	3.73392E-07	3.37225E-07
28		4.35470E-07	3.98358E-07	3.50807E-07	3.09360E-07	2.76467E-07
29		3.64253E-07	3.07711E-07	2.59413E-07	2.22364E-07	1.94486E-07
30		4.31635E-07	3.69533E-07	3.15432E-07	2.74289E-07	2.43880E-07
31		3.30035E-07	2.63993E-07	2.15492E-07	1.81406E-07	1.57011E-07
32		3.22047E-07	2.63352E-07	2.15225E-07	1.79994E-07	1.54452E-07
33		3.33182E-07	2.83049E-07	2.36080E-07	1.99974E-07	1.73307E-07
34		2.44881E-07	1.97950E-07	1.51774E-07	1.36022E-07	1.17812E-07
35		1.66248E-07	1.26640E-07	9.91740E-08	8.06180E-08	6.79045E-08
36		2.31633E-07	1.90929E-07	1.56998E-07	1.31543E-07	1.12798E-07

PLANT NAME: W. R. GRACE                      POLLUTANT: PART                      EMISSION UNITS: GM/SEC                      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY MAXIMUM 24-HOUR CONC= 5.9151E-06    DIRECTION= 13    DISTANCE= 1.5 KM    DAY= 72  
 YEAR= 70

DIR	HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	RANGE	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	3.1190E-06 (203)	2.4545E-06 (318)	2.1181E-06 (318)	1.8359E-06 (80)	1.6444E-06 (80)
2	4.2747E-06 (80)	3.7672E-06 (30)	3.0501E-06 (80)	2.4607E-06 (80)	2.0128E-06 (80)
3	3.2766E-06 (116)	3.1763E-06 (221)	2.9969E-06 (224)	2.6656E-06 (224)	2.3299E-06 (224)
4	3.1493E-06 (222)	3.4330E-06 (222)	3.0174E-06 (222)	2.5277E-06 (222)	2.1077E-06 (224)
5	4.9502E-06 (223)	5.0374E-06 (223)	4.3681E-06 (223)	3.6646E-06 (223)	3.0730E-06 (223)
6	4.4806E-06 (186)	3.1378E-06 (186)	2.2606E-06 (186)	1.7025E-06 (186)	1.3311E-06 (186)
7	2.8046E-06 (177)	2.4994E-06 (177)	2.0198E-06 (177)	1.6674E-06 (298)	1.4330E-06 (298)
8	4.4435E-06 (178)	4.3438E-06 (178)	3.7301E-06 (178)	3.1327E-06 (178)	2.6439E-06 (178)
9	5.5758E-06 (198)	3.9330E-06 (198)	2.8179E-06 (198)	2.1861E-06 (224)	1.8533E-06 (325)
10	3.7675E-06 (187)	2.7165E-06 (187)	2.0497E-06 (157)	1.7248E-06 (157)	1.4747E-06 (157)
11	3.0639E-06 (183)	2.4985E-06 (183)	2.0817E-06 (183)	1.7871E-06 (183)	1.5690E-06 (183)
12	2.9078E-06 (96)	3.1547E-06 (73)	2.8583E-06 (73)	2.4461E-06 (73)	2.0733E-06 (73)
13	5.0825E-06 (72)	5.9151E-06 (72)	5.4108E-06 (72)	4.6689E-06 (72)	3.9925E-06 (72)
14	2.6223E-06 (217)	2.0786E-06 (72)	1.8889E-06 (72)	1.6124E-06 (72)	1.3634E-06 (96)
15	2.8083E-06 (150)	2.3422E-06 (347)	2.0872E-06 (347)	1.8243E-06 (347)	1.6118E-06 (347)
16	3.4207E-06 (171)	2.7351E-06 (319)	2.6863E-06 (319)	2.4238E-06 (319)	2.1363E-06 (319)
17	1.6480E-06 (97)	1.3951E-06 (21)	1.2727E-06 (348)	1.2037E-06 (348)	1.1111E-06 (348)
18	2.4183E-06 (21)	2.1255E-06 (209)	1.9921E-06 (4)	1.8469E-06 (4)	1.6606E-06 (4)
19	2.0731E-06 (304)	1.6081E-06 (3)	1.5204E-06 (320)	1.3437E-06 (320)	1.1632E-06 (320)
20	1.8494E-06 (52)	1.7342E-06 (3)	1.7208E-06 (3)	1.5608E-06 (3)	1.3750E-06 (3)
21	2.3371E-06 (59)	2.3269E-06 (37)	2.3046E-06 (37)	2.0781E-06 (37)	1.8225E-06 (37)
22	3.1392E-06 (37)	3.7915E-06 (37)	3.5385E-06 (37)	3.0876E-06 (37)	2.6514E-06 (37)
23	2.9549E-06 (273)	3.2633E-06 (38)	3.1510E-06 (38)	2.8566E-06 (38)	2.5495E-06 (38)
24	4.5769E-06 (272)	4.8385E-06 (272)	4.2061E-06 (272)	3.5189E-06 (272)	2.9408E-06 (272)
25	4.7846E-06 (290)	4.8165E-06 (290)	4.1938E-06 (290)	3.5570E-06 (290)	3.0266E-06 (290)
26	3.5236E-06 (269)	3.5796E-06 (14)	3.1468E-06 (14)	2.6462E-06 (14)	2.2173E-06 (14)
27	4.7901E-06 (120)	4.5941E-06 (280)	4.2040E-06 (280)	3.6984E-06 (280)	3.2396E-06 (280)
28	4.0233E-06 (139)	3.5712E-06 (149)	3.5077E-06 (149)	3.2371E-06 (149)	2.9363E-06 (149)
29	3.7538E-06 (266)	3.4741E-06 (152)	3.1190E-06 (152)	2.7538E-06 (152)	2.4304E-06 (152)
30	5.5925E-06 (205)	4.0769E-06 (205)	2.9948E-06 (205)	2.5230E-06 (130)	2.3864E-06 (130)
31	3.1635E-06 (252)	2.3264E-06 (252)	1.8403E-06 (253)	1.5835E-06 (293)	1.3537E-06 (293)
32	3.2514E-06 (154)	2.4898E-06 (62)	2.0203E-06 (62)	1.6347E-06 (62)	1.3410E-06 (62)
33	2.5739E-06 (203)	3.0223E-06 (203)	2.7537E-06 (203)	2.4664E-06 (87)	2.2380E-06 (87)
34	3.4064E-06 (213)	3.3842E-06 (33)	2.9560E-06 (33)	2.4785E-06 (33)	2.0726E-06 (33)
35	2.1551E-06 (213)	2.0395E-06 (89)	1.9188E-06 (89)	1.7045E-06 (89)	1.4873E-06 (89)
36	2.3125E-06 (89)	2.0359E-06 (350)	1.7827E-06 (350)	1.5016E-06 (350)	1.3424E-06 (89)

PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY SECOND MAXIMUM 24-HOUR CONC= 5.4971E-06      DIRECTION= 9      DISTANCE= 1.0 KM      DAY=190  
 YEAR= 70

DIR	SECOND HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR									
	RANGE	1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM				
1	2.3447E-06	(318)	2.2679E-06	(80)	2.0625E-06	(80)	1.7627E-06	(318)	1.4672E-06	(318)
2	2.4935E-06	(88)	3.1957E-06	(89)	2.6228E-06	(88)	2.1266E-06	(88)	1.7415E-06	(88)
3	2.9166E-06	(231)	3.1247E-06	(224)	2.8666E-06	(221)	2.4849E-06	(221)	2.1450E-06	(221)
4	2.3302E-06	(223)	2.8823E-06	(224)	2.7379E-06	(224)	2.4225E-06	(224)	2.1955E-06	(222)
5	2.2432E-06	(222)	4.1772E-06	(222)	3.5155E-06	(222)	2.8837E-06	(222)	2.3764E-06	(222)
6	2.4429E-06	(223)	2.1197E-06	(223)	1.6889E-06	(223)	1.4847E-06	(359)	1.3219E-06	(359)
7	2.5673E-06	(119)	2.2093E-06	(298)	1.9381E-06	(298)	1.6263E-06	(177)	1.3476E-06	(358)
8	2.8659E-06	(187)	2.3071E-06	(118)	1.6833E-06	(118)	1.3902E-06	(118)	1.1550E-06	(118)
9	2.4971E-06	(190)	3.4792E-06	(158)	2.6820E-06	(224)	2.1611E-06	(158)	1.8389E-06	(158)
10	2.1624E-06	(146)	2.4662E-06	(157)	2.0202E-06	(187)	1.5608E-06	(137)	1.2446E-06	(187)
11	2.4602E-06	(199)	2.0832E-06	(48)	1.7917E-06	(48)	1.4899E-06	(48)	1.2700E-06	(43)
12	2.7125E-06	(73)	2.5214E-06	(68)	2.2426E-06	(68)	1.9333E-06	(68)	1.6696E-06	(68)
13	2.5918E-06	(156)	1.9049E-06	(73)	1.8003E-06	(81)	1.6312E-06	(81)	1.4499E-06	(81)
14	2.2734E-06	(160)	1.8898E-06	(57)	1.7293E-06	(57)	1.5319E-06	(57)	1.3597E-06	(72)
15	2.6825E-06	(171)	2.2394E-06	(164)	1.9716E-06	(164)	1.6652E-06	(154)	1.4017E-06	(164)
16	2.5782E-06	(97)	2.5708E-06	(171)	1.9192E-06	(171)	1.5714E-06	(294)	1.3833E-06	(294)
17	1.4265E-06	(321)	1.2721E-06	(327)	1.2039E-06	(21)	1.0140E-06	(21)	8.5241E-07	(21)
18	2.0695E-06	(209)	1.9490E-06	(4)	1.8268E-06	(209)	1.6050E-06	(3)	1.4465E-06	(3)
19	1.6214E-06	(3)	1.5879E-06	(320)	1.3911E-06	(3)	1.1691E-06	(3)	9.8304E-07	(3)
20	1.6157E-06	(125)	1.7341E-06	(308)	1.6710E-06	(320)	1.5346E-06	(320)	1.3630E-06	(320)
21	2.0600E-06	(126)	1.9327E-06	(3)	2.0692E-06	(3)	1.9493E-06	(3)	1.7562E-06	(3)
22	2.3001E-06	(38)	2.6411E-06	(39)	2.3845E-06	(38)	2.0358E-06	(38)	1.7216E-06	(38)
23	2.7033E-06	(38)	2.9461E-06	(273)	2.5318E-06	(272)	2.1275E-06	(272)	1.7810E-06	(272)
24	2.9718E-06	(273)	3.3585E-06	(273)	3.0733E-06	(273)	2.6701E-06	(273)	2.3023E-06	(273)
25	2.9372E-06	(283)	2.5454E-06	(233)	2.1663E-06	(273)	1.9192E-06	(139)	1.7015E-06	(139)
26	3.2843E-06	(14)	3.0503E-06	(140)	2.7592E-06	(140)	2.4241E-06	(140)	2.1225E-06	(140)
27	4.7006E-06	(138)	4.2076E-06	(138)	3.4491E-06	(138)	2.8075E-06	(138)	2.4783E-06	(241)
28	3.9554E-06	(270)	3.4125E-06	(140)	2.8927E-06	(151)	2.4947E-06	(151)	2.1587E-06	(151)
29	3.6711E-06	(152)	2.8638E-06	(153)	2.6124E-06	(153)	2.3195E-06	(153)	2.0728E-06	(153)
30	3.5505E-06	(153)	3.0797E-06	(153)	2.6431E-06	(130)	2.2802E-06	(205)	1.7951E-06	(70)
31	2.7888E-06	(232)	2.1283E-06	(232)	1.7406E-06	(252)	1.3521E-06	(252)	1.0856E-06	(252)
32	2.8296E-06	(62)	2.0500E-06	(154)	1.7234E-06	(203)	1.4363E-06	(203)	1.2016E-06	(203)
33	2.4236E-06	(247)	2.5635E-06	(87)	2.6378E-06	(87)	2.3634E-06	(203)	2.0057E-06	(203)
34	3.1746E-06	(33)	2.5617E-06	(213)	2.2267E-06	(85)	2.0382E-06	(85)	1.8152E-06	(85)
35	1.8745E-06	(89)	1.7941E-06	(85)	1.7953E-06	(85)	1.6234E-06	(85)	1.4237E-06	(85)
36	2.2341E-06	(236)	1.9702E-06	(89)	1.6999E-06	(89)	1.4974E-06	(89)	1.3393E-06	(88)

PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY MAXIMUM      3-HOUR CONC= 2.3635E-05      DIRECTION= 9      DISTANCE= 1.0 KM      DAY=190      TIME PERIOD= 6  
 YEAR= 70

DIR	RANGE	3-HOUR CONCENTRATION AT EACH RECEPTOR			
		HIGHEST 1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	1.3906E-05 (203, 5)	8.5815E-06 (318, 6)	7.5226E-06 ( 80, 8)	6.5087E-06 (228, 7)	6.9789E-06 (228, 7)
2	1.3416E-05 (306, 5)	1.0344E-05 ( 88, 6)	8.7416E-06 ( 23, 7)	8.2872E-06 ( 23, 7)	7.5010E-06 ( 23, 7)
3	1.5416E-05 ( 77, 5)	1.1073E-05 (221, 7)	1.0635E-05 (221, 7)	9.4952E-06 (221, 7)	8.3477E-06 (221, 7)
4	1.2271E-05 (154, 6)	1.0778E-05 (221, 4)	9.8764E-06 (224, 1)	8.7503E-06 (224, 1)	8.8874E-06 (192, 7)
5	1.2028E-05 (214, 5)	9.4371E-06 (221, 5)	8.8564E-06 (223, 7)	7.8869E-06 (221, 5)	6.9633E-06 (221, 5)
6	1.3542E-05 (253, 6)	1.0733E-05 (253, 6)	8.0457E-06 (253, 6)	6.5970E-06 ( 40, 6)	6.1104E-06 ( 40, 6)
7	1.6436E-05 (170, 4)	1.1205E-05 (221, 6)	1.0335E-05 (221, 6)	9.0278E-06 (221, 6)	7.8335E-06 (221, 6)
8	1.5803E-05 (137, 5)	1.0480E-05 (173, 3)	8.8824E-06 (178, 3)	7.3237E-06 (178, 3)	6.1388E-06 (118, 7)
9	2.3635E-05 (190, 6)	1.5667E-05 (190, 6)	1.1547E-05 (224, 4)	9.6368E-06 (224, 4)	8.2600E-06 (177, 7)
10	1.3418E-05 (187, 3)	1.1555E-05 (134, 6)	9.8015E-06 (134, 6)	8.0940E-06 (134, 6)	6.7131E-06 (134, 6)
11	1.1968E-05 (185, 5)	8.3600E-06 (183, 6)	6.8457E-06 (237, 4)	5.8957E-06 (237, 4)	5.8935E-06 (183, 7)
12	1.2522E-05 (156, 6)	9.7378E-06 (156, 6)	8.1041E-06 ( 73, 8)	7.0727E-06 ( 73, 8)	6.0783E-06 ( 73, 8)
13	1.2097E-05 (156, 3)	1.0874E-05 (230, 6)	1.0586E-05 (230, 6)	9.4453E-06 (230, 6)	8.2280E-06 (230, 6)
14	1.1837E-05 (200, 3)	7.7151E-06 (200, 3)	8.3616E-06 ( 48, 8)	8.0911E-06 ( 48, 8)	7.4304E-06 ( 48, 8)
15	1.3730E-05 (276, 6)	1.3682E-05 (276, 6)	1.1640E-05 (276, 6)	9.6508E-06 (276, 6)	8.0347E-06 (276, 6)
16	1.1456E-05 (171, 6)	1.0843E-05 (171, 6)	8.9878E-06 (171, 6)	7.3387E-06 (171, 6)	6.0500E-06 (171, 6)
17	9.8732E-06 (340, 4)	6.6242E-06 (340, 4)	5.9482E-06 (233, 5)	5.0791E-06 (233, 5)	4.3047E-06 (233, 5)
18	9.8103E-06 (304, 4)	8.4892E-06 (211, 7)	7.9789E-06 ( 3, 8)	7.8144E-06 ( 3, 8)	7.2249E-06 ( 3, 8)
19	8.1827E-06 (294, 4)	8.0109E-06 (294, 4)	6.7241E-06 (294, 4)	5.7854E-06 (168, 5)	5.3771E-06 (168, 5)
20	9.8241E-06 ( 52, 5)	6.7889E-06 (308, 2)	6.6116E-06 (308, 2)	6.0496E-06 (308, 2)	5.4480E-06 (308, 2)
21	1.1445E-05 (341, 4)	9.5940E-06 ( 51, 5)	8.3254E-06 ( 51, 5)	7.3257E-06 (258, 7)	6.3499E-06 (258, 7)
22	8.9677E-06 (277, 6)	7.5640E-06 ( 37, 2)	7.7888E-06 ( 37, 2)	7.1867E-06 ( 37, 2)	6.4004E-06 ( 37, 2)
23	1.3262E-05 (277, 5)	1.0875E-05 (256, 3)	9.4765E-06 (256, 3)	7.9523E-06 (256, 3)	6.6671E-06 (256, 3)
24	1.5444E-05 (274, 6)	1.1574E-05 (262, 6)	1.1394E-05 (262, 6)	9.9544E-06 (262, 6)	8.4463E-06 (262, 6)
25	1.5632E-05 (283, 4)	1.1989E-05 (283, 4)	1.0747E-05 (171, 3)	9.8879E-06 (171, 3)	8.7030E-06 (171, 3)
26	1.6079E-05 (269, 5)	1.1663E-05 (274, 4)	8.6309E-06 (230, 5)	7.3935E-06 (303, 7)	6.6665E-06 (140, 2)
27	1.4603E-05 (141, 6)	1.3080E-05 (141, 6)	1.0573E-05 (141, 6)	8.5143E-06 (141, 6)	6.9602E-06 (141, 6)
28	1.3827E-05 (120, 4)	1.0668E-05 (140, 7)	8.9477E-06 (140, 7)	8.3485E-06 (176, 3)	7.4573E-06 (176, 3)
29	1.3398E-05 (141, 5)	1.2652E-05 (153, 7)	1.1629E-05 (153, 7)	1.0042E-05 (153, 7)	8.5653E-06 (153, 7)
30	1.8401E-05 (180, 4)	1.4332E-05 (180, 4)	1.1203E-05 (286, 5)	9.2766E-06 (286, 5)	7.7096E-06 (286, 5)
31	1.4469E-05 (180, 4)	1.0588E-05 (180, 4)	7.6230E-06 ( 32, 6)	6.8594E-06 ( 32, 6)	6.0005E-06 ( 32, 6)
32	1.5918E-05 (355, 4)	1.0889E-05 (355, 4)	7.5705E-06 ( 85, 3)	7.0189E-06 (347, 3)	6.4389E-06 (347, 3)
33	1.2433E-05 (107, 4)	1.1181E-05 ( 87, 2)	1.0305E-05 ( 87, 2)	9.6080E-06 ( 87, 2)	8.3560E-06 ( 87, 2)
34	1.8011E-05 (194, 5)	1.0451E-05 (194, 5)	9.0645E-06 (254, 3)	8.0148E-06 (254, 3)	7.4526E-06 ( 85, 6)
35	9.2573E-06 (173, 3)	8.6615E-06 (173, 3)	8.0714E-06 ( 85, 2)	7.3244E-06 ( 85, 2)	6.4390E-06 ( 85, 2)
36	1.5203E-05 (208, 5)	1.4578E-05 (225, 3)	1.2621E-05 (225, 3)	1.0637E-05 (225, 3)	8.9791E-06 (225, 3)

PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY SECOND MAXIMUM      3-HOUR CONC= 1.7930E-05      DIRECTION= 9      DISTANCE= 1.0 KM      DAY=353      TIME PERIOD= 5  
 YEAR= 70

DIR	RANGE	3-HOUR CONCENTRATION AT EACH RECEPTOR								
		SECOND HIGHEST 1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM				
1	1.1046E-05	(203, 4)	8.2382E-06	( 89, 8)	7.4615E-06	(319, 6)	6.4933E-06	( 80, 8)	5.6492E-06	( 88, 3)
2	1.2552E-05	(188, 4)	9.8513E-06	(225, 4)	8.5738E-06	( 89, 6)	7.0109E-06	( 88, 6)	5.7835E-06	( 88, 6)
3	1.1181E-05	(109, 6)	1.0794E-05	(103, 6)	9.9609E-06	(224, 8)	8.7058E-06	(224, 8)	7.4730E-06	(224, 8)
4	1.1852E-05	(358, 5)	1.0309E-05	(224, 1)	8.8216E-06	(221, 4)	8.3648E-06	(192, 7)	7.5967E-06	(224, 1)
5	1.1156E-05	(223, 5)	9.3164E-06	(223, 7)	8.8480E-06	(221, 5)	7.7977E-06	(223, 7)	6.7368E-06	(223, 7)
6	1.2060E-05	(186, 3)	8.4580E-06	(101, 5)	6.9159E-06	(298, 4)	6.1614E-06	(253, 6)	4.8566E-06	(253, 6)
7	1.3393E-05	(119, 4)	9.0611E-06	(170, 4)	8.4846E-06	(358, 6)	7.6957E-06	(358, 6)	6.7802E-06	(358, 6)
8	1.5150E-05	( 45, 5)	1.0059E-05	( 54, 5)	8.0137E-06	(219, 6)	7.0846E-06	(118, 7)	6.0638E-06	(178, 3)
9	1.7930E-05	(353, 5)	1.3389E-05	(224, 4)	1.0477E-05	(190, 6)	9.2734E-06	(177, 7)	8.0522E-06	(224, 4)
10	1.2441E-05	(156, 5)	9.5592E-06	(155, 6)	8.7334E-06	(157, 3)	7.5534E-06	(157, 3)	6.4576E-06	(136, 7)
11	1.0795E-05	(183, 6)	7.1770E-06	(157, 5)	6.2832E-06	(183, 6)	5.6199E-06	(183, 7)	4.9013E-06	(237, 4)
12	1.1422E-05	(184, 5)	8.7040E-06	( 69, 2)	7.7433E-06	( 69, 2)	6.6705E-06	( 34, 7)	5.7708E-06	( 34, 7)
13	9.5022E-06	(188, 7)	1.0547E-05	(287, 6)	9.5179E-06	(287, 6)	8.1581E-06	(287, 6)	7.1481E-06	( 72, 3)
14	1.0388E-05	(160, 6)	7.6168E-06	(163, 6)	6.6143E-06	( 49, 1)	6.2171E-06	( 49, 1)	5.6013E-06	( 18, 8)
15	1.2868E-05	(160, 6)	9.5225E-06	(307, 6)	8.3076E-06	(307, 6)	6.9671E-06	(307, 6)	5.8327E-06	(307, 6)
16	9.7779E-06	(299, 5)	9.0591E-06	(343, 5)	7.5565E-06	(340, 5)	6.6671E-06	(294, 7)	5.8908E-06	(294, 7)
17	9.6194E-06	( 97, 4)	6.6204E-06	(233, 5)	5.4015E-06	(327, 8)	4.7254E-06	(348, 6)	4.2056E-06	(348, 6)
18	9.4006E-06	( 21, 5)	8.3909E-06	(207, 5)	7.4616E-06	(211, 7)	6.4182E-06	(229, 7)	6.5939E-06	(229, 7)
19	7.9889E-06	(251, 6)	6.1295E-06	( 3, 6)	5.8626E-06	(168, 5)	5.5274E-06	(294, 4)	4.5676E-06	(294, 4)
20	9.4250E-06	(215, 4)	6.6022E-06	( 10, 4)	5.7985E-06	(308, 8)	5.2799E-06	(300, 3)	5.2006E-06	( 2, 1)
21	9.9240E-06	(216, 3)	8.0635E-06	(253, 7)	8.0159E-06	(258, 7)	6.9619E-06	( 51, 5)	5.8198E-06	( 51, 5)
22	8.3656E-06	( 22, 4)	7.4647E-06	(277, 6)	6.4495E-06	( 15, 6)	5.8854E-06	( 15, 6)	5.1936E-06	( 15, 6)
23	1.0296E-05	(256, 3)	8.3449E-06	( 63, 4)	6.4720E-06	(273, 1)	6.1117E-06	(228, 3)	5.8899E-06	(228, 3)
24	1.2368E-05	(277, 5)	1.1239E-05	(272, 1)	1.0187E-05	(268, 7)	9.2617E-06	(268, 7)	8.1537E-06	(268, 7)
25	1.2407E-05	(275, 3)	1.0754E-05	(284, 6)	9.2588E-06	(286, 6)	8.0103E-06	(286, 6)	6.8429E-06	(286, 6)
26	1.5994E-05	(274, 4)	1.0187E-05	(233, 5)	8.6231E-06	(301, 4)	7.3052E-06	(140, 2)	6.4843E-06	(303, 7)
27	1.4307E-05	(285, 6)	1.2485E-05	(285, 6)	1.0300E-05	(279, 6)	8.4137E-06	(279, 6)	6.9412E-06	(279, 6)
28	1.2031E-05	(243, 6)	9.7501E-06	(140, 6)	8.8534E-06	(176, 3)	7.3329E-06	(140, 7)	6.2199E-06	(143, 8)
29	1.2585E-05	(266, 5)	9.9860E-06	( 5, 8)	9.3932E-06	( 5, 8)	8.2260E-06	( 5, 8)	7.0850E-06	( 5, 8)
30	1.7206E-05	(205, 4)	1.3158E-05	(296, 5)	1.0198E-05	(153, 6)	8.4782E-06	( 67, 3)	7.4210E-06	( 67, 3)
31	1.1993E-05	(349, 5)	8.7263E-06	(281, 5)	7.2060E-06	(180, 4)	5.2865E-06	(281, 5)	4.3422E-06	(130, 4)
32	1.3087E-05	(237, 4)	8.5817E-06	( 62, 4)	7.3503E-06	(355, 4)	7.0085E-06	( 85, 3)	6.2776E-06	(327, 3)
33	1.1926E-05	(114, 3)	9.2578E-06	(114, 3)	7.9740E-06	( 47, 3)	7.2477E-06	( 47, 3)	6.3957E-06	( 47, 3)
34	1.3657E-05	(343, 5)	9.1724E-06	(343, 5)	8.0107E-06	( 85, 6)	7.9413E-06	( 85, 6)	6.8430E-06	(254, 3)
35	9.2409E-06	(326, 4)	8.0144E-06	( 85, 2)	7.8735E-06	( 89, 1)	7.1979E-06	( 89, 1)	6.3731E-06	( 89, 1)
36	1.4709E-05	(225, 3)	1.2074E-05	(353, 4)	1.0405E-05	(350, 4)	8.6838E-06	(350, 4)	7.2601E-06	(350, 4)



RING DISTANCES(KM)= 1.00 1.50 2.00 2.50 3.00

STACK # 1-- SOURCE NUMBER 1 D.A.P.

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
I	ALL	4.2800	40.40	2.13	21.21	319.00	75.58

PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 MAXIMUM MEAN CONC= 8.0818E-07      DIRECTION= 9      DISTANCE= 1.0 KM  
 YEAR= 71

DIR	RANGE	ANNUAL MEAN CONCENTRATION AT EACH RECEPTOR				
		1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1		2.79174E-07	2.36493E-07	1.92741E-07	1.58687E-07	1.33332E-07
2		3.12056E-07	2.57666E-07	2.07340E-07	1.69368E-07	1.41353E-07
3		2.73532E-07	2.09582E-07	1.63161E-07	1.31354E-07	1.08956E-07
4		2.30769E-07	1.60835E-07	1.18626E-07	9.22759E-08	7.47638E-08
5		2.65959E-07	1.88487E-07	1.42412E-07	1.13630E-07	9.45547E-08
6		2.79569E-07	2.07108E-07	1.51113E-07	1.30726E-07	1.09751E-07
7		3.18744E-07	2.22730E-07	1.63919E-07	1.26934E-07	1.02287E-07
8		4.63701E-07	3.14532E-07	2.25035E-07	1.70355E-07	1.34952E-07
9		8.08179E-07	6.14410E-07	4.70533E-07	3.71897E-07	3.02961E-07
10		5.46117E-07	4.00962E-07	2.98283E-07	2.30055E-07	1.83551E-07
11		2.80244E-07	2.17999E-07	1.69975E-07	1.36240E-07	1.12419E-07
12		2.15144E-07	1.91424E-07	1.62407E-07	1.37957E-07	1.18898E-07
13		1.64511E-07	1.52231E-07	1.33188E-07	1.16190E-07	1.02541E-07
14		1.72589E-07	1.62420E-07	1.44639E-07	1.28693E-07	1.16131E-07
15		1.99906E-07	1.87070E-07	1.64882E-07	1.44983E-07	1.29213E-07
16		1.92582E-07	1.75689E-07	1.52196E-07	1.32165E-07	1.16620E-07
17		1.50309E-07	1.31616E-07	1.09818E-07	9.23471E-08	7.92503E-08
18		1.47619E-07	1.38109E-07	1.24677E-07	1.13742E-07	1.05798E-07
19		9.73309E-08	9.13341E-08	8.14247E-08	7.21872E-08	6.46575E-08
20		9.61844E-08	9.11497E-08	8.11466E-08	7.14608E-08	6.33646E-08
21		1.67189E-07	1.60082E-07	1.44149E-07	1.28975E-07	1.16785E-07
22		1.96642E-07	1.79877E-07	1.56790E-07	1.36081E-07	1.19263E-07
23		2.54896E-07	2.45777E-07	2.23027E-07	2.00309E-07	1.81225E-07
24		2.71656E-07	2.57981E-07	2.30445E-07	2.04563E-07	1.83539E-07
25		2.22347E-07	2.07795E-07	1.87027E-07	1.68559E-07	1.54045E-07
26		2.85007E-07	2.62632E-07	2.33369E-07	2.08517E-07	1.89526E-07
27		3.59164E-07	3.27539E-07	2.90654E-07	2.59837E-07	2.36557E-07
28		2.91718E-07	2.60878E-07	2.30807E-07	2.05550E-07	1.85695E-07
29		2.67939E-07	2.31737E-07	2.00963E-07	1.77142E-07	1.59431E-07
30		3.31019E-07	2.97027E-07	2.56005E-07	2.40907E-07	2.21624E-07
31		2.71787E-07	2.27015E-07	1.91954E-07	1.66367E-07	1.47696E-07
32		2.74974E-07	2.33226E-07	1.98439E-07	1.72158E-07	1.52521E-07
33		3.76923E-07	3.25304E-07	2.77325E-07	2.40612E-07	2.13365E-07
34		2.44502E-07	2.07426E-07	1.75974E-07	1.51822E-07	1.33613E-07
35		1.47341E-07	1.21639E-07	1.03083E-07	9.01196E-08	8.10799E-08
36		2.37265E-07	2.11680E-07	1.81034E-07	1.55518E-07	1.35896E-07



PLANT NAME: W. R. GRACE                      POLLUTANT: PART                      EMISSION UNITS: GM/SEC                      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY MAXIMUM 24-HOUR CONC= 6.7312E-06    DIRECTION= 9    DISTANCE= 1.0 KM    DAY=167  
 YEAR= 71

DIR	HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR									
	RANGE	1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM				
1	2.8704E-06	(113)	2.5771E-06	( 72)	2.2259E-06	( 72)	1.8345E-06	( 72)	1.5671E-06	( 31)
2	4.3806E-06	(228)	4.0255E-06	(228)	3.3779E-06	(228)	2.7950E-06	(228)	2.3362E-06	(228)
3	3.1626E-06	(331)	2.0083E-06	(287)	1.4569E-06	(287)	1.3251E-06	(112)	1.2991E-06	(112)
4	3.6260E-06	(205)	2.2954E-06	(116)	1.9290E-06	(116)	1.6464E-06	(116)	1.4315E-06	(116)
5	3.4622E-06	(205)	2.2292E-06	(205)	1.9018E-06	(112)	1.6529E-06	(112)	1.4203E-06	(112)
6	3.6187E-06	(118)	3.5240E-06	(118)	3.1702E-06	(118)	2.7971E-06	(118)	2.4741E-06	(118)
7	3.2528E-06	(114)	3.0448E-06	(114)	2.4953E-06	(114)	2.0145E-06	(114)	1.6430E-06	(114)
8	3.6371E-06	(256)	2.7210E-06	(256)	2.0366E-06	(256)	1.6660E-06	(167)	1.5305E-06	(167)
9	6.7312E-06	(167)	5.3454E-06	(167)	4.2541E-06	(166)	3.4839E-06	(166)	2.9117E-06	(166)
10	5.1302E-06	(168)	3.8221E-06	(165)	2.9573E-06	(172)	2.5538E-06	(172)	2.2088E-06	(172)
11	2.9404E-06	(155)	2.3611E-06	( 96)	2.0489E-06	( 96)	1.7118E-06	( 96)	1.4489E-06	(224)
12	3.0661E-06	(123)	2.6135E-06	(123)	2.2221E-06	( 44)	1.8843E-06	( 44)	1.5878E-06	( 44)
13	2.6571E-06	(123)	2.5066E-06	( 79)	2.1539E-06	( 79)	1.7976E-06	( 79)	1.5028E-06	( 79)
14	2.2535E-06	(104)	2.1219E-06	( 63)	1.8545E-06	( 63)	1.5600E-06	( 63)	1.3916E-06	(122)
15	2.7967E-06	(121)	2.4539E-06	( 40)	2.3169E-06	( 40)	2.1053E-06	( 40)	1.9009E-06	( 40)
16	2.5919E-06	(221)	2.0661E-06	( 89)	1.7551E-06	( 89)	1.4925E-06	( 89)	1.2875E-06	( 89)
17	2.2054E-06	(121)	2.4248E-06	(226)	2.2201E-06	(226)	1.9241E-06	(226)	1.6501E-06	(226)
18	2.3345E-06	(221)	2.4630E-06	(226)	2.3783E-06	(226)	2.1192E-06	(226)	1.8478E-06	(226)
19	2.0518E-06	( 20)	2.4311E-06	( 20)	2.2694E-06	( 20)	1.9956E-06	( 20)	1.7391E-06	( 20)
20	1.8441E-06	(315)	1.4943E-06	(315)	1.2545E-06	(338)	1.1268E-06	(338)	9.8374E-07	(338)
21	3.2321E-06	(329)	3.2112E-06	(329)	2.8344E-06	(329)	2.4418E-06	(329)	2.1085E-06	(329)
22	2.4692E-06	(356)	2.6481E-06	(356)	2.4235E-06	(356)	2.3279E-06	(272)	2.2057E-06	(272)
23	4.0758E-06	(270)	4.0182E-06	(292)	3.5312E-06	(292)	2.9974E-06	(292)	2.6588E-06	(270)
24	2.9717E-06	(156)	2.8947E-06	(359)	2.7650E-06	(359)	2.5691E-06	(359)	2.3816E-06	(359)
25	3.2906E-06	(156)	2.3113E-06	(285)	2.0022E-06	(335)	1.9702E-06	(335)	1.8902E-06	(335)
26	3.7046E-06	(153)	3.4235E-06	( 94)	3.1754E-06	( 94)	2.7536E-06	( 94)	2.3538E-06	( 94)
27	3.8785E-06	(190)	3.1369E-06	( 49)	3.1588E-06	( 49)	2.9771E-06	( 49)	2.7649E-06	( 49)
28	2.7396E-06	(303)	2.4904E-06	(303)	2.1312E-06	(244)	1.9155E-06	(244)	1.6933E-06	(244)
29	3.2763E-06	(214)	2.3088E-06	(281)	2.4096E-06	(281)	2.0063E-06	(281)	1.6721E-06	(281)
30	3.4713E-06	(138)	3.0784E-06	(353)	3.0323E-06	(343)	2.8368E-06	(343)	2.5542E-06	(343)
31	2.8309E-06	(193)	2.2200E-06	(193)	1.8976E-06	(209)	1.7992E-06	(209)	1.6693E-06	(209)
32	2.8620E-06	(230)	2.3224E-06	( 35)	2.1242E-06	( 35)	1.8828E-06	( 35)	1.6655E-06	( 35)
33	3.5286E-06	(185)	3.0534E-06	(227)	2.7767E-06	(227)	2.3890E-06	(227)	2.1948E-06	( 36)
34	3.2252E-06	(187)	1.9639E-06	(187)	1.8445E-06	( 27)	1.6898E-06	(227)	1.5130E-06	(227)
35	2.0261E-06	(187)	1.2093E-06	(187)	1.1213E-06	( 58)	1.1792E-06	( 58)	1.1747E-06	( 58)
36	2.4513E-06	(239)	2.4878E-06	(228)	2.3722E-06	(228)	2.1048E-06	(228)	1.8333E-06	(228)

PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY SECOND MAXIMUM 24-HOUR CONC= 5.7265E-06      DIRECTION= 9      DISTANCE= 1.0 KM      DAY=166  
 YEAR= 71

DIR	SECOND HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	RANGE 1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1	2.7425E-06 (228)	2.5324E-06 (31)	2.1711E-06 (31)	1.8334E-06 (31)	1.5117E-06 (56)
2	3.8913E-06 (61)	3.5422E-06 (61)	2.8746E-06 (61)	2.4801E-06 (9)	2.1366E-06 (9)
3	2.5112E-06 (237)	1.9386E-06 (331)	1.3937E-06 (111)	1.2370E-06 (111)	1.0965E-06 (111)
4	2.6757E-06 (116)	2.1880E-06 (205)	1.3928E-06 (205)	9.6502E-07 (69)	9.0352E-07 (69)
5	2.2786E-06 (259)	2.0821E-06 (112)	1.4637E-06 (205)	1.2548E-06 (111)	1.1361E-06 (118)
6	3.0260E-06 (114)	2.8433E-06 (114)	2.3347E-06 (114)	1.8895E-06 (114)	1.5452E-06 (114)
7	2.6589E-06 (201)	2.1088E-06 (118)	1.6221E-06 (118)	1.2864E-06 (117)	1.1859E-06 (117)
8	3.0232E-06 (257)	2.0964E-06 (257)	1.8131E-06 (167)	1.5751E-06 (256)	1.2568E-06 (256)
9	5.7265E-06 (166)	5.1905E-06 (166)	4.1860E-06 (167)	3.3450E-06 (167)	2.7380E-06 (167)
10	4.8850E-06 (165)	3.7084E-06 (168)	2.9526E-06 (195)	2.4809E-06 (195)	2.1367E-06 (195)
11	2.8094E-06 (183)	2.3252E-06 (183)	1.8359E-06 (183)	1.4614E-06 (183)	1.4281E-06 (96)
12	2.8407E-06 (150)	2.4976E-06 (44)	2.1669E-06 (123)	1.8168E-06 (123)	1.5537E-06 (123)
13	2.5013E-06 (79)	1.8856E-06 (123)	1.3816E-06 (44)	1.1623E-06 (44)	1.0156E-06 (40)
14	2.1952E-06 (122)	2.0030E-06 (122)	1.7601E-06 (122)	1.5531E-06 (122)	1.3105E-06 (63)
15	2.6599E-06 (222)	2.3656E-06 (121)	1.8855E-06 (121)	1.5915E-06 (299)	1.5105E-06 (299)
16	2.5306E-06 (222)	1.8765E-06 (136)	1.4787E-06 (11)	1.2466E-06 (40)	1.0782E-06 (40)
17	2.1322E-06 (226)	1.9035E-06 (121)	1.5566E-06 (121)	1.3536E-06 (19)	1.1757E-06 (19)
18	1.8951E-06 (226)	1.5378E-06 (20)	1.3464E-06 (20)	1.1504E-06 (71)	9.7728E-07 (71)
19	1.6650E-06 (315)	1.7914E-06 (226)	1.7802E-06 (226)	1.6118E-06 (226)	1.4176E-06 (226)
20	1.3941E-06 (301)	1.3166E-06 (301)	1.1516E-06 (329)	1.0455E-06 (329)	9.4774E-07 (329)
21	2.7122E-06 (334)	2.4941E-06 (308)	2.2099E-06 (308)	1.8702E-06 (308)	1.5757E-06 (308)
22	2.3655E-06 (292)	2.5993E-06 (292)	2.4012E-06 (292)	2.1361E-06 (356)	1.8720E-06 (356)
23	2.8231E-06 (292)	3.5137E-06 (270)	3.1489E-06 (270)	2.8700E-06 (270)	2.5445E-06 (292)
24	2.8098E-06 (90)	2.4177E-06 (264)	2.2201E-06 (352)	1.9368E-06 (352)	1.6686E-06 (352)
25	2.7952E-06 (285)	2.2976E-06 (156)	1.9871E-06 (284)	1.6974E-06 (284)	1.4386E-06 (284)
26	2.9122E-06 (267)	2.9922E-06 (153)	2.3211E-06 (153)	1.8475E-06 (302)	1.7332E-06 (302)
27	3.3503E-06 (101)	3.0245E-06 (94)	2.8530E-06 (94)	2.5092E-06 (94)	2.1681E-06 (94)
28	2.5870E-06 (101)	2.1969E-06 (244)	2.0729E-06 (303)	1.7084E-06 (303)	1.5488E-06 (247)
29	2.9571E-06 (231)	2.3399E-06 (143)	1.9837E-06 (143)	1.6963E-06 (143)	1.4716E-06 (143)
30	2.1330E-06 (188)	2.9297E-06 (343)	2.8744E-06 (353)	2.5158E-06 (353)	2.2283E-06 (143)
31	2.2841E-06 (188)	1.8915E-06 (209)	1.7600E-06 (193)	1.4934E-06 (193)	1.3358E-06 (306)
32	2.2184E-06 (35)	1.7757E-06 (212)	1.5154E-06 (212)	1.2984E-06 (246)	1.2822E-06 (246)
33	2.1816E-06 (363)	3.0027E-06 (185)	2.4935E-06 (185)	2.3304E-06 (36)	2.0353E-06 (227)
34	1.9700E-06 (259)	1.8767E-06 (227)	1.6717E-06 (216)	1.5740E-06 (216)	1.4498E-06 (354)
35	1.4170E-06 (211)	1.1675E-06 (53)	1.0109E-06 (228)	9.6290E-07 (59)	9.8185E-07 (176)
36	2.1026E-06 (229)	2.0185E-06 (251)	1.9620E-06 (251)	1.7510E-06 (251)	1.5263E-06 (251)

PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY MAXIMUM      3-HOUR CONC= 1.9921E-05      DIRECTION= 5      DISTANCE= 1.0 KM      DAY=205      TIME PERIOD= 6  
 YEAR= 71

DIR	RANGE	3-HOUR CONCENTRATION AT EACH RECEPTOR								
		HIGHEST 1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM				
1	1.5260E-05	(239, 4)	1.1721E-05	(239, 4)	9.8132E-06	( 38, 5)	8.1297E-06	( 38, 5)	6.9484E-06	(171, 7)
2	1.3351E-05	(228, 6)	1.4096E-05	(228, 6)	1.1639E-05	(228, 6)	9.2971E-06	(228, 6)	8.2501E-06	(286, 6)
3	1.5425E-05	( 8, 5)	1.0319E-05	( 8, 5)	7.8826E-06	( 6, 6)	7.0419E-06	( 6, 6)	7.1379E-06	( 75, 2)
4	1.4109E-05	(205, 6)	9.4532E-06	(205, 6)	7.1120E-06	( 69, 6)	6.3722E-06	( 69, 6)	5.5747E-06	( 69, 6)
5	1.9921E-05	(205, 6)	1.3890E-05	(205, 6)	9.4198E-06	(205, 6)	7.4305E-06	(112, 1)	6.4752E-06	(112, 1)
6	1.1726E-05	(159, 4)	9.4336E-06	(118, 7)	8.2593E-06	(118, 7)	6.9582E-06	(118, 7)	6.0103E-06	(119, 3)
7	1.6377E-05	(229, 6)	1.1997E-05	(201, 6)	8.8767E-06	(201, 6)	6.6140E-06	(114, 5)	5.3978E-06	(114, 5)
8	1.8866E-05	(232, 5)	1.2118E-05	(254, 4)	8.0788E-06	(254, 4)	6.7070E-06	(256, 6)	5.6026E-06	(256, 6)
9	1.6301E-05	(108, 5)	1.4513E-05	(203, 6)	1.1917E-05	(200, 6)	9.8797E-06	(165, 8)	8.2578E-06	(165, 8)
10	1.7648E-05	(168, 4)	1.2318E-05	(129, 6)	9.8139E-05	(129, 6)	7.8500E-06	(129, 6)	6.3866E-06	(129, 6)
11	1.3344E-05	(220, 6)	9.9652E-06	(173, 3)	8.7833E-06	(183, 7)	7.5933E-06	(193, 7)	6.4853E-06	(183, 7)
12	1.3350E-05	(136, 4)	8.0549E-06	(150, 6)	6.8650E-06	(173, 2)	6.5556E-06	(173, 2)	6.1231E-06	(173, 2)
13	1.0730E-05	(123, 4)	9.3163E-06	(239, 5)	7.5790E-06	(239, 5)	6.2357E-06	(239, 5)	5.1650E-06	(239, 5)
14	1.4970E-05	(199, 6)	9.5787E-06	(199, 6)	7.8411E-06	(226, 6)	6.7361E-06	(226, 6)	5.7635E-06	(255, 6)
15	1.2680E-05	(221, 5)	7.7900E-06	(276, 6)	7.4129E-06	(298, 6)	6.8809E-06	(298, 6)	6.2924E-06	(298, 6)
16	1.1320E-05	(169, 4)	8.8334E-06	(294, 6)	8.1975E-06	(254, 6)	7.1277E-06	(294, 6)	6.1114E-06	(294, 6)
17	1.4443E-05	(181, 6)	1.1550E-05	(181, 6)	8.3156E-06	(181, 6)	6.0907E-06	(181, 6)	4.6434E-06	( 19, 2)
18	1.0040E-05	(321, 4)	1.0463E-05	( 71, 5)	9.6770E-06	( 71, 5)	8.3832E-06	( 71, 5)	7.1635E-06	( 71, 5)
19	1.2450E-05	(170, 6)	7.4904E-06	(209, 7)	7.0445E-06	(208, 7)	6.1533E-06	(208, 7)	5.2825E-06	(208, 7)
20	1.0214E-05	(301, 5)	9.6255E-06	(301, 5)	7.9238E-06	(301, 5)	6.4268E-06	(301, 5)	5.3295E-06	( 89, 2)
21	1.4742E-05	( 18, 4)	1.0286E-05	( 18, 4)	8.3526E-06	(105, 7)	7.5501E-06	(105, 7)	7.2257E-06	(105, 7)
22	1.0040E-05	(237, 6)	1.0403E-05	( 32, 6)	9.8429E-06	( 32, 6)	8.6494E-06	( 32, 6)	7.4654E-06	( 32, 6)
23	1.4684E-05	(270, 4)	1.1889E-05	(269, 3)	1.0721E-05	(269, 3)	9.4226E-06	(269, 3)	8.2931E-06	(269, 3)
24	1.7656E-05	(264, 4)	1.4505E-05	(264, 4)	1.1160E-05	(264, 4)	8.6213E-06	(357, 5)	7.1892E-06	(357, 5)
25	1.5018E-05	(285, 4)	9.2340E-06	(285, 4)	8.3139E-06	(291, 2)	7.8071E-06	(291, 2)	7.0290E-06	(291, 2)
26	1.4060E-05	(267, 5)	1.0223E-05	(241, 6)	9.3777E-06	(304, 5)	8.8952E-06	(304, 5)	8.0600E-06	(304, 5)
27	1.4686E-05	(265, 4)	1.2327E-05	(313, 6)	1.1089E-05	(189, 4)	9.7652E-06	( 13, 4)	9.1970E-06	( 13, 4)
28	1.4133E-05	(303, 6)	1.3745E-05	(303, 6)	1.1800E-05	(244, 6)	1.0348E-05	(244, 6)	8.7832E-06	(244, 6)
29	1.5867E-05	(233, 4)	1.2842E-05	(281, 5)	1.0431E-05	(281, 5)	8.4322E-06	(281, 5)	6.9032E-06	(281, 5)
30	1.2814E-05	(211, 3)	1.0739E-05	(211, 3)	9.8737E-06	(343, 3)	9.5908E-06	(343, 3)	8.9619E-06	(343, 3)
31	1.5858E-05	(193, 3)	1.2804E-05	(193, 3)	9.0824E-06	(193, 3)	7.2465E-06	(257, 2)	7.3481E-06	(257, 2)
32	1.3182E-05	(233, 4)	8.7378E-06	(212, 4)	7.0986E-06	(212, 4)	6.9183E-06	( 6, 3)	6.9716E-06	(261, 3)
33	1.5040E-05	( 77, 5)	1.2436E-05	(185, 3)	1.0703E-05	(185, 3)	8.9865E-06	(252, 2)	8.6776E-06	(252, 2)
34	1.3029E-05	(137, 4)	1.1095E-05	(157, 8)	9.8465E-06	(157, 8)	8.5979E-06	(216, 6)	7.4290E-06	(216, 6)
35	9.7859E-06	(260, 4)	6.6241E-06	(203, 3)	6.0718E-06	( 78, 3)	5.2877E-06	( 78, 3)	4.5396E-06	( 78, 3)
36	1.9611E-05	(239, 4)	1.4885E-05	(239, 4)	1.0410E-05	(239, 4)	7.4828E-06	(239, 4)	5.9329E-06	(227, 5)

PLANT NAME: W. R. GRACE POLLUTANT: PART EMISSION UNITS: GM/SEC AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY SECOND MAXIMUM 3-HOUR CONC= 1.8213E-05 DIRECTION= 8 DISTANCE= 1.0 KM DAY=254 TIME PERIOD= 4  
 YEAR= 71

CIR	RANGE	3-HOUR CONCENTRATION AT EACH RECEPTOR								
		SECOND HIGHEST 1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM				
1	1.3350E-05	(201, 4)	1.1528E-05	(38, 5)	8.5856E-06	(171, 7)	7.8517E-06	(171, 7)	6.7607E-06	(38, 5)
2	1.2716E-05	(331, 4)	1.1181E-05	(223, 4)	1.0222E-05	(286, 6)	9.2011E-06	(286, 6)	7.4171E-06	(228, 6)
3	1.3577E-05	(331, 5)	8.5314E-06	(65, 6)	7.5272E-06	(65, 6)	6.8595E-06	(75, 2)	6.1437E-06	(6, 6)
4	1.1508E-05	(127, 4)	8.3651E-06	(115, 5)	6.7647E-06	(116, 5)	5.4447E-06	(116, 5)	4.5188E-06	(85, 4)
5	1.3426E-05	(178, 3)	8.8251E-06	(173, 3)	8.3434E-06	(112, 1)	6.8749E-06	(111, 3)	6.0207E-06	(111, 3)
6	1.1573E-05	(279, 4)	9.3116E-06	(114, 2)	7.8969E-06	(119, 3)	6.9367E-06	(119, 3)	5.8542E-06	(118, 7)
7	1.4271E-05	(201, 6)	1.0457E-05	(229, 6)	8.2257E-06	(114, 5)	6.6005E-06	(201, 6)	5.0419E-06	(201, 6)
8	1.8213E-05	(254, 4)	1.1699E-05	(232, 5)	8.0385E-06	(256, 6)	5.9809E-06	(346, 6)	5.0329E-06	(346, 6)
9	1.5833E-05	(128, 5)	1.3736E-05	(165, 8)	1.1839E-05	(165, 8)	9.6845E-06	(200, 6)	7.9629E-06	(200, 6)
10	1.5910E-05	(298, 4)	1.1898E-05	(172, 6)	9.5806E-06	(172, 6)	7.6841E-06	(172, 6)	6.3209E-06	(165, 7)
11	1.3279E-05	(165, 3)	9.5512E-06	(183, 7)	8.2020E-06	(173, 3)	6.6566E-06	(173, 3)	5.5907E-06	(226, 8)
12	8.6350E-06	(150, 6)	7.3900E-06	(136, 4)	6.5828E-06	(150, 6)	5.9489E-06	(138, 6)	5.4966E-06	(138, 6)
13	9.9940E-06	(136, 4)	7.4221E-06	(85, 6)	6.3459E-06	(79, 1)	5.4447E-06	(79, 1)	4.6319E-06	(79, 1)
14	1.4051E-05	(104, 4)	8.6314E-06	(226, 6)	7.1028E-06	(255, 6)	6.4793E-06	(255, 6)	5.7323E-06	(226, 6)
15	1.1072E-05	(122, 6)	7.7045E-06	(221, 5)	6.6987E-06	(276, 6)	5.5720E-06	(276, 6)	5.2464E-06	(307, 8)
16	1.1238E-05	(124, 6)	8.4017E-06	(136, 3)	6.7139E-06	(136, 3)	5.7676E-06	(1, 5)	5.2207E-06	(236, 4)
17	1.3563E-05	(208, 6)	8.8061E-06	(135, 3)	6.9946E-06	(136, 3)	5.5743E-06	(136, 3)	4.6102E-06	(181, 6)
18	9.2372E-06	(155, 4)	1.0255E-05	(301, 4)	8.7748E-06	(301, 4)	7.2830E-06	(301, 4)	6.0611E-06	(301, 4)
19	8.1008E-06	(164, 5)	7.1291E-06	(170, 6)	6.0841E-06	(226, 3)	5.5309E-06	(338, 3)	5.1513E-06	(338, 3)
20	8.6048E-06	(18, 4)	8.2726E-06	(89, 2)	7.4014E-06	(89, 2)	6.3008E-06	(89, 2)	5.2660E-06	(301, 5)
21	1.1453E-05	(329, 4)	8.8496E-06	(329, 4)	8.0035E-06	(357, 1)	7.3747E-06	(115, 3)	6.6581E-06	(115, 3)
22	9.8766E-06	(291, 5)	9.8989E-06	(237, 6)	8.7100E-06	(237, 6)	7.6429E-06	(272, 3)	6.6612E-06	(272, 3)
23	1.3762E-05	(273, 4)	1.0526E-05	(293, 3)	9.8915E-06	(293, 3)	8.6544E-06	(293, 3)	7.4474E-06	(293, 3)
24	1.2196E-05	(357, 5)	1.2189E-05	(357, 5)	1.0384E-05	(357, 5)	8.6193E-06	(264, 4)	6.8582E-06	(264, 4)
25	1.1038E-05	(319, 5)	8.7577E-06	(319, 5)	8.2275E-06	(94, 2)	7.4171E-06	(94, 2)	6.5019E-06	(94, 2)
26	1.2156E-05	(176, 6)	9.0559E-06	(265, 3)	9.1644E-06	(241, 6)	7.8497E-06	(241, 6)	7.1072E-06	(155, 2)
27	1.3983E-05	(313, 4)	1.1824E-05	(189, 3)	9.8904E-06	(313, 4)	9.6922E-06	(189, 3)	8.3429E-06	(189, 3)
28	1.0396E-05	(155, 3)	1.1968E-05	(244, 6)	1.1754E-05	(303, 6)	9.8144E-06	(303, 6)	8.2206E-06	(303, 6)
29	1.4516E-05	(281, 5)	1.0769E-05	(233, 4)	8.5640E-06	(302, 5)	7.0722E-06	(302, 5)	5.8758E-06	(302, 5)
30	1.2449E-05	(188, 3)	9.1256E-06	(155, 8)	8.9972E-06	(155, 8)	8.5547E-06	(282, 3)	8.2059E-06	(282, 3)
31	1.3027E-05	(181, 3)	9.7904E-06	(181, 3)	7.4639E-06	(348, 4)	6.7286E-06	(193, 3)	5.5300E-06	(6, 2)
32	1.2459E-05	(346, 4)	8.1575E-06	(340, 5)	7.0054E-06	(340, 5)	6.8929E-06	(261, 3)	6.8783E-06	(201, 7)
33	1.4171E-05	(91, 5)	1.0515E-05	(332, 5)	9.0119E-06	(252, 2)	8.9482E-06	(185, 3)	8.4202E-06	(56, 3)
34	1.2008E-05	(363, 5)	1.0821E-05	(187, 4)	9.5206E-06	(216, 6)	8.3313E-06	(157, 8)	7.0123E-06	(157, 8)
35	9.1644E-06	(203, 3)	6.5330E-06	(78, 3)	5.1310E-06	(203, 3)	4.5233E-06	(59, 3)	4.0834E-06	(201, 3)
36	1.3043E-05	(179, 3)	9.2778E-06	(120, 3)	7.9267E-06	(120, 3)	6.6171E-06	(227, 5)	5.6354E-06	(251, 5)

PLANT NAME: W. E. GRACE                              POLLUTANT: PART                              EMISSION UNITS: GM/SEC                              AIR QUALITY UNITS: GM/M\*\*3  
 SHULTES & KROGLER ENVIRONMENTAL CONSULTANTS  
 JANUARY 1980  
 TAPPA VOT DATA

      MET FILE                              REQUESTED  
 SURFACE        STN NO. YR                              STN NO. YR  
 UPPER AIR     12842 72                              12842 72  
 PLANT LOCATION: FURAI  
 NO TAPE OUTPUT  
 \*\* DATA WILL NOT BE PRINTED

DAY--	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
8	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
9	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
10	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
14	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	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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 ALL TABLES, INCLUDING SOURCE CONTRIBUTIONS, THAT CONTAIN "NA" IN THE HEADINGS ARE BASED ONLY ON THOSE DAYS  
 MARKED BY "1" IN THE ABOVE TABLE

RING DISTANCES(KM)= 1.00 1.50 2.00 2.50 3.00

STACK # 1-- SOURCE NUMBER 1 D.A.P.

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	4.2900	47.40	2.13	21.21	319.00	75.58

PLANT NAME: W. R. GRACE

POLLUTANT: PART

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

MAXIMUM MEAN CONC= 7.4937E-07 DIRECTION= 9 DISTANCE= 1.0 KM

YEAR= 72

RANGE	ANNUAL MEAN CONCENTRATION AT EACH RECEPTOR				
	1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
0.10					
1	2.35876E-07	1.92406E-07	1.54169E-07	1.26690E-07	1.04844E-07
2	3.10735E-07	2.55904E-07	2.04975E-07	1.70246E-07	1.43355E-07
3	2.63775E-07	2.09435E-07	1.66972E-07	1.36561E-07	1.14235E-07
4	2.14449E-07	1.59341E-07	1.24457E-07	1.01381E-07	8.54056E-08
5	2.43051E-07	1.72510E-07	1.38336E-07	1.04199E-07	8.67241E-08
6	2.98243E-07	2.13545E-07	1.60536E-07	1.26659E-07	1.03863E-07
7	3.32773E-07	2.41502E-07	1.93595E-07	1.45450E-07	1.19250E-07
8	4.28385E-07	3.04473E-07	2.35711E-07	1.74823E-07	1.40397E-07
9	7.49375E-07	5.84474E-07	4.62580E-07	3.61294E-07	2.95941E-07
10	4.90276E-07	3.73197E-07	2.86297E-07	2.26106E-07	1.84159E-07
11	2.54832E-07	2.15947E-07	1.75868E-07	1.47216E-07	1.25019E-07
12	1.75180E-07	1.52176E-07	1.22864E-07	1.10283E-07	9.63367E-08
13	1.80474E-07	1.64714E-07	1.43986E-07	1.25842E-07	1.11380E-07
14	1.72717E-07	1.64417E-07	1.45939E-07	1.29376E-07	1.16073E-07
15	1.55541E-07	1.52845E-07	1.30571E-07	1.20363E-07	1.06812E-07
16	1.50511E-07	1.37566E-07	1.17179E-07	1.00307E-07	8.75616E-08
17	1.51344E-07	1.31841E-07	1.11177E-07	9.30600E-08	8.02601E-08
18	1.58024E-07	1.49009E-07	1.31449E-07	1.10197E-07	1.01975E-07
19	1.96199E-07	1.15711E-07	1.10385E-07	8.71712E-08	7.70290E-08
20	1.18776E-07	1.02465E-07	8.32378E-08	7.65269E-08	6.73781E-08
21	1.63189E-07	1.47559E-07	1.23792E-07	1.14723E-07	1.03122E-07
22	1.36771E-07	2.14431E-07	1.84871E-07	1.59615E-07	1.38147E-07
23	3.10063E-07	2.93495E-07	2.62217E-07	2.33343E-07	2.10196E-07
24	3.49772E-07	3.29275E-07	2.96129E-07	2.65417E-07	2.41641E-07
25	3.61800E-07	3.32700E-07	2.92801E-07	2.65549E-07	2.43067E-07
26	3.87065E-07	3.55500E-07	3.14661E-07	2.86349E-07	2.60728E-07
27	4.35557E-07	4.55713E-07	4.12880E-07	3.73600E-07	3.42066E-07
28	3.97230E-07	3.60338E-07	3.12454E-07	2.72187E-07	2.41475E-07
29	3.96664E-07	3.60660E-07	2.84955E-07	1.76534E-07	1.75174E-07
30	3.49576E-07	3.44088E-07	2.55841E-07	1.77534E-07	1.58157E-07
31	2.78311E-07	2.38463E-07	1.99294E-07	1.70306E-07	1.48473E-07
32	2.28343E-07	1.95843E-07	1.63708E-07	1.38202E-07	1.18711E-07
33	2.37664E-07	2.06198E-07	1.75112E-07	1.50577E-07	1.31073E-07
34	2.34328E-07	1.76150E-07	1.46769E-07	1.23538E-07	1.06143E-07
35	1.40465E-07	1.21159E-07	1.02131E-07	8.73252E-08	7.62874E-08
36	2.12629E-07	1.88066E-07	1.53855E-07	1.34791E-07	1.16287E-07

PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY MAXIMUM 24-HOUR CONC= 7.6689E-06      DIRECTION= 9      DISTANCE= 1.0 KM      DAY=174  
 YEAR= 72

DIR	RANGE	HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
		1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1	2.6667E-06 (113)	2.3586E-06 (350)	2.2366E-06 (350)	1.9732E-06 (350)	1.7098E-06 (350)	
2	7.7105E-06 (35)	9.8610E-06 (35)	2.3935E-06 (89)	2.2634E-06 (89)	2.1391E-06 (89)	
3	6.2666E-06 (76)	7.7303E-06 (76)	2.3018E-06 (76)	2.2660E-06 (76)	2.2141E-06 (76)	
4	9.4758E-06 (125)	9.0388E-06 (125)	2.1364E-06 (125)	2.0103E-06 (125)	1.8263E-06 (125)	
5	8.4758E-06 (130)	1.6558E-06 (130)	1.5800E-06 (130)	1.3971E-06 (130)	1.2105E-06 (130)	
6	8.3321E-06 (107)	1.4118E-06 (107)	2.0877E-06 (177)	1.7838E-06 (177)	1.5127E-06 (177)	
7	8.8508E-06 (39)	1.4765E-06 (172)	1.9990E-06 (172)	1.6004E-06 (172)	1.2981E-06 (172)	
8	6.1562E-06 (177)	6.1110E-06 (177)	5.1777E-06 (177)	4.2764E-06 (177)	3.5483E-06 (177)	
9	6.6589E-06 (174)	6.3904E-06 (174)	6.1578E-06 (174)	5.0307E-06 (174)	4.1417E-06 (174)	
10	7.7499E-06 (183)	7.7436E-06 (178)	5.1013E-06 (178)	2.5209E-06 (178)	2.0663E-06 (178)	
11	3.3332E-06 (143)	1.6232E-06 (143)	2.0340E-06 (143)	1.6652E-06 (44)	1.4778E-06 (183)	
12	3.3358E-06 (142)	1.8382E-06 (142)	1.8027E-06 (142)	1.7122E-06 (142)	1.6075E-06 (142)	
13	2.5081E-06 (146)	1.1744E-06 (226)	1.8291E-06 (44)	1.5679E-06 (91)	1.3608E-06 (91)	
14	5.5333E-06 (280)	1.4565E-06 (280)	2.0718E-06 (280)	1.7084E-06 (280)	1.4179E-06 (280)	
15	6.3851E-06 (50)	1.9207E-06 (50)	2.6111E-06 (50)	2.2109E-06 (50)	1.8596E-06 (50)	
16	2.7381E-06 (6)	1.9008E-06 (362)	1.6830E-06 (6)	1.4591E-06 (6)	1.2432E-06 (6)	
17	4.8211E-06 (6)	1.3462E-06 (6)	2.5633E-06 (6)	2.1843E-06 (6)	1.8449E-06 (6)	
18	1.1761E-06 (326)	1.1685E-06 (326)	2.8354E-06 (326)	2.4905E-06 (326)	2.1934E-06 (326)	
19	3.4811E-06 (35)	2.8310E-06 (35)	2.6435E-06 (35)	2.3071E-06 (35)	1.9854E-06 (35)	
20	1.7411E-06 (336)	1.6955E-06 (336)	1.3169E-06 (92)	1.0804E-06 (92)	8.9076E-07 (92)	
21	2.9321E-06 (298)	1.1200E-06 (15)	1.9638E-06 (15)	1.7030E-06 (15)	1.4587E-06 (15)	
22	3.9238E-06 (69)	1.1282E-06 (69)	2.7112E-06 (329)	2.4809E-06 (329)	2.1980E-06 (329)	
23	3.3538E-06 (70)	1.3792E-06 (277)	3.2200E-06 (277)	3.8727E-06 (277)	2.5228E-06 (277)	
24	4.2320E-06 (42)	1.4793E-06 (42)	3.9532E-06 (42)	3.3595E-06 (42)	2.8474E-06 (42)	
25	5.6466E-06 (100)	1.6444E-06 (100)	3.1074E-06 (100)	2.5676E-06 (100)	2.1273E-06 (100)	
26	8.2777E-06 (255)	1.0880E-06 (270)	2.7013E-06 (270)	2.2961E-06 (270)	1.9596E-06 (270)	
27	4.4781E-06 (254)	1.6320E-06 (254)	5.2735E-06 (167)	2.9568E-06 (167)	2.6480E-06 (167)	
28	4.6564E-06 (133)	1.5432E-06 (133)	3.8730E-06 (133)	3.2898E-06 (165)	2.9666E-06 (165)	
29	4.2272E-06 (133)	1.6947E-06 (133)	2.9735E-06 (133)	2.3856E-06 (133)	1.9382E-06 (133)	
30	4.4930E-06 (264)	1.115E-06 (347)	1.7733E-06 (120)	1.5803E-06 (120)	1.3754E-06 (120)	
31	1.2133E-06 (318)	1.5611E-06 (134)	2.1192E-06 (134)	1.8382E-06 (134)	1.5452E-06 (134)	
32	1.3941E-06 (61)	1.5581E-06 (61)	2.1347E-06 (61)	1.6448E-06 (61)	1.4769E-06 (301)	
33	1.6633E-06 (301)	1.5071E-06 (301)	3.1331E-06 (301)	2.5692E-06 (12)	2.2285E-06 (12)	
34	4.9191E-06 (236)	1.3635E-06 (236)	2.1746E-06 (236)	2.0004E-06 (236)	1.8408E-06 (236)	
35	1.1577E-06 (236)	1.9076E-06 (236)	1.7144E-06 (236)	1.4690E-06 (236)	1.2872E-06 (236)	
36	1.1558E-06 (90)	1.4105E-06 (14)	3.2809E-06 (14)	2.9228E-06 (14)	2.5481E-06 (14)	



PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY SECOND MAXIMUM 24-HOUR CONC= 7.5961E-06      DIRECTION= 9      DISTANCE= 1.0 KM      DAY=173  
 YEAR: 72

RANGE	SECOND HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1	2.3714E-06 (171)	2.1139E-06 (330)	2.0404E-06 (65)	1.8606E-06 (65)	1.6423E-06 (65)
2	2.5598E-06 (355)	2.5998E-06 (237)	2.1380E-06 (55)	1.8341E-06 (21)	1.6493E-06 (21)
3	3.0391E-06 (129)	3.0391E-06 (129)	2.4452E-06 (129)	2.1621E-06 (89)	1.9085E-06 (89)
4	1.8433E-06 (269)	1.4077E-06 (33)	1.2596E-06 (33)	1.0694E-06 (33)	9.0103E-07 (33)
5	2.4367E-06 (210)	1.6233E-06 (172)	1.3904E-06 (98)	1.2526E-06 (98)	1.1141E-06 (98)
6	2.7526E-06 (261)	2.3221E-06 (177)	2.0386E-06 (107)	1.7404E-06 (107)	1.5081E-06 (107)
7	2.8528E-06 (316)	2.3598E-06 (130)	1.9261E-06 (130)	1.5446E-06 (130)	1.2565E-06 (130)
8	2.5294E-06 (180)	2.9470E-06 (174)	2.5117E-06 (174)	2.0739E-06 (174)	1.7169E-06 (174)
9	7.5761E-06 (173)	7.3027E-06 (173)	6.0793E-06 (173)	4.9646E-06 (173)	4.0865E-06 (173)
10	2.3457E-06 (175)	3.5643E-06 (175)	2.8433E-06 (175)	2.2782E-06 (175)	1.8362E-06 (175)
11	2.7144E-06 (183)	2.3211E-06 (44)	2.0133E-06 (44)	1.6412E-06 (183)	1.3850E-06 (44)
12	2.9908E-06 (143)	1.7998E-06 (146)	1.6222E-06 (77)	1.4534E-06 (77)	1.2884E-06 (77)
13	2.2409E-06 (226)	2.6559E-06 (44)	1.7829E-06 (91)	1.5463E-06 (44)	1.3021E-06 (44)
14	2.2333E-06 (249)	1.7963E-06 (97)	1.6520E-06 (97)	1.4798E-06 (97)	1.3259E-06 (97)
15	2.2410E-06 (259)	2.1529E-06 (6)	2.1981E-06 (6)	2.0223E-06 (6)	1.8278E-06 (6)
16	1.0749E-06 (125)	1.8067E-06 (6)	1.6154E-06 (362)	1.3407E-06 (362)	1.1170E-06 (362)
17	2.2747E-06 (326)	2.4516E-06 (326)	2.1966E-06 (326)	1.8663E-06 (326)	1.5736E-06 (326)
18	2.2754E-06 (320)	2.5048E-06 (320)	2.4394E-06 (328)	2.3081E-06 (328)	2.1173E-06 (328)
19	1.9432E-06 (236)	2.2786E-06 (236)	2.0390E-06 (236)	1.8316E-06 (236)	1.7214E-06 (236)
20	1.6338E-06 (92)	1.5677E-06 (92)	1.2506E-06 (336)	9.6091E-07 (336)	8.2118E-07 (31)
21	2.2572E-06 (252)	1.5704E-06 (92)	1.4785E-06 (92)	1.3804E-06 (338)	1.2546E-06 (338)
22	2.5627E-06 (122)	2.8728E-06 (66)	2.5978E-06 (69)	2.2602E-06 (278)	2.0741E-06 (278)
23	2.1109E-06 (69)	3.2532E-06 (70)	3.2969E-06 (70)	3.2795E-06 (70)	2.5194E-06 (70)
24	2.5237E-06 (117)	2.8366E-06 (100)	2.8915E-06 (100)	2.6186E-06 (286)	2.4227E-06 (286)
25	2.3266E-06 (233)	2.7456E-06 (233)	2.7497E-06 (203)	2.2957E-06 (203)	2.0029E-06 (295)
26	2.4322E-06 (244)	2.4713E-06 (294)	2.4594E-06 (284)	2.0723E-06 (284)	1.7960E-06 (284)
27	2.4793E-06 (270)	3.4842E-06 (167)	3.1419E-06 (202)	2.8673E-06 (202)	2.6196E-06 (306)
28	2.5449E-06 (230)	3.7484E-06 (165)	3.5904E-06 (165)	3.2231E-06 (133)	2.6909E-06 (133)
29	2.3341E-06 (127)	3.3759E-06 (127)	2.5187E-06 (127)	1.8627E-06 (127)	1.5591E-06 (101)
30	2.7459E-06 (185)	1.4967E-06 (258)	1.7245E-06 (347)	1.4542E-06 (347)	1.2516E-06 (347)
31	2.4075E-06 (254)	2.4575E-06 (318)	1.9195E-06 (318)	1.4306E-06 (213)	1.2853E-06 (213)
32	2.4952E-06 (134)	2.5253E-06 (134)	2.0652E-06 (134)	1.6209E-06 (361)	1.3540E-06 (61)
33	2.1774E-06 (12)	2.2779E-06 (12)	2.0447E-06 (12)	2.5376E-06 (301)	2.1184E-06 (301)
34	2.3231E-06 (210)	1.7625E-06 (210)	1.4752E-06 (319)	1.2886E-06 (319)	1.1755E-06 (212)
35	2.7301E-06 (307)	1.4787E-06 (307)	1.2154E-06 (13)	1.1598E-06 (324)	1.2035E-06 (324)
36	2.5700E-06 (14)	3.2703E-06 (90)	2.8409E-06 (90)	2.3776E-06 (90)	2.1167E-06 (82)

PLANT NAME: W. P. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY MAXIMUM      3-HOUR CONC= 2.0544E-05      DIRECTION= 10      DISTANCE= 1.0 KM      DAY=209      TIME PERIOD= 6  
 YEAR= 72

RANGE	HIGHEST		3-HOUR CONCENTRATION AT EACH RECEPTOR					
	1.0 KM		1.5 KM	2.0 KM	2.5 KM	3.0 KM		
1	1.2737E-05	(107. 4)	1.3434E-05	(355. 4)	1.2903E-05	(350. 4)	1.1481E-05	(350. 4)
2	1.3189E-05	(355. 3)	1.7171E-05	(205. 6)	1.4022E-05	(237. 6)	1.1034E-05	(237. 6)
3	1.2958E-05	(125. 3)	1.0324E-05	( 32. 3)	1.0170E-05	( 99. 3)	9.2000E-06	( 99. 3)
4	1.2962E-05	(269. 6)	8.6741E-06	( 33. 1)	7.7424E-06	( 33. 1)	6.8660E-06	(125. 2)
5	1.3152E-05	(211. 5)	8.9742E-06	(13. 3)	8.5903E-06	(302. 4)	7.9909E-06	(302. 4)
6	1.4393E-05	(244. 4)	1.2058E-05	(177. 3)	1.0625E-05	(177. 3)	8.9643E-06	(177. 3)
7	1.3576E-05	(379. 3)	1.1175E-05	(309. 5)	8.3145E-06	( 87. 7)	7.4515E-06	( 87. 7)
8	1.3279E-05	(177. 3)	1.3289E-05	(177. 3)	1.1035E-06	( 37. 7)	9.0215E-06	(177. 3)
9	1.2113E-05	(207. 3)	1.4462E-05	(164. 3)	1.3076E-05	(152. 7)	1.1244E-05	(152. 7)
10	1.3444E-05	(219. 3)	1.4241E-05	(13. 6)	1.2401E-05	(130. 6)	1.0427E-05	(130. 6)
11	1.2699E-05	(245. 5)	1.0555E-05	(144. 6)	8.6165E-06	(144. 6)	7.2745E-06	( 77. 3)
12	1.3485E-05	(184. 4)	8.8905E-06	(245. 6)	7.8767E-06	(245. 6)	6.3563E-06	(245. 6)
13	1.7745E-05	(226. 5)	1.7270E-05	(226. 6)	1.3549E-05	(226. 6)	1.0761E-05	(226. 6)
14	1.6134E-05	(249. 6)	1.1686E-05	(249. 6)	8.2639E-06	( 55. 6)	7.8411E-06	( 65. 6)
15	1.3138E-05	(259. 6)	1.3069E-05	(259. 6)	1.1310E-05	(259. 6)	9.5091E-06	(259. 6)
16	1.3344E-05	( 26. 5)	1.1410E-05	( 26. 5)	8.3543E-06	( 26. 5)	6.1982E-06	(153. 6)
17	1.5377E-05	(263. 4)	9.5728E-06	(263. 4)	8.0473E-06	( 66. 4)	6.8058E-06	( 66. 4)
18	1.3299E-05	(147. 4)	9.1666E-06	(147. 4)	3.4905E-06	( 42. 1)	7.5105E-06	( 48. 1)
19	1.5342E-05	(236. 6)	1.8073E-05	(236. 6)	1.5091E-05	(236. 6)	1.3613E-05	(236. 6)
20	1.3482E-05	(239. 3)	9.6501E-06	( 31. 4)	9.3217E-06	( 31. 4)	7.6417E-06	( 31. 4)
21	1.4326E-05	(239. 3)	8.9124E-06	( 23. 3)	6.3951E-06	( 23. 3)	5.4909E-06	( 15. 7)
22	1.0883E-05	(122. 3)	9.0481E-06	( 23. 3)	3.9339E-06	(278. 3)	3.0711E-06	(278. 3)
23	1.3157E-05	(242. 3)	9.0489E-06	(273. 4)	8.3289E-06	( 70. 1)	7.4105E-06	( 70. 1)
24	1.3346E-05	(257. 3)	1.2442E-05	(257. 3)	1.0345E-05	(257. 3)	8.7692E-06	(119. 3)
25	1.4512E-05	(264. 3)	1.2203E-05	(203. 3)	1.0681E-05	(277. 5)	9.4644E-06	(277. 5)
26	1.5122E-05	(154. 3)	1.1981E-05	(164. 3)	1.1342E-05	(169. 2)	9.2985E-06	(169. 2)
27	1.4333E-05	(311. 4)	1.1704E-05	(208. 3)	1.1147E-05	(208. 3)	1.0024E-05	(208. 3)
28	1.3188E-05	(239. 4)	1.2497E-05	(160. 3)	1.1664E-05	(160. 3)	1.0241E-05	(160. 3)
29	1.2110E-05	(207. 4)	5.5255E-06	(154. 7)	3.1599E-06	( 47. 2)	3.2718E-06	( 47. 2)
30	1.4350E-05	(269. 5)	1.1429E-05	(269. 5)	8.4604E-06	(268. 5)	6.4212E-06	(268. 5)
31	1.2121E-05	(269. 4)	1.0831E-05	(244. 3)	9.4839E-06	(244. 3)	7.9793E-06	(244. 3)
32	1.4310E-05	(264. 5)	1.1346E-05	(344. 5)	3.2076E-06	( 35. 1)	7.5947E-06	(135. 1)
33	1.4394E-05	( 1. 5)	1.1987E-05	(301. 4)	9.9182E-06	(301. 4)	8.0868E-06	(301. 4)
34	1.0127E-05	(210. 3)	1.2698E-05	(211. 3)	9.6540E-06	(210. 3)	7.6520E-06	(210. 3)
35	1.2923E-05	(236. 4)	1.0273E-05	(236. 4)	3.2639E-06	(236. 4)	6.6296E-06	(236. 4)
36	1.1419E-05	( 90. 3)	1.1542E-05	( 82. 3)	9.6634E-06	( 82. 3)	9.5702E-06	( 82. 3)
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PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY SECOND MAXIMUM      3-HOUR CONC= 1.8257E-05      DIRECTION= 10      DISTANCE= 1.0 KM      DAY=214      TIME PERIOD= 5  
 YEAR= 72

RANGE	SECOND HIGHEST		3-HOUR CONCENTRATION AT EACH RECEPTOR			
	1.0 KM	1.5 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1	1.2718E-05 (315. 5)	1.1510E-05 (135. 3)	9.4823E-06 (135. 3)	8.0061E-06 (330. 7)	6.7528E-06 (330. 7)	
2	1.0719E-05 (237. 5)	1.2179E-05 (355. 5)	9.6153E-06 ( 55. 6)	8.2437E-06 ( 55. 6)	7.0398E-06 ( 5. 6)	
3	1.0652E-05 ( 57. 5)	1.0181E-05 ( 76. 7)	8.9554E-06 ( 76. 7)	7.5557E-06 ( 76. 7)	6.5522E-06 ( 89. 1)	
4	1.0799E-05 (110. 5)	8.1269E-06 (269. 6)	7.6333E-06 (125. 2)	6.5068E-06 ( 33. 1)	5.8817E-06 (125. 1)	
5	1.2664E-05 (233. 4)	8.3115E-06 (302. 4)	8.4495E-06 (130. 3)	7.4143E-06 (130. 3)	6.3975E-06 (130. 3)	
6	1.4668E-05 (210. 6)	1.9706E-05 (244. 4)	8.4846E-06 (366. 5)	7.6957E-06 (366. 5)	6.9780E-06 (210. 7)	
7	1.3621E-05 (156. 5)	9.3094E-06 (130. 5)	7.9141E-06 (130. 5)	6.7601E-06 (274. 6)	5.9718E-06 (274. 6)	
8	1.3952E-05 (290. 4)	1.2910E-05 (177. 6)	1.0799E-05 (177. 6)	8.8655E-06 (177. 6)	7.3351E-06 (177. 6)	
9	1.7753E-05 (167. 5)	1.4397E-05 (152. 7)	1.1465E-05 (166. 5)	9.2076E-06 ( 67. 6)	8.0807E-06 (178. 8)	
10	1.3257E-05 (214. 5)	1.2767E-05 (214. 5)	9.1866E-06 (214. 5)	7.1980E-06 (152. 5)	5.9181E-06 (152. 5)	
11	1.2562E-05 (131. 6)	1.0175E-05 (182. 6)	8.2666E-06 ( 60. 6)	6.9621E-06 (144. 6)	5.8509E-06 ( 60. 6)	
12	1.2761E-05 (245. 6)	9.7345E-06 (184. 4)	7.1362E-06 (146. 6)	6.3104E-06 (331. 4)	5.6471E-06 (331. 4)	
13	1.2285E-05 (258. 6)	9.9555E-06 (239. 6)	8.4794E-06 (239. 6)	7.0368E-06 (289. 6)	5.8649E-06 (289. 6)	
14	9.5122E-06 (230. 5)	9.7348E-06 (322. 5)	8.6709E-06 (322. 5)	7.3568E-06 (322. 5)	6.2053E-06 (322. 5)	
15	9.8358E-06 (119. 6)	8.3582E-06 (116. 6)	7.9258E-06 ( 6. 3)	7.1875E-06 ( 6. 3)	6.3161E-06 ( 6. 3)	
16	1.1256E-05 (260. 4)	8.9575E-06 (153. 6)	7.5268E-06 (153. 6)	6.1500E-06 ( 26. 5)	5.0144E-06 (148. 6)	
17	1.2534E-05 (198. 6)	9.6835E-06 ( 5. 4)	6.1323E-06 (279. 5)	5.4254E-06 (327. 4)	4.7655E-06 (327. 4)	
18	1.1015E-05 (268. 5)	8.9162E-06 ( 42. 1)	7.7463E-06 ( 15. 4)	6.9470E-06 ( 15. 4)	6.4712E-06 ( 39. 6)	
19	1.3422E-05 (264. 5)	1.1319E-05 (264. 5)	8.9011E-06 (264. 5)	7.0546E-06 (264. 5)	5.7040E-06 (264. 5)	
20	8.3537E-06 (156. 4)	6.9445E-06 (356. 5)	5.4526E-06 ( 16. 1)	4.7027E-06 ( 16. 1)	4.0005E-06 ( 16. 1)	
21	1.0585E-05 (256. 5)	7.8790E-06 (287. 4)	6.2510E-06 ( 15. 7)	5.4310E-06 ( 92. 4)	4.7428E-06 ( 15. 7)	
22	7.8112E-06 (122. 6)	9.0687E-06 (278. 3)	3.0391E-06 ( 69. 2)	6.8017E-06 ( 69. 2)	5.8557E-06 ( 16. 7)	
23	1.1584E-05 (122. 5)	8.9114E-06 ( 75. 1)	7.7513E-06 (278. 4)	7.2318E-06 (157. 2)	7.1319E-06 (317. 6)	
24	1.2446E-05 (227. 4)	1.0743E-05 (113. 3)	1.0637E-05 (118. 3)	8.6471E-06 (267. 6)	7.1919E-06 (267. 6)	
25	1.3148E-05 (247. 6)	1.2082E-05 (247. 6)	1.2015E-05 (263. 3)	8.2758E-06 (203. 3)	6.8321E-06 (203. 3)	
26	1.2344E-05 (257. 4)	1.6652E-05 (159. 2)	8.9915E-06 (164. 3)	8.4903E-06 (168. 2)	6.7254E-06 (342. 3)	
27	1.4122E-05 (158. 5)	1.1580E-05 ( 89. 7)	1.8233E-05 ( 89. 7)	8.6542E-06 ( 89. 7)	7.4612E-06 (333. 5)	
28	1.3729E-05 (158. 5)	1.2331E-05 (119. 7)	1.0671E-05 (119. 7)	8.9346E-06 (119. 7)	7.4890E-06 (119. 7)	
29	1.2098E-05 (250. 4)	8.1464E-06 (169. 6)	7.3955E-06 (154. 7)	8.1891E-06 (154. 7)	5.2292E-06 (312. 3)	
30	1.4427E-05 ( 1. 4)	9.5739E-06 (195. 4)	6.8445E-06 (324. 3)	6.0637E-06 (137. 3)	5.0283E-06 (268. 5)	
31	1.1482E-05 (198. 4)	9.3971E-06 (259. 4)	7.2166E-06 (346. 4)	6.2482E-06 (195. 3)	5.7769E-06 (308. 2)	
32	1.2553E-05 ( 4. 4)	9.6753E-06 ( 4. 4)	7.6188E-06 (364. 5)	7.4796E-06 (348. 6)	6.8471E-06 (135. 1)	
33	1.2390E-05 (311. 4)	1.1775E-05 ( 1. 5)	9.8053E-06 ( 12. 5)	8.0062E-06 ( 12. 5)	6.6593E-06 (301. 4)	
34	1.2344E-05 (262. 4)	1.2522E-05 (16. 4)	3.2019E-06 (161. 4)	6.4536E-06 (161. 4)	6.1796E-06 (212. 7)	
35	9.6573E-06 ( 54. 4)	7.8842E-06 (307. 6)	6.1888E-06 (307. 6)	6.0130E-06 ( 5. 3)	5.7441E-06 ( 5. 3)	
36	9.6969E-06 ( 84. 4)	1.0984E-05 (302. 3)	9.9551E-06 (302. 3)	8.5364E-06 (302. 3)	7.2537E-06 (302. 3)	



RING DISTANCES(KM)= 1.00 1.50 2.00 2.50 3.00

STACK # 1-- SOURCE NUMBER 1 D.A.P.

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	4.2800	40.40	2.13	21.21	319.00	75.58

PLANT NAME: W. R. GRACE

POLLUTANT: PART

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

MAXIMUM MEAN CONC= 5.0004E-07 DIRECTION= 9 DISTANCE= 1.0 KM

YEAR= 73

DIR	RANGE	ANNUAL MEAN CONCENTRATION AT EACH RECEPTOR				
		1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1	2.28139E-07	1.96278E-07	1.61902E-07	1.34306E-07	1.13216E-07	
2	2.37223E-07	2.00729E-07	1.64360E-07	1.35401E-07	1.13285E-07	
3	2.19604E-07	1.69428E-07	1.32586E-07	1.06542E-07	8.79503E-08	
4	2.15095E-07	1.59411E-07	1.24042E-07	1.00997E-07	8.53050E-08	
5	2.39802E-07	1.68626E-07	1.26378E-07	1.00126E-07	8.28504E-08	
6	3.00519E-07	2.11025E-07	1.56506E-07	1.22911E-07	1.01179E-07	
7	3.66116E-07	2.60791E-07	1.97007E-07	1.56737E-07	1.29724E-07	
8	3.86932E-07	2.64566E-07	1.90989E-07	1.45433E-07	1.15460E-07	
9	5.00044E-07	3.76517E-07	2.89012E-07	2.29424E-07	1.87708E-07	
10	3.88420E-07	3.06800E-07	2.41401E-07	1.94748E-07	1.61403E-07	
11	2.77351E-07	2.27723E-07	1.83991E-07	1.51593E-07	1.27929E-07	
12	1.93210E-07	1.73250E-07	1.51828E-07	1.34291E-07	1.20780E-07	
13	1.64029E-07	1.63225E-07	1.50920E-07	1.37712E-07	1.26510E-07	
14	1.75864E-07	1.76434E-07	1.60531E-07	1.43509E-07	1.29035E-07	
15	1.37954E-07	1.33544E-07	1.18485E-07	1.03711E-07	9.15122E-08	
16	1.18832E-07	1.10029E-07	9.78460E-08	8.66953E-08	7.75601E-08	
17	1.29684E-07	1.18846E-07	1.05998E-07	9.46773E-08	8.55013E-08	
18	1.30453E-07	1.18985E-07	1.07008E-07	9.65396E-08	8.79886E-08	
19	1.29793E-07	1.19532E-07	1.04951E-07	9.18804E-08	8.14365E-08	
20	1.68122E-07	1.55838E-07	1.38191E-07	1.21562E-07	1.07655E-07	
21	2.15615E-07	2.06537E-07	1.88082E-07	1.69561E-07	1.53810E-07	
22	2.38059E-07	2.13659E-07	1.94797E-07	1.60715E-07	1.42282E-07	
23	2.64424E-07	2.42272E-07	2.10906E-07	1.83661E-07	1.62312E-07	
24	3.25599E-07	2.97314E-07	2.62999E-07	2.33660E-07	2.10953E-07	
25	3.92868E-07	3.52508E-07	3.10688E-07	2.76491E-07	2.50521E-07	
26	3.50756E-07	3.04367E-07	2.61044E-07	2.27873E-07	2.03584E-07	
27	4.02486E-07	3.74142E-07	3.34371E-07	2.98710E-07	2.69947E-07	
28	3.51702E-07	3.21915E-07	2.78631E-07	2.40965E-07	2.11420E-07	
29	3.19853E-07	2.90810E-07	2.53347E-07	2.20671E-07	1.94626E-07	
30	3.61266E-07	3.27818E-07	2.86217E-07	2.50960E-07	2.23610E-07	
31	3.65646E-07	3.19384E-07	2.70618E-07	2.31607E-07	2.02142E-07	
32	3.71414E-07	3.15432E-07	2.61304E-07	2.19339E-07	1.87993E-07	
33	3.36470E-07	2.75033E-07	2.21764E-07	1.82214E-07	1.53375E-07	
34	2.68527E-07	2.21624E-07	1.83525E-07	1.55268E-07	1.34481E-07	
35	2.09417E-07	1.76729E-07	1.48736E-07	1.26963E-07	1.10392E-07	
36	2.49744E-07	2.20509E-07	1.86177E-07	1.57659E-07	1.35482E-07	

PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY MAXIMUM 24-HOUR CONC= 6.0157E-06    DIRECTION= 9    DISTANCE= 1.0 KM    DAY=180  
 YEAR= 73

DIR	HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1	3.1979E-06 (148)	2.6944E-06 (148)	2.1648E-06 (148)	1.7546E-06 (148)	1.5228E-06 (45)
2	4.0102E-06 (148)	3.9265E-06 (148)	3.3270E-06 (148)	2.7507E-06 (148)	2.2841E-06 (148)
3	2.8056E-06 (115)	2.2050E-06 (115)	1.8203E-06 (349)	1.6335E-06 (349)	1.4406E-06 (349)
4	2.3483E-06 (194)	2.1431E-06 (178)	1.9116E-06 (178)	1.6291E-06 (178)	1.4386E-06 (56)
5	2.6708E-06 (309)	1.7476E-06 (117)	1.5052E-06 (117)	1.2542E-06 (117)	1.0808E-06 (212)
6	4.3547E-06 (144)	3.5930E-06 (144)	2.8703E-06 (144)	2.3375E-06 (144)	1.9610E-06 (144)
7	4.2568E-06 (144)	3.3126E-06 (144)	2.5232E-06 (144)	1.9594E-06 (144)	1.5590E-06 (144)
8	3.1811E-06 (187)	1.9783E-06 (187)	1.3920E-06 (186)	1.1747E-06 (6)	9.9610E-07 (6)
9	6.0157E-06 (180)	4.0402E-06 (180)	2.8423E-06 (180)	2.1311E-06 (180)	1.8284E-06 (142)
10	3.9314E-06 (168)	3.3724E-06 (168)	2.7445E-06 (168)	2.2650E-06 (168)	1.9746E-06 (258)
11	3.0806E-06 (169)	2.8828E-06 (85)	2.3917E-06 (85)	1.9829E-06 (76)	1.6566E-06 (76)
12	2.7707E-06 (174)	3.0161E-06 (174)	2.7123E-06 (174)	2.3538E-06 (174)	2.0384E-06 (174)
13	2.6875E-06 (254)	2.5170E-06 (254)	2.2893E-06 (29)	2.0825E-06 (34)	1.9242E-06 (34)
14	3.4188E-06 (175)	2.7733E-06 (175)	2.4986E-06 (351)	2.2112E-06 (351)	1.9383E-06 (351)
15	2.3689E-06 (175)	1.9727E-06 (77)	1.6603E-06 (77)	1.3748E-06 (77)	1.1533E-06 (77)
16	2.0407E-06 (182)	1.8880E-06 (342)	1.8388E-06 (342)	1.6416E-06 (342)	1.4306E-06 (342)
17	2.3981E-06 (188)	2.1928E-06 (342)	2.2046E-06 (342)	2.0142E-06 (342)	1.7876E-06 (342)
18	2.3414E-06 (298)	1.9106E-06 (298)	1.6061E-06 (42)	1.4022E-06 (42)	1.2228E-06 (42)
19	2.1449E-06 (305)	2.1037E-06 (136)	1.8309E-06 (136)	1.5378E-06 (136)	1.2911E-06 (136)
20	2.6533E-06 (305)	3.0139E-06 (341)	2.9449E-06 (341)	2.6613E-06 (341)	2.3544E-06 (341)
21	3.1561E-06 (305)	3.0074E-06 (50)	2.9809E-06 (50)	2.7187E-06 (50)	2.4144E-06 (50)
22	3.1265E-06 (292)	3.3614E-06 (292)	3.0024E-06 (292)	2.5763E-06 (292)	2.2044E-06 (292)
23	3.8601E-06 (291)	3.8526E-06 (291)	3.2539E-06 (291)	2.6750E-06 (291)	2.2089E-06 (291)
24	3.8736E-06 (276)	3.4563E-06 (158)	2.9445E-06 (158)	2.4452E-06 (158)	2.1508E-06 (276)
25	4.5813E-06 (321)	3.9171E-06 (321)	3.1456E-06 (321)	2.5687E-06 (271)	2.3790E-06 (271)
26	4.5001E-06 (82)	3.4799E-06 (82)	2.6269E-06 (82)	2.0311E-06 (82)	1.6153E-06 (82)
27	3.8743E-06 (60)	3.6011E-06 (60)	3.0940E-06 (106)	2.6902E-06 (106)	2.3345E-06 (106)
28	4.1427E-06 (155)	3.8688E-06 (155)	3.2631E-06 (155)	2.7216E-06 (155)	2.2929E-06 (155)
29	3.7361E-06 (122)	2.7848E-06 (122)	2.4562E-06 (358)	2.1538E-06 (358)	1.8601E-06 (358)
30	3.1301E-06 (244)	3.6565E-06 (32)	3.3588E-06 (32)	2.9051E-06 (32)	2.4824E-06 (32)
31	3.2868E-06 (88)	3.8002E-06 (88)	3.4420E-06 (88)	2.9430E-06 (88)	2.4905E-06 (88)
32	4.1671E-06 (90)	4.5096E-06 (90)	3.9614E-06 (90)	3.3358E-06 (90)	2.8010E-06 (90)
33	3.1527E-06 (217)	2.3264E-06 (328)	1.9664E-06 (328)	1.6305E-06 (328)	1.3611E-06 (328)
34	3.0159E-06 (211)	2.8603E-06 (339)	2.8409E-06 (339)	2.6286E-06 (339)	2.3848E-06 (339)
35	3.9361E-06 (40)	3.4936E-06 (40)	2.8396E-06 (40)	2.3088E-06 (40)	1.9121E-06 (40)
36	2.5980E-06 (73)	2.5255E-06 (304)	2.1976E-06 (304)	1.8449E-06 (304)	1.5484E-06 (304)

PLANT NAME: W. R. GRACE

POLLUTANT: PART

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

YEARLY SECOND MAXIMUM 24-HOUR CONC= 4.0037E-06 DIRECTION= 9 DISTANCE= 1.0 KM DAY=253

YEAR= 73

DIR	SECOND HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	RANGE 1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1	3.1872E-06 (146)	2.5355E-06 ( 97)	1.9849E-06 ( 97)	1.6452E-06 ( 45)	1.4496E-06 (148)
2	2.5159E-06 (214)	2.5649E-06 (146)	2.4446E-06 (146)	2.2468E-06 (146)	2.0553E-06 (146)
3	2.4922E-06 (128)	2.0322E-06 (128)	1.6874E-06 (115)	1.3805E-06 (145)	1.1672E-06 (145)
4	1.9920E-06 (178)	1.6901E-06 (194)	1.3619E-06 (145)	1.3404E-06 ( 56)	1.3791E-06 (178)
5	2.4849E-06 (256)	1.6746E-06 (309)	1.3820E-06 (212)	1.2392E-06 (212)	1.0466E-06 (117)
6	3.1791E-06 (186)	2.1460E-06 (186)	1.5052E-06 (186)	1.2022E-06 (210)	1.1002E-06 (210)
7	3.3042E-06 (209)	2.4350E-06 (140)	1.8836E-06 (140)	1.4809E-06 (140)	1.1934E-06 (179)
8	2.8711E-06 (253)	1.8583E-06 (253)	1.3882E-06 ( 6)	1.1034E-06 (186)	9.2071E-07 ( 63)
9	4.0037E-06 (253)	3.3458E-06 (253)	2.6320E-06 (253)	2.0849E-06 (142)	1.6916E-06 (180)
10	3.3901E-06 (141)	3.0418E-06 (141)	2.5661E-06 (258)	2.2217E-06 (258)	1.9188E-06 (168)
11	3.0623E-06 ( 85)	2.7430E-06 ( 76)	2.3740E-06 ( 76)	1.9608E-06 ( 85)	1.6264E-06 ( 85)
12	2.5876E-06 ( 76)	2.5978E-06 ( 76)	2.2342E-06 ( 76)	1.8728E-06 ( 76)	1.5762E-06 ( 76)
13	2.0882E-06 ( 29)	2.4604E-06 ( 29)	2.2210E-06 ( 34)	2.0208E-06 ( 29)	1.7703E-06 ( 29)
14	2.5140E-06 ( 58)	2.7003E-06 ( 58)	2.4229E-06 ( 58)	2.0849E-06 ( 58)	1.7819E-06 ( 58)
15	2.0364E-06 ( 77)	1.9178E-06 (175)	1.5304E-06 ( 51)	1.2980E-06 ( 51)	1.1110E-06 ( 51)
16	1.8353E-06 (175)	1.8682E-06 ( 12)	1.8234E-06 ( 12)	1.6295E-06 ( 12)	1.4228E-06 ( 5)
17	2.3336E-06 (190)	2.1922E-06 ( 12)	2.0628E-06 ( 12)	1.9017E-06 ( 12)	1.5462E-06 ( 12)
18	2.0225E-06 ( 14)	1.7893E-06 ( 42)	1.5674E-06 (298)	1.3363E-06 (298)	1.1755E-06 (298)
19	2.0093E-06 (136)	1.5183E-06 (341)	1.4128E-06 (341)	1.2265E-06 (341)	1.0836E-06 ( 11)
20	2.2928E-06 (341)	2.1480E-06 ( 24)	2.2721E-06 ( 24)	2.1414E-06 ( 24)	1.9360E-06 ( 24)
21	2.7884E-06 (221)	2.4743E-06 (340)	2.4859E-06 ( 9)	2.3209E-06 ( 9)	2.0807E-06 ( 9)
22	2.7390E-06 (291)	2.9516E-06 (291)	2.5792E-06 (291)	2.1614E-06 (291)	1.8072E-06 (291)
23	3.0055E-06 (277)	2.7754E-06 (290)	2.3823E-06 (290)	2.1151E-06 (315)	1.8726E-06 (315)
24	3.7110E-06 (240)	3.1352E-06 (276)	2.6899E-06 (276)	2.3761E-06 (276)	2.0363E-06 (158)
25	3.9732E-06 (240)	2.9917E-06 (280)	2.7636E-06 (271)	2.5337E-06 (321)	2.1399E-06 (280)
26	3.7571E-06 (336)	2.5786E-06 (336)	1.9642E-06 ( 25)	1.7655E-06 ( 25)	1.5676E-06 ( 25)
27	3.7527E-06 (155)	3.4898E-06 (155)	2.9726E-06 ( 60)	2.4225E-06 ( 60)	2.0273E-06 (107)
28	3.2954E-06 (105)	2.9324E-06 (105)	2.4434E-06 (105)	2.0292E-06 (105)	1.7449E-06 (245)
29	2.6589E-06 (106)	2.6253E-06 (358)	2.3234E-06 (109)	2.0735E-06 (109)	1.8191E-06 (109)
30	3.1053E-06 ( 32)	3.1192E-06 (204)	2.7399E-06 (204)	2.3161E-06 (204)	1.9515E-06 (204)
31	2.8667E-06 (324)	3.0359E-06 (359)	2.7902E-06 (359)	2.4041E-06 (359)	2.0434E-06 (359)
32	3.2038E-06 (127)	3.0472E-06 ( 21)	2.6662E-06 ( 21)	2.2663E-06 ( 89)	1.9593E-06 ( 89)
33	2.6298E-06 (202)	2.2904E-06 ( 89)	1.9631E-06 ( 89)	1.6295E-06 ( 89)	1.3553E-06 ( 89)
34	2.6330E-06 (115)	2.0993E-06 (115)	1.8793E-06 (150)	1.8143E-06 (150)	1.6892E-06 (150)
35	2.6493E-06 ( 93)	2.7870E-06 ( 93)	2.4075E-06 ( 93)	2.0032E-06 ( 93)	1.6664E-06 ( 93)
36	2.5421E-06 (146)	2.2488E-06 ( 79)	2.0201E-06 ( 79)	1.7324E-06 ( 79)	1.4741E-06 ( 79)



PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY MAXIMUM      3-HOUR CONC= 1.9454E-05      DIRECTION= 9      DISTANCE= 1.0 KM      DAY= 66      TIME PERIOD= 5  
 YEAR= 73

DIR	RANGE	3-HOUR CONCENTRATION AT EACH RECEPTOR				
		HIGHEST 1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1	9.7559E-06 (214, 5)	8.2680E-06 (360, 5)	7.1858E-06 (360, 5)	6.0103E-06 (360, 5)	5.1213E-06 (45, 7)	
2	1.7916E-05 (159, 6)	1.5327E-05 (148, 7)	1.3745E-05 (148, 7)	1.1733E-05 (148, 7)	9.9515E-06 (148, 7)	
3	1.6673E-05 (269, 5)	1.2395E-05 (116, 5)	1.0277E-05 (116, 5)	8.3966E-06 (116, 5)	6.9282E-06 (116, 5)	
4	1.1811E-05 (194, 4)	8.4053E-06 (116, 8)	7.5106E-06 (116, 8)	6.3995E-06 (116, 8)	5.4225E-06 (116, 8)	
5	1.4251E-05 (309, 4)	8.6842E-06 (309, 4)	7.5393E-06 (212, 6)	6.8058E-06 (212, 6)	5.9607E-06 (212, 6)	
6	1.2446E-05 (235, 5)	9.6178E-06 (144, 6)	7.8624E-06 (144, 6)	6.3441E-06 (144, 6)	5.1766E-06 (144, 6)	
7	1.7569E-05 (252, 6)	1.2733E-05 (252, 6)	1.0550E-05 (273, 6)	9.4601E-06 (273, 6)	8.2730E-06 (273, 6)	
8	1.3863E-05 (72, 5)	8.7972E-06 (72, 5)	6.5531E-06 (63, 6)	5.4699E-06 (63, 6)	4.6439E-06 (149, 7)	
9	1.9494E-05 (66, 5)	1.2550E-05 (66, 5)	1.0096E-05 (253, 6)	8.2828E-06 (253, 6)	7.0549E-06 (134, 4)	
10	1.1725E-05 (326, 5)	1.0435E-05 (198, 6)	9.1573E-06 (94, 7)	8.0224E-06 (94, 7)	6.9773E-06 (94, 7)	
11	1.2244E-05 (165, 5)	9.5223E-06 (169, 6)	8.2615E-06 (169, 6)	6.9179E-06 (169, 6)	5.7888E-06 (169, 6)	
12	9.5119E-06 (207, 4)	1.0508E-05 (8, 8)	1.0004E-05 (8, 8)	8.8306E-06 (8, 8)	7.6487E-06 (8, 8)	
13	1.5109E-05 (254, 6)	1.5106E-05 (254, 6)	1.2860E-05 (254, 6)	1.0669E-05 (254, 6)	8.8917E-06 (254, 6)	
14	1.0514E-05 (38, 4)	9.3791E-06 (175, 6)	7.9040E-06 (175, 6)	7.5419E-06 (289, 7)	8.2743E-06 (289, 7)	
15	1.0562E-05 (175, 5)	9.1201E-06 (51, 5)	8.0269E-06 (51, 5)	6.9919E-06 (71, 8)	6.5198E-06 (71, 8)	
16	1.0604E-05 (200, 4)	7.0234E-06 (136, 6)	7.6620E-06 (254, 3)	7.4920E-06 (254, 3)	6.9015E-06 (254, 3)	
17	1.0713E-05 (53, 4)	9.5216E-06 (297, 6)	8.7460E-06 (297, 6)	7.7639E-06 (297, 6)	6.8676E-06 (297, 6)	
18	1.0365E-05 (297, 5)	7.5345E-06 (298, 4)	5.6580E-06 (342, 4)	5.1530E-06 (342, 4)	4.5473E-06 (342, 4)	
19	1.0884E-05 (268, 5)	8.9163E-06 (136, 3)	8.2825E-06 (307, 6)	7.8117E-06 (307, 6)	7.2010E-06 (307, 6)	
20	1.2359E-05 (298, 5)	9.5371E-06 (298, 5)	7.2234E-06 (298, 5)	5.6084E-06 (298, 5)	4.6555E-06 (341, 3)	
21	1.5123E-05 (221, 6)	1.0111E-05 (221, 6)	7.4414E-06 (232, 6)	6.8824E-06 (10, 8)	6.5406E-06 (10, 8)	
22	1.2537E-05 (125, 4)	9.6224E-06 (280, 3)	7.8156E-06 (280, 3)	6.3265E-06 (280, 3)	5.2040E-06 (292, 2)	
23	1.3624E-05 (295, 5)	1.2785E-05 (295, 5)	1.0544E-05 (295, 5)	8.5819E-06 (295, 5)	7.0591E-06 (295, 5)	
24	1.5355E-05 (276, 5)	1.2839E-05 (279, 6)	1.0903E-05 (279, 6)	9.3268E-06 (158, 8)	8.0247E-06 (158, 8)	
25	1.4353E-05 (25, 4)	1.3552E-05 (288, 6)	1.2562E-05 (288, 6)	1.0916E-05 (288, 6)	9.3554E-06 (288, 6)	
26	1.7272E-05 (336, 5)	1.1358E-05 (336, 5)	8.4935E-06 (109, 6)	7.8371E-06 (25, 7)	7.4303E-06 (25, 7)	
27	1.3507E-05 (96, 5)	1.1816E-05 (17, 6)	1.0324E-05 (17, 6)	8.6768E-06 (17, 6)	7.9236E-06 (242, 7)	
28	1.4329E-05 (288, 5)	1.1387E-05 (31, 6)	1.0616E-05 (31, 6)	9.2584E-06 (31, 6)	7.9554E-06 (31, 6)	
29	1.2993E-05 (318, 4)	9.9955E-06 (244, 3)	9.3228E-06 (358, 8)	8.4015E-06 (358, 8)	7.3666E-06 (358, 8)	
30	1.1485E-05 (204, 3)	1.2037E-05 (204, 3)	1.0416E-05 (204, 3)	9.0056E-06 (32, 4)	7.8331E-06 (32, 4)	
31	1.3208E-05 (122, 4)	1.2202E-05 (324, 5)	1.0221E-05 (324, 5)	8.3860E-06 (324, 5)	6.9296E-06 (324, 5)	
32	1.6355E-05 (127, 5)	1.1076E-05 (90, 3)	9.7268E-06 (90, 3)	8.1984E-06 (90, 3)	6.8934E-06 (90, 3)	
33	1.4394E-05 (274, 4)	1.2538E-05 (328, 5)	1.0697E-05 (328, 5)	8.8661E-06 (328, 5)	7.3736E-06 (328, 5)	
34	1.2898E-05 (212, 3)	9.4957E-06 (126, 6)	7.9818E-06 (84, 6)	7.9503E-06 (150, 2)	7.5818E-06 (150, 2)	
35	1.1021E-05 (40, 4)	1.0738E-05 (93, 8)	9.2648E-06 (93, 8)	7.7221E-06 (93, 8)	6.5899E-06 (40, 6)	
36	1.1901E-05 (70, 5)	1.2293E-05 (79, 6)	1.0800E-05 (79, 6)	9.1178E-06 (79, 6)	7.6814E-06 (79, 6)	

PLANT NAME: W. R. GRACE

POLLUTANT: PART

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

YEARLY SECOND MAXIMUM

3-HOUR CONC= 1.5149E-05 DIRECTION= 9 DISTANCE= 1.0 KM DAY=179 TIME PERIOD= 5

YEAR= 73

DIR	SECOND HIGHEST		3-HOUR CONCENTRATION AT EACH RECEPTOR							
	RANGE	1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM				
1	9.5652E-06	(146, 4)	8.1794E-06	(33, 4)	6.9685E-06	(33, 4)	5.7539E-06	(33, 4)	5.0233E-06	(360, 5)
2	1.3638E-05	(148, 7)	1.1076E-05	(159, 6)	8.0168E-06	(338, 6)	7.0346E-06	(338, 6)	6.1646E-06	(338, 6)
3	1.3808E-05	(115, 5)	1.1912E-05	(128, 6)	9.9901E-06	(128, 6)	8.2031E-06	(128, 6)	6.7827E-06	(128, 6)
4	1.1102E-05	(363, 5)	7.7497E-06	(178, 6)	6.2599E-06	(178, 6)	5.4085E-06	(56, 6)	4.7268E-06	(56, 6)
5	1.3083E-05	(196, 3)	8.3584E-06	(117, 1)	7.3818E-06	(117, 1)	6.2487E-06	(117, 1)	5.2729E-06	(117, 1)
6	1.1481E-05	(102, 6)	8.5919E-06	(181, 3)	6.9042E-06	(181, 3)	5.5573E-06	(181, 3)	4.5355E-06	(181, 3)
7	1.3683E-05	(209, 6)	1.1658E-05	(71, 6)	9.5696E-06	(71, 6)	7.7910E-06	(71, 6)	6.4129E-06	(71, 6)
8	1.2572E-05	(27, 5)	7.8362E-06	(312, 5)	5.7320E-06	(72, 5)	4.9624E-06	(149, 7)	4.5512E-06	(63, 6)
9	1.5149E-05	(179, 5)	1.2052E-05	(253, 6)	9.0317E-06	(57, 6)	7.7892E-06	(57, 6)	6.8437E-06	(253, 6)
10	1.1316E-05	(196, 5)	1.0251E-05	(197, 6)	8.6835E-06	(198, 6)	7.1102E-06	(198, 6)	5.8897E-06	(326, 6)
11	1.1867E-05	(166, 3)	8.8790E-06	(130, 6)	7.3964E-06	(130, 6)	6.1394E-06	(137, 6)	5.5639E-06	(124, 1)
12	8.8458E-06	(117, 7)	9.3999E-06	(117, 7)	8.1852E-06	(117, 7)	6.8581E-06	(117, 7)	5.7399E-06	(117, 7)
13	9.8744E-06	(268, 6)	8.8275E-06	(118, 6)	7.5891E-06	(29, 3)	6.8698E-06	(29, 3)	6.0834E-06	(29, 3)
14	9.6240E-06	(175, 5)	9.0064E-06	(262, 6)	7.7437E-06	(262, 6)	6.6922E-06	(332, 8)	5.8230E-06	(332, 8)
15	9.6034E-06	(77, 5)	8.5542E-06	(77, 5)	7.0001E-06	(71, 8)	6.7631E-06	(51, 5)	5.6789E-06	(51, 5)
16	1.0155E-05	(188, 4)	6.9598E-06	(342, 5)	7.0312E-06	(5, 8)	6.4607E-06	(5, 8)	5.7381E-06	(5, 8)
17	9.0210E-06	(297, 6)	8.2633E-06	(53, 4)	8.3009E-06	(342, 1)	7.6216E-06	(342, 1)	6.7620E-06	(342, 1)
18	9.8113E-06	(298, 4)	7.0716E-06	(181, 6)	5.6273E-06	(298, 4)	4.7507E-06	(268, 4)	4.1869E-06	(268, 4)
19	8.3214E-06	(208, 5)	7.7892E-06	(136, 4)	7.8088E-06	(136, 3)	6.5609E-06	(136, 3)	5.4976E-06	(136, 3)
20	1.2281E-05	(299, 4)	8.7347E-06	(334, 4)	6.6513E-06	(334, 4)	5.4447E-06	(341, 3)	4.5871E-06	(341, 3)
21	1.1627E-05	(305, 4)	8.8671E-06	(232, 6)	7.1525E-06	(9, 8)	6.6312E-06	(9, 8)	5.9161E-06	(9, 8)
22	1.2210E-05	(191, 4)	8.3389E-06	(293, 6)	7.2204E-06	(292, 2)	6.1457E-06	(292, 2)	5.1936E-06	(280, 3)
23	1.2088E-05	(314, 4)	1.0806E-05	(314, 4)	8.8638E-06	(290, 8)	7.5237E-06	(159, 1)	6.6494E-06	(159, 1)
24	1.3202E-05	(310, 4)	1.1341E-05	(158, 8)	1.0659E-05	(158, 8)	9.0144E-06	(279, 6)	7.4835E-06	(279, 6)
25	1.3633E-05	(240, 5)	1.0908E-05	(265, 4)	8.7160E-06	(271, 5)	7.3891E-06	(218, 6)	6.6727E-06	(218, 6)
26	1.4176E-05	(321, 4)	1.0251E-05	(109, 6)	8.2737E-06	(241, 5)	6.9449E-06	(109, 6)	5.7274E-06	(109, 6)
27	1.2800E-05	(20, 4)	1.0825E-05	(111, 6)	9.1759E-06	(109, 5)	8.0579E-06	(286, 6)	7.2827E-06	(17, 6)
28	1.3698E-05	(161, 3)	1.0532E-05	(242, 4)	9.4930E-06	(60, 8)	8.2421E-06	(60, 8)	7.0620E-06	(60, 8)
29	1.2064E-05	(249, 4)	9.5556E-06	(318, 4)	8.9786E-06	(244, 3)	7.6089E-06	(109, 1)	7.2225E-06	(109, 1)
30	1.1184E-05	(72, 4)	1.0595E-05	(32, 4)	1.0146E-05	(32, 4)	8.6948E-06	(204, 3)	7.2590E-06	(204, 3)
31	1.2837E-05	(160, 3)	9.4886E-06	(163, 3)	8.4556E-06	(69, 4)	7.5500E-06	(69, 4)	6.5822E-06	(69, 4)
32	1.2542E-05	(329, 4)	1.0326E-05	(90, 1)	9.1185E-06	(90, 1)	7.7001E-06	(90, 1)	6.4767E-06	(90, 1)
33	1.2374E-05	(328, 5)	9.6738E-06	(70, 4)	8.4526E-06	(354, 4)	7.4114E-06	(354, 4)	6.4624E-06	(354, 4)
34	1.1891E-05	(126, 6)	9.3821E-06	(84, 6)	7.8915E-06	(150, 2)	7.1407E-06	(339, 8)	6.4088E-06	(183, 7)
35	1.0306E-05	(93, 8)	9.6482E-06	(40, 6)	8.8727E-06	(40, 6)	7.6940E-06	(40, 6)	6.5508E-06	(360, 7)
36	1.1461E-05	(79, 6)	1.0780E-05	(304, 7)	9.4592E-06	(304, 7)	7.9591E-06	(304, 7)	6.6788E-06	(304, 7)



RING DISTANCES(KM)= 1.00 1.50 2.00 2.50 3.00

STACK # 1-- SOURCE NUMBER 1 D.A.P.

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	4.2800	43.40	2.13	21.21	319.00	75.58

PLANT NAME: W. R. GRACE

POLLUTANT: PART

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

MAXIMUM MEAN CONC= 1.3221E-07 DIRECTION= 9 DISTANCE= 3.0 KM

YEAR= 74

DIR	RANGE	ANNUAL MEAN CONCENTRATION AT EACH RECEPTOR				
		1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM
1		2.58431E-08	5.02752E-08	6.24455E-08	6.63798E-08	6.63282E-08
2		2.54483E-08	5.02616E-08	6.29225E-08	6.71794E-08	6.73044E-08
3		1.40593E-08	3.12467E-08	4.20495E-08	4.69127E-08	4.83818E-08
4		1.05883E-08	2.45710E-08	3.45587E-08	3.98619E-08	4.22568E-08
5		9.52839E-09	2.27297E-08	3.35076E-08	4.00915E-08	4.38187E-08
6		1.44697E-08	3.46647E-08	4.92904E-08	5.69962E-08	6.04377E-08
7		1.73195E-08	4.02633E-08	5.60951E-08	6.39544E-08	6.70548E-08
8		1.98892E-08	4.53635E-08	6.16719E-08	6.88199E-08	7.07697E-08
9		4.24538E-08	9.02941E-08	1.18086E-07	1.29468E-07	1.32206E-07
10		3.53615E-08	7.01141E-08	8.75086E-08	9.30496E-08	9.29738E-08
11		1.95574E-08	3.87429E-08	4.90256E-08	5.29439E-08	5.36900E-08
12		1.81501E-08	3.45312E-08	4.34245E-08	4.70649E-08	4.81112E-08
13		1.58371E-08	3.20569E-08	4.18039E-08	4.63641E-08	4.82680E-08
14		2.06897E-08	4.00286E-08	5.04115E-08	5.46359E-08	5.59004E-08
15		2.22277E-08	4.21996E-08	5.22802E-08	5.59443E-08	5.66138E-08
16		2.00123E-08	3.89139E-08	4.84714E-08	5.17538E-08	5.20989E-08
17		1.34289E-08	3.01360E-08	4.11499E-08	4.66475E-08	4.89646E-08
18		1.37300E-08	3.17460E-08	4.51117E-08	5.25891E-08	5.63116E-08
19		1.03502E-08	2.31346E-08	3.05303E-08	3.37894E-08	3.48132E-08
20		1.59133E-08	3.49961E-08	4.83126E-08	5.50097E-08	5.81717E-08
21		1.83041E-08	4.28861E-08	6.07870E-08	7.07096E-08	7.57335E-08
22		2.36574E-08	5.33706E-08	7.38683E-08	8.47264E-08	8.99814E-08
23		2.03019E-08	4.73666E-08	6.57419E-08	7.54962E-08	8.02808E-08
24		2.15440E-08	5.17129E-08	7.56359E-08	9.01398E-08	9.85755E-08
25		2.13120E-08	5.13072E-08	7.75386E-08	9.52572E-08	1.06848E-07
26		1.35488E-08	3.50356E-08	5.38029E-08	6.61784E-08	7.41774E-08
27		2.12670E-08	5.21149E-08	7.33324E-08	9.56153E-08	1.06880E-07
28		2.05207E-08	5.02881E-08	7.49695E-08	9.04765E-08	9.97312E-08
29		1.60492E-08	3.89497E-08	5.75128E-08	6.91184E-08	7.61357E-08
30		1.29659E-08	3.30172E-08	5.17633E-08	6.47466E-08	7.33818E-08
31		1.75658E-08	4.37143E-08	6.56162E-08	7.81040E-08	8.52730E-08
32		1.62961E-08	3.98572E-08	5.82714E-08	6.90961E-08	7.48890E-08
33		1.94388E-08	4.62451E-08	6.65149E-08	7.82182E-08	8.43888E-08
34		1.61944E-08	3.77911E-08	5.38631E-08	6.31412E-08	6.80549E-08
35		1.29785E-08	2.84554E-08	3.90946E-08	4.49858E-08	4.80612E-08
36		1.43610E-08	3.23880E-08	4.49274E-08	5.17431E-08	5.51423E-08

PLANT NAME: W. R. GRACE

POLLUTANT: PART

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

YEARLY MAXIMUM 24-HOUR CONC= 2.0407E-06 DIRECTION= 12 DISTANCE= 1.5 KM DAY=338

YEAR= 74

DIR	HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	RANGE	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	9.2233E-07 (178)	1.3529E-06 (178)	1.4021E-06 (178)	1.3101E-06 (178)	1.1803E-06 (178)
2	7.7374E-07 ( 97)	1.2107E-06 ( 97)	1.2859E-06 ( 97)	1.2202E-06 ( 97)	1.1157E-06 ( 97)
3	3.5239E-07 ( 96)	6.8569E-07 ( 36)	8.0420E-07 ( 83)	8.2240E-07 ( 83)	7.8298E-07 ( 83)
4	4.2779E-07 ( 83)	8.9414E-07 ( 83)	1.1020E-06 ( 83)	1.1589E-06 ( 83)	1.1388E-06 ( 83)
5	3.3385E-07 (150)	5.6994E-07 ( 91)	6.8274E-07 ( 91)	7.0118E-07 ( 91)	6.7707E-07 ( 91)
6	5.9842E-07 ( 91)	1.0330E-06 ( 91)	1.1524E-06 ( 91)	1.1222E-06 ( 91)	1.0380E-06 ( 91)
7	9.3612E-07 ( 91)	1.5891E-06 ( 91)	1.7155E-06 ( 91)	1.6199E-06 ( 91)	1.4608E-06 ( 91)
8	6.6627E-07 ( 92)	9.9898E-07 ( 92)	1.0117E-06 ( 92)	9.1874E-07 ( 92)	8.0673E-07 ( 92)
9	9.6819E-07 ( 92)	1.4917E-06 ( 92)	1.5333E-06 ( 92)	1.4150E-06 ( 74)	1.3174E-06 ( 74)
10	6.0581E-07 ( 92)	9.7950E-07 (195)	1.1641E-06 (195)	1.1876E-06 (195)	1.1445E-06 (195)
11	5.7046E-07 ( 75)	9.2314E-07 ( 75)	9.7525E-07 ( 75)	9.8647E-07 (196)	9.4007E-07 (196)
12	1.4707E-06 (338)	2.0407E-06 (338)	2.0307E-06 (338)	1.8410E-06 (338)	1.6226E-06 (338)
13	6.6731E-07 (338)	9.8047E-07 ( 42)	1.1691E-06 (340)	1.2203E-06 (340)	1.1885E-06 (340)
14	7.8049E-07 ( 43)	1.3881E-06 ( 43)	1.5648E-06 ( 43)	1.5280E-06 ( 43)	1.4135E-06 ( 43)
15	9.1206E-07 ( 43)	1.5336E-06 ( 43)	1.6592E-06 ( 43)	1.5752E-06 ( 43)	1.4294E-06 ( 43)
16	8.0491E-07 (319)	1.1869E-06 (319)	1.2390E-06 ( 59)	1.1850E-06 ( 59)	1.0951E-06 ( 59)
17	4.7492E-07 ( 51)	3.5559E-07 ( 51)	1.0570E-06 (353)	1.2151E-06 (353)	1.2516E-06 (353)
18	6.3877E-07 (282)	1.0748E-06 (283)	1.3522E-06 (283)	1.3964E-06 (283)	1.3337E-06 (283)
19	5.7169E-07 ( 60)	1.0001E-06 ( 60)	1.0954E-06 ( 60)	1.0506E-06 ( 60)	9.6818E-07 ( 60)
20	9.2655E-07 (292)	1.3692E-06 (282)	1.4311E-06 (333)	1.4535E-06 (333)	1.3732E-06 (333)
21	9.9851E-07 (292)	1.5794E-06 (282)	1.6830E-06 (282)	1.5967E-06 (292)	1.4575E-06 (282)
22	1.0415E-06 (279)	1.6912E-06 (279)	1.8769E-06 (277)	1.9035E-06 (277)	1.8140E-06 (277)
23	5.8575E-07 (333)	1.0160E-06 (298)	1.2336E-06 (298)	1.2525E-06 (298)	1.1872E-06 (298)
24	4.5539E-07 (298)	9.4351E-07 (351)	1.2965E-06 (351)	1.4150E-06 (351)	1.4047E-06 (351)
25	9.3473E-07 (290)	1.3257E-06 (280)	1.3141E-06 (280)	1.2452E-06 ( 76)	1.1934E-06 ( 76)
26	3.2423E-07 (118)	6.2501E-07 (118)	7.5859E-07 (118)	7.8710E-07 (118)	8.1625E-07 (309)
27	5.5009E-07 (114)	1.0716E-06 (336)	1.3579E-06 (336)	1.4251E-06 (336)	1.3872E-06 (336)
28	7.6942E-07 (104)	1.2535E-06 ( 39)	1.4675E-06 ( 39)	1.4477E-06 ( 39)	1.3406E-06 ( 39)
29	5.6260E-07 ( 77)	1.0572E-06 ( 77)	1.2631E-06 ( 77)	1.2962E-06 ( 77)	1.2557E-06 ( 77)
30	3.6873E-07 (104)	3.8975E-07 (337)	7.9865E-07 (337)	8.6183E-07 (337)	8.4759E-07 (337)
31	5.6804E-07 ( 55)	9.3929E-07 ( 55)	1.0073E-06 ( 55)	9.4997E-07 ( 55)	9.4172E-07 (222)
32	4.8786E-07 (145)	1.0555E-06 (145)	1.3272E-06 (145)	1.4004E-06 (145)	1.3708E-06 (145)
33	6.6536E-07 (134)	1.1797E-06 (134)	1.3013E-06 (134)	1.2457E-06 (134)	1.1343E-06 (134)
34	6.3529E-07 (134)	1.0737E-06 (134)	1.1620E-06 (134)	1.0944E-06 (134)	9.8436E-07 (134)
35	2.8225E-07 (215)	5.2760E-07 (215)	6.3900E-07 (215)	6.6585E-07 (215)	6.5396E-07 (215)
36	8.1107E-07 (178)	1.2925E-06 (178)	1.2338E-06 (178)	1.1380E-06 (178)	1.0851E-06 (344)

PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY SECOND MAXIMUM 24-HOUR CONC= 1.8239E-06      DIRECTION= 22      DISTANCE= 2.0 KM      DAY=279  
 YEAR= 74

DIR	SECOND HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	RANGE	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	7.5659E-07 (101)	1.2409E-06 (101)	1.3256E-06 (101)	1.2486E-06 (101)	1.1268E-06 (101)
2	5.4853E-07 (135)	9.8456E-07 (41)	1.0963E-06 (41)	1.0514E-06 (41)	9.5599E-07 (41)
3	3.4462E-07 (36)	6.5484E-07 (83)	7.9815E-07 (36)	7.8808E-07 (36)	7.3225E-07 (36)
4	2.3885E-07 (135)	4.3151E-07 (96)	4.7998E-07 (96)	4.7115E-07 (116)	4.9156E-07 (116)
5	3.0367E-07 (91)	5.2852E-07 (150)	5.5213E-07 (150)	5.1179E-07 (150)	4.6504E-07 (83)
6	4.0940E-07 (149)	7.6944E-07 (149)	8.9443E-07 (149)	9.2170E-07 (92)	9.1153E-07 (92)
7	3.3745E-07 (150)	7.2488E-07 (150)	8.6897E-07 (150)	8.6914E-07 (150)	8.1227E-07 (150)
8	3.3646E-07 (128)	5.8238E-07 (128)	6.3508E-07 (128)	7.0692E-07 (272)	7.2634E-07 (272)
9	7.0692E-07 (74)	1.2647E-06 (74)	1.4385E-06 (74)	1.4057E-06 (92)	1.2426E-06 (92)
10	5.1950E-07 (78)	9.0815E-07 (73)	9.9062E-07 (78)	9.6231E-07 (205)	9.7919E-07 (205)
11	5.1202E-07 (338)	3.2375E-07 (338)	9.7007E-07 (196)	9.1014E-07 (75)	8.1971E-07 (338)
12	3.4807E-07 (56)	5.8283E-07 (56)	6.5149E-07 (56)	6.4068E-07 (56)	6.0164E-07 (56)
13	5.3684E-07 (42)	9.3823E-07 (340)	1.1015E-06 (42)	1.0651E-06 (42)	9.7540E-07 (42)
14	7.6579E-07 (59)	1.1176E-06 (59)	1.1605E-06 (339)	1.1859E-06 (339)	1.1251E-06 (339)
15	7.2965E-07 (99)	1.1934E-06 (99)	1.2722E-06 (99)	1.1965E-06 (99)	1.0786E-06 (99)
16	7.5830E-07 (59)	1.1648E-06 (59)	1.2033E-06 (319)	1.0983E-06 (319)	9.7013E-07 (319)
17	4.2840E-07 (38)	7.0795E-07 (353)	9.5762E-07 (51)	9.2421E-07 (51)	8.4450E-07 (51)
18	4.6751E-07 (283)	1.0561E-06 (282)	1.1441E-06 (282)	1.0917E-06 (282)	9.9734E-07 (282)
19	3.4996E-07 (282)	4.9319E-07 (282)	4.8079E-07 (282)	5.0852E-07 (314)	5.2145E-07 (314)
20	7.1124E-07 (60)	1.2338E-06 (60)	1.3790E-06 (282)	1.2752E-06 (60)	1.1538E-06 (60)
21	4.3305E-07 (277)	9.1284E-07 (277)	1.1191E-06 (277)	1.1505E-06 (277)	1.1152E-06 (110)
22	7.7926E-07 (277)	1.5680E-06 (277)	1.8239E-06 (279)	1.7506E-06 (269)	1.7364E-06 (315)
23	5.0202E-07 (277)	9.9107E-07 (333)	1.1456E-06 (270)	1.1564E-06 (270)	1.0920E-06 (270)
24	4.5096E-07 (297)	3.6691E-07 (270)	1.0591E-06 (270)	1.0836E-06 (270)	1.0369E-06 (287)
25	6.2366E-07 (297)	1.0830E-06 (297)	1.2243E-06 (76)	1.1998E-06 (297)	1.1315E-06 (297)
26	2.3214E-07 (290)	5.2535E-07 (351)	6.8986E-07 (351)	7.5066E-07 (309)	7.6907E-07 (118)
27	5.3104E-07 (143)	9.3807E-07 (143)	1.0329E-06 (143)	1.0104E-06 (103)	9.7319E-07 (104)
28	6.1290E-07 (39)	1.1057E-06 (104)	1.1459E-06 (104)	1.1114E-06 (5)	1.1493E-06 (5)
29	4.5081E-07 (104)	7.6379E-07 (143)	9.7257E-07 (143)	1.0416E-06 (360)	1.0653E-06 (360)
30	3.0977E-07 (77)	5.8142E-07 (77)	6.6188E-07 (77)	6.9235E-07 (360)	6.9123E-07 (360)
31	4.2623E-07 (104)	7.2529E-07 (105)	8.3396E-07 (105)	9.0457E-07 (222)	9.3695E-07 (139)
32	4.0673E-07 (180)	6.6593E-07 (180)	7.4472E-07 (137)	7.4211E-07 (137)	7.4924E-07 (12)
33	5.0501E-07 (106)	9.0627E-07 (53)	1.0560E-06 (53)	1.0527E-06 (53)	9.8995E-07 (53)
34	3.9305E-07 (53)	6.3147E-07 (53)	7.2705E-07 (41)	7.9365E-07 (87)	8.6557E-07 (87)
35	2.7855E-07 (178)	4.9791E-07 (178)	5.8904E-07 (178)	6.0494E-07 (56)	6.1071E-07 (95)
36	3.5657E-07 (352)	7.4415E-07 (344)	1.0168E-06 (344)	1.1015E-06 (344)	1.0129E-06 (178)

PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY MAXIMUM      3-HOUR CONC= 5.8904E-06      DIRECTION= 9      DISTANCE= 2.0 KM      DAY=166      TIME PERIOD= 5  
 YEAR= 74

DIR	HIGHEST		3-HOUR CONCENTRATION AT EACH RECEPTOR							
	RANGE	1.0 KM	1.5 KM	2.0 KM	2.5 KM	3.0 KM				
1	3.5552E-06	(101, 5)	5.4307E-06	(101, 5)	5.5813E-06	(101, 5)	5.1347E-06	(101, 5)	4.5616E-06	(101, 5)
2	2.6493E-06	(94, 6)	4.3524E-06	(94, 6)	4.6141E-06	(94, 6)	4.3118E-06	(94, 6)	3.8634E-06	(94, 6)
3	1.9087E-06	(81, 5)	2.9829E-06	(40, 6)	3.8223E-06	(40, 6)	3.9766E-06	(40, 6)	3.8174E-06	(40, 6)
4	1.4155E-06	(135, 4)	2.0465E-06	(135, 4)	2.4309E-06	(86, 2)	2.4230E-06	(86, 2)	2.3965E-06	(349, 6)
5	2.0293E-06	(150, 3)	3.1444E-06	(150, 3)	3.2552E-06	(150, 3)	3.0049E-06	(150, 3)	2.6729E-06	(150, 3)
6	2.1543E-06	(92, 1)	3.9963E-06	(92, 1)	4.4895E-06	(92, 1)	4.3387E-06	(92, 1)	3.9732E-06	(92, 1)
7	2.3367E-06	(91, 7)	4.4430E-06	(91, 7)	5.0339E-06	(91, 7)	4.8860E-06	(91, 7)	4.4871E-06	(91, 7)
8	2.1861E-06	(78, 6)	3.3798E-06	(78, 6)	3.4893E-06	(78, 6)	3.8907E-06	(150, 7)	4.0954E-06	(150, 7)
9	2.6991E-06	(50, 5)	4.9816E-06	(166, 5)	5.8904E-06	(166, 5)	5.8686E-06	(166, 5)	5.4871E-06	(166, 5)
10	2.6078E-06	(78, 7)	4.5019E-06	(78, 7)	4.8883E-06	(78, 7)	4.8447E-06	(154, 6)	4.7299E-06	(154, 6)
11	2.9399E-06	(75, 5)	4.3440E-06	(75, 5)	4.3804E-06	(75, 5)	3.9778E-06	(75, 5)	3.8479E-06	(79, 1)
12	3.1901E-06	(338, 5)	4.4829E-06	(56, 6)	4.7643E-06	(56, 6)	4.4709E-06	(56, 6)	4.0231E-06	(56, 6)
13	1.9808E-06	(98, 6)	3.6462E-06	(339, 7)	4.4258E-06	(339, 7)	4.5721E-06	(339, 7)	4.4436E-06	(339, 7)
14	2.7309E-06	(59, 6)	4.2702E-06	(59, 6)	4.4161E-06	(59, 6)	4.3789E-06	(328, 6)	4.3470E-06	(328, 6)
15	3.5586E-06	(99, 6)	5.5722E-06	(99, 6)	5.7959E-06	(99, 6)	5.3707E-06	(99, 6)	4.7948E-06	(99, 6)
16	3.0236E-06	(319, 3)	4.9364E-06	(319, 3)	5.2383E-06	(319, 3)	4.9066E-06	(319, 3)	4.4076E-06	(319, 3)
17	2.1002E-06	(328, 4)	3.6188E-06	(38, 6)	4.1276E-06	(109, 7)	4.3279E-06	(353, 3)	4.4122E-06	(353, 3)
18	2.5958E-06	(282, 3)	3.7922E-06	(282, 8)	3.8816E-06	(283, 1)	3.8068E-06	(283, 1)	3.5158E-06	(283, 1)
19	1.7005E-06	(60, 4)	3.0914E-06	(60, 4)	3.4354E-06	(60, 4)	3.2996E-06	(60, 4)	3.0106E-06	(60, 4)
20	2.3041E-06	(282, 7)	3.9480E-06	(333, 1)	5.2207E-06	(333, 1)	5.5360E-06	(333, 1)	5.3826E-06	(333, 1)
21	3.2366E-06	(282, 6)	4.6576E-06	(282, 6)	4.6582E-06	(277, 1)	4.6259E-06	(277, 1)	4.8434E-06	(110, 2)
22	3.2787E-06	(279, 4)	4.8724E-06	(279, 4)	5.1942E-06	(278, 5)	5.0690E-06	(278, 5)	4.6737E-06	(278, 5)
23	2.4979E-06	(333, 4)	3.8225E-06	(333, 4)	3.9167E-06	(333, 4)	3.5889E-06	(333, 4)	3.5078E-06	(363, 4)
24	2.3665E-06	(286, 5)	4.5047E-06	(286, 5)	5.1081E-06	(286, 5)	4.9615E-06	(286, 5)	4.5652E-06	(323, 3)
25	3.8995E-06	(280, 5)	5.3194E-06	(280, 5)	5.7726E-06	(297, 6)	5.5957E-06	(76, 8)	5.2946E-06	(76, 8)
26	1.7358E-06	(118, 7)	3.1179E-06	(118, 7)	3.5874E-06	(351, 4)	3.5987E-06	(351, 4)	3.3764E-06	(351, 4)
27	2.3040E-06	(114, 6)	3.5224E-06	(143, 6)	4.1611E-06	(336, 7)	4.2780E-06	(336, 7)	4.0700E-06	(336, 7)
28	4.1659E-06	(104, 7)	5.6287E-06	(104, 7)	5.4722E-06	(104, 7)	4.8815E-06	(104, 7)	4.2536E-06	(104, 7)
29	1.5652E-06	(104, 4)	3.0925E-06	(77, 7)	3.7509E-06	(77, 7)	3.7779E-06	(77, 7)	3.5456E-06	(77, 7)
30	1.5790E-06	(77, 6)	2.9766E-06	(77, 6)	3.3597E-06	(77, 6)	3.2502E-06	(77, 6)	3.0474E-06	(337, 3)
31	2.1315E-06	(104, 5)	3.4039E-06	(104, 5)	3.5712E-06	(104, 5)	3.3937E-06	(145, 8)	3.5113E-06	(145, 8)
32	2.9064E-06	(180, 2)	4.3493E-06	(180, 2)	4.4102E-06	(180, 2)	4.0149E-06	(180, 2)	3.5354E-06	(180, 2)
33	2.0846E-06	(53, 3)	3.5975E-06	(53, 3)	4.0670E-06	(53, 3)	4.0314E-06	(53, 2)	3.7980E-06	(53, 2)
34	2.1019E-06	(56, 1)	4.1425E-06	(56, 1)	4.7705E-06	(56, 1)	4.6711E-06	(56, 1)	4.3120E-06	(56, 1)
35	2.0984E-06	(97, 4)	3.7573E-06	(56, 3)	4.4612E-06	(56, 3)	4.5581E-06	(56, 3)	4.4031E-06	(56, 3)
36	2.2866E-06	(178, 7)	3.1578E-06	(178, 7)	3.8107E-06	(344, 8)	4.1474E-06	(344, 8)	4.0940E-06	(344, 8)



PLANT NAME: W. R. GRACE      POLLUTANT: PART      EMISSION UNITS: GM/SEC      AIR QUALITY UNITS: GM/M\*\*3  
 YEARLY SECOND MAXIMUM      3-HOUR CONC= 5.5811E-06      DIRECTION= 2S      DISTANCE= 2.5 KM      DAY=297      TIME PERIOD= 6  
 YEAR= 74

RANGE	SECOND HIGHEST		3-HOUR CONCENTRATION AT EACH RECEPTOR							
	1.0 KM		1.5 KM	2.0 KM	2.5 KM	3.0 KM				
1	3.3352E-06	( 53, 5)	4.1898E-06	( 87, 4)	4.7577E-06	( 87, 4)	4.6278E-06	( 87, 4)	4.2572E-06	( 87, 4)
2	2.6456E-06	( 97, 5)	3.8511E-06	( 97, 5)	4.2159E-06	(134, 6)	4.0410E-06	(134, 6)	3.6842E-06	(134, 6)
3	1.6582E-06	(135, 4)	2.9396E-06	( 81, 5)	3.0785E-06	( 42, 2)	3.4625E-06	( 42, 2)	3.5086E-06	( 42, 2)
4	1.3323E-06	(163, 6)	2.0409E-06	( 86, 2)	2.1292E-06	( 2, 6)	2.1617E-06	(349, 6)	2.2607E-06	( 86, 2)
5	1.2934E-06	( 98, 4)	2.1814E-06	( 42, 4)	2.5467E-06	( 42, 4)	2.5358E-06	(161, 5)	2.5385E-06	(161, 5)
6	1.8987E-06	(149, 6)	3.2814E-06	(149, 6)	3.9218E-06	( 38, 1)	4.0669E-06	( 38, 1)	3.9007E-06	( 38, 1)
7	2.0738E-06	( 91, 5)	3.3210E-06	(146, 5)	3.5730E-06	(146, 5)	4.0417E-06	(271, 5)	4.1606E-06	(271, 5)
8	2.0099E-06	( 92, 6)	3.0416E-06	( 92, 6)	3.2335E-06	(150, 7)	3.3679E-06	( 88, 5)	3.3375E-06	( 88, 5)
9	2.5548E-06	(123, 5)	4.8084E-06	( 50, 5)	5.2952E-06	( 50, 5)	5.0609E-06	( 50, 5)	4.6038E-06	( 50, 5)
10	2.4128E-06	( 56, 5)	4.1638E-06	(103, 6)	4.6818E-06	(154, 6)	4.6334E-06	( 78, 7)	4.1914E-06	( 78, 7)
11	1.9276E-06	(127, 6)	3.2702E-06	( 79, 1)	3.8818E-06	( 79, 1)	3.9733E-06	( 79, 1)	3.4992E-06	( 75, 5)
12	2.7554E-06	( 56, 6)	3.9239E-06	(338, 3)	4.1083E-06	(338, 3)	3.8208E-06	(338, 3)	3.4190E-06	(338, 3)
13	1.9303E-06	( 79, 5)	3.4762E-06	( 42, 7)	4.0505E-06	( 42, 7)	3.9963E-06	( 42, 7)	3.7067E-06	( 42, 7)
14	2.3459E-06	( 43, 6)	3.5694E-06	(323, 6)	4.2105E-06	(328, 6)	4.0643E-06	( 59, 6)	3.8606E-06	(339, 8)
15	2.4708E-06	(319, 4)	3.7284E-06	( 43, 2)	3.9961E-06	( 43, 2)	3.7673E-06	( 43, 2)	3.4012E-06	( 43, 2)
16	2.6510E-06	(340, 4)	4.3044E-06	(340, 4)	4.5392E-06	(340, 4)	4.2311E-06	(340, 4)	3.7869E-06	(340, 4)
17	2.0795E-06	( 38, 6)	3.4698E-06	(109, 7)	3.9606E-06	( 38, 6)	4.1143E-06	(109, 7)	3.8391E-06	(109, 7)
18	2.2571E-06	( 38, 4)	3.3624E-06	(283, 1)	3.7895E-06	(282, 8)	3.5775E-06	(353, 5)	3.4428E-06	(353, 5)
19	1.4947E-06	(282, 7)	2.4846E-06	( 60, 1)	2.9549E-06	(109, 8)	3.0510E-06	(109, 8)	2.9120E-06	(109, 8)
20	2.2205E-06	( 60, 3)	3.8957E-06	( 60, 3)	4.2933E-06	( 60, 3)	4.1056E-06	( 60, 3)	4.0201E-06	(314, 3)
21	1.9053E-06	(277, 1)	3.9479E-06	(277, 1)	4.6574E-06	(282, 6)	4.6157E-06	(110, 2)	4.3097E-06	(277, 1)
22	2.3693E-06	(278, 5)	4.5492E-06	(278, 5)	4.9341E-06	(279, 4)	4.4958E-06	(279, 4)	3.9661E-06	(279, 4)
23	1.9703E-06	(279, 5)	3.0115E-06	(270, 7)	3.4931E-06	(270, 7)	3.4353E-06	(270, 7)	3.3222E-06	( 61, 4)
24	1.8421E-06	(297, 4)	2.8901E-06	(297, 4)	3.9435E-06	(323, 3)	4.4870E-06	(323, 3)	4.5594E-06	(286, 5)
25	2.7832E-06	(297, 6)	5.1453E-06	(297, 6)	5.5228E-06	( 76, 8)	5.5811E-06	(297, 6)	5.1181E-06	(297, 6)
26	1.3385E-06	(351, 4)	2.9892E-06	(351, 4)	3.4442E-06	(118, 7)	3.2961E-06	(118, 7)	2.9999E-06	(118, 7)
27	2.1909E-06	(143, 6)	3.4675E-06	(104, 6)	3.7418E-06	(104, 6)	3.5322E-06	(104, 6)	3.5008E-06	(290, 4)
28	2.3341E-06	( 77, 4)	3.7772E-06	( 77, 4)	4.0312E-06	( 39, 6)	4.0147E-06	( 39, 6)	3.7509E-06	( 39, 6)
29	1.5165E-06	( 39, 5)	2.6411E-06	(114, 5)	3.0854E-06	(114, 5)	3.1444E-06	(218, 6)	3.1191E-06	(218, 6)
30	1.4589E-06	(201, 6)	2.1323E-06	(104, 4)	2.5439E-06	(337, 3)	2.9604E-06	(337, 3)	2.9753E-06	( 77, 6)
31	2.0340E-06	( 55, 5)	3.3374E-06	( 55, 5)	3.4913E-06	( 55, 5)	3.3229E-06	(104, 5)	2.9926E-06	(218, 5)
32	1.7796E-06	(217, 4)	3.4021E-06	(217, 4)	3.8886E-06	(217, 4)	3.8030E-06	(217, 4)	3.5269E-06	( 12, 3)
33	2.0394E-06	(106, 4)	3.4645E-06	(106, 3)	3.9869E-06	( 53, 2)	4.0195E-06	( 53, 3)	3.7838E-06	( 53, 3)
34	1.9333E-06	( 53, 1)	3.2969E-06	( 41, 3)	3.9450E-06	( 41, 3)	3.9776E-06	( 41, 3)	4.0025E-06	( 87, 2)
35	1.9878E-06	( 56, 3)	3.1179E-06	( 2, 4)	3.4442E-06	( 2, 4)	3.2960E-06	( 2, 4)	3.0936E-06	( 95, 1)
36	1.5399E-06	(178, 5)	2.9498E-06	(352, 6)	3.4636E-06	(352, 6)	3.5097E-06	(352, 6)	3.3814E-06	(352, 6)

APPENDIX 2  
PARTICULATE MATTER BACKGROUND

### Background Concentrations

Background levels for particulate matter, sulfur dioxide and nitrogen oxides have been estimated. For nitrogen oxides and sulfur dioxide the background was assumed to be zero. This assumption was made since all of the sulfur dioxide and nitrogen oxides emitted within several miles of the proposed New Wales chemical complex is emitted from permitted air pollution sources. Emission data for these sources are on file with the Florida Department of Environmental Regulation office in Tampa, Florida and were taken into consideration in developing emission inventories which were used for air quality modeling.

The background concentrations of particulate matter for the annual average period and the 24-hour annual average period were derived from two reports: A Comparison of Total Suspended Particulate Matter Levels in the Ambient Air Measured at Two Monitoring Sites in Mulberry, Florida, Sholtes and Koogler Environmental Consultants, April 1977; and Environmental Impact Statement-Draft, Estech General Chemicals Corporation Duette Mine, Manatee County, Florida, US EPA Region IV, October 1979, and from data collected by New Wales at a site approximately two miles west of the chemical complex (Figure 6-1). In the first report an annual average particulate matter background concentration of  $35 \text{ ug/m}^3$  is reported, and in the second a value of  $25 \text{ ug/m}^3$  is reported.

The ambient data collected by New Wales which can be considered representative of background particulate matter levels were collected approximately 2 miles west of the plant site as shown in Figure 6-1. The monitoring site has been operated by New Wales since March 1975. Data from this site representing the period 3/6/75 - 1/17/79 were reviewed to determine a representative particulate matter background level for the plant site area. It should recognize that with the monitoring site only two miles from the existing chemical complex there will be some source impact at the site when the wind is from the east. Easterly winds occur 12-15 percent of the time in Polk County.

The data from the monitoring site are presented in Table 6-2; ranked from highest to lowest. The highest particulate matter concentration recorded was  $132 \text{ ug/m}^3$ . The geometric mean concentration was  $31 \text{ ug/m}^3$  and the 24-hour concentration exceeded 90 percent of the time is  $51 \text{ ug/m}^3$ .

The annual background particulate matter levels from the three data sources are 35, 31 and  $25 \text{ ug/m}^3$ . For this study an annual particulate matter background of  $30 \text{ ug/m}^3$  was used.

For the 24-hour background, the Estech EIS reports a concentration of  $55 \text{ ug/m}^3$ . A 24-hour background level was not reported in the Sholtes and Koogler report. From the New Wales data a 24-hour particulate matter background of  $50 \text{ ug/m}^3$  was selected. This is the concentration exceeded 11 percent of the time. The fraction of time the background value was exceeded (11 percent) can be considered representative of the time when the wind blows from the existing chemical complex toward the monitor. For this study a 24-hour particulate matter background of  $50 \text{ ug/m}^3$  was selected.

APPENDIX 3  
PTMTPW PARTICULATE MATTER MODELING

STACK HEIGHT ADJUSTMENT = 0.0  
 \*\*\* SOURCE DATA \*\*\*

SOURCE NAME	EMM. RATE (G/SEC)	STACK HT. (M)	STACK TEMP. (DEG-K)	EXIT VEL. (M/SEC)	STACK DIA. (M)	VOL. FLOW (M**3/SEC)	X-COORD. (KM)	Y-COORD. (KM)
3 46 01	5.80	16.8	321.9	0.0	1.10	14.	409.620	3085.950
3 46 02	5.80	16.8	319.1	0.0	0.30	1.	409.620	3085.980
3 46 03	4.40	35.1	321.9	0.0	0.60	5.	409.810	3086.890
3 46 04	4.40	15.2	321.9	0.0	0.30	1.	409.610	3085.990
3 46 06	4.50	30.5	324.7	0.0	2.00	44.	409.800	3086.910
3 46 07	4.50	24.4	319.1	0.0	2.00	43.	409.820	3086.930
3 46 08	5.00	30.5	333.0	0.0	2.30	67.	409.660	3086.840
3 46 09	5.00	15.2	333.0	0.0	2.00	57.	409.600	3085.900
DAP	4.28	40.4	319.0	21.20	2.10	0.	409.600	3086.650

ALL SOURCE  
 24-HR RM.

1A

## \*\*\* R E C E P T O R S \*\*\*

NO.	X(KM)	Y(KM)	Z(KM)
1.	411.100	3086.700	0.0
2.	411.200	3086.700	0.0
3.	411.300	3086.700	0.0
4.	411.400	3086.700	0.0
5.	411.500	3086.700	0.0
6.	411.600	3086.700	0.0
7.	411.700	3086.700	0.0
8.	411.800	3086.700	0.0
9.	411.900	3086.700	0.0
10.	412.000	3086.700	0.0
11.	411.100	3086.800	0.0
12.	411.200	3086.800	0.0
13.	411.300	3086.800	0.0
14.	411.400	3086.800	0.0
15.	411.500	3086.800	0.0
16.	411.600	3086.800	0.0
17.	411.700	3086.800	0.0
18.	411.800	3086.800	0.0
19.	411.900	3086.800	0.0
20.	412.000	3086.800	0.0
21.	411.100	3086.900	0.0
22.	411.200	3086.900	0.0
23.	411.300	3086.900	0.0
24.	411.400	3086.900	0.0
25.	411.500	3086.900	0.0
26.	411.600	3086.900	0.0
27.	411.700	3086.900	0.0
28.	411.800	3086.900	0.0
29.	411.900	3086.900	0.0
30.	412.000	3086.900	0.0
31.	411.100	3087.000	0.0
32.	411.200	3087.000	0.0
33.	411.300	3087.000	0.0
34.	411.400	3087.000	0.0
35.	411.500	3087.000	0.0
36.	411.600	3087.000	0.0
37.	411.700	3087.000	0.0
38.	411.800	3087.000	0.0
39.	411.900	3087.000	0.0
40.	412.000	3087.000	0.0
41.	411.100	3087.100	0.0
42.	411.200	3087.100	0.0
43.	411.300	3087.100	0.0
44.	411.400	3087.100	0.0
45.	411.500	3087.100	0.0
46.	411.600	3087.100	0.0
47.	411.700	3087.100	0.0
48.	411.800	3087.100	0.0
49.	411.900	3087.100	0.0
50.	412.000	3087.100	0.0

## \*\*\* METEOROLOGY \*\*\*

	WIND DIR. (DEG)	WIND VEL. (M/SEC)	STABILITY CLASS	MIX.HT. (M)	AMB.TEMP. (DEG-K)	PRESS. (MB)
1.	242.	6.20	4	1306.	300.	1000.00
2.	244.	6.20	4	1314.	300.	1000.00
3.	247.	5.10	4	1321.	300.	1000.00
4.	275.	5.10	4	1329.	300.	1000.00
5.	270.	6.20	4	1336.	300.	1000.00
6.	275.	5.10	4	1344.	300.	1000.00
7.	275.	6.70	4	1351.	300.	1000.00
8.	272.	6.70	4	1358.	301.	1000.00
9.	270.	6.20	4	1366.	302.	1000.00
10.	283.	6.20	4	1373.	303.	1000.00
11.	266.	7.20	4	1381.	303.	1000.00
12.	272.	6.70	4	1388.	304.	1000.00
13.	270.	6.20	4	1396.	304.	1000.00
14.	279.	5.70	4	1403.	304.	1000.00
15.	284.	6.70	4	1403.	304.	1000.00
16.	272.	7.20	4	1403.	304.	1000.00
17.	276.	6.70	4	1403.	303.	1000.00
18.	271.	6.70	4	1403.	303.	1000.00
19.	276.	6.20	4	1403.	301.	1000.00
20.	276.	5.10	5	1331.	301.	1000.00
21.	282.	5.10	4	1388.	300.	1000.00
22.	272.	4.10	4	1378.	300.	1000.00
23.	272.	3.60	4	1369.	300.	1000.00
24.	268.	4.10	5	1225.	300.	1000.00

AVERAGE CONCENTRATIONS (UG/M\*\*3) AND PERCENT CONTRIBUTIONS FOR 24 HOURS

RECEPTORS	1.		2.		3.		4.		5.		6.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
3 46 01	4.76	8.29	4.62	8.10	4.07	7.38	3.33	6.35	2.58	5.21	1.92	4.11
3 46 02	5.36	9.33	4.84	8.48	4.01	7.27	3.11	5.94	2.30	4.65	1.64	3.52
3 46 03	10.13	17.64	10.28	18.02	10.32	18.72	10.25	19.57	10.10	20.42	9.88	21.19
3 46 04	4.22	7.35	3.68	6.45	2.97	5.39	2.26	4.31	1.64	3.31	1.15	2.47
3 46 06	7.50	13.07	7.76	13.60	7.95	14.41	8.06	15.38	8.10	16.37	8.08	17.32
3 46 07	8.87	15.45	9.09	15.92	9.25	16.77	9.35	17.83	9.38	18.96	9.35	20.04
3 46 08	8.96	15.61	8.99	15.74	8.92	16.18	8.79	16.78	8.62	17.42	8.41	18.02
3 46 09	2.75	4.79	2.97	5.21	2.86	5.19	2.54	4.84	2.11	4.27	1.67	3.59
DAP	4.85	8.46	4.84	8.48	4.79	8.69	4.72	9.01	4.64	9.38	4.55	9.74

TOTAL CONCENTRATION (UG/M\*\*3)

57.40                      57.08                      55.15                      52.41                      49.47                      46.65

RECEPTORS	7.		8.		9.		10.		11.		12.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
3 46 01	1.38	3.13	0.97	2.32	0.67	1.68	0.45	1.19	2.93	4.32	3.67	5.39
3 46 02	1.14	2.59	0.77	1.85	0.52	1.30	0.34	0.91	3.78	5.58	4.36	6.41
3 46 03	9.62	21.82	9.32	22.29	9.00	22.61	8.67	22.81	16.21	23.92	15.30	22.45
3 46 04	0.79	1.79	0.53	1.27	0.35	0.88	0.23	0.61	3.21	4.73	3.55	5.21
3 46 06	8.00	18.15	7.88	18.86	7.73	19.43	7.55	19.87	12.60	18.58	12.26	18.00
3 46 07	9.26	21.02	9.13	21.84	8.95	22.50	8.74	23.01	15.95	23.53	15.45	22.68
3 46 08	8.17	18.54	7.92	18.96	7.67	19.28	7.41	19.51	10.02	14.79	9.70	14.23
3 46 09	1.28	2.90	0.95	2.27	0.69	1.72	0.49	1.28	1.45	2.14	2.04	3.00
DAP	4.44	10.07	4.33	10.36	4.22	10.60	4.11	10.81	1.64	2.42	1.80	2.64

TOTAL CONCENTRATION (UG/M\*\*3)

44.08                      41.80                      39.79                      37.99                      67.79                      68.14

RECEPTORS	13.		14.		15.		16.		17.		18.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
3 46 01	3.99	5.98	3.90	6.10	3.52	5.85	2.98	5.33	2.42	4.66	1.88	3.92
3 46 02	4.43	6.63	4.08	6.39	3.50	5.83	2.85	5.09	2.22	4.28	1.67	3.49
3 46 03	14.39	21.57	13.53	21.17	12.71	21.13	11.94	21.32	11.23	21.64	10.57	22.01
3 46 04	3.48	5.22	3.13	4.90	2.63	4.37	2.10	3.75	1.61	3.10	1.20	2.49
3 46 06	11.85	17.75	11.39	17.83	10.91	18.14	10.43	18.62	9.95	19.18	9.49	19.76
3 46 07	14.86	22.27	14.22	22.25	13.55	22.54	12.89	23.02	12.24	23.60	11.62	24.20
3 46 08	9.35	14.01	9.20	14.09	8.65	14.38	8.31	14.83	7.97	15.37	7.65	15.93
3 46 09	2.45	3.67	2.61	4.08	2.53	4.20	2.29	4.09	1.96	3.79	1.62	3.37
DAP	1.93	2.90	2.05	3.21	2.14	3.56	2.22	3.96	2.28	4.39	2.32	4.83

TOTAL CONCENTRATION (UG/M\*\*3)

66.74                      63.99                      60.13                      56.00                      51.88                      48.02

RECEPTORS	19.		20.		21.		22.		23.		24.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
3 46 01	1.43	3.20	1.05	2.54	1.14	2.07	1.92	3.47	2.66	4.82	3.18	5.84
3 46 02	1.23	2.76	0.88	2.13	1.68	3.05	2.57	4.65	3.29	5.96	3.68	6.77
3 46 03	9.96	22.37	9.40	22.68	13.67	24.81	12.83	23.23	12.04	21.83	11.32	20.80
3 46 04	0.87	1.95	0.62	1.49	1.53	2.78	2.23	4.04	2.75	4.98	2.98	5.47
3 46 06	9.04	20.31	8.62	20.79	12.26	22.26	11.63	21.07	11.03	19.98	10.45	19.20
3 46 07	11.02	24.75	10.46	25.23	18.02	32.70	16.70	30.24	15.51	28.11	14.44	26.52
3 46 08	7.34	16.49	7.04	17.00	5.99	10.88	6.01	10.88	5.98	10.84	5.92	10.88
3 46 09	1.29	2.89	1.00	2.40	0.49	0.89	0.94	1.70	1.44	2.61	1.89	3.48



DAP	2.35	5.28	2.37	5.73	0.31	0.56	0.39	0.71	0.48	0.87	0.57	1.04
TOTAL CONCENTRATION (UG/M**3)												
	44.52		41.44		55.09		55.22		55.18		54.42	

RECEPTORS		25.		26.		27.		28.		29.		30.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	
3 46 01	3.40	6.45	3.34	6.64	3.07	6.48	2.68	6.06	2.24	5.47	1.81	4.78	
3 46 02	3.73	7.07	3.49	6.94	3.08	6.51	2.59	5.88	2.10	5.13	1.65	4.36	
3 46 03	10.65	20.18	10.03	19.94	9.46	20.00	8.94	20.26	8.46	20.66	8.01	21.12	
3 46 04	2.74	5.56	2.69	5.35	2.33	4.92	1.93	4.38	1.54	3.77	1.20	3.16	
3 46 06	9.90	18.77	9.39	18.67	8.91	18.83	8.46	19.18	8.04	19.65	7.65	20.18	
3 46 07	13.46	25.52	12.59	25.03	11.80	24.93	11.08	25.10	10.42	25.45	9.82	25.89	
3 46 08	5.84	11.07	5.73	11.40	5.62	11.87	5.49	12.44	5.36	13.09	5.22	13.76	
3 46 09	2.19	4.15	2.30	4.57	2.24	4.74	2.07	4.68	1.82	4.44	1.54	4.06	
DAP	0.65	1.24	0.74	1.47	0.82	1.73	0.89	2.02	0.96	2.35	1.02	2.70	
TOTAL CONCENTRATION (UG/M**3)													
	52.76		50.30		47.32		44.13		40.94		37.93		

RECEPTORS		31.		32.		33.		34.		35.		36.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	
3 46 01	0.29	1.28	0.67	2.74	1.23	4.56	1.85	6.34	2.40	7.76	2.78	8.70	
3 46 02	0.48	2.13	1.01	4.11	1.69	6.27	2.36	8.09	2.88	9.30	3.16	9.89	
3 46 03	4.90	21.68	5.13	20.83	5.28	19.58	5.36	18.34	5.39	17.39	5.37	16.81	
3 46 04	0.47	2.10	0.94	3.82	1.50	5.56	2.01	6.89	2.38	7.68	2.54	7.95	
3 46 06	5.29	23.44	5.44	22.09	5.51	20.46	5.54	18.94	5.52	17.80	5.47	17.10	
3 46 07	9.20	40.74	9.07	36.83	8.87	32.92	8.64	29.55	8.38	27.03	8.10	25.35	
3 46 08	1.79	7.93	2.01	8.15	2.20	8.15	2.36	8.09	2.50	8.08	2.62	8.20	
3 46 09	0.11	0.49	0.29	1.19	0.59	2.21	0.99	3.38	1.40	4.51	1.74	5.45	
DAP	0.05	0.23	0.06	0.25	0.08	0.30	0.11	0.37	0.14	0.46	0.18	0.56	
TOTAL CONCENTRATION (UG/M**3)													
	22.59		24.62		26.95		29.22		30.99		31.96		

RECEPTORS		37.		38.		39.		40.		41.		42.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	
3 46 01	2.94	9.16	2.90	9.21	2.70	8.91	2.40	8.36	0.05	1.14	0.16	2.91	
3 46 02	3.19	9.95	3.03	9.62	2.72	9.00	2.35	8.19	0.09	2.12	0.27	4.86	
3 46 03	5.33	16.60	5.25	16.71	5.16	17.05	5.06	17.59	0.72	16.49	0.92	16.35	
3 46 04	2.51	7.83	2.34	7.44	2.07	6.85	1.77	6.15	0.10	2.25	0.27	4.83	
3 46 06	5.39	16.90	5.30	16.85	5.19	17.15	5.07	17.65	0.99	22.81	1.21	21.55	
3 46 07	7.82	24.39	7.55	23.99	7.27	24.01	7.00	24.33	1.92	43.97	2.23	39.64	
3 46 08	2.72	8.47	2.79	8.87	2.85	9.41	2.89	10.05	0.29	6.64	0.38	6.83	
3 46 09	1.96	6.12	2.05	6.50	2.00	6.62	1.97	6.50	0.02	0.40	0.06	1.14	
DAP	0.22	0.68	0.26	0.82	0.30	0.99	0.34	1.19	0.18	4.19	0.11	1.88	
TOTAL CONCENTRATION (UG/M**3)													
	32.08		31.45		30.26		28.75		4.36		5.63		

RECEPTORS		43.		44.		45.		46.		47.		48.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	
3 46 01	0.40	5.46	0.78	8.17	1.26	10.52	1.76	12.25	2.18	13.37	2.45	13.94	
3 46 02	0.61	8.29	1.10	11.45	1.65	13.74	2.16	15.08	2.55	15.64	2.75	15.61	
3 46 03	1.12	15.23	1.32	13.78	1.50	12.53	1.67	11.67	1.83	11.23	1.96	11.15	
3 46 04	0.58	7.80	0.99	10.30	1.43	11.91	1.82	12.67	2.08	12.80	2.20	12.51	

3 46 06	1.42	19.28	1.62	16.88	1.79	14.92	1.95	13.57	2.08	12.80	2.20	12.50
3 46 07	2.51	34.08	2.76	28.80	2.96	24.68	3.13	21.85	3.27	20.10	3.38	19.19
3 46 08	0.49	6.60	0.59	6.19	0.70	5.82	0.80	5.60	0.91	5.56	1.00	5.69
3 46 09	0.18	2.39	0.38	3.96	0.67	5.56	1.01	7.01	1.33	8.20	1.60	9.09
DAP	0.06	0.88	0.04	0.47	0.04	0.32	0.04	0.28	0.05	0.30	0.06	0.34

TOTAL CONCENTRATION (UG/M\*\*3)

7.37	9.57	12.01	14.34	16.28	17.61
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RECEPTORS

SOURCE NAME	49.		50.		PARTIAL CONC.	%	CONC.	%	PARTIAL CONC.	%	CONC.	%	PARTIAL CONC.	%	CONC.	%
	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.												
3 46 01	2.57	14.06	2.54	13.80												
3 46 02	2.77	15.15	2.65	14.39												
3 46 03	2.08	11.36	2.18	11.82												
3 46 04	2.18	11.92	2.05	11.15												
3 46 06	2.30	12.56	2.38	12.91												
3 46 07	3.46	18.89	3.51	19.07												
3 46 08	1.09	5.97	1.18	6.40												
3 46 09	1.77	9.67	1.83	9.95												
DAP	0.08	0.41	0.09	0.51												

TOTAL CONCENTRATION (UG/M\*\*3)

18.30	18.41
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TCP OUTPUT CHARGE: \$ .12

APPENDIX 4  
PTMTPW SULFUR DIOXIDE MODELING

STACK HEIGHT ADJUSTMENT = 0.0  
 \*\*\* SOURCE DATA \*\*\*

SOURCE NAME	EMM. RATE (G/SEC)	STACK HT. (M)	STACK TEMP. (DEG-K)	EXIT VEL. (M/SEC)	STACK DIA. (M)	VOL. FLOW (M**3/SEC)	X-COORD. (KM)	Y-COORD. (KM)
3 46 06	0.30	30.5	324.7	0.0	2.00	44.	409.800	3086.910
3 46 07	0.30	24.4	319.1	0.0	2.00	43.	409.820	3086.930
3 46 14	91.90	61.0	350.0	0.0	2.10	57.	409.710	3087.000
3 46 15	57.70	45.7	327.0	0.0	1.50	31.	409.750	3087.070
2 46 16	36.80	61.0	350.0	0.0	2.80	47.	409.640	3087.050
2 46 17	36.80	61.0	350.0	0.0	2.80	47.	409.670	3087.090
DAP	3.15	40.4	319.0	21.20	2.10	0.	409.600	3086.650

ALL SOURCE

24-HR SO2

1A

\*\*\* R E C E P T O R S \*\*\*

NO.	X(KM)	Y(KM)	Z(KM)
1.	411.100	3086.700	0.0
2.	411.200	3086.700	0.0
3.	411.300	3086.700	0.0
4.	411.400	3086.700	0.0
5.	411.500	3086.700	0.0
6.	411.600	3086.700	0.0
7.	411.700	3086.700	0.0
8.	411.800	3086.700	0.0
9.	411.900	3086.700	0.0
10.	412.000	3086.700	0.0
11.	411.100	3086.800	0.0
12.	411.200	3086.800	0.0
13.	411.300	3086.800	0.0
14.	411.400	3086.800	0.0
15.	411.500	3086.800	0.0
16.	411.600	3086.800	0.0
17.	411.700	3086.800	0.0
18.	411.800	3086.800	0.0
19.	411.900	3086.800	0.0
20.	412.000	3086.800	0.0
21.	411.100	3086.900	0.0
22.	411.200	3086.900	0.0
23.	411.300	3086.900	0.0
24.	411.400	3086.900	0.0
25.	411.500	3086.900	0.0
26.	411.600	3086.900	0.0
27.	411.700	3086.900	0.0
28.	411.800	3086.900	0.0
29.	411.900	3086.900	0.0
30.	412.000	3086.900	0.0
31.	411.100	3087.000	0.0
32.	411.200	3087.000	0.0
33.	411.300	3087.000	0.0
34.	411.400	3087.000	0.0
35.	411.500	3087.000	0.0
36.	411.600	3087.000	0.0
37.	411.700	3087.000	0.0
38.	411.800	3087.000	0.0
39.	411.900	3087.000	0.0
40.	412.000	3087.000	0.0
41.	411.100	3087.100	0.0
42.	411.200	3087.100	0.0
43.	411.300	3087.100	0.0
44.	411.400	3087.100	0.0
45.	411.500	3087.100	0.0
46.	411.600	3087.100	0.0
47.	411.700	3087.100	0.0
48.	411.800	3087.100	0.0
49.	411.900	3087.100	0.0
50.	412.000	3087.100	0.0

## \*\*\* METEOROLOGY \*\*\*

	WIND DIR. (DEG)	WIND VEL. (M/SEC)	STABILITY CLASS	MIX.HT. (M)	AMB. TEMP. (DEG-K)	PRESS. (MB)
1.	242.	6.20	4	1306.	300.	1000.00
2.	244.	6.20	4	1314.	300.	1000.00
3.	247.	5.10	4	1321.	300.	1000.00
4.	275.	5.10	4	1329.	300.	1000.00
5.	270.	6.20	4	1336.	300.	1000.00
6.	275.	5.10	4	1344.	300.	1000.00
7.	275.	6.70	4	1351.	300.	1000.00
8.	272.	6.70	4	1358.	301.	1000.00
9.	270.	6.20	4	1366.	302.	1000.00
10.	283.	6.20	4	1373.	303.	1000.00
11.	266.	7.20	4	1381.	303.	1000.00
12.	272.	6.70	4	1388.	304.	1000.00
13.	270.	6.20	4	1396.	304.	1000.00
14.	279.	6.70	4	1403.	304.	1000.00
15.	284.	6.70	4	1403.	304.	1000.00
16.	272.	7.20	4	1403.	304.	1000.00
17.	276.	6.70	4	1403.	303.	1000.00
18.	271.	6.70	4	1403.	303.	1000.00
19.	276.	6.20	4	1403.	301.	1000.00
20.	276.	5.10	5	1381.	301.	1000.00
21.	282.	5.10	4	1388.	300.	1000.00
22.	272.	4.10	4	1378.	300.	1000.00
23.	272.	3.60	4	1369.	300.	1000.00
24.	268.	4.10	5	1225.	300.	1000.00

AVERAGE CONCENTRATIONS (UG/M\*\*3) AND PERCENT CONTRIBUTIONS FOR 24 HOURS

RECEPTORS		1.		2.		3.		4.		5.		6.	
SOURCE NAME		PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
3 46 06		0.50	0.88	0.52	0.78	0.53	0.71	0.54	0.66	0.54	0.62	0.54	0.58
3 46 07		0.59	1.04	0.60	0.91	0.61	0.83	0.62	0.76	0.62	0.72	0.62	0.67
3 46 14		16.77	29.62	19.73	29.77	22.53	30.29	25.21	31.02	27.78	31.83	30.20	32.64
3 46 15		23.20	40.99	27.42	41.39	30.59	41.13	32.93	40.51	34.67	39.73	36.04	38.95
2 46 16		6.94	12.25	8.11	12.24	9.15	12.29	10.08	12.41	10.95	12.55	11.75	12.70
2 46 17		5.04	8.90	6.32	9.53	7.45	10.01	8.43	10.37	9.28	10.64	10.03	10.84
DAP		3.58	6.32	3.56	5.38	3.53	4.74	3.48	4.28	3.41	3.91	3.35	3.62

TOTAL CONCENTRATION (UG/M\*\*3)

56.61                      66.26                      74.39                      81.29                      87.25                      92.52

RECEPTORS		7.		8.		9.		10.		11.		12.	
SOURCE NAME		PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
3 46 06		0.53	0.55	0.53	0.52	0.52	0.49	0.50	0.46	0.84	0.90	0.82	0.79
3 46 07		0.62	0.63	0.61	0.60	0.60	0.56	0.58	0.53	1.06	1.14	1.03	1.00
3 46 14		32.48	33.38	34.57	34.01	36.48	34.53	38.18	34.96	26.88	28.95	31.10	30.21
3 46 15		37.19	38.22	38.21	37.58	39.13	37.04	39.96	36.59	43.18	46.50	46.24	44.92
2 46 16		12.51	12.85	13.21	13.00	13.87	13.13	14.48	13.26	10.95	11.79	12.42	12.06
2 46 17		10.72	11.01	11.34	11.16	11.93	11.30	12.49	11.44	8.75	9.42	10.03	9.74
DAP		3.27	3.36	3.19	3.14	3.11	2.94	3.02	2.77	1.21	1.30	1.32	1.28

TOTAL CONCENTRATION (UG/M\*\*3)

97.31                      101.65                      105.63                      109.22                      92.96                      102.95

RECEPTORS		13.		14.		15.		16.		17.		18.	
SOURCE NAME		PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
3 46 06		0.79	0.70	0.76	0.63	0.73	0.57	0.69	0.52	0.66	0.44	0.63	0.44
3 46 07		0.99	0.88	0.95	0.79	0.90	0.71	0.86	0.64	0.81	0.58	0.77	0.54
3 46 14		35.01	31.22	38.55	32.01	41.66	32.60	44.33	33.05	46.57	33.39	48.38	33.64
3 46 15		48.89	43.60	51.21	42.52	53.21	41.64	54.87	40.91	56.20	40.29	57.17	39.76
2 46 16		13.80	12.31	15.09	12.53	16.25	12.72	17.28	12.88	18.17	13.03	18.92	13.16
2 46 17		11.24	10.02	12.38	10.28	13.47	10.54	14.47	10.79	15.39	11.04	16.22	11.28
DAP		1.42	1.27	1.51	1.25	1.58	1.23	1.63	1.22	1.68	1.20	1.71	1.19

TOTAL CONCENTRATION (UG/M\*\*3)

112.13                      120.43                      127.77                      134.14                      139.49                      143.80

RECEPTORS		19.		20.		21.		22.		23.		24.	
SOURCE NAME		PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
3 46 06		0.60	0.41	0.57	0.38	0.82	0.55	0.77	0.49	0.73	0.44	0.70	0.40
3 46 07		0.73	0.50	0.70	0.47	1.20	0.80	1.11	0.69	1.03	0.61	0.96	0.55
3 46 14		49.81	33.85	50.89	34.01	40.15	26.91	44.23	27.68	47.59	28.33	50.31	28.88
3 46 15		57.80	39.28	58.12	38.84	75.10	50.34	78.19	48.95	80.16	47.71	81.16	46.59
2 46 16		19.54	13.28	20.03	13.39	17.55	11.76	19.24	12.04	20.64	12.29	21.78	12.50
2 46 17		16.94	11.51	17.57	11.74	14.14	9.48	15.92	9.97	17.51	10.42	18.88	10.84
DAP		1.73	1.18	1.75	1.17	0.23	0.15	0.29	0.18	0.35	0.21	0.42	0.24

TOTAL CONCENTRATION (UG/M\*\*3)

147.17                      149.64                      149.18                      159.75                      168.02                      174.20

RECEPTORS		25.		26.		27.		28.		29.		30.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	
3 46 06	0.66	0.37	0.63	0.35	0.59	0.33	0.56	0.31	0.54	0.29	0.51	0.28	
3 46 07	0.90	0.50	0.84	0.46	0.78	0.43	0.74	0.40	0.69	0.38	0.65	0.36	
3 46 14	52.42	29.36	53.99	29.79	55.10	30.18	55.82	30.54	56.19	30.86	56.29	31.17	
3 46 15	81.37	45.58	80.93	44.65	79.98	43.81	78.64	43.02	77.00	42.30	75.17	41.62	
2 46 16	22.67	12.70	23.33	12.87	23.80	13.03	24.09	13.18	24.24	13.31	24.27	13.44	
2 46 17	20.04	11.22	20.98	11.58	21.72	11.90	22.29	12.19	22.69	12.46	22.95	12.71	
DAP	0.48	0.27	0.54	0.30	0.60	0.33	0.66	0.36	0.71	0.39	0.75	0.42	
TOTAL CONCENTRATION (UG/M**3)		178.52	181.23	182.59	182.79	182.06	180.59						

RECEPTORS		31.		32.		33.		34.		35.		36.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	
3 46 06	0.35	0.19	0.36	0.20	0.37	0.20	0.37	0.20	0.37	0.20	0.36	0.20	
3 46 07	0.61	0.34	0.60	0.32	0.59	0.31	0.57	0.30	0.56	0.30	0.54	0.29	
3 46 14	35.84	19.72	38.95	20.98	41.49	22.10	43.53	23.11	45.12	24.03	46.32	24.86	
3 46 15	104.25	57.36	102.47	55.19	100.00	53.26	97.09	51.54	93.91	50.01	90.62	48.64	
2 46 16	29.56	11.31	21.70	11.69	22.56	12.02	23.18	12.31	23.59	12.56	23.82	12.79	
2 46 17	20.08	11.05	21.54	11.60	22.68	12.08	23.53	12.49	24.14	12.85	24.53	13.17	
DAP	0.04	0.02	0.05	0.02	0.06	0.03	0.08	0.04	0.10	0.06	0.13	0.07	
TOTAL CONCENTRATION (UG/M**3)		181.73	185.67	187.75	188.35	187.79	186.32						

16.98  
83.50

Should be  
~ 148  
+ 54 for 7+8 = 202

RECEPTORS		37.		38.		39.		40.		41.		42.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	
3 46 06	0.36	0.20	0.35	0.19	0.35	0.19	0.34	0.19	0.07	0.06	0.08	0.06	
3 46 07	0.52	0.28	0.50	0.28	0.48	0.27	0.47	0.27	0.13	0.11	0.15	0.12	
3 46 14	47.17	25.61	47.72	26.30	48.02	26.93	48.11	27.51	15.76	13.11	18.32	14.70	
3 46 15	87.29	47.40	83.98	45.28	80.72	45.27	77.57	44.34	74.38	61.86	74.07	59.42	
2 46 16	23.91	12.98	23.88	13.16	23.76	13.32	23.56	13.47	13.11	10.90	14.19	11.38	
2 46 17	24.75	13.44	24.82	13.68	24.77	13.89	24.62	14.08	16.65	13.85	17.78	14.26	
DAP	0.16	0.09	0.19	0.10	0.22	0.12	0.25	0.14	0.13	0.11	0.08	0.06	
TOTAL CONCENTRATION (UG/M**3)		184.15	181.44	178.32	174.92	120.23	124.66						

RECEPTORS		43.		44.		45.		46.		47.		48.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	
3 46 06	0.09	0.07	0.11	0.08	0.12	0.09	0.13	0.10	0.14	0.10	0.15	0.11	
3 46 07	0.17	0.13	0.18	0.14	0.20	0.15	0.21	0.16	0.22	0.16	0.22	0.17	
3 46 14	20.67	16.16	22.60	17.51	24.70	18.75	26.35	19.89	27.78	20.94	28.98	21.90	
3 46 15	73.21	57.22	71.96	55.25	70.45	53.48	68.75	51.89	66.95	50.45	65.07	49.16	
2 46 16	15.08	11.79	15.81	12.14	16.39	12.44	16.83	12.70	17.16	12.93	17.38	13.13	
2 46 17	18.67	14.59	19.35	14.86	19.85	15.07	20.20	15.24	20.42	15.39	20.52	15.50	
DAP	0.05	0.04	0.03	0.03	0.03	0.02	0.03	0.02	0.04	0.03	0.04	0.03	
TOTAL CONCENTRATION (UG/M**3)		127.94	130.25	131.73	132.50	132.69	132.37						

RECEPTORS		49.		50.		PARTIAL		PARTIAL		PARTIAL		PARTIAL	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	



SOURCE NAME	CONC.	CONT.	CONC.	CONT.	CONC.	CONT.	CONC.	CONT.	CONC.	CONT.	CONC.	CONT.
3 46 06	0.15	0.12	0.16	0.12								
3 46 07	0.23	0.17	0.23	0.18								
3 46 14	29.99	22.78	30.81	23.60								
3 46 15	63.15	47.98	61.23	46.90								
2 46 16	17.52	13.31	17.58	13.47								
2 46 17	20.53	15.60	20.47	15.68								
DAP	0.06	0.04	0.07	0.05								

TOTAL CONCENTRATION (UG/M\*\*3)

131.62

130.56

TCP OUTPUT CHARGE: \$ .10

STACK HEIGHT ADJUSTMENT = 0.0  
 \*\*\* SOURCE DATA \*\*\*

SOURCE NAME	EMM. RATE (G/SEC)	STACK HT. (M)	STACK TEMP. (DEG-K)	EXIT VEL. (M/SEC)	STACK DIA. (M)	VOL. FLOW (M**3/SEC)	X-COORD. (KM)	Y-COORD. (KM)
SULFURIC ACID	36.80	61.0	344.0	7.70	2.80	0.	409.610	3086.980
SULFURIC ACID	36.80	61.0	344.0	7.70	2.80	0.	409.640	3087.030
DAF	3.15	40.4	319.0	21.20	2.10	0.	409.600	3086.650

NEW SOURCE  
 24-HR SO2

## \* \* \* R E C E P T O R S \* \* \*

NO.	X(KM)	Y(KM)	Z(KM)
1.	411.600	3086.700	0.0
2.	411.700	3086.700	0.0
3.	411.800	3086.700	0.0
4.	411.900	3086.700	0.0
5.	412.000	3086.700	0.0
6.	411.600	3086.800	0.0
7.	411.700	3086.800	0.0
8.	411.800	3086.800	0.0
9.	411.900	3086.800	0.0
10.	412.000	3086.800	0.0
11.	411.600	3086.900	0.0
12.	411.700	3086.900	0.0
13.	411.800	3086.900	0.0
14.	411.900	3086.900	0.0
15.	412.000	3086.900	0.0
16.	411.600	3087.000	0.0
17.	411.700	3087.000	0.0
18.	411.800	3087.000	0.0
19.	411.900	3087.000	0.0
20.	412.000	3087.000	0.0
21.	411.600	3087.100	0.0
22.	411.700	3087.100	0.0
23.	411.800	3087.100	0.0
24.	411.900	3087.100	0.0
25.	412.000	3087.100	0.0

## \*\*\* METEOROLOGY \*\*\*

	WIND DIR. (DEG)	WIND VEL. (M/SEC)	STABILITY CLASS	MIX.HT. (M)	AMB.TEMP. (DEG-K)	PRESS. (MB)
1.	242.	6.20	4	1306.	300.	1000.00
2.	244.	6.20	4	1314.	300.	1000.00
3.	247.	5.10	4	1321.	300.	1000.00
4.	275.	5.10	4	1329.	300.	1000.00
5.	270.	6.20	4	1336.	300.	1000.00
6.	275.	5.10	4	1344.	300.	1000.00
7.	275.	6.70	4	1351.	300.	1000.00
8.	272.	6.70	4	1358.	301.	1000.00
9.	270.	6.20	4	1366.	302.	1000.00
10.	283.	6.20	4	1373.	303.	1000.00
11.	266.	7.20	4	1381.	303.	1000.00
12.	272.	6.70	4	1388.	304.	1000.00
13.	270.	6.20	4	1396.	304.	1000.00
14.	279.	6.70	4	1403.	304.	1000.00
15.	284.	6.70	4	1403.	304.	1000.00
16.	272.	7.20	4	1403.	304.	1000.00
17.	276.	6.70	4	1403.	303.	1000.00
18.	271.	6.70	4	1403.	303.	1000.00
19.	276.	6.20	4	1403.	301.	1000.00
20.	276.	5.10	5	1381.	301.	1000.00
21.	282.	5.10	4	1388.	300.	1000.00
22.	272.	4.10	4	1378.	300.	1000.00
23.	272.	3.60	4	1369.	300.	1000.00
24.	268.	4.10	5	1225.	300.	1000.00

DAY 173, 1972

AVERAGE CONCENTRATIONS (UG/M\*\*3) AND PERCENT CONTRIBUTIONS FOR 24 HOURS

RECEPTORS	1.		2.		3.		4.		5.		6.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
SULFURIC ACID	16.46	49.72	17.33	49.92	18.09	50.04	18.73	50.09	19.26	50.08	23.21	52.18
SULFURIC ACID	13.30	40.18	14.12	40.67	14.87	41.14	15.56	41.61	16.18	42.06	19.64	44.15
DAF	3.35	10.10	3.27	9.41	3.19	8.82	3.11	8.30	3.02	7.86	1.63	3.67

TOTAL CONCENTRATION (UG/M\*\*3)

33.11	34.72	36.14	37.39	38.46	44.48
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RECEPTORS	7.		8.		9.		10.		11.		12.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
SULFURIC ACID	23.75	51.75	24.12	51.35	24.34	50.99	24.43	50.66	25.96	50.02	25.98	49.70
SULFURIC ACID	20.47	44.60	21.15	45.01	21.67	45.39	22.05	45.72	25.40	48.94	25.69	49.15
DAF	1.68	3.65	1.71	3.64	1.73	3.63	1.75	3.62	0.54	1.05	0.60	1.15

TOTAL CONCENTRATION (UG/M\*\*3)

45.90	46.93	47.74	48.23	51.90	52.28
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RECEPTORS	13.		14.		15.		16.		17.		18.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
SULFURIC ACID	29.88	49.43	25.68	49.20	25.41	48.99	20.61	45.86	20.74	45.96	20.77	46.05
SULFURIC ACID	25.82	49.32	25.81	49.45	25.70	49.56	24.20	53.85	24.22	53.69	24.14	53.53
DAF	0.66	1.25	0.71	1.35	0.75	1.45	0.13	0.29	0.16	0.35	0.19	0.42

TOTAL CONCENTRATION (UG/M\*\*3)

52.36	52.20	51.86	44.94	45.12	45.10
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*Acid plants 7+8  
would violate increment  
on this day. Neglect of  
Agnes meteorology, as  
done with New Wales  
would reduce concentrations  
about 40%.*

RECEPTORS	19.		20.		21.		22.		23.		24.	
SOURCE NAME	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.	PARTIAL CONC.	% CONT.
SULFURIC ACID	20.72	46.14	20.61	46.22	11.18	41.41	11.68	41.90	12.11	42.35	12.46	42.75
SULFURIC ACID	23.96	53.37	23.72	53.21	15.79	58.48	16.16	57.97	16.44	57.50	16.63	57.06
DAF	0.22	0.49	0.25	0.57	0.03	0.11	0.04	0.13	0.04	0.16	0.06	0.19

TOTAL CONCENTRATION (UG/M\*\*3)

44.90            44.58            26.99            27.88            28.59            29.14

RECEPTORS

25.

SOURCE NAME	PARTIAL		PARTIAL		PARTIAL		PARTIAL		PARTIAL	
	CONC.	% CONT.	CONC.	% CONT.	CONC.	% CONT.	CONC.	% CONT.	CONC.	% CONT.
SULFURIC ACID	12.74	43.11								
SULFURIC ACID	16.74	56.66								
DAF	0.07	0.23								

TOTAL CONCENTRATION (UG/M\*\*3)

29.55

TCF OUTPUT CHARGE: \$ .06



RING DISTANCES(KM)= 0.50 1.00 1.50 2.00 2.50

STACK # 1--STACK 1 SOURCE NUMBER 1

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	84.0000	61.00	2.70	9.20	345.00	52.68



MAXIMUM MEAN CONC= 2.6221E-06 DIRECTION= 27 DISTANCE= 2.5 KM

YEAR= 70

DIR	RANGE	ANNUAL MEAN CONCENTRATION AT EACH RECEPTOR				
		0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1		1.16734E-09	3.39841E-07	7.58808E-07	9.61613E-07	1.02205E-06
2		1.47894E-09	4.31618E-07	9.82027E-07	1.25731E-06	1.33978E-06
3		1.03524E-09	3.55144E-07	8.35778E-07	1.08761E-06	1.17191E-06
4		4.40240E-10	1.95198E-07	4.88690E-07	6.61648E-07	7.36444E-07
5		5.07103E-10	2.24608E-07	5.58943E-07	7.52426E-07	8.31570E-07
6		5.00196E-10	1.74013E-07	4.14530E-07	5.59456E-07	6.29306E-07
7		7.54202E-10	2.35011E-07	5.34038E-07	6.93920E-07	7.55602E-07
8		7.57588E-10	2.90899E-07	6.69054E-07	8.63844E-07	9.30472E-07
9		1.68042E-09	6.20191E-07	1.43602E-06	1.87810E-06	2.04927E-06
10		1.11738E-09	3.39844E-07	7.54233E-07	9.61710E-07	1.03194E-06
11		1.35382E-09	2.83005E-07	5.88687E-07	7.25302E-07	7.61901E-07
12		1.88102E-09	3.50979E-07	7.19168E-07	8.81691E-07	9.23625E-07
13		2.29872E-09	4.18157E-07	8.58755E-07	1.05822E-06	1.11460E-06
14		1.96227E-09	4.09325E-07	8.73929E-07	1.09502E-06	1.16020E-06
15		2.05594E-09	3.93531E-07	8.09494E-07	9.97665E-07	1.05133E-06
16		1.79019E-09	3.66787E-07	7.65494E-07	9.43640E-07	9.86965E-07
17		1.21034E-09	2.64641E-07	5.60352E-07	7.00377E-07	7.42028E-07
18		9.11254E-10	2.66956E-07	6.11969E-07	8.10608E-07	9.00716E-07
19		6.97414E-10	2.06253E-07	4.52083E-07	5.71873E-07	6.10237E-07
20		8.65425E-10	2.58147E-07	5.76758E-07	7.40236E-07	7.98001E-07
21		9.23072E-10	3.10361E-07	7.28047E-07	9.57301E-07	1.04474E-06
22		9.15866E-10	3.01157E-07	6.77818E-07	8.72662E-07	9.44648E-07
23		1.20787E-09	3.76259E-07	8.58558E-07	1.12174E-06	1.22857E-06
24		1.20463E-09	3.87480E-07	8.94086E-07	1.18620E-06	1.32047E-06
25		1.29319E-09	3.82539E-07	8.56509E-07	1.12350E-06	1.25079E-06
26		1.42586E-09	4.36065E-07	9.92103E-07	1.31406E-06	1.47135E-06
27		2.57650E-09	7.87100E-07	1.80211E-06	2.37257E-06	2.62208E-06
28		2.40597E-09	7.03850E-07	1.56987E-06	2.01853E-06	2.18360E-06
29		1.66471E-09	5.28930E-07	1.19199E-06	1.53705E-06	1.66370E-06
30		1.47974E-09	5.35467E-07	1.25920E-06	1.68301E-06	1.88093E-06
31		9.67300E-10	3.49530E-07	8.05744E-07	1.05873E-06	1.16688E-06
32		1.22279E-09	4.07331E-07	9.22774E-07	1.18752E-06	1.28102E-06
33		1.24249E-09	4.24025E-07	9.84431E-07	1.28667E-06	1.40480E-06
34		1.05216E-09	3.21291E-07	7.38119E-07	9.56590E-07	1.03511E-06
35		3.80908E-10	1.48575E-07	3.52132E-07	4.62274E-07	5.03953E-07
36		7.52958E-10	2.85583E-07	6.90765E-07	9.17552E-07	1.00807E-06

YEARLY MAXIMUM 24-HOUR CONC= 5.6449E-05 DIRECTION= 13 DISTANCE= 2.0 KM DAY= 72

YEAR= 70

HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR						
RANGE	0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM	
DIR						
1	5.0508E-08 (34)	7.9039E-06 (318)	1.6674E-05 (318)	1.9804E-05 (318)	1.9724E-05 (318)	
2	5.4829E-08 (80)	1.2713E-05 (80)	2.5765E-05 (80)	3.0119E-05 (80)	2.9725E-05 (80)	
3	4.1686E-08 (79)	8.5858E-06 (79)	1.6981E-05 (79)	1.9647E-05 (79)	2.0917E-05 (221)	
4	1.2677E-08 (92)	5.7879E-06 (222)	1.6806E-05 (222)	2.3107E-05 (222)	2.4934E-05 (222)	
5	2.6933E-08 (92)	1.0316E-05 (222)	2.5627E-05 (223)	3.4310E-05 (223)	3.6632E-05 (223)	
6	4.0331E-08 (196)	8.4460E-06 (186)	1.6245E-05 (186)	1.8813E-05 (186)	1.8734E-05 (186)	
7	6.2914E-08 (177)	8.2605E-06 (177)	1.4711E-05 (177)	1.6241E-05 (177)	1.5555E-05 (177)	
8	4.0614E-08 (178)	1.0027E-05 (178)	2.0255E-05 (178)	2.3922E-05 (178)	2.3966E-05 (178)	
9	4.2452E-08 (179)	1.0680E-05 (179)	2.1678E-05 (179)	2.5873E-05 (179)	2.6282E-05 (179)	
10	3.9600E-08 (67)	5.8976E-06 (74)	1.0770E-05 (74)	1.3867E-05 (42)	1.4558E-05 (42)	
11	9.0051E-09 (48)	9.9835E-06 (48)	1.7119E-05 (48)	1.8481E-05 (48)	1.7418E-05 (48)	
12	1.0943E-07 (34)	1.2147E-05 (73)	2.2283E-05 (73)	2.4700E-05 (73)	2.3592E-05 (73)	
13	1.5489E-07 (34)	2.4729E-05 (72)	4.8542E-05 (72)	5.6449E-05 (72)	5.5754E-05 (72)	
14	7.1830E-08 (309)	1.1863E-05 (7)	2.3292E-05 (7)	2.7410E-05 (7)	2.7618E-05 (7)	
15	7.5442E-08 (73)	1.0048E-05 (7)	1.8257E-05 (7)	2.0762E-05 (7)	2.0652E-05 (7)	
16	7.4037E-08 (319)	1.4047E-05 (319)	2.7644E-05 (319)	3.2031E-05 (319)	3.1507E-05 (319)	
17	6.3907E-08 (327)	9.3581E-06 (319)	1.8803E-05 (319)	2.1975E-05 (319)	2.1712E-05 (319)	
18	7.1418E-08 (328)	1.1014E-05 (328)	1.9806E-05 (328)	2.2100E-05 (328)	2.1471E-05 (328)	
19	3.0084E-08 (328)	8.3657E-06 (320)	1.7113E-05 (320)	2.0648E-05 (3)	2.1568E-05 (3)	
20	4.7408E-08 (328)	6.5771E-06 (3)	1.5864E-05 (3)	2.0300E-05 (3)	2.1165E-05 (3)	
21	3.9691E-08 (125)	7.5263E-06 (37)	1.7120E-05 (2)	2.1728E-05 (2)	2.2398E-05 (2)	
22	4.2935E-08 (37)	1.5570E-05 (37)	3.3968E-05 (37)	4.0978E-05 (37)	4.1138E-05 (37)	
23	8.4105E-08 (273)	1.3542E-05 (38)	2.7527E-05 (38)	3.2992E-05 (38)	3.3697E-05 (38)	
24	6.5722E-08 (290)	1.1822E-05 (272)	2.4261E-05 (272)	2.8504E-05 (272)	2.8195E-05 (272)	
25	1.4440E-07 (290)	2.1207E-05 (290)	3.7882E-05 (290)	4.2137E-05 (290)	4.0817E-05 (290)	
26	7.0260E-08 (14)	1.2841E-05 (14)	2.3733E-05 (14)	2.6463E-05 (14)	2.5402E-05 (14)	
27	7.0828E-08 (279)	1.5948E-05 (280)	3.2887E-05 (280)	3.9468E-05 (280)	4.0139E-05 (280)	
28	5.3591E-08 (270)	9.8931E-06 (270)	2.3725E-05 (144)	3.0619E-05 (144)	3.1956E-05 (144)	
29	3.1027E-08 (152)	8.2124E-06 (152)	1.8468E-05 (152)	2.3559E-05 (152)	2.4980E-05 (152)	
30	4.5936E-08 (242)	9.8215E-06 (292)	1.9662E-05 (205)	2.4705E-05 (205)	2.5641E-05 (205)	
31	2.4424E-08 (121)	6.9416E-06 (293)	1.5355E-05 (293)	1.8773E-05 (293)	1.9129E-05 (293)	
32	5.7532E-08 (32)	7.5385E-06 (62)	1.6765E-05 (62)	2.0650E-05 (62)	2.1103E-05 (62)	
33	5.3513E-08 (32)	7.9882E-06 (203)	1.9409E-05 (203)	2.4733E-05 (203)	2.5654E-05 (203)	
34	9.0421E-08 (33)	1.5483E-05 (33)	3.0682E-05 (33)	3.6214E-05 (33)	3.6263E-05 (33)	
35	2.5662E-08 (33)	5.7098E-06 (365)	1.1448E-05 (365)	1.5897E-05 (89)	1.7845E-05 (89)	
36	5.0175E-08 (34)	5.8826E-06 (350)	1.1822E-05 (350)	1.3736E-05 (350)	1.4231E-05 (71)	

PLANT NAME: W R GRACE STUDY

POLLUTANT: SO2

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

YEARLY SECOND MAXIMUM 24-HOUR CONC= 3.1208E-05 DIRECTION= 5 DISTANCE= 2.5 KM DAY=222

YEAR= 70

DIR	SECOND HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR					
	RANGE	0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	3.6982E-08 (109)	6.4691E-06 (110)	1.3961E-05 ( 87)	1.7303E-05 ( 87)	1.7681E-05 ( 87)	
2	4.4466E-08 ( 92)	7.4127E-06 ( 81)	1.6166E-05 ( 81)	1.9592E-05 ( 81)	2.0665E-05 ( 63)	
3	3.8421E-08 (110)	6.9035E-06 (110)	1.4684E-05 (116)	1.9426E-05 (221)	1.9294E-05 ( 79)	
4	1.2655E-08 ( 95)	4.5260E-06 (223)	1.2536E-05 (223)	1.7012E-05 (223)	1.8266E-05 (223)	
5	2.4793E-08 ( 95)	9.5073E-06 (223)	2.4172E-05 (222)	3.0325E-05 (222)	3.1208E-05 (222)	
6	2.3096E-08 (177)	5.6669E-06 (359)	1.2178E-05 (359)	1.5109E-05 (359)	1.5861E-05 (359)	
7	3.1934E-08 (298)	6.7948E-06 (298)	1.2980E-05 (298)	1.4995E-05 (298)	1.5069E-05 (298)	
8	1.9366E-08 (359)	4.2157E-06 (145)	9.4117E-06 (103)	1.1632E-05 (103)	1.1831E-05 (103)	
9	2.6224E-08 (217)	8.9084E-06 (224)	1.9219E-05 (224)	2.3170E-05 (224)	2.3321E-05 (224)	
10	3.3287E-08 ( 74)	4.7410E-06 (134)	1.0714E-05 ( 42)	1.1927E-05 ( 74)	1.1880E-05 (134)	
11	5.5253E-08 ( 67)	4.4132E-06 (157)	9.0083E-06 (157)	1.0904E-05 (157)	1.1306E-05 (157)	
12	8.1033E-08 ( 41)	1.0508E-05 ( 48)	1.8484E-05 ( 48)	2.0177E-05 ( 48)	1.9140E-05 ( 48)	
13	1.4472E-07 ( 72)	1.3124E-05 ( 34)	2.1376E-05 ( 81)	2.5221E-05 ( 81)	2.5150E-05 ( 81)	
14	6.6769E-08 ( 34)	8.3245E-06 ( 81)	1.7176E-05 ( 81)	2.0145E-05 ( 81)	1.9899E-05 ( 81)	
15	6.5338E-08 (309)	8.1773E-06 (308)	1.5032E-05 (308)	1.6884E-05 (308)	1.6335E-05 (308)	
16	6.6677E-08 (327)	8.5835E-06 ( 30)	1.4818E-05 ( 30)	1.6215E-05 ( 30)	1.5569E-05 ( 30)	
17	4.7695E-08 (319)	6.7724E-06 (327)	1.2370E-05 ( 1)	1.4674E-05 ( 1)	1.4600E-05 ( 1)	
18	2.8794E-08 ( 4)	7.6392E-06 ( 4)	1.6412E-05 ( 4)	2.0177E-05 ( 4)	2.0869E-05 ( 4)	
19	2.8531E-08 (320)	7.6194E-06 ( 4)	1.5924E-05 ( 3)	1.9948E-05 (320)	1.9599E-05 (320)	
20	3.1066E-08 (308)	6.5087E-06 (328)	1.4249E-05 (320)	1.7717E-05 (320)	1.8150E-05 (320)	
21	3.2276E-08 ( 38)	6.9658E-06 ( 2)	1.6844E-05 ( 37)	2.0856E-05 ( 3)	2.1640E-05 ( 3)	
22	3.5746E-08 ( 38)	7.7318E-06 ( 38)	1.4725E-05 ( 38)	1.7382E-05 ( 13)	1.7462E-05 ( 13)	
23	5.3204E-08 ( 38)	1.2403E-05 (273)	2.2303E-05 (272)	2.6352E-05 (272)	2.6128E-05 (272)	
24	4.7771E-08 (272)	9.0702E-06 (290)	1.5516E-05 (290)	1.9107E-05 (273)	2.0149E-05 (273)	
25	3.3864E-08 (272)	8.4169E-06 (273)	1.7543E-05 (273)	2.0921E-05 (273)	2.1003E-05 (273)	
26	5.2640E-08 (290)	7.3198E-06 (290)	1.4998E-05 (269)	1.8698E-05 (269)	1.9789E-05 (139)	
27	6.2604E-08 (280)	1.1445E-05 (279)	2.1993E-05 (138)	2.6320E-05 (138)	2.6443E-05 (138)	
28	5.0394E-08 (279)	9.6580E-06 (133)	1.8797E-05 (138)	2.4255E-05 (149)	2.6656E-05 (149)	
29	3.0679E-08 (280)	6.9343E-06 (202)	1.6686E-05 (202)	2.1200E-05 (202)	2.2505E-05 (150)	
30	4.0407E-08 (292)	8.5339E-06 (205)	1.9513E-05 (292)	2.3624E-05 ( 70)	2.5487E-05 ( 70)	
31	2.2355E-08 ( 32)	4.4512E-06 ( 32)	9.5799E-06 ( 32)	1.1883E-05 (252)	1.2662E-05 (252)	
32	3.6569E-08 (203)	7.1651E-06 (203)	1.4582E-05 (154)	1.8192E-05 (154)	1.8971E-05 (154)	
33	3.8483E-08 ( 33)	7.9510E-06 ( 33)	1.6008E-05 ( 33)	1.8915E-05 ( 33)	1.8890E-05 ( 33)	
34	4.0804E-08 (109)	5.6157E-06 (109)	1.2070E-05 ( 85)	1.5115E-05 ( 85)	1.5603E-05 ( 85)	
35	2.0860E-08 (365)	3.7515E-06 ( 33)	1.0857E-05 ( 89)	1.3253E-05 (365)	1.3971E-05 ( 85)	
36	2.2417E-08 (350)	4.2773E-06 ( 80)	9.5909E-06 ( 71)	1.3144E-05 ( 71)	1.3731E-05 (314)	

YEARLY MAXIMUM

3-HOUR CONC= 1.1322E-04 DIRECTION= 29 DISTANCE= 2.5 KM DAY=150 TIME PERIOD= 1

YEAR= 70

DIR	RANGE	3-HOUR CONCENTRATION AT EACH RECEPTOR				
		HIGHEST 0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	2.5201E-07 ( 34, 1)	2.8227E-05 (109, 7)	5.7206E-05 (203, 4)	6.7742E-05 (203, 4)	6.7590E-05 (318, 6)	
2	2.5837E-07 ( 95, 5)	3.5823E-05 ( 80, 5)	6.2839E-05 ( 80, 5)	6.9132E-05 ( 81, 2)	7.3795E-05 ( 23, 7)	
3	2.3524E-07 ( 79, 5)	3.3954E-05 (109, 6)	6.3976E-05 (109, 6)	8.3182E-05 (221, 7)	9.1623E-05 (221, 7)	
4	1.0141E-07 ( 92, 5)	1.8308E-05 (118, 4)	5.2176E-05 (118, 4)	7.1181E-05 (118, 4)	7.6769E-05 (118, 4)	
5	2.1546E-07 ( 92, 5)	3.0401E-05 ( 92, 5)	5.5535E-05 (222, 6)	7.2924E-05 (176, 8)	7.7585E-05 (176, 8)	
6	1.4580E-07 (186, 5)	2.9312E-05 (186, 4)	5.5541E-05 (186, 4)	6.2712E-05 (186, 4)	6.0674E-05 (186, 4)	
7	2.4455E-07 (177, 6)	3.1403E-05 (177, 6)	5.8412E-05 (298, 5)	7.0099E-05 (148, 5)	7.4378E-05 (148, 5)	
8	1.2000E-07 (173, 6)	2.4015E-05 (169, 5)	5.4726E-05 (169, 5)	6.7412E-05 (169, 5)	6.9385E-05 ( 54, 5)	
9	2.1578E-07 (179, 5)	4.1692E-05 (179, 5)	8.6123E-05 (199, 5)	1.0177E-04 (199, 5)	1.0130E-04 (199, 5)	
10	1.6681E-07 ( 74, 6)	2.7354E-05 ( 74, 6)	5.0830E-05 (134, 6)	6.0308E-05 (156, 5)	6.0716E-05 (156, 5)	
11	4.1883E-07 ( 67, 8)	3.2439E-05 ( 67, 8)	6.2754E-05 (157, 5)	7.2141E-05 (157, 5)	7.0436E-05 (157, 5)	
12	3.2669E-07 ( 34, 8)	3.9672E-05 ( 68, 2)	7.1948E-05 ( 68, 2)	7.9850E-05 ( 68, 2)	7.6636E-05 ( 68, 2)	
13	5.1195E-07 ( 34, 6)	4.0456E-05 ( 34, 6)	7.0574E-05 ( 73, 1)	8.9724E-05 ( 72, 2)	9.3034E-05 ( 72, 2)	
14	3.0332E-07 (309, 5)	2.8176E-05 ( 81, 4)	7.2965E-05 ( 48, 8)	1.0257E-04 ( 48, 8)	1.1293E-04 ( 48, 8)	
15	2.9872E-07 ( 73, 4)	3.9144E-05 ( 7, 4)	7.0394E-05 ( 7, 4)	7.9293E-05 (307, 6)	7.7899E-05 (307, 6)	
16	3.6795E-07 (327, 7)	3.8279E-05 (319, 7)	6.7747E-05 (340, 5)	7.4226E-05 (340, 5)	7.0621E-05 (340, 5)	
17	3.1267E-07 (327, 8)	3.4275E-05 (327, 8)	5.9785E-05 (319, 6)	6.7577E-05 (319, 6)	6.5314E-05 (319, 6)	
18	2.1150E-07 (328, 2)	3.0208E-05 (328, 2)	5.4034E-05 (207, 5)	6.9948E-05 ( 4, 1)	7.9196E-05 ( 4, 1)	
19	1.1403E-07 ( 31, 1)	2.4339E-05 ( 31, 1)	5.5558E-05 ( 3, 6)	7.1673E-05 ( 3, 6)	7.4929E-05 ( 3, 6)	
20	1.5708E-07 (308, 2)	2.8883E-05 ( 3, 3)	5.9123E-05 ( 3, 3)	6.9344E-05 ( 3, 3)	7.3215E-05 ( 3, 7)	
21	2.4339E-07 (125, 5)	3.1774E-05 (125, 5)	5.5639E-05 (125, 5)	6.7536E-05 (258, 7)	7.5885E-05 (258, 7)	
22	1.1716E-07 ( 31, 4)	2.7571E-05 ( 37, 2)	6.1833E-05 ( 37, 2)	7.5719E-05 ( 37, 2)	7.6698E-05 ( 37, 2)	
23	2.5685E-07 (273, 2)	3.1723E-05 (273, 2)	5.5358E-05 ( 2, 4)	7.2302E-05 ( 2, 4)	7.5940E-05 ( 2, 4)	
24	2.0365E-07 (272, 4)	3.5637E-05 (272, 1)	8.0183E-05 (272, 1)	9.8972E-05 (272, 1)	1.0111E-04 (272, 1)	
25	3.3094E-07 (290, 4)	3.9905E-05 (290, 4)	6.8131E-05 (290, 4)	7.3513E-05 (290, 4)	6.9718E-05 (272, 5)	
26	2.2437E-07 (290, 6)	3.6635E-05 ( 14, 6)	6.7173E-05 (269, 5)	8.1996E-05 (269, 5)	8.2854E-05 (269, 5)	
27	2.7577E-07 (279, 6)	4.1552E-05 (279, 6)	8.1748E-05 ( 5, 6)	1.0205E-04 ( 5, 6)	1.0493E-04 ( 5, 6)	
28	2.3340E-07 (270, 4)	4.5666E-05 (270, 4)	8.6701E-05 (270, 4)	9.8502E-05 (270, 4)	9.5948E-05 (270, 4)	
29	2.2270E-07 (280, 5)	3.2365E-05 (141, 5)	7.4240E-05 (150, 1)	1.0362E-04 (150, 1)	1.1322E-04 (150, 1)	
30	1.9134E-07 (292, 5)	3.6107E-05 (292, 5)	8.1595E-05 ( 67, 3)	1.0430E-04 ( 67, 3)	1.0860E-04 ( 67, 3)	
31	1.3264E-07 ( 32, 4)	2.8722E-05 (130, 4)	5.5525E-05 (293, 3)	7.0022E-05 (293, 3)	7.2278E-05 (293, 3)	
32	1.7150E-07 (203, 2)	3.9791E-05 ( 62, 4)	8.0192E-05 ( 62, 4)	9.3392E-05 ( 62, 4)	9.2116E-05 ( 62, 4)	
33	2.5717E-07 ( 32, 5)	2.9413E-05 ( 32, 5)	6.0060E-05 (302, 5)	7.5044E-05 (114, 3)	7.8676E-05 ( 84, 7)	
34	3.1287E-07 ( 33, 8)	4.0637E-05 ( 33, 8)	8.1185E-05 (194, 5)	1.0660E-04 (194, 5)	1.1257E-04 (194, 5)	
35	1.6629E-07 ( 33, 8)	3.4349E-05 (365, 2)	6.8252E-05 (365, 2)	7.8830E-05 (365, 2)	7.7280E-05 (365, 2)	
36	2.1353E-07 ( 34, 2)	3.5838E-05 (350, 4)	6.9143E-05 (350, 4)	7.8692E-05 (350, 4)	7.6460E-05 (350, 4)	

YEARLY SECOND MAXIMUM 3-HOUR CONC= 1.0094E-04 DIRECTION= 30 DISTANCE= 2.5 KM DAY=240 TIME PERIOD= 4

YEAR= 70

DIR	RANGE	3-HOUR CONCENTRATION AT EACH RECEPTOR				
		0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	1.5852E-07 ( 92, 4)	2.7358E-05 (203, 4)	5.5712E-05 (318, 6)	6.7218E-05 (318, 6)	6.7443E-05 (203, 4)	
2	2.5709E-07 ( 80, 5)	3.0097E-05 ( 88, 4)	5.8435E-05 ( 88, 4)	6.8574E-05 ( 88, 5)	7.2071E-05 ( 63, 8)	
3	2.0180E-07 ( 89, 5)	3.1604E-05 ( 89, 5)	5.8970E-05 (221, 7)	7.5219E-05 (224, 8)	8.3440E-05 (224, 8)	
4	9.8628E-08 (318, 5)	1.7557E-05 ( 92, 5)	4.4952E-05 ( 94, 5)	6.0863E-05 ( 94, 5)	<del>6.7257E-05 (222, 8)</del>	
5	1.8974E-07 ( 95, 6)	2.9824E-05 ( 95, 6)	5.4650E-05 (221, 5)	7.0098E-05 (222, 7)	<del>7.7387E-05 (223, 7)</del>	
6	1.4151E-07 (186, 4)	2.5951E-05 (186, 5)	4.7491E-05 (186, 5)	5.3091E-05 ( 26, 5)	5.9138E-05 ( 26, 5)	
7	1.4376E-07 (177, 4)	3.0054E-05 (298, 5)	5.5409E-05 (177, 6)	6.7058E-05 (298, 5)	6.5699E-05 (298, 5)	
8	8.5053E-08 (179, 4)	2.3954E-05 (187, 5)	5.0555E-05 ( 54, 5)	6.6065E-05 ( 54, 5)	6.8634E-05 (169, 5)	
9	1.6079E-07 (217, 5)	4.1528E-05 (199, 5)	7.8631E-05 (179, 5)	8.8888E-05 (179, 5)	8.6229E-05 (179, 5)	
10	1.4476E-07 (236, 4)	2.5573E-05 (134, 6)	4.9879E-05 (156, 5)	5.9572E-05 (134, 6)	5.9671E-05 (157, 3)	
11	3.7029E-07 ( 48, 5)	3.1720E-05 (157, 5)	5.0392E-05 ( 43, 5)	5.8762E-05 ( 43, 5)	5.7949E-05 ( 43, 5)	
12	2.8395E-07 ( 41, 4)	3.6662E-05 ( 48, 6)	6.7285E-05 ( 73, 8)	7.6535E-05 ( 73, 8)	7.4340E-05 ( 73, 8)	
13	4.8181E-07 ( 34, 8)	3.8454E-05 ( 73, 1)	7.0495E-05 ( 72, 2)	7.8712E-05 ( 73, 1)	7.7368E-05 ( 72, 3)	
14	2.1190E-07 ( 9, 5)	2.6683E-05 ( 7, 3)	6.4932E-05 ( 49, 1)	8.7766E-05 ( 49, 1)	9.4014E-05 ( 49, 1)	
15	2.7628E-07 ( 73, 5)	3.4317E-05 (307, 6)	6.8423E-05 (307, 6)	7.7863E-05 ( 7, 4)	7.4573E-05 ( 7, 4)	
16	2.9129E-07 (319, 7)	3.8238E-05 (340, 5)	6.6420E-05 (319, 7)	7.2328E-05 ( 30, 6)	6.9007E-05 ( 30, 6)	
17	1.9859E-07 (327, 7)	3.1299E-05 (319, 6)	5.7285E-05 (327, 8)	6.1103E-05 (327, 8)	5.7263E-05 (327, 8)	
18	1.9099E-07 (328, 1)	2.6604E-05 (328, 1)	5.3530E-05 (328, 2)	6.5872E-05 ( 3, 8)	6.9467E-05 ( 3, 8)	
19	1.1274E-07 (328, 2)	2.2065E-05 ( 3, 6)	4.7205E-05 ( 31, 1)	5.6567E-05 ( 82, 2)	5.6718E-05 ( 82, 2)	
20	1.5227E-07 (328, 4)	2.7908E-05 ( 8, 4)	5.4650E-05 ( 51, 4)	6.7345E-05 ( 51, 4)	6.8677E-05 ( 3, 3)	
21	1.7465E-07 ( 38, 5)	2.7161E-05 ( 51, 5)	5.4936E-05 ( 37, 8)	6.6250E-05 ( 37, 8)	6.6614E-05 ( 37, 8)	
22	9.6474E-08 ( 38, 2)	2.7075E-05 ( 37, 4)	5.8425E-05 ( 37, 4)	7.1697E-05 ( 1, 4)	7.5111E-05 ( 1, 4)	
23	2.0999E-07 (273, 3)	3.0066E-05 (273, 3)	5.4578E-05 ( 15, 7)	7.0339E-05 ( 15, 7)	7.5724E-05 ( 16, 1)	
24	1.2716E-07 (290, 2)	2.6232E-05 (272, 4)	6.1708E-05 ( 2, 3)	8.6859E-05 (268, 7)	9.7080E-05 (268, 7)	
25	2.4783E-07 (290, 3)	3.1261E-05 (290, 1)	6.0845E-05 (272, 5)	7.0775E-05 (272, 5)	6.9437E-05 (139, 7)	
26	2.2247E-07 ( 14, 6)	2.9824E-05 (269, 5)	6.6469E-05 ( 14, 6)	7.3595E-05 ( 14, 6)	7.4774E-05 (139, 8)	
27	2.5069E-07 ( 14, 8)	3.8653E-05 (181, 6)	7.6336E-05 (181, 6)	8.7980E-05 (181, 6)	8.6277E-05 ( 15, 2)	
28	2.3061E-07 (279, 5)	3.2421E-05 (140, 7)	6.3721E-05 (140, 7)	7.3110E-05 (140, 7)	7.7983E-05 (143, 8)	
29	1.7438E-07 ( 67, 1)	3.0392E-05 (286, 4)	6.2841E-05 (286, 4)	8.0427E-05 (153, 7)	<del>8.5524E-05 (153, 7)</del>	
30	1.5708E-07 (242, 5)	3.3395E-05 ( 67, 3)	7.7332E-05 (240, 4)	9.7761E-05 (240, 4)	1.0094E-04 (240, 4)	
31	1.3065E-07 (130, 4)	2.5684E-05 (113, 4)	5.5516E-05 (130, 4)	6.5370E-05 ( 63, 3)	7.0509E-05 ( 63, 3)	
32	1.6169E-07 ( 32, 8)	3.6045E-05 (203, 2)	6.8467E-05 (203, 2)	7.7398E-05 (203, 2)	7.4934E-05 (203, 2)	
33	1.5797E-07 ( 33, 1)	2.6819E-05 (302, 5)	5.8500E-05 (114, 3)	7.3685E-05 (302, 5)	7.8049E-05 (114, 3)	
34	1.7148E-07 ( 33, 7)	3.1069E-05 (194, 5)	7.4103E-05 ( 33, 8)	<del>8.3275E-05 ( 33, 8)</del>	8.0706E-05 ( 33, 8)	
35	1.3393E-07 (365, 2)	2.1792E-05 ( 33, 8)	5.2729E-05 ( 85, 2)	<del>7.1133E-05 ( 85, 2)</del>	7.5927E-05 ( 85, 2)	
36	1.8787E-07 ( 34, 1)	2.1628E-05 (236, 4)	5.1099E-05 ( 71, 6)	7.0218E-05 ( 71, 6)	7.6182E-05 ( 71, 6)	



RING DISTANCES(KM)= 0.50 1.00 1.50 2.00 2.50

STACK # 1--STACK 1 SOURCE NUMBER 1

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	84.0000	61.00	2.70	9.20	345.00	52.68

MAXIMUM MEAN CONC= 3.0317E-06 DIRECTION= 9 DISTANCE= 2.5 KM

YEAR= 71

DIR	RANGE	ANNUAL MEAN CONCENTRATION AT EACH RECEPTOR				
		0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1		2.34558E-09	4.67371E-07	9.70953E-07	1.18473E-06	1.22776E-06
2		3.06734E-09	5.50366E-07	1.10924E-06	1.33583E-06	1.37480E-06
3		1.60957E-09	3.28916E-07	6.93303E-07	8.70630E-07	9.30967E-07
4		8.53497E-10	2.21660E-07	4.88902E-07	6.26515E-07	6.76805E-07
5		7.34044E-10	2.19970E-07	5.13056E-07	6.78519E-07	7.50344E-07
6		1.08662E-09	2.87852E-07	6.56475E-07	8.57833E-07	9.38390E-07
7		1.09280E-09	2.89316E-07	6.42911E-07	8.22494E-07	8.86040E-07
8		1.57080E-09	4.19915E-07	9.11274E-07	1.13405E-06	1.18639E-06
9		4.84351E-09	1.12584E-06	2.36207E-06	2.90564E-06	3.03172E-06
10		3.74327E-09	7.50395E-07	1.48876E-06	1.76925E-06	1.80189E-06
11		2.53636E-09	4.24814E-07	8.37906E-07	9.95573E-07	1.01344E-06
12		3.41113E-09	4.62362E-07	8.88434E-07	1.06063E-06	1.09912E-06
13		2.82408E-09	4.00200E-07	7.53788E-07	8.83912E-07	9.04698E-07
14		2.67764E-09	3.94351E-07	7.73354E-07	9.37803E-07	9.82733E-07
15		2.97797E-09	4.32304E-07	8.57952E-07	1.05196E-06	1.11196E-06
16		2.41035E-09	3.91017E-07	7.78880E-07	9.45204E-07	9.87868E-07
17		1.05738E-09	2.25336E-07	4.78797E-07	5.99019E-07	6.37305E-07
18		9.66461E-10	2.50932E-07	5.76287E-07	7.61796E-07	8.44597E-07
19		8.62171E-10	1.75984E-07	3.72291E-07	4.74795E-07	5.17053E-07
20		7.75838E-10	1.91279E-07	4.16862E-07	5.32139E-07	5.73894E-07
21		1.20538E-09	3.09347E-07	6.93467E-07	9.02373E-07	9.85667E-07
22		1.43747E-09	3.42167E-07	7.28192E-07	9.27941E-07	1.00756E-06
23		1.37869E-09	4.34593E-07	9.91425E-07	1.30837E-06	1.45089E-06
24		1.50699E-09	4.54257E-07	1.02813E-06	1.34557E-06	1.48284E-06
25		1.16079E-09	3.42715E-07	7.67450E-07	9.99697E-07	1.09993E-06
26		1.19834E-09	3.62980E-07	8.22218E-07	1.08359E-06	1.20593E-06
27		1.42021E-09	4.59282E-07	1.07201E-06	1.43573E-06	1.61367E-06
28		1.14889E-09	3.54732E-07	8.12765E-07	1.07851E-06	1.20497E-06
29		8.55477E-10	2.88545E-07	6.91876E-07	9.41038E-07	1.06520E-06
30		9.14900E-10	3.77002E-07	9.42042E-07	1.32560E-06	1.54544E-06
31		8.91275E-10	2.66751E-07	6.09214E-07	8.12872E-07	9.14865E-07
32		9.50760E-10	3.00168E-07	6.86470E-07	9.09921E-07	1.01509E-06
33		1.65299E-09	5.11911E-07	1.15606E-06	1.50825E-06	1.65726E-06
34		9.08615E-10	2.79849E-07	6.44510E-07	8.53004E-07	9.44133E-07
35		6.76465E-10	1.88405E-07	4.33696E-07	5.75301E-07	6.39604E-07
36		1.48461E-09	3.81817E-07	8.56320E-07	1.10244E-06	1.19260E-06



YEARLY MAXIMUM 24-HOUR CONC= 3.6571E-05 DIRECTION= 9 DISTANCE= 2.5 KM DAY=168

YEAR= 71

RANGE DIR	HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	1.6735E-07 ( 63)	9.7203E-06 ( 63)	1.7405E-05 ( 57)	2.0567E-05 ( 57)	2.0857E-05 ( 57)
2	1.7725E-07 ( 62)	1.6244E-05 ( 62)	2.6675E-05 ( 62)	2.8289E-05 ( 62)	2.6444E-05 ( 62)
3	8.1985E-08 ( 58)	8.0653E-06 ( 58)	1.3713E-05 ( 58)	1.4812E-05 ( 58)	1.3996E-05 ( 58)
4	3.6588E-08 (121)	5.7285E-06 (121)	1.0382E-05 (121)	1.1540E-05 (121)	1.2124E-05 (117)
5	4.0064E-08 (121)	4.0601E-06 (113)	9.7671E-06 (113)	1.2637E-05 (113)	1.3500E-05 (113)
6	1.0602E-07 (115)	1.4741E-05 (115)	2.6106E-05 (115)	2.8655E-05 (115)	2.7322E-05 (115)
7	8.4034E-08 (115)	9.3832E-06 (115)	1.6443E-05 (119)	1.8435E-05 (119)	1.7771E-05 (119)
8	5.8949E-08 (121)	6.9131E-06 (175)	1.4483E-05 (175)	1.7434E-05 (175)	1.7711E-05 (175)
9	8.7597E-08 (167)	1.6392E-05 (167)	3.1210E-05 (167)	3.5983E-05 (168)	3.6571E-05 (168)
10	6.3804E-08 (105)	1.2381E-05 (169)	2.5286E-05 (169)	2.9632E-05 (169)	2.9288E-05 (169)
11	1.3916E-07 ( 45)	1.1948E-05 ( 45)	2.1875E-05 ( 97)	2.4787E-05 ( 97)	2.4071E-05 ( 97)
12	2.3341E-07 ( 63)	1.3179E-05 ( 45)	2.3210E-05 ( 45)	2.5575E-05 ( 45)	2.4461E-05 ( 45)
13	1.2650E-07 ( 80)	1.2664E-05 ( 80)	2.1593E-05 ( 80)	2.3371E-05 ( 80)	2.2123E-05 ( 80)
14	1.1570E-07 ( 67)	9.6795E-06 ( 67)	1.5729E-05 ( 67)	1.6644E-05 ( 67)	1.5554E-05 ( 67)
15	1.3332E-07 ( 80)	1.0781E-05 ( 41)	2.0243E-05 ( 41)	2.3188E-05 ( 41)	2.2910E-05 ( 41)
16	1.2040E-07 ( 90)	1.2020E-05 ( 90)	1.9978E-05 ( 90)	2.1516E-05 ( 90)	2.0519E-05 ( 90)
17	3.7841E-08 ( 64)	6.2828E-06 ( 20)	1.2999E-05 ( 20)	1.5306E-05 ( 20)	1.5142E-05 ( 20)
18	5.0784E-08 ( 21)	6.1144E-06 ( 21)	1.6981E-05 (227)	2.3694E-05 (227)	2.6083E-05 (227)
19	8.4203E-08 ( 21)	1.4179E-05 ( 21)	2.6342E-05 ( 21)	2.9799E-05 ( 21)	2.9097E-05 ( 21)
20	3.1738E-08 ( 21)	5.1742E-06 ( 90)	9.6261E-06 (339)	1.2991E-05 (339)	1.3909E-05 (339)
21	5.3536E-08 (357)	9.8107E-06 (309)	1.9213E-05 (309)	2.2352E-05 (309)	2.2545E-05 ( 8)
22	9.8751E-08 (357)	1.1846E-05 (357)	2.0425E-05 (357)	2.2656E-05 (357)	2.2205E-05 (357)
23	3.9419E-08 (293)	1.0255E-05 (293)	2.0420E-05 (293)	2.3754E-05 (293)	2.4597E-05 (321)
24	4.7416E-08 (353)	1.0029E-05 (353)	2.0666E-05 (294)	2.5030E-05 (294)	2.5187E-05 (294)
25	4.5204E-08 (358)	7.1487E-06 ( 94)	1.5530E-05 (285)	1.8717E-05 (285)	1.8760E-05 (285)
26	5.0986E-08 (358)	1.1830E-05 ( 95)	2.5206E-05 ( 95)	2.9992E-05 ( 95)	2.9824E-05 ( 95)
27	7.1525E-08 (328)	9.2143E-06 ( 95)	1.9577E-05 ( 95)	2.3346E-05 ( 95)	2.3243E-05 ( 95)
28	4.5862E-08 (144)	7.9159E-06 ( 95)	1.5721E-05 ( 95)	1.8195E-05 ( 95)	1.7830E-05 ( 95)
29	4.8020E-08 (144)	6.9813E-06 (144)	1.7313E-05 (282)	2.3821E-05 (282)	2.5800E-05 (282)
30	2.4767E-08 (354)	8.6044E-06 (354)	1.9761E-05 (354)	2.4806E-05 (354)	2.5708E-05 (354)
31	4.0535E-08 ( 36)	5.9601E-06 ( 36)	1.0489E-05 ( 36)	1.2475E-05 (243)	1.2680E-05 (243)
32	3.9366E-08 ( 36)	6.7471E-06 ( 36)	1.2408E-05 ( 36)	1.4235E-05 ( 36)	1.4282E-05 ( 36)
33	4.0589E-08 ( 36)	9.2291E-06 (228)	2.2038E-05 (228)	2.8038E-05 (228)	2.9145E-05 (228)
34	2.7019E-08 (133)	6.7534E-06 (228)	1.5571E-05 (228)	1.9806E-05 (228)	2.0819E-05 (228)
35	3.7200E-08 ( 54)	5.7098E-06 ( 1)	1.1448E-05 ( 1)	1.3253E-05 ( 1)	1.3398E-05 ( 59)
36	3.6422E-08 ( 63)	6.6864E-06 (136)	1.6288E-05 (229)	2.2573E-05 (229)	2.4913E-05 (229)

YEARLY SECOND MAXIMUM 24-HOUR CONC= 3.5364E-05 DIRECTION= 9 DISTANCE= 2.0 KM DAY=167

YEAR= 71

DIR	SECOND HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	RANGE	0.5 KM	1.0 KM	1.5 KM	2.0 KM
1	6.7562E-09 ( 59)	8.7566E-06 ( 57)	1.5045E-05 ( 63)	1.6796E-05 ( 32)	1.6959E-05 ( 32)
2	8.9468E-08 ( 63)	1.1124E-05 (114)	1.9151E-05 (114)	2.1595E-05 ( 10)	2.2448E-05 (229)
3	5.9618E-08 (133)	7.0414E-06 (133)	1.2395E-05 (133)	1.3611E-05 (133)	1.2977E-05 (133)
4	3.3946E-08 ( 96)	3.3665E-06 ( 89)	7.6883E-06 (117)	1.0823E-05 (117)	1.1099E-05 (121)
5	1.9811E-08 ( 86)	3.9530E-06 (121)	7.8272E-06 (119)	1.1185E-05 (119)	1.3031E-05 (119)
6	5.5180E-08 (119)	1.0251E-05 (119)	1.9653E-05 (119)	2.2701E-05 (119)	2.2578E-05 (119)
7	6.3876E-08 (121)	8.8788E-06 (119)	1.6185E-05 (115)	1.7584E-05 (115)	1.6652E-05 (115)
8	2.6646E-08 (119)	6.2137E-06 (121)	1.3386E-05 (257)	1.6349E-05 (257)	1.6522E-05 (257)
9	7.7351E-08 (150)	1.5644E-05 (168)	3.0489E-05 (168)	3.5364E-05 (167)	3.4274E-05 (167)
10	6.1861E-08 (167)	1.0732E-05 (167)	1.9814E-05 (167)	2.2327E-05 (167)	2.1808E-05 (167)
11	8.9069E-08 ( 63)	1.1602E-05 ( 97)	1.8961E-05 ( 45)	1.9672E-05 ( 45)	1.8099E-05 ( 45)
12	1.2779E-07 ( 40)	1.1575E-05 ( 40)	1.8819E-05 ( 40)	2.0193E-05 (151)	1.9152E-05 (151)
13	1.1925E-07 ( 98)	8.8758E-06 ( 98)	1.6224E-05 ( 45)	1.8085E-05 ( 45)	1.7389E-05 ( 45)
14	9.0884E-08 ( 64)	8.3773E-06 ( 64)	1.3621E-05 ( 64)	1.4516E-05 ( 64)	1.3907E-05 (123)
15	1.0960E-07 ( 67)	9.8802E-06 ( 80)	1.7600E-05 (122)	2.0554E-05 (122)	2.0331E-05 (122)
16	9.4624E-08 ( 20)	8.0544E-06 ( 41)	1.5444E-05 ( 41)	1.7563E-05 ( 41)	1.7054E-05 ( 41)
17	3.7368E-08 ( 68)	4.5514E-06 ( 68)	1.0447E-05 (227)	1.3678E-05 (227)	1.4532E-05 (227)
18	3.9413E-08 ( 90)	5.9462E-06 (227)	1.2497E-05 (315)	1.5538E-05 (315)	1.5933E-05 (315)
19	4.4795E-08 ( 68)	5.2282E-06 ( 68)	9.1716E-06 ( 68)	1.0354E-05 ( 68)	1.0296E-05 ( 68)
20	2.9575E-08 ( 90)	5.0397E-06 (302)	9.5557E-06 ( 90)	1.0692E-05 ( 90)	1.0308E-05 ( 90)
21	4.4538E-08 (309)	7.2570E-06 (357)	1.6758E-05 ( 8)	2.1559E-05 ( 8)	2.2253E-05 (309)
22	4.5461E-08 ( 94)	7.4549E-06 (293)	1.5040E-05 (293)	1.8870E-05 (359)	2.0775E-05 (359)
23	3.8468E-08 (357)	9.2272E-06 (310)	1.8682E-05 (310)	2.3353E-05 (321)	2.3490E-05 (293)
24	3.8300E-08 (358)	9.3486E-06 (294)	1.9548E-05 (353)	2.2653E-05 (353)	2.2454E-05 (353)
25	3.7180E-08 ( 94)	7.1398E-06 (285)	1.3552E-05 ( 94)	1.5407E-05 ( 94)	1.5093E-05 (336)
26	3.7534E-08 ( 34)	1.0380E-05 ( 34)	2.2392E-05 ( 34)	2.7280E-05 ( 34)	2.7810E-05 ( 34)
27	3.1179E-08 (248)	8.1115E-06 (328)	1.5504E-05 (248)	1.9385E-05 (248)	1.9999E-05 (248)
28	3.5228E-08 (328)	6.7478E-06 (144)	1.2070E-05 (144)	1.5450E-05 (304)	1.6297E-05 (304)
29	2.1239E-08 ( 4)	5.9804E-06 (282)	1.2984E-05 (144)	1.5150E-05 (144)	1.5612E-05 (135)
30	2.2157E-08 ( 4)	6.0125E-06 (243)	1.2573E-05 (243)	1.7145E-05 (344)	2.1597E-05 (344)
31	1.8934E-08 (214)	5.1100E-06 (243)	1.0458E-05 (243)	1.1456E-05 ( 36)	1.0886E-05 ( 36)
32	1.7652E-08 ( 92)	5.0013E-06 (213)	1.1017E-05 (213)	1.3376E-05 (213)	1.3480E-05 (213)
33	3.1574E-08 (133)	6.7359E-06 (333)	1.5703E-05 (333)	2.0059E-05 (333)	2.1286E-05 (333)
34	2.2068E-08 ( 58)	3.8647E-06 (287)	8.1112E-06 (158)	1.0072E-05 (158)	1.2019E-05 ( 39)
35	2.9129E-08 ( 59)	5.2926E-06 ( 54)	9.2843E-06 ( 54)	1.1767E-05 ( 59)	1.2997E-05 ( 1)
36	3.2304E-08 ( 54)	5.7765E-06 (229)	1.3971E-05 (228)	2.0040E-05 (228)	2.2303E-05 (228)

YEARLY MAXIMUM 3-HOUR CONC= 1.0491E-04 DIRECTION= 29 DISTANCE= 2.5 KM DAY=282 TIME PERIOD= 5

YEAR= 71

DIR	HIGHEST		3-HOUR CONCENTRATION AT EACH RECEPTOR							
	RANGE	0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM				
1	6.8547E-07	( 63, 5)	3.9890E-05	( 63, 3)	7.3017E-05	( 39, 5)	8.2738E-05	( 39, 5)	8.0268E-05	( 39, 5)
2	6.5701E-07	( 62, 5)	4.5441E-05	( 62, 5)	8.7023E-05	( 61, 6)	9.9485E-05	( 61, 6)	9.7232E-05	( 61, 6)
3	4.2751E-07	( 58, 6)	3.9673E-05	(133, 6)	6.5565E-05	(133, 6)	6.9734E-05	(133, 6)	6.5339E-05	(133, 6)
4	2.7157E-07	( 96, 6)	2.9778E-05	(121, 5)	5.5087E-05	(121, 5)	6.1780E-05	(121, 5)	5.9704E-05	(121, 5)
5	2.1997E-07	(121, 4)	2.3465E-05	(121, 4)	3.8477E-05	( 25, 5)	4.6060E-05	(113, 1)	4.9240E-05	(119, 2)
6	2.7349E-07	(115, 4)	4.1492E-05	(115, 3)	7.6188E-05	(115, 3)	8.5090E-05	(115, 3)	8.1975E-05	(115, 3)
7	4.0718E-07	(115, 5)	4.1250E-05	(115, 5)	6.8261E-05	(115, 5)	7.2637E-05	(115, 5)	6.8070E-05	(115, 5)
8	3.2854E-07	(121, 6)	3.0489E-05	(118, 3)	6.1274E-05	(118, 3)	7.1300E-05	(118, 3)	7.5600E-05	(255, 4)
9	3.4297E-07	(136, 5)	4.2084E-05	(168, 5)	7.9738E-05	(168, 5)	9.0370E-05	(168, 5)	8.7820E-05	(168, 5)
10	3.3864E-07	(105, 5)	4.2550E-05	(173, 6)	7.9422E-05	(173, 6)	8.9423E-05	(173, 6)	8.6588E-05	(173, 6)
11	6.0816E-07	( 63, 6)	3.9872E-05	( 45, 5)	6.3792E-05	( 45, 5)	6.7313E-05	(326, 5)	6.5562E-05	(326, 5)
12	1.0801E-06	( 63, 7)	4.2375E-05	( 63, 7)	6.6271E-05	(151, 6)	7.2949E-05	(151, 6)	6.9578E-05	(151, 6)
13	3.4837E-07	( 98, 5)	2.9418E-05	( 45, 8)	5.5219E-05	( 45, 8)	6.4044E-05	(240, 5)	6.3471E-05	(240, 5)
14	4.4871E-07	( 67, 5)	3.0006E-05	( 67, 5)	5.1332E-05	(110, 6)	6.8699E-05	(200, 6)	7.5584E-05	(200, 6)
15	6.3327E-07	( 80, 4)	3.9371E-05	( 80, 4)	5.8790E-05	( 80, 4)	6.6383E-05	(222, 5)	7.0338E-05	(222, 5)
16	4.9646E-07	( 90, 4)	3.9447E-05	( 90, 4)	6.1892E-05	( 90, 4)	6.7536E-05	(170, 4)	7.5885E-05	(170, 4)
17	2.7526E-07	( 64, 4)	2.8069E-05	( 20, 2)	5.7839E-05	( 20, 2)	6.7866E-05	( 20, 2)	6.7028E-05	( 20, 2)
18	3.0849E-07	( 90, 3)	2.8590E-05	( 90, 3)	5.3837E-05	(315, 4)	7.1422E-05	(315, 4)	7.5867E-05	(315, 4)
19	3.4258E-07	( 68, 3)	3.7803E-05	( 68, 3)	6.5079E-05	( 68, 3)	7.0642E-05	( 68, 3)	6.6949E-05	( 68, 3)
20	2.3660E-07	( 90, 2)	4.1394E-05	( 90, 2)	7.6445E-05	( 90, 2)	8.5534E-05	( 90, 2)	8.2461E-05	( 90, 2)
21	3.0076E-07	(357, 7)	3.3921E-05	(358, 1)	6.9126E-05	(358, 1)	8.0634E-05	(358, 1)	7.9420E-05	(358, 1)
22	3.6382E-07	(357, 6)	3.4606E-05	(357, 6)	5.7506E-05	(357, 8)	7.1832E-05	(359, 3)	7.5187E-05	(359, 3)
23	1.5937E-07	( 94, 6)	3.8402E-05	(271, 4)	7.9070E-05	(271, 4)	9.2965E-05	(271, 4)	9.2168E-05	(271, 4)
24	2.0847E-07	(358, 5)	3.7545E-05	(294, 1)	8.3344E-05	(294, 1)	1.0152E-04	(294, 1)	1.0275E-04	(294, 1)
25	2.3574E-07	( 94, 4)	3.6696E-05	( 94, 4)	6.5822E-05	( 94, 4)	7.5732E-05	(292, 2)	8.5343E-05	(292, 2)
26	2.6277E-07	(358, 6)	2.9028E-05	( 95, 3)	6.6873E-05	( 95, 3)	8.2466E-05	( 95, 3)	8.3790E-05	( 95, 3)
27	3.8894E-07	(328, 4)	4.5063E-05	(328, 4)	7.6903E-05	(328, 4)	9.8662E-05	(249, 4)	1.0426E-04	(249, 4)
28	2.2656E-07	(144, 7)	3.1093E-05	( 95, 6)	5.9955E-05	( 95, 6)	6.8140E-05	( 95, 6)	7.1184E-05	(304, 6)
29	1.9581E-07	(144, 7)	2.7192E-05	( 78, 4)	6.9357E-05	(282, 5)	9.6367E-05	(282, 5)	1.0491E-04	(282, 5)
30	1.3576E-07	( 4, 5)	3.2337E-05	( 4, 5)	7.1130E-05	(338, 1)	9.2701E-05	(338, 1)	9.7460E-05	(338, 1)
31	2.0471E-07	( 36, 6)	3.2320E-05	( 36, 6)	5.8280E-05	( 36, 6)	6.4542E-05	( 36, 6)	6.1910E-05	( 36, 6)
32	1.2594E-07	(365, 4)	2.3185E-05	( 1, 1)	5.0879E-05	( 1, 1)	6.1573E-05	( 1, 1)	6.2033E-05	( 1, 1)
33	2.8121E-07	( 36, 4)	4.4274E-05	( 36, 4)	8.3331E-05	(334, 1)	9.7321E-05	(334, 1)	9.6188E-05	(334, 1)
34	2.0993E-07	(133, 4)	3.0141E-05	(287, 4)	6.4890E-05	(158, 8)	8.0574E-05	(158, 8)	8.2240E-05	(158, 8)
35	1.8485E-07	( 54, 5)	3.4349E-05	( 1, 2)	6.8252E-05	( 1, 2)	7.8830E-05	( 1, 2)	7.7280E-05	( 1, 2)
36	2.5692E-07	(188, 6)	3.2261E-05	(121, 3)	6.5281E-05	(121, 3)	7.6491E-05	(121, 3)	7.5674E-05	(121, 3)

YEARLY SECOND MAXIMUM 3-HOUR CONC= 9.0284E-05 DIRECTION= 27 DISTANCE= 2.5 KM DAY=190 TIME PERIOD= 3

YEAR= 71

DIR	3-HOUR CONCENTRATION AT EACH RECEPTOR									
	RANGE	SECOND HIGHEST 0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM				
1	3.7730E-07	( 67, 2)	3.8354E-05	( 39, 5)	6.9081E-05	( 63, 3)	7.5241E-05	( 63, 3)	7.2303E-05	( 76, 1)
2	4.2410E-07	( 59, 6)	4.5178E-05	( 61, 6)	6.9837E-05	( 62, 5)	7.6992E-05	(229, 4)	7.7541E-05	(229, 4)
3	3.9537E-07	(133, 6)	3.0999E-05	( 58, 6)	5.5209E-05	( 70, 5)	6.2219E-05	( 70, 5)	6.0512E-05	(112, 8)
4	1.6933E-07	(121, 5)	2.5286E-05	( 86, 4)	4.7169E-05	( 86, 4)	5.2920E-05	( 86, 4)	5.1031E-05	( 86, 4)
5	1.4215E-07	( 96, 6)	1.9659E-05	( 25, 5)	3.8387E-05	(121, 4)	4.3952E-05	( 25, 5)	4.8114E-05	(113, 1)
6	2.4949E-07	(115, 3)	4.1281E-05	(115, 2)	7.5391E-05	(115, 2)	<del>8.3898E-05</del>	(115, 2)	8.0630E-05	(115, 2)
7	1.9786E-07	(119, 5)	2.6236E-05	(111, 6)	5.0303E-05	(111, 6)	5.7201E-05	(111, 6)	5.5625E-05	(111, 6)
8	1.8740E-07	(119, 5)	2.9831E-05	(121, 6)	5.1747E-05	(117, 6)	6.7591E-05	(255, 4)	7.0290E-05	(118, 3)
9	2.9199E-07	(166, 5)	3.8189E-05	(166, 5)	7.4389E-05	(169, 6)	8.6661E-05	(169, 6)	8.5444E-05	(169, 6)
10	2.9155E-07	(152, 5)	4.0085E-05	(179, 6)	7.4753E-05	(179, 6)	8.4069E-05	(179, 6)	8.1312E-05	(179, 6)
11	4.6306E-07	( 45, 5)	3.5792E-05	( 97, 8)	6.1746E-05	( 97, 8)	6.6793E-05	( 45, 5)	6.3026E-05	( 97, 8)
12	5.0866E-07	( 40, 6)	4.0964E-05	( 40, 6)	6.5071E-05	( 40, 6)	6.7955E-05	( 40, 6)	6.2993E-05	( 40, 6)
13	3.1708E-07	( 80, 5)	2.7079E-05	( 80, 7)	5.4555E-05	(240, 5)	6.2243E-05	( 45, 8)	6.0275E-05	( 45, 8)
14	3.5317E-07	( 63, 8)	2.6742E-05	(110, 6)	4.8616E-05	(200, 6)	5.8431E-05	(110, 6)	5.6873E-05	(110, 6)
15	4.2371E-07	( 98, 4)	2.7564E-05	(193, 6)	5.4078E-05	(223, 5)	6.5374E-05	(223, 5)	6.5853E-05	(223, 5)
16	3.3293E-07	( 20, 5)	2.8802E-05	( 80, 3)	5.5585E-05	( 2, 5)	6.5341E-05	( 2, 5)	6.4826E-05	( 2, 5)
17	2.6977E-07	( 77, 5)	2.6913E-05	( 64, 4)	4.6744E-05	( 72, 6)	5.3723E-05	( 72, 6)	5.2526E-05	( 72, 6)
18	1.8458E-07	( 64, 3)	2.6517E-05	(302, 4)	5.0969E-05	(302, 4)	6.2767E-05	(227, 3)	6.6397E-05	(227, 3)
19	2.7743E-07	( 21, 3)	3.5199E-05	( 21, 3)	6.1709E-05	( 21, 3)	6.7417E-05	( 21, 3)	6.4070E-05	( 21, 3)
20	2.0224E-07	(302, 5)	3.6329E-05	(302, 5)	6.7312E-05	(302, 5)	7.5350E-05	(302, 5)	7.2613E-05	(302, 5)
21	2.1848E-07	( 17, 3)	3.0356E-05	(357, 7)	5.5516E-05	(270, 6)	6.8938E-05	(339, 4)	7.4680E-05	(339, 4)
22	2.2148E-07	( 94, 5)	3.1586E-05	(357, 8)	5.7504E-05	(337, 3)	6.7576E-05	(337, 3)	6.6719E-05	(337, 3)
23	1.4043E-07	( 33, 3)	3.2227E-05	(268, 3)	6.6950E-05	(268, 3)	7.8816E-05	(268, 3)	7.8944E-05	(294, 3)
24	1.8919E-07	(272, 6)	3.3692E-05	(353, 8)	7.0682E-05	(353, 8)	8.3706E-05	(353, 8)	8.3271E-05	(353, 8)
25	1.6000E-07	(358, 6)	2.6727E-05	(336, 8)	5.8656E-05	( 95, 2)	7.2630E-05	( 94, 4)	7.2629E-05	( 95, 2)
26	1.4487E-07	(358, 4)	2.4843E-05	( 34, 6)	5.6997E-05	( 34, 6)	7.0670E-05	( 34, 6)	7.4890E-05	(155, 4)
27	1.3573E-07	(248, 5)	2.9367E-05	(314, 4)	7.5001E-05	(249, 4)	8.6039E-05	(190, 3)	9.0284E-05	(190, 3)
28	1.5139E-07	(248, 5)	2.8445E-05	(144, 7)	4.9321E-05	(144, 7)	6.4020E-05	(304, 6)	6.6114E-05	( 95, 6)
29	1.4664E-07	(155, 6)	2.6714E-05	(246, 4)	5.7415E-05	(246, 4)	6.8414E-05	(246, 4)	7.2947E-05	(282, 7)
30	1.2299E-07	(354, 4)	2.7862E-05	(338, 1)	6.2965E-05	( 4, 5)	7.5012E-05	(344, 3)	8.8816E-05	(344, 3)
31	1.1843E-07	(354, 5)	2.3508E-05	(243, 5)	4.7502E-05	(243, 5)	5.5237E-05	(243, 5)	5.4337E-05	(243, 5)
32	1.1135E-07	(172, 6)	2.2309E-05	(213, 4)	4.7092E-05	(213, 4)	5.5946E-05	(213, 4)	5.5727E-05	(213, 4)
33	2.0309E-07	( 35, 5)	4.1166E-05	(334, 1)	7.9943E-05	( 36, 4)	8.8623E-05	( 36, 4)	8.9218E-05	(333, 5)
34	1.2511E-07	( 58, 5)	2.9225E-05	(133, 4)	5.8824E-05	(287, 4)	6.7210E-05	(287, 4)	6.5404E-05	(287, 4)
35	1.5686E-07	( 59, 3)	2.8238E-05	( 59, 3)	5.4232E-05	( 59, 3)	6.3326E-05	( 59, 3)	6.3618E-05	( 59, 3)
36	2.1181E-07	( 59, 4)	2.8585E-05	(188, 6)	5.3274E-05	(188, 6)	6.2396E-05	(228, 5)	7.0622E-05	(228, 5)



RING DISTANCES(KM)= 0.50 1.00 1.50 2.00 2.50

STACK # 1--STACK 1 SOURCE NUMBER 1

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	84.0000	61.00	2.70	9.20	345.00	52.68

PLANT NAME: W R GRACE STUDY

POLLUTANT: SO2

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

MAXIMUM MEAN CONC= 2.6779E-06 DIRECTION= 27 DISTANCE= 2.5 KM

YEAR= 72

DIR	RANGE	ANNUAL MEAN CONCENTRATION AT EACH RECEPTOR				
		0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1		1.52990E-09	3.27603E-07	6.94749E-07	8.66720E-07	9.17503E-07
2		1.48209E-09	4.13479E-07	9.29755E-07	1.19930E-06	1.29722E-06
3		1.22266E-09	3.09382E-07	6.66423E-07	8.44921E-07	9.08445E-07
4		5.63529E-10	1.73831E-07	3.97217E-07	5.20301E-07	5.70869E-07
5		5.31432E-10	1.74730E-07	4.12021E-07	5.59950E-07	6.36261E-07
6		6.81715E-10	2.29201E-07	5.24353E-07	6.90725E-07	7.65425E-07
7		1.07342E-09	3.16506E-07	7.14910E-07	9.28856E-07	1.01183E-06
8		1.59096E-09	4.28452E-07	9.24478E-07	1.16359E-06	1.23851E-06
9		4.23629E-09	9.77901E-07	2.02441E-06	2.49639E-06	2.62847E-06
10		2.98714E-09	6.79383E-07	1.38575E-06	1.67389E-06	1.72419E-06
11		1.74766E-09	3.69067E-07	7.53614E-07	9.24294E-07	9.71992E-07
12		1.48948E-09	2.83526E-07	5.68815E-07	6.89255E-07	7.19646E-07
13		2.95675E-09	3.24769E-07	6.52372E-07	7.98773E-07	8.41797E-07
14		1.57564E-09	3.50022E-07	7.43110E-07	9.29720E-07	9.89139E-07
15		1.92742E-09	4.12774E-07	8.49141E-07	1.03279E-06	1.07134E-06
16		1.46697E-09	3.24383E-07	6.84109E-07	8.41095E-07	8.75878E-07
17		1.17836E-09	2.76154E-07	5.86968E-07	7.28443E-07	7.66309E-07
18		1.04375E-09	3.11382E-07	7.02859E-07	9.02326E-07	9.72069E-07
19		1.02580E-09	2.38399E-07	5.15805E-07	6.48745E-07	6.88880E-07
20		7.43315E-10	1.76833E-07	3.81926E-07	4.90134E-07	5.34716E-07
21		1.18466E-09	2.92402E-07	6.46883E-07	8.34050E-07	9.06608E-07
22		2.10732E-09	4.80808E-07	9.89722E-07	1.20636E-06	1.25613E-06
23		2.67468E-09	6.17171E-07	1.32485E-06	1.67573E-06	1.79722E-06
24		2.68872E-09	6.16058E-07	1.31522E-06	1.67517E-06	1.82024E-06
25		2.12573E-09	5.53265E-07	1.21295E-06	1.56697E-06	1.71840E-06
26		2.09607E-09	5.80257E-07	1.31992E-06	1.74060E-06	1.92957E-06
27		2.92553E-09	8.22091E-07	1.86033E-06	2.43338E-06	2.67786E-06
28		2.81340E-09	6.89550E-07	1.49548E-06	1.88826E-06	2.01361E-06
29		1.89760E-09	4.38302E-07	9.40157E-07	1.19757E-06	1.29727E-06
30		1.10923E-09	3.04746E-07	7.03124E-07	9.39676E-07	1.05639E-06
31		9.49212E-10	2.93763E-07	6.86373E-07	9.14581E-07	1.01818E-06
32		7.73083E-10	2.64329E-07	6.01276E-07	7.74554E-07	8.35765E-07
33		1.04847E-09	2.99669E-07	6.86948E-07	8.99642E-07	9.86526E-07
34		5.73743E-10	2.13217E-07	5.03582E-07	6.68585E-07	7.40204E-07
35		6.33467E-10	1.64423E-07	3.71187E-07	4.80767E-07	5.22654E-07
36		1.30193E-09	2.95378E-07	6.47996E-07	8.24448E-07	8.83128E-07

PLANT NAME: W R GRACE STUDY

POLLUTANT: SO2

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

YEARLY MAXIMUM 24-HOUR CONC= 5.1000E-05 DIRECTION= 9 DISTANCE= 2.0 KM DAY=176

YEAR= 72

174

RANGE DIR	HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	1.6589E-07 (173)	1.1922E-05 (173)	1.8467E-05 (173)	1.9074E-05 (173)	1.7582E-05 (67)
2	6.4077E-08 (173)	6.9782E-06 (12)	1.5873E-05 (57)	2.0651E-05 (57)	2.1862E-05 (57)
3	8.4667E-08 (78)	1.4283E-05 (78)	2.6331E-05 (78)	2.9414E-05 (78)	2.8303E-05 (78)
4	2.3017E-08 (174)	4.6155E-06 (78)	1.0155E-05 (127)	1.4787E-05 (127)	1.6738E-05 (127)
5	4.1477E-08 (174)	7.2662E-06 (174)	1.3216E-05 (174)	1.4598E-05 (174)	1.3921E-05 (174)
6	3.4698E-08 (87)	7.5117E-06 (87)	1.4482E-05 (87)	1.6492E-05 (87)	1.6031E-05 (87)
7	8.1582E-08 (174)	1.1358E-05 (174)	2.0163E-05 (174)	2.2108E-05 (174)	2.1037E-05 (174)
8	7.3464E-08 (179)	1.5672E-05 (179)	3.0323E-05 (179)	3.4674E-05 (179)	3.3803E-05 (179)
9	1.5425E-07 (175)	2.3862E-05 (175)	4.4533E-05 (176)	5.1000E-05 (176)	4.9747E-05 (176)
10	7.8024E-08 (79)	1.1623E-05 (176)	2.1435E-05 (180)	2.4631E-05 (180)	2.4079E-05 (180)
11	6.0406E-08 (46)	9.8144E-06 (46)	1.8102E-05 (46)	2.0273E-05 (46)	1.9556E-05 (46)
12	7.1586E-08 (52)	6.1668E-06 (144)	1.1427E-05 (144)	1.4235E-05 (333)	1.5224E-05 (144)
13	2.6039E-07 (52)	1.2359E-05 (52)	1.7617E-05 (52)	1.7489E-05 (52)	1.5745E-05 (52)
14	8.8867E-08 (52)	8.8722E-06 (362)	1.6414E-05 (362)	1.8335E-05 (362)	1.7652E-05 (362)
15	1.3703E-07 (52)	1.8760E-05 (52)	3.3349E-05 (52)	3.6698E-05 (52)	3.5049E-05 (52)
16	9.6474E-08 (53)	9.0458E-06 (53)	1.5766E-05 (8)	1.9103E-05 (8)	1.9261E-05 (8)
17	8.0720E-08 (353)	1.0699E-05 (8)	2.1176E-05 (8)	2.4402E-05 (8)	2.3866E-05 (8)
18	7.6725E-08 (353)	1.1446E-05 (37)	2.0776E-05 (37)	2.4343E-05 (322)	2.5617E-05 (322)
19	9.1081E-08 (37)	1.6639E-05 (37)	3.1669E-05 (37)	3.5967E-05 (37)	3.4967E-05 (37)
20	3.7283E-08 (18)	5.7664E-06 (18)	1.0214E-05 (18)	1.1681E-05 (33)	1.1811E-05 (33)
21	7.0699E-08 (18)	8.9252E-06 (18)	1.6161E-05 (42)	1.8987E-05 (42)	1.8818E-05 (42)
22	9.8509E-08 (71)	1.3823E-05 (71)	2.4573E-05 (71)	2.6983E-05 (71)	2.5873E-05 (331)
23	1.0699E-07 (71)	1.5032E-05 (71)	2.6738E-05 (71)	3.0778E-05 (42)	3.1063E-05 (42)
24	1.2929E-07 (296)	1.5113E-05 (102)	2.7621E-05 (102)	3.0582E-05 (102)	3.0401E-05 (44)
25	9.5848E-08 (102)	1.5267E-05 (102)	2.7466E-05 (102)	3.0214E-05 (102)	2.8755E-05 (102)
26	7.0831E-08 (297)	1.1332E-05 (297)	2.0526E-05 (297)	2.2812E-05 (297)	2.1946E-05 (297)
27	1.2794E-07 (172)	1.6298E-05 (172)	2.8494E-05 (172)	3.1008E-05 (172)	2.9358E-05 (172)
28	1.0359E-07 (172)	1.5124E-05 (135)	3.2408E-05 (135)	3.9340E-05 (135)	3.9937E-05 (135)
29	8.0910E-08 (171)	1.1147E-05 (129)	2.0029E-05 (129)	2.2095E-05 (129)	2.1105E-05 (129)
30	5.4022E-08 (172)	5.5934E-06 (204)	1.4433E-05 (326)	1.9361E-05 (326)	2.0814E-05 (326)
31	4.9380E-08 (172)	7.0565E-06 (215)	1.4668E-05 (136)	1.8289E-05 (136)	1.8870E-05 (136)
32	2.5418E-08 (358)	6.6909E-06 (358)	1.3648E-05 (358)	1.5989E-05 (358)	1.5811E-05 (358)
33	1.0951E-07 (173)	9.8366E-06 (173)	1.8912E-05 (303)	2.3130E-05 (136)	2.3573E-05 (136)
34	2.1837E-08 (92)	5.2747E-06 (92)	1.1263E-05 (24)	1.3852E-05 (24)	1.4779E-05 (14)
35	3.5400E-08 (358)	3.8766E-06 (332)	7.4340E-06 (15)	1.0028E-05 (15)	1.1032E-05 (15)
36	1.0323E-07 (173)	8.7311E-06 (173)	1.9568E-05 (16)	2.5540E-05 (16)	2.7048E-05 (16)



PLANT NAME: W R GRACE STUDY

POLLUTANT: SO2

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

YEARLY SECOND MAXIMUM 24-HOUR CONC= 4.9080E-05 DIRECTION= 9 DISTANCE= 2.0 KM DAY=175

YEAR= 72

173

DIR	SECOND HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR					
	RANGE	0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	3.6417E-08 (131)	5.7003E-06 (40)	1.2035E-05 (40)	1.6269E-05 (67)	1.7581E-05 (173)	
2	3.8579E-08 (115)	6.8121E-06 (91)	1.5334E-05 (91)	1.9731E-05 (91)	2.1444E-05 (91)	
3	4.7267E-08 (173)	9.1508E-06 (131)	1.8250E-05 (131)	2.1190E-05 (131)	2.0862E-05 (131)	
4	2.1490E-08 (78)	3.8486E-06 (174)	8.8197E-06 (78)	9.9092E-06 (78)	9.4945E-06 (78)	
5	2.1062E-08 (359)	3.2696E-06 (359)	6.6588E-06 (132)	9.2347E-06 (152)	1.0868E-05 (152)	
6	1.8561E-08 (174)	4.9280E-06 (179)	1.1719E-05 (179)	1.4814E-05 (179)	1.5321E-05 (179)	
7	2.9676E-08 (87)	6.2955E-06 (132)	1.2942E-05 (132)	1.5215E-05 (132)	1.5080E-05 (132)	
8	6.3058E-08 (175)	9.7272E-06 (175)	1.8023E-05 (101)	2.0311E-05 (101)	1.9601E-05 (101)	
9	1.0617E-07 (176)	2.2861E-05 (176)	4.3938E-05 (175)	4.9080E-05 (175)	4.8490E-05 (180)	
10	6.6849E-08 (176)	1.1263E-05 (177)	2.1206E-05 (176)	2.3395E-05 (176)	2.2245E-05 (176)	
11	5.7216E-08 (51)	8.4892E-06 (145)	1.6526E-05 (145)	1.9276E-05 (145)	1.9343E-05 (145)	
12	5.7964E-08 (51)	5.2704E-06 (148)	1.1384E-05 (333)	1.3972E-05 (144)	1.4869E-05 (333)	
13	6.9010E-08 (51)	8.0404E-06 (46)	1.4590E-05 (46)	1.6103E-05 (46)	1.5338E-05 (46)	
14	5.1744E-08 (283)	8.0607E-06 (52)	1.3268E-05 (327)	1.6643E-05 (327)	1.7371E-05 (327)	
15	7.0058E-08 (53)	8.7605E-06 (362)	1.6326E-05 (362)	1.9657E-05 (8)	2.0716E-05 (8)	
16	4.3895E-08 (95)	7.2752E-06 (8)	1.4746E-05 (53)	1.5832E-05 (53)	1.5564E-05 (150)	
17	4.4183E-08 (8)	9.2894E-06 (353)	1.6041E-05 (353)	1.7500E-05 (353)	1.6689E-05 (353)	
18	7.3773E-08 (37)	9.7619E-06 (353)	1.9550E-05 (322)	2.3618E-05 (330)	2.4715E-05 (330)	
19	8.0548E-08 (353)	8.1660E-06 (18)	1.5109E-05 (18)	1.6865E-05 (18)	1.6207E-05 (18)	
20	3.2324E-08 (17)	5.3132E-06 (42)	9.7396E-06 (42)	1.1124E-05 (18)	1.0510E-05 (18)	
21	5.0346E-08 (17)	8.5345E-06 (17)	1.5680E-05 (17)	1.7456E-05 (17)	1.6746E-05 (17)	
22	7.8297E-08 (18)	1.2959E-05 (18)	2.3833E-05 (18)	2.6598E-05 (18)	2.5707E-05 (71)	
23	8.8790E-08 (43)	1.2555E-05 (43)	2.5487E-05 (42)	2.9358E-05 (71)	2.7959E-05 (71)	
24	9.8337E-08 (43)	1.4524E-05 (296)	2.7006E-05 (119)	3.0473E-05 (119)	2.9568E-05 (119)	
25	5.6287E-08 (287)	8.7651E-06 (313)	1.8635E-05 (313)	2.3015E-05 (313)	2.4000E-05 (313)	
26	5.9433E-08 (286)	8.7807E-06 (286)	1.5951E-05 (286)	1.8441E-05 (286)	1.8759E-05 (286)	
27	1.0041E-07 (171)	1.3409E-05 (171)	2.3603E-05 (171)	2.5829E-05 (171)	2.4581E-05 (171)	
28	8.1071E-08 (171)	1.3486E-05 (169)	2.6183E-05 (169)	3.0152E-05 (169)	2.9641E-05 (169)	
29	7.3307E-08 (129)	9.8778E-06 (121)	1.8533E-05 (121)	2.0806E-05 (121)	2.0039E-05 (121)	
30	3.1442E-08 (204)	5.5288E-06 (326)	1.3176E-05 (122)	1.7498E-05 (122)	1.8681E-05 (122)	
31	2.9986E-08 (215)	6.5506E-06 (136)	1.3839E-05 (215)	1.6213E-05 (215)	1.6307E-05 (215)	
32	2.4306E-08 (172)	6.3736E-06 (122)	1.3199E-05 (122)	1.5570E-05 (122)	1.5607E-05 (303)	
33	3.2616E-08 (303)	8.8450E-06 (303)	1.8684E-05 (136)	2.2796E-05 (303)	2.2940E-05 (303)	
34	1.5640E-08 (22)	4.9850E-06 (24)	1.0297E-05 (92)	1.3433E-05 (14)	1.4081E-05 (24)	
35	2.8651E-08 (64)	3.4094E-06 (92)	7.2286E-06 (321)	9.0977E-06 (321)	9.2790E-06 (321)	
36	6.2866E-08 (93)	8.1659E-06 (92)	1.7338E-05 (92)	2.0781E-05 (92)	2.0849E-05 (92)	

YEARLY MAXIMUM 3-HOUR CONC= 1.4251E-04 DIRECTION= 30 DISTANCE= 2.5 KM DAY=326 TIME PERIOD= 3

YEAR= 72

DIR	3-HOUR CONCENTRATION AT EACH RECEPTOR									
	RANGE	HIGHEST 0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM				
1	6.1807E-07	(173, 5)	3.8339E-05	(173, 5)	6.0959E-05	(352, 4)	7.9052E-05	(352, 4)	8.2854E-05	(352, 4)
2	3.9602E-07	(173, 6)	4.0489E-05	(12, 5)	8.0259E-05	(12, 5)	9.2770E-05	(12, 5)	9.1124E-05	(12, 5)
3	2.2374E-07	(78, 5)	4.0728E-05	(78, 7)	7.7871E-05	(78, 7)	8.8768E-05	(78, 7)	8.6550E-05	(78, 7)
4	1.4021E-07	(64, 5)	2.4911E-05	(78, 8)	4.9844E-05	(78, 8)	6.5129E-05	(127, 2)	7.1411E-05	(127, 2)
5	1.6850E-07	(359, 5)	2.6157E-05	(359, 5)	4.6780E-05	(359, 5)	5.1472E-05	(359, 5)	5.4294E-05	(132, 3)
6	1.5368E-07	(87, 4)	3.9557E-05	(87, 4)	7.9703E-05	(87, 4)	9.2936E-05	(87, 4)	9.1752E-05	(87, 4)
7	3.9647E-07	(174, 5)	4.2579E-05	(174, 5)	7.2183E-05	(174, 5)	7.7793E-05	(174, 5)	7.3475E-05	(174, 5)
8	2.1639E-07	(179, 7)	4.2386E-05	(179, 7)	7.9825E-05	(179, 7)	9.0161E-05	(179, 7)	8.7429E-05	(179, 7)
9	3.5978E-07	(175, 5)	4.3279E-05	(180, 3)	8.3116E-05	(180, 3)	9.4794E-05	(180, 3)	9.2892E-05	(176, 7)
10	3.1906E-07	(79, 4)	4.1253E-05	(98, 6)	7.7736E-05	(132, 6)	9.2992E-05	(132, 6)	9.3291E-05	(132, 6)
11	2.8307E-07	(146, 6)	4.1260E-05	(146, 6)	7.3657E-05	(146, 6)	8.1155E-05	(146, 6)	7.7560E-05	(146, 6)
12	3.5974E-07	(52, 4)	4.5894E-05	(144, 6)	8.3043E-05	(144, 6)	9.2205E-05	(144, 6)	8.8617E-05	(144, 6)
13	9.0833E-07	(52, 5)	3.7912E-05	(52, 5)	5.4564E-05	(148, 4)	6.3956E-05	(148, 4)	6.3323E-05	(148, 4)
14	3.5459E-07	(283, 4)	3.8108E-05	(283, 4)	7.4441E-05	(67, 6)	9.5894E-05	(67, 6)	1.0011E-04	(67, 6)
15	2.8609E-07	(95, 5)	4.2709E-05	(52, 1)	7.8280E-05	(52, 1)	8.7509E-05	(52, 1)	8.4400E-05	(52, 1)
16	2.9722E-07	(53, 5)	2.9076E-05	(127, 6)	5.6693E-05	(150, 6)	6.9365E-05	(150, 6)	7.0255E-05	(150, 6)
17	2.8691E-07	(353, 3)	3.3650E-05	(8, 4)	6.4373E-05	(8, 4)	7.2868E-05	(8, 4)	7.0518E-05	(8, 4)
18	2.0705E-07	(353, 4)	3.5065E-05	(50, 1)	7.7152E-05	(17, 4)	9.8304E-05	(17, 4)	1.0244E-04	(17, 4)
19	2.8000E-07	(37, 4)	4.0711E-05	(18, 2)	7.6822E-05	(18, 2)	8.6831E-05	(18, 2)	8.4205E-05	(18, 2)
20	1.4325E-07	(18, 1)	3.0467E-05	(33, 4)	6.9676E-05	(33, 4)	8.5882E-05	(33, 4)	8.7394E-05	(33, 4)
21	2.2029E-07	(18, 3)	3.1570E-05	(18, 3)	5.6156E-05	(18, 3)	6.5425E-05	(33, 5)	6.6186E-05	(33, 5)
22	3.4818E-07	(19, 1)	4.8561E-05	(19, 1)	8.6018E-05	(19, 1)	9.4699E-05	(19, 1)	9.0646E-05	(19, 1)
23	3.5186E-07	(71, 3)	3.9135E-05	(42, 8)	8.1933E-05	(19, 8)	9.8376E-05	(19, 8)	9.8856E-05	(19, 8)
24	4.1262E-07	(43, 4)	4.0611E-05	(296, 5)	6.7964E-05	(296, 5)	7.4763E-05	(102, 7)	7.2210E-05	(102, 7)
25	3.0232E-07	(43, 5)	4.3761E-05	(313, 6)	8.4149E-05	(313, 6)	9.6059E-05	(313, 6)	9.3766E-05	(313, 6)
26	2.6677E-07	(286, 6)	3.7604E-05	(297, 5)	6.7593E-05	(297, 5)	7.4551E-05	(297, 5)	7.1444E-05	(162, 3)
27	3.9350E-07	(172, 6)	4.1758E-05	(308, 5)	8.3167E-05	(308, 5)	9.6471E-05	(308, 5)	9.5004E-05	(308, 5)
28	2.8967E-07	(172, 6)	3.9675E-05	(135, 6)	7.5661E-05	(121, 7)	9.0145E-05	(135, 2)	9.7594E-05	(135, 2)
29	2.4101E-07	(171, 6)	3.1472E-05	(204, 5)	5.4553E-05	(204, 5)	6.5547E-05	(49, 2)	7.9647E-05	(49, 2)
30	2.1993E-07	(172, 7)	3.5679E-05	(326, 3)	9.6036E-05	(326, 3)	1.3108E-04	(326, 3)	1.4251E-04	(326, 3)
31	3.8634E-07	(172, 7)	2.9432E-05	(172, 7)	5.7003E-05	(136, 3)	6.8218E-05	(136, 3)	6.8406E-05	(136, 3)
32	1.4790E-07	(215, 4)	2.6240E-05	(215, 4)	5.5200E-05	(122, 5)	6.5801E-05	(122, 5)	6.5800E-05	(122, 5)
33	5.7618E-07	(173, 2)	4.9440E-05	(173, 2)	7.9589E-05	(173, 2)	8.3896E-05	(173, 2)	7.8372E-05	(173, 2)
34	1.2512E-07	(22, 5)	2.6692E-05	(24, 3)	5.5876E-05	(24, 3)	6.6236E-05	(24, 3)	6.5972E-05	(24, 3)
35	2.2921E-07	(64, 4)	2.4786E-05	(64, 4)	4.6837E-05	(92, 7)	5.6124E-05	(92, 7)	5.6129E-05	(92, 7)
36	4.3206E-07	(93, 1)	4.2262E-05	(93, 1)	7.0336E-05	(93, 1)	7.6572E-05	(359, 3)	7.8568E-05	(359, 3)

PLANT NAME: W R GRACE STUDY

POLLUTANT: SO2

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

YEARLY SECOND MAXIMUM 3-HOUR CONC= 9.4343E-05 DIRECTION= 9 DISTANCE= 2.0 KM DAY=176 TIME PERIOD= 7

YEAR= 72

DIR	SECOND HIGHEST		3-HOUR CONCENTRATION AT EACH RECEPTOR							
	RANGE	0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM				
1	3.4362E-07	(173, 7)	3.3322E-05	(173, 7)	5.9527E-05	(332, 7)	7.0849E-05	(332, 7)	7.0891E-05	(67, 3)
2	1.7647E-07	(36, 4)	3.4751E-05	(173, 6)	6.5653E-05	(57, 6)	8.6250E-05	(57, 6)	9.1022E-05	(57, 6)
3	2.2251E-07	(64, 5)	3.2092E-05	(78, 5)	6.3860E-05	(7, 5)	7.3949E-05	(7, 5)	7.7437E-05	(106, 3)
4	1.0689E-07	(174, 2)	2.0069E-05	(45, 6)	4.6304E-05	(127, 2)	5.7512E-05	(78, 8)	5.6387E-05	(127, 1)
5	1.3050E-07	(174, 2)	2.1813E-05	(174, 2)	3.8865E-05	(174, 2)	5.0326E-05	(132, 3)	4.9097E-05	(359, 5)
6	1.3818E-07	(332, 8)	2.8575E-05	(132, 4)	2.8575E-05	(132, 4)	6.8383E-05	(132, 4)	6.7760E-05	(132, 4)
7	1.5937E-07	(174, 4)	2.7245E-05	(174, 4)	4.9864E-05	(174, 4)	5.5522E-05	(174, 4)	5.9194E-05	(89, 7)
8	1.8511E-07	(175, 3)	3.1990E-05	(179, 5)	6.0118E-05	(179, 5)	6.8831E-05	(182, 3)	7.5847E-05	(182, 3)
9	3.1943E-07	(36, 4)	4.1990E-05	(175, 5)	8.1323E-05	(176, 7)	9.4343E-05	(176, 7)	9.2465E-05	(180, 3)
10	2.5194E-07	(146, 5)	3.6979E-05	(132, 6)	7.6672E-05	(98, 6)	8.6079E-05	(98, 6)	8.5146E-05	(178, 4)
11	2.1362E-07	(46, 7)	3.0846E-05	(145, 4)	5.8500E-05	(145, 4)	6.7407E-05	(.46, 5)	6.7140E-05	(151, 6)
12	2.9054E-07	(144, 6)	2.9572E-05	(65, 6)	5.7378E-05	(65, 6)	6.5792E-05	(65, 6)	6.4398E-05	(65, 6)
13	6.6537E-07	(52, 4)	3.1076E-05	(51, 8)	5.2845E-05	(51, 8)	5.6820E-05	(93, 6)	5.7493E-05	(264, 6)
14	3.0770E-07	(52, 6)	3.5675E-05	(324, 5)	7.0518E-05	(324, 5)	8.1325E-05	(324, 5)	7.9699E-05	(324, 5)
15	2.7685E-07	(52, 1)	3.3535E-05	(118, 6)	5.8478E-05	(327, 3)	7.1613E-05	(327, 3)	7.2442E-05	(327, 3)
16	2.1297E-07	(36, 8)	2.6126E-05	(155, 6)	5.1920E-05	(127, 6)	5.8638E-05	(155, 6)	5.7880E-05	(67, 7)
17	2.6801E-07	(353, 2)	2.9024E-05	(353, 3)	5.4644E-05	(8, 6)	6.3206E-05	(8, 6)	6.2118E-05	(8, 6)
18	1.8559E-07	(353, 3)	3.2786E-05	(322, 4)	7.5141E-05	(50, 1)	9.0070E-05	(50, 1)	9.0253E-05	(50, 1)
19	2.6270E-07	(353, 5)	3.3302E-05	(37, 3)	6.6376E-05	(37, 2)	7.9725E-05	(37, 2)	7.9825E-05	(37, 2)
20	1.3170E-07	(42, 7)	2.7380E-05	(18, 1)	5.1509E-05	(18, 1)	5.8122E-05	(18, 1)	5.6298E-05	(18, 1)
21	2.1113E-07	(18, 5)	2.8284E-05	(42, 6)	5.5116E-05	(42, 6)	6.3569E-05	(42, 6)	6.4576E-05	(150, 4)
22	3.2524E-07	(71, 4)	4.3071E-05	(18, 7)	8.0438E-05	(18, 7)	9.0616E-05	(18, 7)	8.7785E-05	(18, 7)
23	2.5174E-07	(296, 7)	3.8557E-05	(71, 3)	7.7369E-05	(42, 8)	8.9245E-05	(42, 8)	9.2175E-05	(324, 8)
24	3.7271E-07	(296, 5)	4.0454E-05	(43, 4)	6.6482E-05	(102, 7)	7.2626E-05	(296, 5)	7.1340E-05	(44, 6)
25	2.4304E-07	(287, 4)	3.6923E-05	(103, 1)	7.6167E-05	(103, 1)	8.9568E-05	(103, 1)	8.8768E-05	(103, 1)
26	2.3913E-07	(297, 5)	3.5869E-05	(297, 4)	6.4788E-05	(297, 4)	7.1696E-05	(297, 4)	7.1204E-05	(297, 5)
27	2.3167E-07	(171, 4)	3.2231E-05	(82, 7)	6.7194E-05	(82, 7)	7.9172E-05	(82, 7)	7.8418E-05	(82, 7)
28	2.7403E-07	(135, 6)	3.9515E-05	(121, 7)	7.0487E-05	(135, 6)	8.6113E-05	(121, 7)	8.3821E-05	(121, 7)
29	2.3044E-07	(204, 5)	2.9325E-05	(169, 4)	5.0640E-05	(169, 4)	5.9014E-05	(204, 5)	5.8256E-05	(326, 2)
30	2.1224E-07	(172, 8)	3.0901E-05	(204, 4)	5.5600E-05	(204, 4)	6.1525E-05	(204, 4)	5.8991E-05	(204, 4)
31	1.5381E-07	(173, 1)	2.6804E-05	(136, 3)	5.0818E-05	(215, 3)	5.8351E-05	(215, 3)	5.6933E-05	(215, 3)
32	1.4655E-07	(172, 8)	2.6127E-05	(122, 5)	5.2379E-05	(358, 3)	6.1536E-05	(358, 3)	6.0825E-05	(358, 3)
33	2.9990E-07	(173, 1)	3.1739E-05	(303, 4)	5.7409E-05	(303, 4)	6.7516E-05	(136, 5)	6.8724E-05	(136, 5)
34	9.8627E-08	(4, 4)	1.9669E-05	(36, 2)	4.9096E-05	(36, 2)	6.2910E-05	(36, 2)	6.5398E-05	(36, 2)
35	1.9447E-07	(358, 7)	2.1679E-05	(92, 7)	4.1211E-05	(64, 4)	4.9913E-05	(24, 5)	5.1653E-05	(24, 5)
36	3.5866E-07	(173, 3)	3.2426E-05	(173, 3)	6.2503E-05	(92, 8)	7.5173E-05	(93, 1)	7.3180E-05	(92, 4)



RING DISTANCES(KM)= 0.50 1.00 1.50 2.00 2.50

STACK # 1--STACK 1 SOURCE NUMBER 1

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	84.0000	61.00	2.70	9.20	345.00	52.68

PLANT NAME: W R GRACE STUDY

POLLUTANT: SO2

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

MAXIMUM MEAN CONC= 1.9538E-06 DIRECTION= 30 DISTANCE= 2.5 KM

YEAR= 73

DIR	RANGE	ANNUAL MEAN CONCENTRATION AT EACH RECEPTOR				
		0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1		1.53598E-09	3.71861E-07	7.97180E-07	9.98879E-07	1.05750E-06
2		1.53151E-09	3.56866E-07	7.66482E-07	9.58347E-07	1.00971E-06
3		7.65322E-10	2.10845E-07	4.61620E-07	5.86745E-07	6.30634E-07
4		4.65747E-10	1.66184E-07	3.99604E-07	5.36023E-07	5.95198E-07
5		4.63416E-10	1.55774E-07	3.67867E-07	4.94252E-07	5.54287E-07
6		6.26901E-10	2.20336E-07	5.22497E-07	6.98659E-07	7.76845E-07
7		8.35843E-10	2.98916E-07	6.97776E-07	9.27989E-07	1.03116E-06
8		1.04998E-09	2.92244E-07	6.39529E-07	8.19223E-07	8.87009E-07
9		2.84318E-09	6.68300E-07	1.41180E-06	1.75557E-06	1.85167E-06
10		2.34567E-09	5.65583E-07	1.17849E-06	1.43407E-06	1.48150E-06
11		2.55272E-09	4.85841E-07	9.86332E-07	1.19326E-06	1.23376E-06
12		2.41472E-09	4.10693E-07	8.01954E-07	9.68940E-07	1.01921E-06
13		2.64355E-09	4.32486E-07	8.39579E-07	1.00343E-06	1.03996E-06
14		2.31032E-09	4.44985E-07	9.01028E-07	1.09673E-06	1.14335E-06
15		1.55002E-09	3.28432E-07	6.85007E-07	8.47614E-07	8.92595E-07
16		1.01901E-09	2.41702E-07	5.28812E-07	6.74624E-07	7.27078E-07
17		9.01306E-10	2.45332E-07	5.47375E-07	7.05194E-07	7.63768E-07
18		7.55845E-10	1.93460E-07	4.27603E-07	5.68973E-07	6.45348E-07
19		7.10201E-10	2.20591E-07	5.02283E-07	6.54507E-07	7.14333E-07
20		8.15363E-10	2.90610E-07	6.75326E-07	8.92666E-07	9.86018E-07
21		1.05761E-09	3.76468E-07	8.68339E-07	1.13363E-06	1.23625E-06
22		1.40301E-09	4.21449E-07	9.34134E-07	1.19262E-06	1.28133E-06
23		1.64875E-09	4.50673E-07	9.89479E-07	1.26275E-06	1.35962E-06
24		1.46688E-09	4.56143E-07	1.05818E-06	1.40559E-06	1.56012E-06
25		1.38911E-09	4.94860E-07	1.18461E-06	1.60114E-06	1.80027E-06
26		1.08266E-09	3.57549E-07	8.42821E-07	1.13044E-06	1.26489E-06
27		2.07471E-09	6.09520E-07	1.36728E-06	1.77876E-06	1.95114E-06
28		2.25841E-09	6.30579E-07	1.37156E-06	1.72398E-06	1.82871E-06
29		1.76657E-09	5.32661E-07	1.19845E-06	1.54470E-06	1.66982E-06
30		1.90713E-09	6.19118E-07	1.39796E-06	1.80246E-06	1.95383E-06
31		1.85546E-09	5.40810E-07	1.18677E-06	1.50560E-06	1.60903E-06
32		1.80264E-09	5.47156E-07	1.20822E-06	1.53656E-06	1.64420E-06
33		1.73297E-09	4.99354E-07	1.08843E-06	1.35999E-06	1.43051E-06
34		1.09535E-09	3.68017E-07	8.46466E-07	1.09550E-06	1.18294E-06
35		7.66857E-10	2.60273E-07	6.22313E-07	8.26226E-07	9.06147E-07
36		1.39194E-09	4.05342E-07	9.05844E-07	1.14742E-06	1.21512E-06

YEARLY MAXIMUM 24-HOUR CONC= 4.1490E-05 DIRECTION= 20 DISTANCE= 2.0 KM DAY=344

YEAR= 73

RANGE DIR	HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1	5.9445E-08 (100)	9.5413E-06 (100)	1.7474E-05 (100)	1.9471E-05 (100)	1.8717E-05 (100)
2	5.5565E-08 (150)	8.1451E-06 (150)	1.6866E-05 (151)	2.0603E-05 (151)	2.1015E-05 (151)
3	3.8795E-08 (118)	7.6034E-06 (118)	1.4278E-05 (118)	1.7819E-05 (352)	1.8906E-05 (352)
4	1.5750E-08 (150)	3.3858E-06 (332)	7.1808E-06 (148)	1.0288E-05 (148)	1.1733E-05 (148)
5	2.2823E-08 (120)	4.4799E-06 (120)	8.9195E-06 (351)	1.1801E-05 (351)	1.2532E-05 (351)
6	2.9635E-08 (147)	7.8797E-06 (147)	1.6492E-05 (147)	2.0156E-05 (147)	2.0934E-05 (147)
7	2.8191E-08 (147)	6.0516E-06 (147)	1.2210E-05 (147)	1.4390E-05 (198)	1.4556E-05 (198)
8	4.2813E-08 (120)	5.5069E-06 (120)	9.3002E-06 (120)	1.0450E-05 (256)	1.0418E-05 (256)
9	1.0555E-07 (120)	1.1357E-05 (120)	2.0846E-05 (183)	2.5755E-05 (183)	2.6511E-05 (183)
10	1.0758E-07 (88)	1.1120E-05 (88)	1.8504E-05 (88)	1.9781E-05 (88)	1.8755E-05 (172)
11	1.1246E-07 (88)	1.3732E-05 (88)	2.3436E-05 (88)	2.5193E-05 (88)	2.3681E-05 (88)
12	1.1734E-07 (79)	1.3018E-05 (79)	2.1828E-05 (79)	2.3809E-05 (79)	2.3084E-05 (79)
13	1.6242E-07 (44)	1.6157E-05 (32)	2.8790E-05 (32)	3.1622E-05 (32)	3.0108E-05 (32)
14	9.6206E-08 (354)	1.6036E-05 (354)	2.9354E-05 (354)	3.2905E-05 (354)	3.1960E-05 (354)
15	4.7202E-08 (354)	7.6389E-06 (80)	1.4260E-05 (80)	1.5991E-05 (80)	1.5415E-05 (80)
16	3.7383E-08 (44)	6.9078E-06 (15)	1.4323E-05 (15)	1.6841E-05 (15)	1.6796E-05 (345)
17	4.7248E-08 (15)	1.1338E-05 (15)	2.2299E-05 (15)	2.5586E-05 (15)	2.4962E-05 (345)
18	4.0026E-08 (336)	6.7792E-06 (45)	1.2835E-05 (45)	1.5086E-05 (45)	1.5401E-05 (45)
19	4.5954E-08 (139)	8.9677E-06 (139)	1.7467E-05 (139)	2.0112E-05 (139)	1.9723E-05 (139)
20	6.0615E-08 (344)	1.7301E-05 (344)	3.5389E-05 (344)	4.1490E-05 (344)	4.1115E-05 (344)
21	3.8232E-08 (344)	1.0660E-05 (344)	2.4532E-05 (53)	3.2344E-05 (53)	3.4458E-05 (53)
22	5.3024E-08 (296)	1.1839E-05 (295)	2.3115E-05 (295)	2.6599E-05 (295)	2.6115E-05 (295)
23	7.4198E-08 (294)	1.3625E-05 (294)	2.5359E-05 (294)	2.8320E-05 (294)	2.7167E-05 (294)
24	4.4791E-08 (294)	8.2046E-06 (294)	1.5843E-05 (297)	2.1606E-05 (324)	2.4113E-05 (324)
25	4.6920E-08 (298)	9.0342E-06 (298)	1.7092E-05 (298)	2.0309E-05 (52)	2.3120E-05 (52)
26	2.3989E-08 (161)	7.2573E-06 (85)	1.7704E-05 (85)	2.2581E-05 (85)	2.3512E-05 (85)
27	6.4413E-08 (108)	1.1642E-05 (63)	2.3142E-05 (63)	2.6875E-05 (63)	2.6522E-05 (63)
28	7.3383E-08 (108)	1.1406E-05 (108)	2.0515E-05 (108)	2.3678E-05 (34)	2.4009E-05 (34)
29	4.9831E-08 (110)	8.5807E-06 (361)	1.9930E-05 (361)	2.4918E-05 (361)	2.5620E-05 (361)
30	5.9555E-08 (86)	1.2479E-05 (35)	2.7453E-05 (35)	3.3423E-05 (35)	3.3813E-05 (35)
31	3.5318E-08 (91)	1.1624E-05 (91)	2.5583E-05 (91)	3.1065E-05 (91)	3.1305E-05 (91)
32	6.2066E-08 (93)	1.6944E-05 (93)	3.4355E-05 (93)	4.0140E-05 (93)	3.9662E-05 (93)
33	4.1418E-08 (73)	8.5521E-06 (73)	1.6434E-05 (92)	1.9294E-05 (92)	1.9128E-05 (92)
34	5.4411E-08 (87)	8.5766E-06 (87)	1.6289E-05 (87)	1.9867E-05 (342)	2.0584E-05 (342)
35	2.7755E-08 (96)	9.0576E-06 (96)	1.9199E-05 (96)	2.2880E-05 (96)	2.2831E-05 (96)
36	4.1239E-08 (100)	8.5691E-06 (307)	1.7497E-05 (307)	2.0750E-05 (307)	2.0845E-05 (307)

PLANT NAME: W R GRACE STUDY

POLLUTANT: SO2

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

YEARLY SECOND MAXIMUM 24-HOUR CONC= 3.0121E-05 DIRECTION= 21 DISTANCE= 2.5 KM DAY= 12

YEAR= 73

DIR	SECOND HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	RANGE	0.5 KM	1.0 KM	1.5 KM	2.0 KM
1	4.4755E-08 (151)	8.3564E-06 (151)	1.5668E-05 (151)	1.7880E-05 (151)	1.7668E-05 (151)
2	4.7966E-08 (100)	7.7890E-06 (151)	1.4505E-05 (150)	1.5929E-05 (150)	1.5175E-05 (150)
3	3.7505E-08 (119)	5.8191E-06 (131)	1.3816E-05 (352)	1.6086E-05 (118)	1.5566E-05 (118)
4	1.1992E-08 (119)	3.1086E-06 (119)	7.0809E-06 (181)	1.0265E-05 (181)	1.1410E-05 (181)
5	1.5753E-08 (11)	3.4362E-06 (351)	8.3382E-06 (120)	9.2767E-06 (120)	9.8541E-06 (209)
6	2.7363E-08 (132)	4.6014E-06 (189)	1.0076E-05 (189)	1.2285E-05 (189)	1.2496E-05 (189)
7	2.0867E-08 (11)	5.3463E-06 (198)	1.1804E-05 (198)	1.4354E-05 (147)	1.4266E-05 (147)
8	2.4082E-08 (140)	4.5133E-06 (138)	8.9499E-06 (138)	1.0333E-05 (138)	1.0311E-05 (30)
9	5.1915E-08 (83)	9.3763E-06 (183)	1.9051E-05 (120)	2.0366E-05 (120)	1.9139E-05 (256)
10	3.4867E-08 (358)	7.7479E-06 (171)	1.5529E-05 (171)	1.7979E-05 (171)	1.8597E-05 (88)
11	8.5127E-08 (358)	1.0387E-05 (79)	1.7995E-05 (79)	1.9460E-05 (79)	1.8805E-05 (172)
12	8.9669E-08 (358)	9.9111E-06 (120)	1.8386E-05 (83)	2.0556E-05 (83)	1.9748E-05 (83)
13	1.2785E-07 (358)	1.6031E-05 (44)	2.6275E-05 (44)	2.7755E-05 (44)	2.5850E-05 (44)
14	8.7573E-08 (32)	9.9179E-06 (32)	1.8267E-05 (61)	2.3218E-05 (61)	2.4325E-05 (61)
15	4.0179E-08 (121)	7.3137E-06 (354)	1.2957E-05 (354)	1.4888E-05 (353)	1.5247E-05 (61)
16	2.9792E-08 (155)	6.2488E-06 (345)	1.3826E-05 (345)	1.6727E-05 (345)	1.6640E-05 (15)
17	3.1921E-08 (336)	9.0065E-06 (345)	1.9945E-05 (345)	2.4460E-05 (345)	2.4947E-05 (15)
18	3.8358E-08 (45)	5.8286E-06 (336)	1.0759E-05 (16)	1.2713E-05 (16)	1.2921E-05 (16)
19	2.6721E-08 (336)	5.6913E-06 (344)	1.2543E-05 (14)	1.5985E-05 (14)	1.6539E-05 (14)
20	2.7028E-08 (336)	5.6110E-06 (343)	1.1645E-05 (343)	1.5839E-05 (27)	1.7755E-05 (27)
21	2.9236E-08 (317)	9.6612E-06 (13)	2.2535E-05 (12)	2.8912E-05 (12)	3.0121E-05 (12)
22	5.1413E-08 (295)	1.1442E-05 (294)	2.2185E-05 (294)	2.5277E-05 (294)	2.4550E-05 (294)
23	5.8091E-08 (295)	9.7342E-06 (317)	1.7908E-05 (293)	2.1129E-05 (19)	2.1625E-05 (19)
24	3.8888E-08 (317)	6.9693E-06 (297)	1.5209E-05 (294)	1.9463E-05 (297)	1.9729E-05 (297)
25	3.9677E-08 (294)	7.2151E-06 (283)	1.5284E-05 (283)	1.9331E-05 (298)	1.9218E-05 (284)
26	2.3612E-08 (114)	4.9353E-06 (161)	1.2608E-05 (52)	1.7770E-05 (52)	1.9522E-05 (52)
27	5.2979E-08 (158)	1.1620E-05 (158)	2.2284E-05 (158)	2.5279E-05 (158)	2.4507E-05 (158)
28	6.4519E-08 (110)	1.0484E-05 (158)	1.9775E-05 (158)	2.3080E-05 (108)	2.2664E-05 (108)
29	4.2503E-08 (113)	7.5063E-06 (112)	1.7426E-05 (112)	2.2185E-05 (112)	2.3358E-05 (112)
30	3.5001E-08 (35)	9.0231E-06 (86)	1.8663E-05 (91)	2.3163E-05 (91)	2.3767E-05 (91)
31	3.4408E-08 (92)	8.0216E-06 (362)	1.8504E-05 (362)	2.3050E-05 (362)	2.3597E-05 (362)
32	4.3374E-08 (24)	9.5739E-06 (24)	1.8816E-05 (91)	2.3409E-05 (91)	2.3894E-05 (91)
33	3.7167E-08 (334)	8.0084E-06 (92)	1.6333E-05 (73)	1.8495E-05 (73)	1.7907E-05 (73)
34	2.9264E-08 (48)	7.4023E-06 (342)	1.6105E-05 (342)	1.8618E-05 (87)	1.8590E-05 (36)
35	2.4905E-08 (43)	6.1588E-06 (43)	1.3125E-05 (43)	1.6429E-05 (43)	1.7405E-05 (43)
36	3.9300E-08 (43)	5.9345E-06 (96)	1.2728E-05 (96)	1.5163E-05 (96)	1.6665E-05 (352)



YEARLY MAXIMUM 3-HOUR CONC= 1.0533E-04 DIRECTION= 25 DISTANCE= 2.5 KM DAY=283 TIME PERIOD= 4

YEAR= 73

DIR	HIGHEST		3-HOUR CONCENTRATION AT EACH RECEPTOR							
	RANGE	0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM				
1	2.2678E-07	(307, 5)	2.7756E-05	(307, 5)	6.0321E-05	(363, 6)	7.5203E-05	(363, 6)	7.6926E-05	(363, 6)
2	2.6967E-07	(335, 5)	3.7214E-05	(334, 6)	7.3239E-05	(334, 6)	8.4239E-05	(334, 6)	8.2403E-05	(334, 6)
3	2.3579E-07	(119, 5)	3.7698E-05	(118, 5)	7.1167E-05	(118, 5)	8.0361E-05	(118, 5)	7.7830E-05	(118, 5)
4	1.0155E-07	(150, 6)	1.9700E-05	(119, 8)	4.0974E-05	(119, 8)	4.8205E-05	(119, 8)	4.7698E-05	(119, 8)
5	1.2357E-07	(217, 6)	2.2005E-05	(11, 5)	4.0878E-05	(11, 5)	5.4572E-05	(351, 3)	5.9896E-05	(351, 3)
6	1.7304E-07	(147, 6)	3.9748E-05	(147, 6)	7.7229E-05	(147, 6)	8.8406E-05	(147, 6)	8.6325E-05	(147, 6)
7	1.4666E-07	(147, 5)	2.6280E-05	(189, 5)	5.7760E-05	(189, 5)	7.0277E-05	(189, 5)	7.3480E-05	(255, 6)
8	1.5482E-07	(120, 4)	2.6862E-05	(138, 5)	5.4746E-05	(138, 5)	6.4109E-05	(138, 5)	6.3440E-05	(138, 5)
9	4.1103E-07	(120, 5)	4.1154E-05	(120, 5)	7.0918E-05	(256, 6)	9.5791E-05	(69, 5)	1.0287E-04	(69, 5)
10	3.9222E-07	(88, 5)	3.5022E-05	(88, 5)	5.9336E-05	(199, 5)	6.7569E-05	(134, 6)	6.7084E-05	(134, 6)
11	4.5486E-07	(44, 1)	3.7685E-05	(177, 5)	7.5327E-05	(177, 5)	8.7421E-05	(177, 5)	8.6054E-05	(177, 5)
12	3.8379E-07	(358, 5)	4.0308E-05	(120, 7)	7.5958E-05	(120, 7)	8.5823E-05	(120, 7)	8.3227E-05	(120, 7)
13	4.2825E-07	(44, 6)	4.3360E-05	(44, 6)	7.9407E-05	(121, 6)	8.8665E-05	(121, 6)	8.5434E-05	(121, 6)
14	2.7009E-07	(32, 5)	3.4368E-05	(354, 2)	6.5699E-05	(354, 2)	7.4608E-05	(354, 2)	7.6824E-05	(335, 8)
15	2.1774E-07	(354, 1)	4.0890E-05	(80, 5)	7.6779E-05	(80, 5)	8.6554E-05	(80, 5)	8.3796E-05	(80, 5)
16	2.4928E-07	(44, 7)	2.9927E-05	(44, 7)	5.8475E-05	(15, 7)	6.8866E-05	(15, 7)	6.8439E-05	(15, 7)
17	2.0451E-07	(44, 8)	3.3706E-05	(15, 4)	6.3435E-05	(15, 4)	7.7410E-05	(345, 1)	7.9087E-05	(345, 1)
18	2.0307E-07	(336, 4)	3.0932E-05	(336, 4)	5.5363E-05	(336, 4)	6.1069E-05	(336, 4)	5.8420E-05	(336, 4)
19	2.2435E-07	(139, 3)	4.3933E-05	(139, 3)	8.5732E-05	(139, 3)	9.8963E-05	(139, 3)	9.7347E-05	(139, 3)
20	1.7121E-07	(336, 3)	2.8187E-05	(336, 3)	5.6991E-05	(51, 6)	6.9118E-05	(51, 6)	6.9806E-05	(51, 6)
21	1.4817E-07	(14, 8)	3.3311E-05	(14, 8)	6.6827E-05	(14, 8)	8.4051E-05	(13, 8)	9.3452E-05	(13, 8)
22	2.0774E-07	(318, 1)	3.2505E-05	(294, 3)	6.2733E-05	(295, 2)	7.3708E-05	(14, 2)	7.9843E-05	(14, 2)
23	2.4758E-07	(295, 4)	4.1385E-05	(298, 5)	8.0650E-05	(19, 5)	9.6448E-05	(19, 5)	9.6613E-05	(19, 5)
24	1.7974E-07	(293, 7)	3.4791E-05	(280, 5)	6.6822E-05	(280, 5)	8.6861E-05	(161, 8)	9.3088E-05	(161, 8)
25	1.8202E-07	(298, 6)	3.9888E-05	(283, 4)	8.6623E-05	(283, 4)	1.0456E-04	(283, 4)	1.0533E-04	(283, 4)
26	1.7450E-07	(267, 6)	2.1370E-05	(297, 4)	4.9017E-05	(28, 7)	7.0774E-05	(28, 7)	7.9896E-05	(28, 7)
27	3.4229E-07	(108, 6)	4.2292E-05	(108, 6)	7.5789E-05	(63, 7)	8.5566E-05	(63, 7)	8.9668E-05	(112, 5)
28	2.8658E-07	(110, 4)	3.7422E-05	(108, 5)	6.6080E-05	(63, 8)	7.8113E-05	(63, 8)	7.8614E-05	(34, 6)
29	1.6542E-07	(110, 4)	3.1249E-05	(108, 4)	6.9489E-05	(361, 8)	9.1167E-05	(361, 8)	9.6242E-05	(361, 8)
30	1.7056E-07	(86, 6)	3.3001E-05	(35, 4)	7.7679E-05	(35, 4)	9.8418E-05	(35, 4)	1.0218E-04	(35, 4)
31	2.1886E-07	(115, 4)	3.9023E-05	(115, 4)	7.7302E-05	(327, 5)	8.9868E-05	(327, 5)	8.8503E-05	(327, 5)
32	2.9561E-07	(100, 3)	4.3564E-05	(93, 3)	8.7087E-05	(93, 3)	1.0129E-04	(93, 3)	9.9971E-05	(93, 3)
33	2.0546E-07	(363, 4)	3.6863E-05	(73, 4)	7.0035E-05	(73, 4)	7.9369E-05	(73, 4)	8.0993E-05	(35, 8)
34	3.2436E-07	(87, 6)	4.7040E-05	(87, 6)	8.5006E-05	(87, 6)	9.4560E-05	(87, 6)	9.1062E-05	(87, 6)
35	1.2358E-07	(100, 4)	3.3774E-05	(96, 8)	6.7931E-05	(96, 8)	7.8879E-05	(96, 8)	8.0730E-05	(335, 1)
36	1.9265E-07	(151, 5)	3.7008E-05	(307, 7)	7.8606E-05	(307, 7)	9.3830E-05	(307, 7)	9.3851E-05	(307, 7)

YEARLY SECOND MAXIMUM 3-HOUR CONC= 9.5633E-05 DIRECTION= 32 DISTANCE= 2.0 KM DAY= 70 TIME PERIOD= 4

YEAR= 73

DIR	RANGE	SECOND HIGHEST		3-HOUR CONCENTRATION AT EACH RECEPTOR						
		0.5 KM	HIGHEST	1.0 KM	1.5 KM	2.0 KM	2.5 KM			
1	1.5048E-07	(100, 5)	2.6081E-05	(151, 6)	5.0359E-05	(151, 6)	5.7502E-05	(151, 6)	5.6072E-05	(151, 6)
2	2.6048E-07	(100, 5)	3.2437E-05	(335, 5)	6.2716E-05	(217, 5)	7.1842E-05	(217, 5)	7.4671E-05	(151, 7)
3	1.9039E-07	(118, 5)	3.5629E-05	(119, 5)	6.3295E-05	(119, 5)	7.0377E-05	(217, 4)	7.1166E-05	(217, 4)
4	7.6704E-08	(215, 5)	1.6134E-05	(150, 6)	2.9800E-05	(76, 5)	3.7160E-05	(181, 6)	4.3537E-05	(148, 1)
5	1.1480E-07	(11, 5)	1.9370E-05	(120, 1)	3.8926E-05	(351, 3)	4.5702E-05	(11, 5)	4.3954E-05	(11, 5)
6	1.5425E-07	(120, 2)	2.3702E-05	(120, 2)	5.4878E-05	(165, 5)	7.1102E-05	(165, 5)	7.4587E-05	(165, 5)
7	1.3605E-07	(132, 5)	2.6215E-05	(212, 6)	5.3427E-05	(212, 6)	6.9379E-05	(255, 6)	7.1136E-05	(189, 5)
8	1.1283E-07	(140, 5)	2.1744E-05	(120, 4)	4.1179E-05	(229, 5)	5.4156E-05	(30, 5)	5.9326E-05	(30, 5)
9	3.4524E-07	(88, 6)	3.7627E-05	(133, 5)	7.0579E-05	(69, 5)	8.2947E-05	(256, 6)	8.1967E-05	(256, 6)
10	2.3732E-07	(358, 1)	3.2595E-05	(199, 5)	5.7445E-05	(134, 6)	6.5624E-05	(199, 5)	6.4746E-05	(256, 3)
11	3.4143E-07	(358, 1)	3.4076E-05	(88, 3)	6.1283E-05	(88, 3)	7.1351E-05	(172, 6)	7.6907E-05	(172, 6)
12	3.4253E-07	(120, 6)	3.5035E-05	(79, 3)	6.6462E-05	(357, 7)	7.8538E-05	(357, 7)	7.7978E-05	(357, 7)
13	3.4593E-07	(358, 3)	4.3294E-05	(121, 6)	7.3515E-05	(358, 3)	8.1488E-05	(50, 5)	7.9131E-05	(50, 5)
14	2.3019E-07	(44, 4)	3.3790E-05	(32, 4)	6.0557E-05	(32, 4)	7.2985E-05	(335, 8)	7.2503E-05	(354, 2)
15	2.1401E-07	(80, 5)	3.5588E-05	(54, 5)	6.7130E-05	(54, 5)	7.5597E-05	(54, 5)	7.3007E-05	(54, 5)
16	2.1353E-07	(155, 5)	2.8440E-05	(15, 7)	5.2424E-05	(44, 7)	6.0243E-05	(8, 8)	6.4551E-05	(8, 8)
17	1.6493E-07	(15, 4)	2.6741E-05	(15, 3)	6.2050E-05	(345, 1)	7.1305E-05	(15, 4)	6.8756E-05	(15, 4)
18	1.9303E-07	(139, 4)	2.6551E-05	(16, 4)	5.0934E-05	(16, 4)	5.8036E-05	(16, 4)	5.6531E-05	(16, 4)
19	1.7007E-07	(336, 4)	2.3706E-05	(139, 4)	4.4748E-05	(12, 2)	5.6015E-05	(12, 2)	5.7595E-05	(12, 2)
20	1.2633E-07	(344, 3)	2.6853E-05	(344, 3)	5.3280E-05	(336, 3)	6.1536E-05	(317, 2)	6.7183E-05	(26, 7)
21	1.2311E-07	(296, 6)	2.7698E-05	(317, 3)	6.4192E-05	(12, 8)	8.0730E-05	(12, 8)	8.2986E-05	(12, 8)
22	1.9141E-07	(294, 3)	3.0978E-05	(295, 2)	5.9260E-05	(294, 3)	7.3160E-05	(295, 2)	7.2837E-05	(343, 5)
23	2.2436E-07	(294, 4)	3.7955E-05	(293, 8)	7.9899E-05	(298, 5)	9.1344E-05	(298, 5)	8.9205E-05	(298, 5)
24	1.5641E-07	(280, 5)	2.8150E-05	(293, 7)	6.4426E-05	(161, 8)	7.5926E-05	(280, 5)	7.4547E-05	(243, 7)
25	1.6786E-07	(295, 6)	3.1218E-05	(298, 6)	6.6016E-05	(28, 4)	8.2983E-05	(28, 4)	8.5278E-05	(28, 4)
26	1.4478E-07	(114, 5)	1.9952E-05	(314, 4)	4.7593E-05	(85, 6)	6.5171E-05	(47, 2)	7.1591E-05	(47, 2)
27	2.0753E-07	(63, 7)	4.0229E-05	(63, 7)	7.3420E-05	(108, 6)	8.4083E-05	(112, 5)	8.4563E-05	(99, 6)
28	2.5858E-07	(108, 5)	3.1747E-05	(63, 8)	6.5957E-05	(108, 5)	7.6411E-05	(34, 6)	7.7579E-05	(63, 8)
29	1.6146E-07	(108, 4)	3.0060E-05	(114, 3)	5.8474E-05	(108, 4)	7.2234E-05	(112, 1)	8.3097E-05	(112, 1)
30	1.6741E-07	(86, 8)	3.1814E-05	(207, 3)	7.1774E-05	(207, 3)	8.7875E-05	(207, 3)	8.9021E-05	(207, 3)
31	1.9985E-07	(90, 8)	3.8437E-05	(327, 5)	7.1940E-05	(115, 4)	8.0336E-05	(115, 4)	7.7319E-05	(115, 4)
32	1.8480E-07	(70, 4)	4.2665E-05	(70, 4)	8.3256E-05	(70, 4)	9.5633E-05	(70, 4)	9.3884E-05	(93, 1)
33	1.9192E-07	(334, 4)	3.1149E-05	(363, 4)	5.7873E-05	(92, 4)	7.5160E-05	(35, 8)	7.7029E-05	(73, 4)
34	2.3410E-07	(48, 4)	2.9991E-05	(333, 4)	5.9234E-05	(333, 4)	7.1109E-05	(353, 2)	7.2177E-05	(353, 2)
35	1.2146E-07	(96, 8)	2.6394E-05	(43, 6)	5.8682E-05	(43, 6)	7.2914E-05	(43, 6)	7.7569E-05	(96, 8)
36	1.7710E-07	(100, 4)	3.0882E-05	(82, 6)	5.9245E-05	(82, 6)	6.7165E-05	(82, 6)	6.5015E-05	(82, 6)



RING DISTANCES(KM)= 0.50 1.00 1.50 2.00 2.50

STACK # 1--STACK 1 SOURCE NUMBER 1

STACK	MONTH	EMISSION RATE (GMS/SEC)	HEIGHT (METERS)	DIAMETER (METERS)	EXIT VELOCITY (M/SEC)	TEMP (DEG.K)	VOLUMETRIC FLOW (M**3/SEC)
1	ALL	84.0000	61.00	2.70	9.20	345.00	52.68

PLANT NAME: W R GRACE STUDY

POLLUTANT: SO2

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

MAXIMUM MEAN CONC= 2.1962E-06 DIRECTION= 9 DISTANCE= 2.5 KM

YEAR= 74

DIR	RANGE	ANNUAL MEAN CONCENTRATION AT EACH RECEPTOR				
		0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM
1		2.00390E-09	4.35317E-07	9.24207E-07	1.14992E-06	1.20791E-06
2		1.90703E-09	4.29124E-07	9.00355E-07	1.10931E-06	1.15936E-06
3		9.36587E-10	2.73554E-07	6.12346E-07	7.82601E-07	8.37860E-07
4		6.84580E-10	2.11486E-07	4.87635E-07	6.38736E-07	6.98555E-07
5		6.33011E-10	1.89452E-07	4.38142E-07	5.88519E-07	6.64017E-07
6		8.94636E-10	2.96037E-07	6.85987E-07	8.99223E-07	9.83463E-07
7		1.10225E-09	3.44708E-07	7.85284E-07	1.01673E-06	1.10071E-06
8		1.28332E-09	3.96288E-07	8.92370E-07	1.14075E-06	1.21789E-06
9		2.81786E-09	7.61808E-07	1.64538E-06	2.06835E-06	2.19623E-06
10		2.52732E-09	5.92032E-07	1.21778E-06	1.48610E-06	1.54666E-06
11		1.46827E-09	3.32279E-07	6.97460E-07	8.66637E-07	9.14633E-07
12		1.51239E-09	2.91068E-07	6.03805E-07	7.50724E-07	7.96785E-07
13		1.20137E-09	2.72137E-07	5.80001E-07	7.32599E-07	7.86317E-07
14		1.60759E-09	3.40492E-07	7.12763E-07	8.87945E-07	9.40478E-07
15		1.75304E-09	3.59734E-07	7.38881E-07	9.03484E-07	9.43104E-07
16		1.54389E-09	3.35535E-07	7.00934E-07	8.62216E-07	9.00532E-07
17		9.13084E-10	2.67722E-07	6.14568E-07	7.97619E-07	8.63952E-07
18		9.33499E-10	2.74401E-07	6.46516E-07	8.61352E-07	9.52757E-07
19		7.52226E-10	2.04605E-07	4.53491E-07	5.77037E-07	6.15608E-07
20		1.13357E-09	2.98336E-07	6.75807E-07	8.83525E-07	9.67718E-07
21		1.16519E-09	3.67531E-07	8.55182E-07	1.13503E-06	1.25723E-06
22		1.54005E-09	4.52873E-07	1.02501E-06	1.33522E-06	1.45976E-06
23		1.34414E-09	4.07703E-07	9.30637E-07	1.21884E-06	1.33528E-06
24		1.36056E-09	4.40321E-07	1.04782E-06	1.41599E-06	1.59000E-06
25		1.41178E-09	4.25512E-07	1.02515E-06	1.41863E-06	1.63179E-06
26		8.04692E-10	2.95963E-07	7.16537E-07	9.82089E-07	1.11859E-06
27		1.32054E-09	4.28454E-07	1.01880E-06	1.39863E-06	1.60376E-06
28		1.28978E-09	4.18679E-07	9.89706E-07	1.33996E-06	1.51577E-06
29		9.95711E-10	3.25686E-07	7.61432E-07	1.02652E-06	1.16025E-06
30		8.32648E-10	2.70732E-07	6.54124E-07	9.13488E-07	1.06359E-06
31		1.07907E-09	3.66777E-07	8.74678E-07	1.17882E-06	1.32245E-06
32		9.81224E-10	3.41952E-07	8.12256E-07	1.09308E-06	1.22364E-06
33		1.18515E-09	3.90957E-07	9.12288E-07	1.21932E-06	1.36169E-06
34		1.05795E-09	3.30685E-07	7.83124E-07	1.04518E-06	1.15807E-06
35		8.77220E-10	2.46622E-07	5.60187E-07	7.33993E-07	8.06902E-07
36		1.00408E-09	2.87326E-07	6.63420E-07	8.72140E-07	9.58618E-07

YEARLY MAXIMUM 24-HOUR CONC= 3.2672E-05 DIRECTION= 22 DISTANCE= 2.5 KM DAY=277

YEAR= 74

		HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR					
RANGE	0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM		
DIR							
1	1.0167E-07 (178)	1.1751E-05 (178)	2.1088E-05 (178)	2.3552E-05 (178)	2.2731E-05 (178)		
2	7.4642E-08 (53)	9.7595E-06 (97)	1.7371E-05 (97)	1.9389E-05 (97)	1.8885E-05 (97)		
3	2.9576E-08 (97)	5.9019E-06 (36)	1.2492E-05 (83)	1.5081E-05 (83)	1.5207E-05 (83)		
4	2.8042E-08 (83)	7.7583E-06 (83)	1.6627E-05 (83)	2.0325E-05 (83)	2.0901E-05 (83)		
5	2.9314E-08 (150)	4.9875E-06 (91)	1.0142E-05 (91)	1.2131E-05 (91)	1.2313E-05 (91)		
6	4.9122E-08 (91)	9.0883E-06 (91)	1.7819E-05 (91)	2.0705E-05 (91)	2.0436E-05 (91)		
7	7.4834E-08 (91)	1.3515E-05 (91)	2.5192E-05 (91)	2.8235E-05 (91)	2.7191E-05 (91)		
8	6.4220E-08 (92)	8.5063E-06 (92)	1.4638E-05 (92)	1.5742E-05 (92)	1.4773E-05 (92)		
9	8.9547E-08 (92)	1.2669E-05 (92)	2.2215E-05 (92)	2.4996E-05 (74)	2.4777E-05 (74)		
10	6.8223E-08 (92)	8.1857E-06 (195)	1.6242E-05 (195)	1.9177E-05 (195)	1.9402E-05 (195)		
11	5.0824E-08 (338)	7.8147E-06 (75)	1.4573E-05 (196)	1.7339E-05 (196)	1.7412E-05 (196)		
12	1.7442E-07 (338)	1.6769E-05 (338)	2.8308E-05 (338)	3.0545E-05 (338)	2.8907E-05 (338)		
13	7.5762E-08 (338)	8.5140E-06 (42)	1.6948E-05 (340)	2.0587E-05 (340)	2.1083E-05 (340)		
14	8.1347E-09 (59)	1.2177E-05 (43)	2.4002E-05 (43)	2.7868E-05 (43)	2.7468E-05 (43)		
15	7.4382E-08 (43)	1.3059E-05 (43)	2.4189E-05 (43)	2.7107E-05 (43)	2.6170E-05 (43)		
16	8.0936E-08 (319)	9.8489E-06 (319)	1.7023E-05 (319)	1.8631E-05 (59)	1.8186E-05 (59)		
17	4.0868E-08 (38)	7.5052E-06 (51)	1.9387E-05 (353)	2.6550E-05 (353)	2.8995E-05 (353)		
18	5.4048E-08 (282)	9.8768E-06 (283)	2.2050E-05 (283)	2.6890E-05 (283)	2.7145E-05 (283)		
19	4.2488E-08 (60)	8.5797E-06 (60)	1.6067E-05 (60)	1.8044E-05 (60)	1.7445E-05 (60)		
20	9.2038E-08 (282)	1.1629E-05 (282)	2.2490E-05 (333)	2.6997E-05 (333)	2.7039E-05 (333)		
21	9.1709E-08 (282)	1.3191E-05 (282)	2.3554E-05 (282)	2.6172E-05 (282)	2.5330E-05 (282)		
22	9.1478E-08 (279)	1.4077E-05 (279)	2.7457E-05 (277)	3.2521E-05 (277)	3.2672E-05 (277)		
23	5.1017E-08 (279)	8.8916E-06 (298)	1.9715E-05 (298)	2.2371E-05 (298)	2.2457E-05 (298)		
24	3.5327E-08 (297)	8.8487E-06 (351)	2.1863E-05 (351)	2.8173E-05 (351)	2.9467E-05 (351)		
25	9.7565E-08 (280)	1.0962E-05 (280)	1.8436E-05 (280)	2.0922E-05 (76)	2.1159E-05 (76)		
26	2.3355E-08 (280)	4.9664E-06 (118)	1.1928E-05 (351)	1.5583E-05 (351)	1.6565E-05 (351)		
27	5.0726E-08 (114)	9.6434E-06 (336)	2.1949E-05 (336)	2.7560E-05 (336)	2.8569E-05 (336)		
28	8.2007E-08 (104)	1.1029E-05 (39)	2.2610E-05 (39)	2.6393E-05 (39)	2.5962E-05 (39)		
29	4.4419E-08 (104)	8.7643E-06 (77)	1.7192E-05 (77)	2.0335E-05 (77)	2.0673E-05 (77)		
30	3.4125E-08 (104)	5.5125E-06 (337)	1.3402E-05 (337)	1.7051E-05 (337)	1.7664E-05 (337)		
31	4.8253E-08 (55)	7.8925E-06 (55)	1.4608E-05 (55)	1.6470E-05 (222)	1.7786E-05 (222)		
32	3.6052E-08 (180)	9.1422E-06 (145)	1.9833E-05 (145)	2.4380E-05 (145)	2.5179E-05 (145)		
33	4.9513E-08 (134)	1.0066E-05 (134)	1.9115E-05 (134)	2.1651E-05 (134)	2.1010E-05 (134)		
34	5.0456E-08 (134)	9.2819E-06 (134)	1.7246E-05 (134)	1.9252E-05 (134)	1.8468E-05 (134)		
35	2.5004E-08 (97)	4.5391E-06 (178)	9.7474E-06 (178)	1.2299E-05 (186)	1.3185E-05 (186)		
36	8.5435E-08 (178)	1.0440E-05 (178)	1.8474E-05 (178)	2.2247E-05 (344)	2.3029E-05 (344)		

PLANT NAME: W R GRACE STUDY

POLLUTANT: SO2

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

YEARLY SECOND MAXIMUM 24-HOUR CONC= 3.0991E-05 DIRECTION= 22 DISTANCE= 2.5 KM DAY=269

YEAR= 74

DIR	SECOND HIGHEST 24-HOUR CONCENTRATION AT EACH RECEPTOR				
	RANGE	0.5 KM	1.0 KM	1.5 KM	2.0 KM
1	8.6471E-08 (53)	1.0319E-05 (101)	1.8944E-05 (101)	2.1605E-05 (357)	2.2610E-05 (357)
2	6.9635E-08 (97)	8.5751E-06 (41)	1.6582E-05 (41)	1.8831E-05 (41)	1.8225E-05 (41)
3	2.6502E-08 (96)	5.7995E-06 (83)	1.2024E-05 (36)	1.4087E-05 (36)	1.4369E-05 (42)
4	2.6117E-08 (135)	3.8224E-06 (96)	7.4933E-06 (116)	1.0380E-05 (116)	1.1319E-05 (116)
5	2.3967E-08 (91)	4.4241E-06 (150)	8.1560E-06 (83)	9.3256E-06 (83)	9.0465E-06 (83)
6	2.8224E-08 (92)	6.3735E-06 (149)	1.2446E-05 (149)	1.4509E-05 (149)	1.4493E-05 (149)
7	2.5733E-08 (128)	6.3835E-06 (150)	1.3422E-05 (150)	1.5874E-05 (150)	1.5747E-05 (150)
8	2.6449E-08 (128)	5.0042E-06 (128)	9.9828E-06 (272)	1.3194E-05 (272)	1.4167E-05 (272)
9	5.6192E-08 (74)	1.0846E-05 (74)	2.1431E-05 (74)	2.4140E-05 (92)	2.2811E-05 (92)
10	3.9739E-08 (78)	7.9024E-06 (78)	1.4904E-05 (78)	1.6720E-05 (78)	1.6061E-05 (78)
11	4.9160E-08 (75)	7.0654E-06 (196)	1.4185E-05 (75)	1.5712E-05 (75)	1.5035E-05 (75)
12	3.5297E-08 (92)	4.9047E-06 (339)	9.6227E-06 (339)	1.1159E-05 (75)	1.1060E-05 (75)
13	4.0749E-08 (42)	8.0140E-06 (340)	1.6633E-05 (42)	1.9067E-05 (42)	1.8597E-05 (42)
14	6.2329E-08 (43)	9.1672E-06 (59)	1.8436E-05 (339)	2.2246E-05 (339)	2.2349E-05 (339)
15	6.8190E-08 (319)	9.9117E-06 (99)	1.8146E-05 (99)	2.0273E-05 (99)	1.9555E-05 (99)
16	7.2455E-08 (59)	9.5239E-06 (59)	1.6749E-05 (59)	1.8474E-05 (319)	1.7494E-05 (319)
17	3.5761E-08 (51)	7.0605E-06 (353)	1.4688E-05 (51)	1.6825E-05 (51)	1.6365E-05 (51)
18	4.0665E-08 (38)	8.8291E-06 (282)	1.6172E-05 (282)	1.9073E-05 (350)	2.0401E-05 (350)
19	3.6484E-08 (282)	4.2849E-06 (282)	8.0358E-06 (334)	1.1183E-05 (334)	1.2375E-05 (334)
20	5.4507E-08 (60)	1.0511E-05 (60)	1.9909E-05 (282)	2.2279E-05 (60)	2.1517E-05 (60)
21	3.0490E-08 (279)	7.8137E-06 (277)	1.7214E-05 (110)	2.3026E-05 (110)	2.4542E-05 (110)
22	5.0125E-08 (277)	1.3442E-05 (277)	2.5545E-05 (279)	3.0632E-05 (269)	3.0991E-05 (269)
23	4.6187E-08 (333)	8.5581E-06 (270)	1.8021E-05 (270)	2.1537E-05 (270)	2.1561E-05 (270)
24	3.4343E-08 (279)	7.9217E-06 (270)	1.7090E-05 (270)	2.0797E-05 (270)	2.1019E-05 (270)
25	4.8318E-08 (297)	8.9838E-06 (297)	1.7587E-05 (76)	1.9706E-05 (280)	1.9161E-05 (297)
26	2.1977E-08 (118)	4.9129E-06 (351)	1.0212E-05 (16)	1.3239E-05 (16)	1.4057E-05 (16)
27	3.9427E-08 (143)	8.0668E-06 (143)	1.5247E-05 (143)	1.7184E-05 (143)	1.6619E-05 (143)
28	5.4779E-08 (77)	8.8562E-06 (104)	1.4962E-05 (104)	1.7365E-05 (5)	1.8717E-05 (5)
29	4.2221E-08 (77)	6.3377E-06 (143)	1.3092E-05 (143)	1.5924E-05 (143)	1.6515E-05 (143)
30	2.4309E-08 (201)	5.1866E-06 (77)	1.0133E-05 (77)	1.1579E-05 (77)	1.2396E-05 (251)
31	3.6556E-08 (104)	6.1611E-06 (105)	1.2298E-05 (222)	1.6378E-05 (55)	1.5805E-05 (55)
32	2.7794E-08 (145)	5.7137E-06 (180)	1.1418E-05 (137)	1.3590E-05 (12)	1.4980E-05 (12)
33	3.8664E-08 (106)	7.6497E-06 (53)	1.5241E-05 (53)	1.7866E-05 (53)	1.9204E-05 (216)
34	3.5833E-08 (53)	5.4544E-06 (53)	1.0980E-05 (87)	1.5658E-05 (87)	1.7575E-05 (87)
35	2.3455E-08 (178)	4.3504E-06 (215)	9.1319E-06 (186)	1.2014E-05 (178)	1.2303E-05 (178)
36	2.6535E-08 (352)	7.1311E-06 (344)	1.7463E-05 (344)	2.0330E-05 (178)	1.9376E-05 (178)

YEARLY MAXIMUM 3-HOUR CONC= 1.0905E-04 DIRECTION= 21 DISTANCE= 2.5 KM DAY=110 TIME PERIOD= 2

YEAR= 74

DIR	RANGE	3-HOUR CONCENTRATION AT EACH RECEPTOR								
		HIGHEST 0.5 KM	1.0 KM	1.5 KM	2.0 KM	2.5 KM				
1	3.9132E-07	( 53, 5)	4.4550E-05	(101, 5)	7.8362E-05	(101, 5)	8.5814E-05	(101, 5)	8.1784E-05	(101, 5)
2	2.8349E-07	(135, 3)	3.6505E-05	( 94, 6)	6.6593E-05	( 94, 6)	7.3931E-05	( 94, 6)	7.0862E-05	( 94, 6)
3	1.7124E-07	( 81, 5)	2.6887E-05	( 40, 6)	6.0544E-05	( 40, 6)	7.4368E-05	( 40, 6)	8.2432E-05	(177, 8)
4	1.4025E-07	(135, 4)	1.7836E-05	( 86, 2)	3.7064E-05	( 86, 2)	5.3363E-05	(349, 6)	6.0354E-05	(349, 6)
5	1.8493E-07	(150, 3)	2.6137E-05	(150, 3)	4.6360E-05	(150, 3)	5.2073E-05	(161, 5)	5.4541E-05	(161, 5)
6	1.5084E-07	( 78, 5)	3.4128E-05	( 92, 1)	6.6682E-05	( 92, 1)	7.6480E-05	( 92, 1)	7.7510E-05	( 38, 1)
7	2.1204E-07	( 91, 5)	3.7727E-05	( 91, 7)	7.4478E-05	( 91, 7)	8.6115E-05	(271, 5)	9.2383E-05	(271, 5)
8	1.9506E-07	( 78, 6)	2.7889E-05	( 78, 6)	6.1346E-05	(150, 7)	8.5599E-05	(150, 7)	9.3400E-05	(150, 7)
9	2.3044E-07	( 92, 5)	4.2462E-05	(166, 5)	8.8187E-05	(166, 5)	1.0433E-04	(166, 5)	1.0396E-04	(166, 5)
10	2.1390E-07	( 92, 4)	3.7842E-05	( 78, 7)	7.1067E-05	( 78, 7)	8.0044E-05	( 78, 7)	7.7662E-05	(210, 6)
11	2.8174E-07	( 75, 5)	3.6002E-05	( 75, 5)	6.1804E-05	( 75, 5)	6.6687E-05	( 75, 5)	7.1411E-05	(150, 8)
12	4.4706E-07	(338, 5)	3.7466E-05	( 56, 6)	6.8546E-05	( 56, 6)	7.6487E-05	( 56, 6)	7.3664E-05	( 56, 6)
13	1.9334E-07	(328, 5)	3.0432E-05	( 42, 7)	6.2033E-05	( 42, 7)	7.2501E-05	( 42, 7)	7.3937E-05	( 75, 3)
14	2.3900E-07	( 59, 6)	3.5706E-05	( 59, 6)	6.3242E-05	( 59, 6)	7.5283E-05	(339, 8)	7.6731E-05	(339, 8)
15	3.2607E-07	(319, 4)	4.5709E-05	( 99, 6)	8.1594E-05	( 99, 6)	9.0022E-05	( 99, 6)	8.6197E-05	( 99, 6)
16	2.5133E-07	(319, 3)	4.1049E-05	(319, 3)	7.5065E-05	(319, 3)	8.3643E-05	(319, 3)	8.0452E-05	(319, 3)
17	1.9065E-07	(328, 4)	3.0451E-05	(109, 7)	6.7328E-05	(353, 3)	8.9981E-05	(353, 3)	9.5801E-05	(353, 3)
18	2.5288E-07	(282, 8)	3.1788E-05	(282, 8)	5.9308E-05	(283, 1)	6.8907E-05	(283, 1)	6.9576E-05	(185, 5)
19	1.5405E-07	(282, 7)	2.6080E-05	( 60, 4)	5.0341E-05	( 60, 4)	5.7580E-05	(109, 8)	5.8149E-05	(109, 8)
20	3.1943E-07	(168, 5)	3.5563E-05	(333, 1)	8.3762E-05	(333, 1)	1.0487E-04	(333, 1)	1.0782E-04	(333, 1)
21	3.3109E-07	(282, 6)	3.8357E-05	(282, 6)	7.1931E-05	(110, 2)	1.0006E-04	(110, 2)	1.0905E-04	(110, 2)
22	3.1136E-07	(279, 4)	4.0150E-05	(279, 4)	7.7160E-05	(278, 5)	8.9419E-05	(278, 5)	8.7941E-05	(278, 5)
23	2.3189E-07	(279, 5)	3.1833E-05	(333, 4)	5.5706E-05	(333, 4)	7.1181E-05	(363, 4)	7.6769E-05	(363, 4)
24	1.6084E-07	(279, 5)	3.8209E-05	(286, 5)	7.5511E-05	(286, 5)	9.3110E-05	(323, 3)	9.9169E-05	(323, 3)
25	4.3392E-07	(280, 5)	4.3381E-05	(280, 5)	8.4579E-05	( 76, 8)	1.0180E-04	( 76, 8)	1.0249E-04	( 76, 8)
26	1.2137E-07	(118, 7)	2.6236E-05	(118, 7)	5.4476E-05	(351, 4)	6.4794E-05	(351, 4)	7.3706E-05	( 6, 3)
27	2.1778E-07	(114, 6)	2.9737E-05	(143, 6)	6.6043E-05	(336, 7)	8.0207E-05	(336, 7)	8.0794E-05	(336, 7)
28	4.7308E-07	(104, 7)	4.5704E-05	(104, 7)	7.5041E-05	(104, 7)	7.9673E-05	(104, 7)	7.5488E-05	( 84, 7)
29	1.7651E-07	(104, 4)	2.7533E-05	( 77, 7)	5.8868E-05	( 77, 7)	7.0116E-05	( 77, 7)	6.9777E-05	( 77, 7)
30	1.9447E-07	(201, 6)	2.5731E-05	( 77, 6)	5.0486E-05	( 77, 6)	6.2500E-05	(337, 3)	6.7020E-05	(337, 3)
31	1.8195E-07	(104, 5)	2.8185E-05	(104, 5)	5.2179E-05	(145, 8)	7.1197E-05	(145, 8)	7.6797E-05	(145, 8)
32	2.7446E-07	(180, 2)	3.6198E-05	(180, 2)	6.2597E-05	(180, 2)	7.4238E-05	( 12, 3)	7.9861E-05	( 12, 3)
33	1.6776E-07	( 53, 3)	2.8920E-05	( 53, 3)	6.2049E-05	( 53, 2)	7.4254E-05	( 53, 2)	7.4235E-05	( 53, 2)
34	1.9161E-07	(180, 3)	3.5550E-05	( 56, 1)	7.1508E-05	( 56, 1)	8.4519E-05	( 87, 2)	9.2688E-05	( 87, 2)
35	2.0001E-07	( 97, 4)	3.0099E-05	( 56, 3)	5.9155E-05	( 56, 3)	7.0179E-05	( 56, 3)	7.1600E-05	( 56, 3)
36	2.5551E-07	(178, 7)	2.6776E-05	(178, 7)	6.4526E-05	(344, 8)	8.2534E-05	(344, 8)	8.5658E-05	(344, 8)



PLANT NAME: W R GRACE STUDY

POLLUTANT: SO2

EMISSION UNITS: GM/SEC

AIR QUALITY UNITS: GM/M\*\*3

YEARLY SECOND MAXIMUM 3-HOUR CONC= 9.6898E-05 DIRECTION= 25 DISTANCE= 2.0 KM DAY=297 TIME PERIOD= 6

YEAR= 74

DIR	RANGE	SECOND HIGHEST		3-HOUR CONCENTRATION AT EACH RECEPTOR						
		0.5 KM	HIGHEST	1.0 KM	1.5 KM	2.0 KM	2.5 KM			
1	3.2324E-07	(101, 5)	3.5689E-05	( 87, 4)	7.0653E-05	( 87, 4)	8.1586E-05	( 87, 4)	8.0052E-05	( 87, 4)
2	2.7402E-07	( 53, 5)	3.2873E-05	(134, 6)	6.2875E-05	(134, 6)	7.1612E-05	(134, 6)	6.9679E-05	(134, 6)
3	1.6887E-07	(135, 4)	2.4782E-05	( 81, 5)	5.4401E-05	( 42, 2)	7.2059E-05	( 42, 2)	7.6592E-05	( 42, 2)
4	1.2152E-07	(163, 6)	1.7334E-05	(135, 4)	3.5739E-05	(349, 6)	4.8190E-05	(116, 3)	5.5010E-05	(116, 3)
5	1.2301E-07	(135, 3)	1.9134E-05	( 42, 4)	3.9929E-05	(161, 5)	5.0887E-05	(150, 3)	4.8497E-05	(150, 3)
6	1.4694E-07	( 92, 1)	2.7744E-05	( 38, 1)	6.2235E-05	( 38, 1)	7.6298E-05	( 38, 1)	7.4706E-05	( 92, 1)
7	1.4927E-07	( 91, 7)	2.8251E-05	(146, 5)	6.3536E-05	(271, 5)	8.5823E-05	( 91, 7)	8.4091E-05	( 91, 7)
8	1.8474E-07	( 92, 6)	2.5695E-05	( 92, 6)	5.1704E-05	( 88, 5)	6.6464E-05	( 88, 5)	6.9342E-05	( 88, 5)
9	2.1432E-07	(236, 5)	4.0355E-05	( 50, 5)	7.7091E-05	( 50, 5)	8.7575E-05	( 50, 5)	8.7544E-05	(179, 4)
10	1.9899E-07	( 56, 5)	3.5394E-05	(108, 6)	6.8318E-05	(108, 6)	7.8693E-05	(210, 6)	7.7404E-05	( 78, 7)
11	1.6465E-07	(127, 6)	2.6259E-05	( 79, 1)	5.1052E-05	( 79, 1)	6.5129E-05	(150, 8)	6.2885E-05	( 75, 5)
12	4.0600E-07	(338, 4)	3.2395E-05	(338, 3)	5.8205E-05	(338, 3)	6.4391E-05	(338, 3)	6.2051E-05	(126, 6)
13	1.7963E-07	( 79, 5)	2.9468E-05	( 98, 6)	5.9316E-05	(339, 7)	7.1372E-05	( 75, 3)	7.2985E-05	(339, 7)
14	2.2895E-07	( 43, 6)	2.9576E-05	(338, 8)	6.1082E-05	(339, 8)	6.9141E-05	( 59, 6)	6.7016E-05	(328, 6)
15	3.1052E-07	( 99, 6)	3.0762E-05	( 43, 2)	5.6931E-05	( 43, 2)	6.3895E-05	( 43, 2)	6.1798E-05	( 43, 2)
16	2.1760E-07	(340, 4)	3.5806E-05	(340, 4)	6.4945E-05	(340, 4)	7.1960E-05	(340, 4)	6.8944E-05	(340, 4)
17	1.5504E-07	( 38, 6)	3.0060E-05	( 38, 6)	6.3572E-05	(109, 7)	7.5013E-05	(109, 7)	7.4365E-05	(109, 7)
18	2.4453E-07	( 38, 4)	2.9403E-05	(283, 1)	5.4257E-05	(353, 5)	6.6956E-05	(353, 5)	6.8273E-05	(353, 5)
19	1.2511E-07	( 51, 4)	2.1512E-05	( 60, 1)	4.7233E-05	(109, 8)	5.7443E-05	( 60, 4)	5.5981E-05	( 60, 4)
20	2.6779E-07	(282, 7)	3.3233E-05	( 60, 3)	6.3478E-05	( 60, 3)	7.3229E-05	(293, 3)	7.8463E-05	(293, 3)
21	1.6886E-07	(281, 5)	3.4091E-05	(277, 1)	7.0584E-05	(277, 1)	8.3101E-05	(277, 1)	8.2385E-05	(277, 1)
22	2.0725E-07	(279, 3)	3.8717E-05	(278, 5)	6.9321E-05	(279, 4)	7.6531E-05	(315, 7)	8.0582E-05	( 62, 3)
23	2.2607E-07	(333, 4)	2.5925E-05	(270, 7)	5.2549E-05	(270, 7)	6.1289E-05	(298, 1)	6.3675E-05	(298, 1)
24	1.5958E-07	(297, 4)	2.5866E-05	(323, 3)	6.9771E-05	(323, 3)	8.7088E-05	(286, 5)	8.5391E-05	(286, 5)
25	1.8647E-07	(297, 6)	4.3147E-05	(297, 6)	8.4289E-05	(297, 6)	9.6898E-05	(297, 6)	9.4952E-05	(297, 6)
26	8.3827E-08	(280, 6)	2.5811E-05	(351, 4)	5.0303E-05	(118, 7)	6.3745E-05	( 6, 3)	7.2973E-05	(271, 2)
27	1.9723E-07	(138, 6)	2.9676E-05	(336, 7)	5.5173E-05	(104, 6)	7.0106E-05	(290, 4)	7.4383E-05	(290, 4)
28	2.0375E-07	( 77, 4)	3.1156E-05	( 77, 4)	6.0964E-05	( 39, 6)	7.3081E-05	( 84, 7)	7.4640E-05	(104, 7)
29	1.4502E-07	(114, 4)	2.2825E-05	(114, 5)	4.8453E-05	(218, 6)	6.2409E-05	(218, 6)	6.6376E-05	(228, 4)
30	1.4048E-07	(104, 4)	1.7711E-05	(104, 4)	4.6136E-05	(337, 3)	5.7867E-05	( 77, 6)	5.6421E-05	( 77, 6)
31	1.7675E-07	( 55, 5)	2.7620E-05	( 55, 5)	5.0824E-05	(104, 5)	6.0791E-05	(218, 5)	6.4228E-05	(218, 5)
32	1.1568E-07	(217, 4)	2.8723E-05	(217, 4)	5.7366E-05	(217, 4)	6.7704E-05	(180, 2)	6.5800E-05	(217, 4)
33	1.6235E-07	(106, 4)	2.8890E-05	( 53, 2)	5.5663E-05	(253, 3)	6.8620E-05	(216, 6)	7.3483E-05	(216, 6)
34	1.6849E-07	( 53, 1)	2.9263E-05	( 41, 3)	6.2054E-05	( 41, 3)	8.3048E-05	( 56, 1)	8.1682E-05	( 56, 1)
35	1.3537E-07	( 56, 3)	2.6237E-05	( 2, 4)	5.0303E-05	( 2, 4)	5.7201E-05	( 2, 4)	5.5625E-05	( 2, 4)
36	1.4503E-07	(179, 1)	2.5990E-05	(344, 8)	5.2790E-05	(344, 6)	6.5159E-05	(344, 6)	6.6139E-05	(344, 6)