1227723 - R8 SDMS

SF FILE NUMBER
5.2.19

0032394

REMEDIATION
TECHNOLOGIES INC

0032395

DRAFT

INITIAL GROUNDWATER COMPUTER MODEL RUNS
BURLINGTON NORTHERN SITE
SOMERS, MONTANA

Prepared for
Glacier Park Company

Prepared by
Remediation Technologies, Inc.

March 1988

TABLE OF CONTENTS

Chapter		Page
1.0	Introduction	1
2.0	CERCLA Lagoon	2
2.1	Description of Model	2
2.2	Parameter Values	8
2.2.1	X-Coordinate Values	8
2.2.2	Y-Coordinate Values	10
2.2.3	Time Steps	10
2.2.4	Longitudinal Dispersion Term	11
2.2.5	Transverse Dispersion Term	12
2.2.6	Seepage Velocity	12
2.2.7	Half Length of Strip Source	13
2.2.8	Radioactive Decay Constant	13
2.2.9	Retardation Factor	13
2.2.10	Decay of Solute	14
2.2.11	Initial Concentration of Solute in Groundwater	14
2.2.12	Summary of Model Parameters	15
2.3	Results of Modeling	15
2.4	Recommendations for Additional Field Work	19
2.4.1	Insallation and Sampling of two Monitoring Well	19
2.4.2	Soil Sample Collection	20
2.4.3	Aquifer Test	21
2.4.4	Groundwater Sampling from Existing Wells	21
3.0	Swamp Pond	22
4.0	Responses to EPA Comments	23
5.0	Summary and Conclusions	31
6.0	References	33

0032397

LIST OF APPENDICES

APPENDIX A Computer Code for Analytical Solution
APPENDIX B Data Output

0032398

LIST OF TABLES

Table		Page
2-1	Advection - Dispersion Equation with Boundary Conditions and Cleary and Ungs Analytical Solution	4
2-2	Verification of Analytical Code	9
2-3	Model Input Parameters	16
2-4	Parameter Variations for Six Model Runs	17

LIST OF FIGURES

Figure		Page
2-1	Schematic Diagram of 2 - Dimensional Plane Dispersion Model	3
2-2	Somers, Montana Results of Analytical Modeling Lower Bound - Run 1	map pocket
2-3	Somers, Montana Results of Analytical Modeling Lower Bound - Run 2	map pocket
2-4	Somers, Montana Results of Analytical Modeling Average - Run 3	map pocket
2-5	Somers, Montana Results of Analytical Modeling Average - Run 4	map pocket
2-6	Somers, Montana Results of Analytical Modeling Upper Bound - Run 5	map pocket
2-7	Somers, Montana Results of Analytical Modeling Upper Bound - Run 6	map pocket

1.0 INTRODUCTION

0032400

The Work Plan for Additional Investigations at the Somers Tie Plant provided an outline of activities to be conducted for hydrogeologic investigations and computer modeling in response to comments received for the Remedial Investigation Report, the Feasibility Study, and the Risk Assessment Report. The modeling effort was proposed to refine the current understanding of existing site conditions and to project future groundwater quality conditions under various scenarios at the Somers site. Slight modifications to the Work Plan were discussed during a meeting on February 26 between representatives for Glacier Park and EPA. These modifications included conducting several initial analytical model runs to determine the feasibility of proceeding with a numerical model and to determine the extent of additional field work.

The CERCLA lagoon was treated separately from the swamp pond since they constitute two separate source areas. The CERCLA lagoon area was modeled with an analytical solution. Section 2.0 presents the details on the analytical modeling including the area modeled, the parameters used to run the model, the variations of these parameters, and recommendations for field work to verify the model. Section 3.0 presents the approach considered for the swamp pond which includes additional hydrogeologic interpretation and a possible trench test.

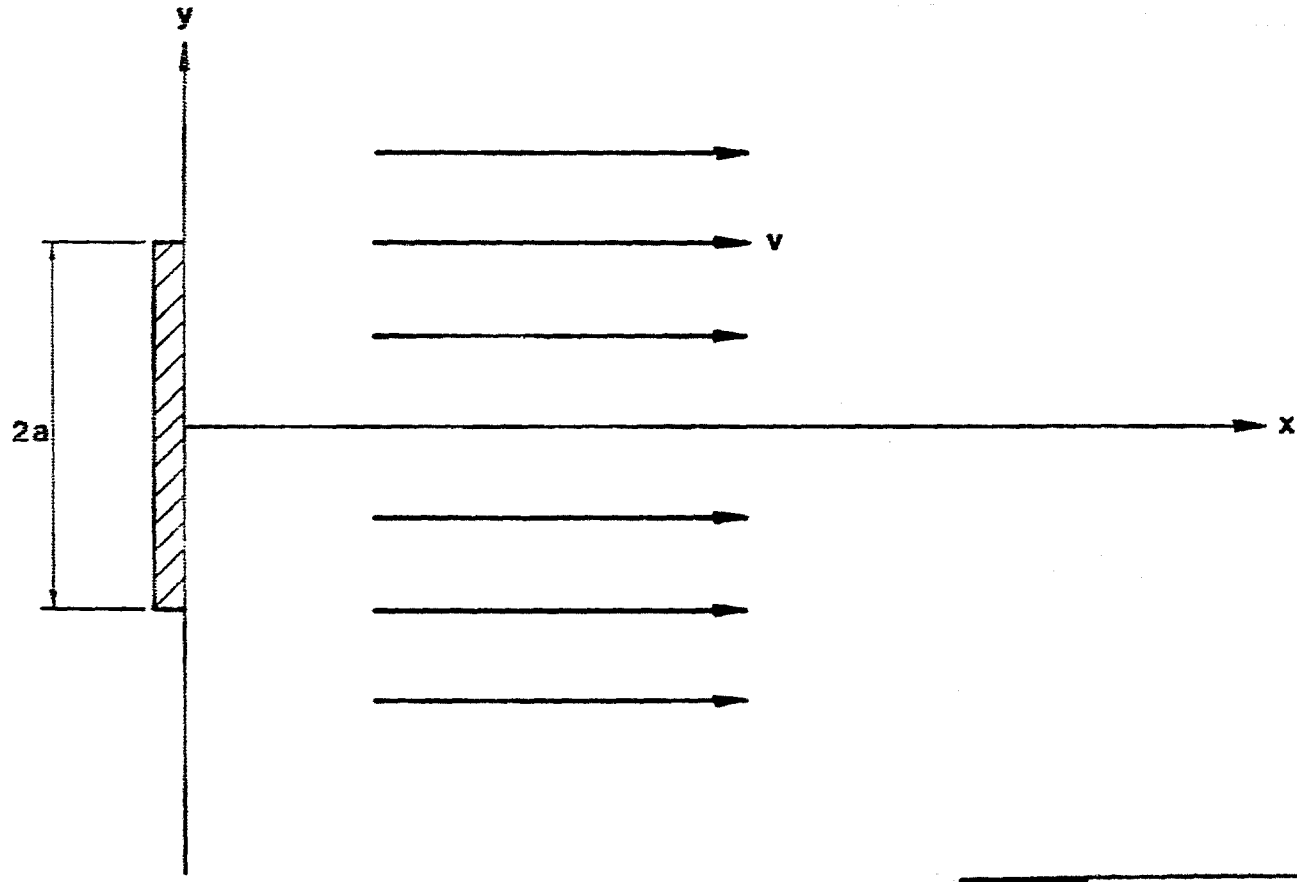
A series of comments on the proposed work plan were submitted to Glacier Park during the February 26 meeting by the EPA. Responses to these comments are provided in Section 4.0. Section 5.0 presents the report summary and conclusions.

2.1 Description of Model

The Cleary and Ungs (1978) analytical solution was chosen to simulate flow and contaminant transport in the CERCLA lagoon area. The solution assumes a homogeneous, isotropic porous medium having unidirectional steady state flow. The two dimensional solution represents the source as a strip rather than a point, thereby more closely representing the actual shape of the CERCLA lagoon. The aquifer is assumed to be infinite in areal extent. Figure 2-1 presents a schematic diagram of the model which orients the x-axis in the direction of flow. The length of the strip source is equivalent to length 2a along the y-axis. Velocity, v, is the seepage velocity. Table 2-1 presents the analytical equation for the two dimensional strip model including both longitudinal and transverse dispersion. The boundary conditions and analytical solution to the equation are also presented in Table 2-1.

This analytical solution was chosen for the Somers site because it represents the source area as a strip rather than a point which is applicable to the CERCLA lagoon at Somers. The solution also is widely used as an additional verification to some numerical models.

As no analytical or numerical model can truly represent actual flow conditions at a site, there are several limitations of the Cleary and Ungs model's application to the Somers site. For instance, it is known that the aquifer is not homogeneous due to its low energy lacustrine and/or meandering stream depositional environment. Layers of silty clay and clayey silts are intermixed within the aquifer. In some areas, sandy silts, sandy clays, and silty sands are found in varying amounts. The parameters chosen to represent the aquifer characteristics for the model were varied to take into consideration the nonhomogeneity of the aquifer.



SCHEMATIC DIAGRAM OF
2-DIMENSIONAL PLANE
DISPERSION MODEL

RETEC
REMEDIATION TECHNOLOGIES, INC.

2-1

0032402

TABLE 2-1

ADVECTION-DISPERSION EQUATION WITH BOUNDARY CONDITIONS AND CLEARY AND UNGS ANALYTICAL SOLUTION

TWO DIMENSIONAL ADVECTION-DISPERSION EQUATION:

$$D_L\ (\delta^2 C/\delta x^2) + D_T(\delta C^2/\delta y^2) - v(\delta C/\delta x) - (\text{lambda})(R)(C) = R\ \delta C/\delta t$$

where,

- D_L = longitudinal dispersion, in L^2/T
- D_T = transverse dispersion, in L^2/T
- v = seepage velocity, in L/T,
- lambda = radioactive decay constant, which is zero for the Somers site
- R = retardation factor for the given type of solute
- t = time, L

INITIAL AND BOUNDARY CONDITIONS OF MATHEMATICAL MODEL:

$$C(0,y,t) = C_o e^{-\alpha t} \qquad -a \leq y \leq a$$
$$C(0,y,t) = 0 \qquad \text{other values of } y$$
$$C(x,y,0) = 0 \qquad \text{where } x > 0$$

where,

- C_o = initial concentration of the solute, in ppm,
- α = decay of solute, in T^{-1}

ANALYTICAL MODEL AS PRESENTED BY CLEARY AND UNGS (1978):

$$C(x,y,t) = (C_o x)/4(\pi D_L)^{1/2} \exp\,[v_x/2D_L - \alpha t]$$
$$\times \int_0^{t^{1/2}} \exp[-(\text{lambda}(R) - \alpha R + v^2/4D_L)\tau - x^2/4D_L\tau]$$
$$\times\ \tau^{-3/2}$$
$$\times\ [\text{erf}((a - y)/2(D_T\tau)^{1/2}) + \text{erf}((a+y)/2(D_T\tau)^{1/2})]d\tau$$

where,

τ = dummy integration variable

The aquifer is also not considered to be isotropic and in a low energy depositional environment with an abundance of fines, the dominant direction of groundwater flow will be in the horizontal direction. According to Todd (1980), ratios of horizontal to vertical permeability can reach values of up to 100 or greater when clay layers are present. At Somers, the ratio may be somewhat less than 100 because the aquifer rarely contains pure clay material. The effect of the primarily horizontal flow direction does not effect the model results greatly because the aquifer thickness is not large (approximately 18 to 25 feet thick in the vicinity of the CERCLA lagoon).

The model also assumes 1-dimensional flow with 2-dimensional advection/dispersion. Since little data exist to characterize the vertical flow component within the shallow aquifer, the model does not make any assumptions regarding the vertical flow. It would appear to be a small component of flow based on the depositional environment of the aquifer material.

The model assumes that flow is unidirectional which departs from the fact that near the CERCLA lagoon the direction of flow bends slightly and therefore has an easterly and southeasterly component of flow (according to water table maps constructed for the Remedial Investigation Report). This will not affect the model output to any great extent since solute movement in one direction can be extrapolated to the other direction, if necessary.

The shallow aquifer was the only one considered to simulate solute transport. At Somers, there exists a vertically upward flow component (as evidenced in wells 85-1a and b, 85-6a and b and 85-8a and b). Since the flow direction is upward, transport of solute should remain within the water table aquifer.

The model also assumes that the aquifer is infinite in vertical and horizontal areal extent. With Flathead Lake situated about 1600 feet from the CERCLA lagoon and the bedrock outcrops to the south, it is evident that the aquifer is not infinite in areal extent. The aquifer is also bounded by an

aquiclude. However, since the aquifer material has been shown to have relatively low transmissivity values (from bailer test results) the assumption of infinite areal extent does not substantially affect the flow model in the vicinity of the CERCLA lagoon. No extreme values in water level data have been found to indicate that water levels near the CERCLA lagoon are affected by lake levels.

The analytical solution was coded in Fortran 4 by Berkeley Hydrotechnique, Inc. of Berkeley, California. Software by Microsoft (Version 4.01) was used to compile the code. The program was then run on a personal computer with a math co-processor. The code stipulates that the input data is entered in an open Fortran format. A copy of the computer code is presented in Appendix A. For the CERCLA lagoon, the input data was entered into an input file consisting of seven lines of data as described below:

First line of input data:

numx = number of x coordinates at which concentration of the solute is calculated. Generally, the interval between x-coordinates increases with increasing distance from the source.

numy = number of y coordinates at which the concentration for the solute is calculated. The interval between y-coordinates also increases with increasing distance from the source.

numt = number of time steps at which model is run. If results are desired at 60 and 120 years, then two time steps would be entered.

Second line of input data:

X coordinates at which solute concentrations will be calculated. The number of x-coordinates was provided in line 1 of input data file.

Third line of input data:
Y coordinates at which solute concentrations will be calculated. The number of y-coordinates was provided in line 1 of input data file.

Fourth line of input data:
The number of time steps at which solute concentrations are calculated. For instance, 60 years and 120 years represent two time steps.

Fifth line of input data:

D(l) = longitudinal dispersion term
D(t) = transverse dispersion term
v = seepage velocity
a = half length of strip source (see Figure 2-1)

Sixth line of input data:

alam = radioactive decay constant
r = retardation factor
α = decay of solute

Seventh line of input data:

coni = initial concentration of solute in groundwater along the entire length of the strip source.

The input are entered in metric units and are converted in the program to English (or traditional) units. The specific input data used for the CERCLA lagoon model runs will be discussed in Section 2.2.

The first page of the computer model output repeats the input data file with the values listed for each parameter in metric units. The rest of the output file contains a list of the x-coordinate values (in feet), the y-coordinate values (in feet), and the concentration of the solute (in parts per million).

Verification of the analytical solution is provided in

Javendal et. al. (1984) so that users of the solution can verify that their code solves the equations accurately. For instance, tables of results are provided by Cleary and Ungs containing set input parameters, including time, velocity, half length of source, longitudinal dispersion coefficient, transverse dispersion coefficient, retardation factor, decay factor of source, and decay factor of solute. The output in the verification table is provided as C/C_o. Table 2-2 provides a list of the input parameters used to verify the analytical model and computer code used for the Somers site. The output concentrations are also provided and compared to values generated by the authors of the solution to verify the results.

2.2 Parameter Values

A description of the input parameter values chosen for the CERCLA lagoon analytical model is provided in the following subsections. The parameters are described in the order in which they are entered in the input file (see Section 2.1). Several parameters were varied to check their sensitivity and to allow for variation of values representing aquifer characteristics.

The compound chosen for solute transport modeling was naphthalene. While several other PAH constituents have been detected in groundwater, a review of these compounds showed that naphthalene was more mobile in groundwater since it has a greater water solubility and a lower octanol:water partition coefficient. Other PAH compounds more strongly sorb to soil particles and are less mobile than naphthalene therefore naphthalene represents the most conservative constituent to model.

2.1.1 X-Coordinate Values

The x-coordinate values are chosen by first estimating their values and running the model to determine the distance the solute travels from the source. The coordinate values can then be refined to ensure that the output values are at closer intervals

TABLE 2-2
VERIFICATION OF ANALYTICAL CODE

VERIFICATION INPUT PARAMETERS

numx = 9 numy = 6 numt = 1

x = 10 x = 15 x = 20 x = 25 x = 30 x = 35 x = 40 x = 45 x = 50

y = 5 y = 10 y = 20 y = 30 y = 40

t = 100

D(l) = 1 D(t) = 0.1 v = 0.1 A = 50

alam = 0 r = 1 alpha = 0

coni = 1

VERIFICATION OUTPUT

	Y = 0		Y = 5		Y = 10		Y = 20		Y = 30		Y = 40	
X VALUES	MODEL CONC	AUTHOR CONC	MODEL CONC	AUTHOR CONC	MODEL CONC	AUTHOR CONC	MODEL CONC	AUTHOR CONC	MODEL CONC	AUTHOR CONC	MODEL CONC	AUTHOR CONC
10.00049	0.71379	0.71379	0.71379	0.71379	0.71379	0.71379	0.71379	0.71379	0.71379	0.71379	0.71271	0.71271
15.00073	0.53461	0.53461	0.53461	0.53461	0.53461	0.53461	0.53461	0.53461	0.53461	0.53461	0.53322	0.53322
20.00098	0.36498	0.36498	0.36498	0.36498	0.36498	0.36498	0.36498	0.36498	0.36498	0.36498	0.36361	0.36361
25.00122	0.22561	0.22561	0.22561	0.22561	0.22561	0.22561	0.22561	0.22561	0.22561	0.22561	0.22451	0.22451
30.00146	0.12563	0.12563	0.12563	0.12563	0.12563	0.12563	0.12563	0.12563	0.12563	0.12563	0.12489	0.12489
35.00323	0.06277	0.06277	0.06277	0.06277	0.06277	0.06277	0.06277	0.06277	0.06277	0.06277	0.06234	0.06234
40.00195	0.02806	0.02806	0.02806	0.02806	0.02806	0.02806	0.02806	0.02806	0.02806	0.02806	0.02784	0.02784
45.00372	0.01119	0.01119	0.01119	0.01119	0.01119	0.01119	0.01119	0.01119	0.01119	0.01119	0.01110	0.01110
50.00244	0.00398	0.00398	0.00398	0.00398	0.00398	0.00398	0.00398	0.00398	0.00398	0.00398	0.00394	0.00394

0032408

near the source and are at far enough distances away from the source to show the extent of travel. The x-coordinate values are entered in meters. The highest x-value for the model was about 328 feet (100 meters).

2.2.2 Y-Coordinate Values

The y-coordinate values are chosen based on the length, 2a, of the source. The total length of the CERCLA lagoon was estimated to be 200 feet based on areal photographs and visual inspection. Therefore, the y-coordinate values should range from 0 to at least 100 feet (30.5 meters). Only one-half of the y-coordinate values require inputting since the program assumes that the inputted values in the positive y-direction (Figure 2-1) are the same values in the negative y-direction. The greatest y-coordinate value was chosen to be 164 feet (50 meters).

2.2.3 Time Steps

Two time steps were run to simulate solute transport. The Remedial Investigation Report describes the history of waste disposal at the site with the earliest record showing a waste sump near the present day CERCLA lagoon. This record was dated 1927. Based on this information, it was assumed that 1927 was also the first year in which groundwater became contaminated with constituents of creosote waste. It is unlikely that migration of dissolved constituents could have occurred this rapidly due to the expected large horizontal component of flow, but a conservative assumption was made since little data exist to determine the vertical migration of the contaminants from the source to the water table.

Based on a start date of 1927, the first time step was run for 60 years to bring the model to essentially present day time. The second time step of 120 years was run to predict solute transport 60 years into the future. Later time steps were not run since the transport of solute was limited to a relatively small area (to be described in Section 2.3) and further modeling

with added time steps was not considered beneficial to the study.

2.2.4 Longitudinal Dispersion Term

Dispersion is a result of two processes, molecular diffusion and mechanical mixing. It causes solute to spread over a greater volume of aquifer and is affected by vertical and horizontal conductivity and the degree of stratification within the aquifer. Longitudinal dispersion is the spreading of the solute in the direction of bulk flow (Freeze and Cherry, 1979). Longitudinal dispersion values may be approximated by conducting a column test on a sample of material in the laboratory and determining the breakthrough curve for the solute. Dispersion coefficients can be found from tracer tests in the field. Dispersion coefficients can also be estimated from the equation:

$$D_L = (\alpha_L)(v_s)$$

where,

α_L = coefficient of longitudinal dispersion (the characteristic property of the porous medium)

v_s = seepage velocity (in cm/s)

For the CERCLA lagoon at Somers, α_L is approximated using a distribution chart of dispersivity values for porous and fractured media (Javendal et al 1984). An average value for coefficient of longitudinal dispersivity is 5 meters. For silts and clays, this value is somewhat high and is therefore a conservative estimate. The seepage velocity is calculated from the following equation:

$$v_s = Ki/n$$

where,

K = hydraulic conductivity (in cm/s)

i = hydraulic gradient

n = porosity

The information from several bailer tests was used to arrive

at representative hydraulic conductivity values. The Remedial Investigation Report presented data from eight wells in the area between the CERCLA lagoon and Flathead lake. The tested wells include S-85-5a, S-84-3, S-84-4, S-84-5, S-84-6, S-84-7, S-84-9, and S-84-10. Hydraulic conductivity values range from 2×10^{-6} to 2×10^{-5} cm/s. Since hydraulic conductivity is one parameter that greatly affects the flow modeling of solute transport, several values were applied to the model. Ranges of values over two orders of magnitude (2×10^{-6}, 2×10^{-5} and 2×10^{-4} cm/s) were used for the model. (These K values are equivalent to 0.63, 6.3, and 63 m/yr, respectively). The hydraulic gradient near the CERCLA lagoon is consistently found to be about 0.010. The porosity for the material was estimated to be 0.30. Porosity values for silts range from 0.35 to 0.50 and sand porosity values range from 0.25 to 0.50 (Freeze and Cherry, 1979 and Todd, 1980). Since the material which comprises the aquifer is a mixture of silt, clay, and sand, a porosity value of 0.30 is considered to be low, but conservative.

Based on the three hydraulic conductivity values listed above, the seepage velocity used in the analytical model are 6.7×10^{-6}, 6.7×10^{-7}, and 6.7×10^{-8} cm/s. These values are equivalent to 6.7×10^{-8}, 6.7×10^{-9}, and 6.7×10^{-10} m/s or 2.1, 0.21, and 0.021 m/yr. Applying these values to the longitudinal dispersion equation results in values of D_L = 10.5, 1.05, and 0.105 m^2/yr.

2.2.5 Transverse Dispersion Term

In general, the D_T term is considered to be one order of magnitude less than the D_L term (Javendal et al, 1984). Therefore, the values used at the Somers CERCLA lagoon area are D_T = 1.05, 0.105, and 0.0105 m^2/yr.

2.2.6 Seepage Velocity

Section 2.2.3 discussed the values used for seepage velocity and the derivation of these values.

2.2.7 Half Length of Strip Source

As mentioned in Section 2.2.2, the length of the lagoon is about 200 feet, therefore the half-length is 100 feet or 30 meters.

2.2.8 Radioactive Decay Constant

The value of zero was entered for this parameter at the Somers site.

2.2.9 Retardation Factor

The retardation factor represents the advancing front of sorbing solute which moves at a linear velocity smaller than the velocity of groundwater movement. The retardation factor is based on the equation (Roberts, 1987):

$$R = 1 + (d_b \times K_d)/n$$

where,

R = retardation factor

d_b = bulk density of material through which the solute flows in g/m^3

K_d = distribution coefficient

n = porosity

The bulk density of the matrix through which the solute flows is estimated from the equation (Roberts, 1987):

$$d_b = (1 - n) \times d_s + n \times d_w$$

where,

n = porosity, 0.3

d_s = density of soil, 2.65×10^6 g/m^3

dw = density of water, 1×10^6 g/m^3

Therefore, d_b is estimated to be 2.2×10^6 g/m^3. The distribution coefficient is determined from the propensity of the solute to sorb to soil particles. It has been shown that the greater the organic carbon content of the soil the greater the solute will sorb onto the material (Roberts, 1987). The following equation illustrates the correlation:

$$K_d = 6.3 \times 10^{-7} \times f_{oc} \times K_{ow}$$

where,

f_{oc} = fraction of organic carbon in the soil (g organic carbon per g dry soil)

K_{ow} = octanol:water partition coefficient

Log K_{ow} values for naphthalene range in the literature but are typically about 3.32 (Hansch and Leo, 1979). The K_{ow} value is thus 2089. The organic carbon content on the soil was approximated to be 0.1 %. (This value will be verified by field sampling and analysis.) Using these values in the equation above, K_d becomes 1.31×10^{-6}. Combining the value of K_d with the bulk density term of 2.2×10^6 results in a retardation factor of 10.6 or 10, if rounded conservatively. The retardation value remained constant throughout all model runs.

2.2.10 Decay of Solute

Chemical or biological degradation of the solute is taken into consideration with the decay term. While some research has been done to arrive at values of biological degradation of PAH constituents dissolved in groundwater, values are considered to be experimental so no value as entered into the model. Because of the high biodegradation activity studied in relation to PAH in soil, it is expected that the mechanism may also contribute to degradation of PAH in groundwater. Therefore, by omitting this value, a conservative approach is taken.

2.2.11 Initial Concentration of Solute in Groundwater

The initial concentration of naphthalene in groundwater was chosen to be equal to the solubility of the compound in water (34 mg/L). The dissolved phase is the portion of the waste which has the greatest ability to migrate with groundwater flow and thus its concentration can be no greater than its solubility. This value remained constant throughout the model runs and is

considered to be the most conservative estimate.

2.2.12 Summary of Model Parameters

Table 2-3 presented a list of input parameters which were used for the analytical model for the CERCLA lagoon area. The table shows that the x-coordinate values, y-coordinate values, time steps, half length of strip source, retardation factor and initial concentration of solute all remained as constant values during model runs. Several parameters were varied in order to provide a range of estimates for solute transport where exact hydraulic conductivity values were unknown. These parameters included longitudinal dispersion, transverse dispersion, and seepage velocity. To represent these different hydraulic conductivity values, three variations were run for two time steps, 60 and 120 years, thus creating six runs. Table 2-4 presents a summary of the parameters used for the three variations, including a lower bound (K = 0.63 m/yr) an average value (K = 6.3 m/yr) and an upper bound (K = 63 m/yr).

2.3 Results of Analytical Modeling

The results of the six model runs, labeled as Runs 1 through 6, are presented in Figures 2-2 through 2-7. The output data for each time step was plotted for the upper bound, average value, and lower bound as described in Section 2.2.12 and summarized in Table 2-4. The list of output data for each run is provided in Appendix B. A plotting software package was used to draw contours of the output onto graphs at a scale of 1" = 50 '. The contour package was programmed to plot concentrations of naphthalene from 20 to 0.01 ppm (or 10 ppb) from the output data. While concentrations below 0.01 ppm were estimated with the analytical solution, 0.01 was chosen as the cut-off point for graphing purposes since the concentration can be verified by field sampling.

TABLE 2-3

MODEL INPUT PARAMETERS

PARAMETER	VALUE(S)
number of x-coordinates (numx)	19
number of y-coordinates (numy)	14
number of time steps (numt)	2
x-coordinate values (x)	2,5,8,11,14,17,20,23,26,29,32,35 41,50,60,70,80,90,100 meters
y-coordinate values (y)	0,2,4,6,8,10,15,20,25,30,35,40, 45,50 meters
time steps (t)	60 and 120 years
longitudinal dispersion term (D_L)	10.5, 1.05, and 0.105 m^2/yr
transverse dispersion term (D_T)	1.05, 0.105, 0.0105 m^2/yr
seepage velocity (v)	2.1, 0.21, 0.021 m/yr
half length of strip source (a)	30 m (100 feet)
radioactive decay constant (alam)	0
retardation factor (r)	10
decay of solute (ä)	0
initial concentration of solute in groundwater, C_o (coni)	34 ppm

TABLE 2-4
PARAMETER VARIATIONS FOR SIX MODEL RUNS*

Parameter	Lower Bound Runs 1 & 2	Average Runs 3 & 4	Upper Bound Runs 5 & 6
seepage velocity, v_s	0.021 m/yr (based on K = 0.63 m/yr)	0.21 m/yr (based on K = 6.3 m/yr)	2.1 m yr (based on K=63 m/yr)
longitudinal dispersion, D_l	0.105 m^2/yr	1.05 m^2/yr	10.5 m^2/yr
transverse dispersion, D_t	0.0105 m^2/yr	0.105 m^2/yr	1.05 m^2/yr

* each variation was run for 2 time steps, 60 and 120 years

Figure 2-2 shows the results of Run 1 which is the lower bound version for a time step of 60 years (which is essentially present day time). The plotting software has trouble with values that are plotted close together resulting in irregular contours. However, the figure shows that with a seepage velocity of 0.021 m/yr and hydraulic conductivity of 0.63 m/yr, the 0.01 concentration of naphthalene migrates only 20 feet from the source. After 120 years (or about 60 years from present time), migration is only 30 feet using lower bound parameters (Figure 2-3).

Figures 2-4 and 2-5 present the results of the average values used for Runs 3 and 4 for 60 and 120 days, respectively. After 60 days, the 0.01 ppm contour line is approximately 50 feet from the source. After 120 days, the 0.01 ppm contour line is 70 feet from the source. Runs 3 and 4 are considered to be the most representative of site conditions based on the parameters used for the model. Aquifer test results have shown that conductivity values are on the order of 2×10^{-7} m/sec or 0.21 m/yr for the wells between the CERCLA lagoon and Flathead Lake.

Figures 2-6 and 2-7 present the results of Runs 5 and 6, which represent the upper bound hydraulic conductivity value for 60 and 120 years. At the end of 60 years, the 0.01 ppm of naphthalene is found 180 feet from the source and after 120 years, it has moved to 270 feet from the CERCLA lagoon.

The figures (2-6 through 2-7) show that even with the upper bound case, or most conservative estimate of parameters, after 120 years, the 0.01 ppm concentration of naphthalene is only 270 feet from the source.

Presently, there are no data to verify the model predictions because the wells sampled downgradient did not show levels of PAH above detection. One well, 85-7, showed a trace amount (i.e. a concentration between 0.01 and 0.001 ppm) of naphthalene during the February, 1986 sampling round. However, the next two sampling rounds in 1986 did not show the presence of naphthalene above detection limits. Recommendations for additional field

work to verify the model are provided in Section 2.4.

2.4 Recommendations for Additional Field Work

There are four field tasks which are proposed to verify the model results. The first task is to install two monitoring wells at specified distances from the CERCLA lagoon and sample the groundwater for PAH constituents to verify the model results. The second task is to collect two soil samples from the saturated zones of the boreholes to be drilled for the two new wells. A total organic carbon analysis will be conducted on the soil samples to verify the f_{oc} term used to calculate K_d (the distribution coefficient) which is then used for the retardation factor estimate. The third task is to conduct aquifer slug tests in the vicinity of the CERCLA lagoon to check the values of hydraulic conductivity used during the modeling effort. The fourth task is to sample groundwater from two existing wells to provide two additional data points for groundwater quality. The additional field work is proposed for late April except for sampling of existing wells which will take place the week of March 28. A description of each of these tasks is provided in greater detail in the following subsections.

2.4.1 Installation and Sampling of two Monitoring Wells

Two monitoring wells will be installed downgradient of the CERCLA lagoon, one approximately 50 feet from the CERCLA lagoon to verify the average case model run (3)or the upper bound case (Run 5), and one about halfway between the lagoon and an imaginary straight line drawn between wells 85-6 and 84-16. The second well would be about 350 feet from the CERCLA lagoon in an easterly direction. The wells will be installed utilizing a hollow stem auger rig with continuous split spoon (or similar device) sampling. Two-inch diameter PVC well pipe will be installed using the same procedures of the other site wells. Decontamination of all downhole equipment will be conducted

between boreholes by steam cleaning. All split spoons will be cleaned between drives.

The boreholes will be logged from the split spoon samples by a qualified geologist or engineer. Special attention will be given to the presence of sand lenses so that new information can be added to existing cross sections to better characterize the lenses and the discontinuity which appears in the existing cross sections.

The newly installed wells will be developed after the grout has set up. The wells will be bailed until the water is as silt/sand free as possible. The wells will then be sampled by bailing after at least 3 casing volumes have been removed and ph and conductivity readings have stabilized. The sampling procedures will follow those established for the Remedial Investigation. The groundwater will be analyzed for the base neutral fraction of GC/MS Method 625, zinc, and total suspended solids. All site sample preservation, chain of custody, and shipping procedures will be followed.

The chemical analyses results for naphthalene will be examined to determine whether correlations exist with the modeling results. Other compounds will also be observed to determine whether additional modeling of other constituents is necessary.

2.4.2 Soil Sample Collection

One soil sample from each well will be collected from the aquifer material for total organic carbon analysis. The modeling effort utilized a value of 0.1% for the fraction of organic carbon in the soil. If the actual value is lower, then the modeled value is conservative. If the actual organic carbon content is higher, a determination will be made whether an increase in the f_{oc} substantially affects the retardation factor and its overall affect on the outcome of the modeling effort.

2.4.3 Aquifer Test

The new wells installed to the east of the CERCLA lagoon and well 85-8a will be used to conduct slug type aquifer tests. The low hydraulic conductivity of the aquifer prohibits the conduct of a constant discharge test. The slug tests will consist of an injection of a weighted float to simulate an instantaneous increase in head within the well. A pressure transducer and data logger will monitor the recovery of the well at small time intervals. The Cooper et al (1967) or the Vorslev (1951) equations will be applied to determine hydraulic conductivity. The slug test values will then be compared with the three values used for the analytical model. If the hydraulic conductivity values used for the model effort were not representative of actual site values, the model will be rerun to incorporate the new data.

2.4.4 Groundwater Sampling from Existing Wells

Two existing wells are proposed for sampling to verify existing conditions at the CERCLA lagoon and downgradient of the lagoon and to add to the groundwater quality data base in that area of the site. Wells 84-14 and 85-7 will be sampled by hand bailing according the methods described in Section 2.4.1, above, and the Remedial Investigation procedures. Samples will be analyzed for the same constituents as specified for the two new wells. The existing wells will be sampled the week of March 28 coincident with RCRA quarterly sampling.

3.0 SWAMP POND

A model was not run in the swamp pond area because additional hydrogeological information is necessary and the goals of such an effort are not clearly defined. It is known that the swamp pond area has affected the water quality of Flathead Lake. Preliminary review of water levels in monitor wells near the swamp pond show that wells near Flathead lake are affected by lake levels. The recharge/discharge relationship between the aquifer and the lake apparently changes seasonally. Further definition of this relationship is needed in order to define the swamp pond hydrogeology.

Plots of lake levels with monitor well levels will be generated to demonstrate seasonal fluctuations. In addition, a continuous recorder will be placed on a well near the lake to monitor water level changes so that comparisons can be made with the lake gaging station levels.

A trench test is proposed to determine the feasibility of recovering groundwater for treatment. The trench would be located between the swamp pond and the lake, paralleling the lake. Flow into the trench could be monitored and groundwater collected to determine flux rates and waste constituent recovery rates. The trench test would be performed when the aquifer is recharging the lake (which is expected during the months of October or November through May).

4.0 RESPONSES TO EPA COMMENTS

The EPA comments (February 26, 1988) on the Hydrogeologic Investigations and Modeling of the Work Plan for Additional Remedial Investigations at the Somers Tie Plant Somers, Montana are addressed in this section in the order in which the comments were listed. The February 26 meeting agenda contains the complete comment statements, a portion of which are reiterated below. A response follows each comment.

COMMENT: If insufficient data are available to use a numerical model and such data cannot be collected, what analytical approach would be considered instead?

RESPONSE: The meeting discussion arri ed at the conclusion that an analytical model of the CERCLA lagoon area would be conducted first and possibly a numerical model, if warranted. The analytical model has shown that very limited migration of constituents is expected in 60 years from present and that a numerical model would not be beneficial. Field collection of additional data as described in Section 2.4 will be useful in determining whether the analytical model is representative of actual site conditions. More discussion of the applicability of a numerical model in the swamp pond area is expected during the next meeting.

COMMENT: It should be noted that the modeling will not identify contaminant transport pathways.

RESPONSE: The model would show areas of increased transmissivity based on input values and may actually indicate during modeling where transport pathways are located.

COMMENT: What is the proposed grid size for the model?

RESPONSE: The area to be modeled was proposed to include the area from the CERCLA lagoon to Flathead Lake. At this time, no grid size has been developed since the determination has not yet been made whether a numerical model is appropriate at this time.

COMMENT: Will the entire site be included in the modeling exercise?

RESPONSE: The area to be modeled was proposed to include the area from the CERCLA lagoon to Flathead Lake as discussed during the February 26 meeting.

COMMENT: What time period will the model cover?

RESPONSE: The initial analytical model covered the time period from 1927 to present and then predicted 60 years into the future. Two time steps were run. The 60 year time step was run so simulated values could be verified by sampling downgradient wells. The 120 year time step was run to simulate the expected travel distance of naphthalene 60 years from present time. This case assumes that all site conditions remain constant for the next 60 years.

COMMENT: Is existing historical data adequate to predict sufficiently far into the future?

RESPONSE: To verify the prediction of solute transport into the future, the present day transport predictions must be verified. The field work proposed in Section 2.4 will provide water quality and aquifer hydraulic conductivity values so that comparisons can be made to the analytical transport simulation for applicability of the model to the site. If the data correlate well, then model predictions into the future will be accurate if the assumption is made that site conditions remain fairly consistent.

COMMENT: Discuss specific additional data collection needs and schedules. Consideration should be given to the limiting effect of determining aquifer parameters based on slug tests alone.

RESPONSE: Additional data needs to verify the analytical model were presented in Section 2.4. While a constant discharge aquifer test may provide more information on aquifer characteristics and may be more representative of actual values, the low transmissive nature of the material prohibits this type of test. Therefore, several slug tests will be conducted on wells near the CERCLA lagoon to verify hydraulic conductivity estimates. Schedules for additional work were provided in Section 2.4.

COMMENT: Single-well aquifer tests will not provide information needed to quantify storage coefficients or porosity.

RESPONSE: At this time, the storage coefficient is not important to the analytical modeling effort. The first phase of modeling has shown that solute transport is not a problem in the area of the CERCLA lagoon. If field data are able to verify this conclusion, then the storage value may not be critical to this portion of the study. The swamp pond is a separate issue, hydrogeologically, and the plans for remedial action will be treated exclusively to that area.

Based on literature values for silts and sands, the value of 0.3 for porosity used in the modeling effort is believed to be very conservative. While it is true that it may not be an exact value for the aquifer, a conservative value will provide a good estimate to work with. The porosity most likely varies in the distance from the CERCLA lagoon to the lake. If it is determined that the value is important to further study in the swamp pond area, a laboratory permeability test could be conducted at that time.

COMMENT: Additional borings would be necessary to accurately define the saturated thickness of the aquifer as well as the bedrock configuration.

RESPONSE: The analytical solution assumes an aquifer of infinite areal extent therefore the aquifer thickness was not necessary for the initial model effort. The bounds of the aquifer are important to numerical simulation. The actual saturated thickness is difficult to define in the Somers area because of the depositional nature of the fines. Boring logs show the aquifer material becoming finer with depth, so the aquifer thickness is dependent on the depth at which these fines are no longer able to transmit water.

The bedrock configuration was also not required for the analytical solution since the aquifer is assumed infinite in extent.

COMMENT: The assumptions needed for the volume (of contaminated groundwater) calculation will usually overestimate the volume by assuming that the entire saturated thickness is contaminated (which may or may not be true).

RESPONSE: No estimates of volumes of contaminated water have been provided since the field verification has not yet been performed. It is true that the assumption of the entire saturated thickness being contaminated may not be accurate but in the area of the CERCLA lagoon the dissolved portion of the contaminant is the portion to most likely migrate downgradient based on its physical characteristics. Therefore, the assumption of the entire saturated thickness being contaminated is considered the most conservative approach.

COMMENT: Since biological degradation of PAH has been documented, factors which may influence the modeling of fate and

transport of PAH degradation products (such as solubility, density and partition coefficients and the processes controlling degradation) should also be considered.

RESPONSE: These factors have been considered where the information was available in the literature (such as partition coefficients, density, and solubility). This information was presented in Section 2.2. Biodegradation of PAH in groundwater was not included as a decay factor since values have not been established in the literature. By assuming that no degradation takes place a conservative approach was taken.

COMMENT: Given the complexity of the (geologic) system, it is not really clear what the boundaries of the various aquifers are, a factor which will be significant in any modeling effort.

RESPONSE: The discussion on aquifer thickness was provided in an earlier comment. The geologic boundaries consist of a bedrock outcrop which parallels the ditch from the CERCLA lagoon to the lake. The bedrock configuration has been described by five borings in the same area. The bedrock configuration east of the CERCLA lagoon is not completely defined.

COMMENT: The work plan should indicate where and how soil samples will be taken for evaluating partition coefficients, etc., and which wells will be used for aquifer tests.

RESPONSE: No samples will be collected to evaluate partition coefficients. Extensive research in this area has been conducted for PAH's and the literature values are close in agreement. Section 2.4 discusses the wells to be used for aquifer tests.

COMMENT: Accurate measurements of the constituents to be modeled are needed at selected locations in the flow system in order to calibrate a solute-transport model. It may therefore be

necessary to collect additional data for this purpose.

RESPONSE: The analytical methods for conducting groundwater sampling have been approved by EPA for the Remedial Investigation. These methods will also be used to analyze the water collected from the additional wells for model verification as described in Section 2.4.

COMMENT: How will total organic carbon data be used to determine the adsorption properties of the aquifer for various contaminants?

RESPONSE: Total organic carbon is used to calculate the distribution coefficient, which in turn is used to calculate the retardation factor as described in detail in Section 2.2.9.

COMMENT: Additional model input may include: velocity of pollutants, diffusion, depth of water table, surface water flow rates, groundwater recharge and discharge rates and their locations, initial water levels, contaminant concentrations, dispersivity.

RESPONSE: These values have been entered into the analytical model, when and if appropriate. If a numerical simulation becomes necessary, the groundwater recharge and discharge rates will be estimated since no values exist.

COMMENT: It is not clear from Task 2 what models, of those listed, are favored by BN. The work plan should explain why a 2-dimensional model was chosen.

RESPONSE: At the time the work plan was written the numerical model had not been chosen because discussions with EPA were needed to further define the goals of the modeling effort. The initial tasks of the work plan were written so that several

models could be reviewed for their applicability to the Somers site. Then, based on the initial review, discussions with the EPA would determine the most appropriate model. A 2-dimensional model was chosen on the premise that it is generally better to start with the simplest approach to solving a problem and determine how well it represents the actual site cond tions, rather then complicate the system and with a complex 3-dimensional model. If the initial review of the conceptual model for the numerical simulation shows that it would be impossible to represent the site with a 2-D model then a 3-D model would be chosen.

COMMENT: On what schedule will the conceptual model be developed? Any assumptions made in modeling and any data gaps identified should be provided to EPA for review before proceeding to run the models.

RESPONSE: The conceptual model was briefly discussed during the meeting on February 26. Some details of the conceptual model were necessary for the analytical model such as direction of flow, gradient, seepage velocity, source description, initial concentration of solute, etc. Additional data on the conceptual model will be assembled as needed.

COMMENT: Task 4: The model should also be calibrated after transport equations are incorporated.

RESPONSE: This applies to a numerical model and will be conducted as needed.

COMMENT: The final report should include a detailed discussion of the conceptual model used in developing the flow and transport simulations. The report should contain a description of the transport phenomenon considered and the basis for selecting mathematical expressions and driving variables. The report of

results should include all input data used and should outline how data input was changed during calibration.

RESPONSE: Comment noted.

5.0 SUMMARY AND CONCLUSIONS

The Cleary and Ungs analytical solution was applied to the CERCLA lagoon to model transport of naphthalene for two time steps. Three different cases were modeled using hydraulic conductivity values that varied over two orders of magnitude. Average values for hydraulic conductivity (K) were based on aquifer tests conducted on wells from the CERCLA lagoon to the lake. The results of the analytical modeling near the CERCLA lagoon show that migration of naphthalene would not reach more than 270 feet from the source after 60 years from present day time (or 120 years from the beginning of use of the lagoon) using average K values. Several assumptions were necessary to run the analytical model, which is typical for computer modeling. When parameter values were applied to the model, conservative estimates were chosen such as the porosity value which is considered low for site conditions. No degradation constant was used for naphthalene in groundwater. The initial concentration of the solute in water was taken as its solubility in water (34 ppm), which is the maximum amount that naphthalene can dissolve and migrate in groundwater.

Several additional field investigations are proposed to verify the model results including installation of two monitoring wells, collection of soil samples for total organic carbon analysis, conduct of slug tests to determine K values, and sampling of groundwater from two existing and two new wells. The boreholes for the new wells will also be used to assist in determining whether sand stringers are continuous across the site. If the field tests show that the parameters used during the initial model effort were close to actual site values, then further modeling will be unnecessary. If more representative values are collected from the field investigation, then the model will be rerun with the additional information. A summary report of the field investigations will be submitted to EPA prior to conducting additional modeling.

The swamp pond hydrogeology was not modeled because additional hydrogeologic data are needed and the goals of a modeling effort are unclear at this time. Since it is known that the water quality of Flathead Lake is affected by the swamp pond, development of a model to simulate transport that is known to occur is not productive. A trench test is proposed to determine whether shallow groundwater can be intercepted and collected for treatment before it recharges the lake. In addition, several graphs will be generated to illustrate the groundwater/lake recharge/discharge relationship.

6.0 REFERENCES

Cleary, R.W. and M.J. Ungs, 1978, Groundwater Pollution and Hydrology, Mathematic Models and Computer Programs, IEP Report 1978-WR-15: Water Resources Program, Princeton University.

Cooper, H.H., Jr., J.D. Bredehoeft, and I.S. Papadopoulos, 1967, Response of Finite-Diameter Well to an Instantaneous Charge of Water: Water Resources Res., 3, pp. 263-269.

Freeze, R.A. and J.A. Cherry, 1979, Groundwater: Englewood Cliffs, New Jersey, Prentice-Hall Inc.

Hansch, N.C. and A. Leo, 1979, Substituent Constants for Correlation Analysis in Chemistry and Biology: New York, Wiley and Sons, Inc.

Hvorslev, M.J., 1951, Time Lag and Soil Permeability in Groundwater Observations: Vicksburg, Mississippi, U.S. Army Corps Engrs. Waterways Exp. Sta. Bull. 36.

Javandel, I., C. Doughty, and C.F. Tsang, 1984, Groundwater Transport - Handbook of Mathematical Models: Washington, D.C., Water Resources Monograph Series 10, American Geophysical Union.

Roberts, Paul V., 1987, Nature of Organic Contaminants in Groundwater and Approaches to Treatment: Stanford University, Dept. of Civil Engineering.

Todd, D.K., 1980, Groundwater Hydrology, 2nd Edition: New York, John Wiley and Sons.

APPENDIX A

COMPUTER CODE FOR ANALYTICAL SOLUTION

STRIP.PRG 7535 3-14-88 12:54

```
------------------------------------------------------------------------
file - strip.inc
------------------------------------------------------------------------
c     include file for strip.for program
      implicit real * 8 (a-h, o-z)
      common /ga/ dl, dt, v, a, coni
      common /bat/ alfa, alam, r
      common /cat/ xx, yy, tt, tt0
c
------------------------------------------------------------------------
file - strip.for
------------------------------------------------------------------------
      program test
c test version of code, not commented or cleaned
c from iraj's agu mono and various numerical methods text
$include:'strip.inc'

      dimension cd(80,80), x(500), y (500), t(20)

      open (5, file='inp')
      open (6, file='out')

      read (5,*) numx, numy, numt
      if (numx .lt. 1) stop

      read (5,*) (x(i), i=1, numx)
      read (5,*) (y(i), i=1, numy)
      read (5,*) (t(i), i=1, numt)
      read (5,*) dl, dt, v, a
      read (5,*) alam, r, alfa
      read (5,*) coni

      write (6,610) v, dl, dt, a
      write (6,620) alam, r, alfa
      write (6,630) numx, numy, numt
      write (*,610) v, dl, dt, a
      write (*,620) alam, r, alfa
      write (*,630) numx, numy, numt


      do 30 i = 1, numx
            do 20 j = 1, numy
                  cd(i,j) = 0.
   20       continue
   30 continue


      do 80 it =1, numt
            tt = t(it) / r

            do 50 i = 1, numx
                  xx = x(i)
                  do 40 j =1, numy
                        yy = y(j)
                        call conc( tt, cd(i,j) )
                        if (cd(i,j) .le. 1.0d-20) cd(i,j) = 0.0
   40               continue
   50       continue


            write (6, 640) t(it)
            write (*, 640) t(it)
            write (6, 900)
  900       format ('     x          y           c (ppm)')

            do 70 iy = 1, numy
```

```
                do 60 ix = 1, numx
                      xcord = x(ix) * 3.281d0
                      ycord = y(iy) * 3.281d0
                      if (ycord .lt. 1.d-2) then
                            write (6,660) xcord, ycord, cd(ix,iy)
                      else
                            yycord = -ycord
                            write (6,660) xcord, ycord,  cd(ix,iy)
                            write (6,660) xcord, yycord, cd(ix,iy)
                      endif
 60             continue
 70        continue

 80   continue

610 format (' v = ', 1pe12.4, 1x, ' dl = ', 1pe12.4, 1x,
   $        ' dt = ', 1pe12.4, 1x, ' a = ', 1pe12.4)
620 format (' alam =', 1pe12.4, 1x, 'r =', 1pe12.4, 1x,
   $        'alfa =', 1pe12.4)
630 format (' numx =', i5, 1x, 'numy = ', i5, 1x, 'numt = ', i5)
640 format (' time = ', 1pe12.4)
660 format (3x, 1pe12.4, 3x, 1pe12.4, 3x, 1pe12.4)

      stop
      end



      subroutine func (x5,xsol)
$include:'anal.inc'
      real*8 derf
      pi = 3.14159265d0

      ww = (v*xx/(2.d0*dl)) - (alfa*tt)
      ww = dexp (ww)

      aa =  - (alam*r - alfa*r +
     $     (v**2)/(4.d0*dl))*x5 - (xx**2/(4.d0*dl*x5))
      aaa = dexp (aa)/ dsqrt(x5**3)

      bb = (a-yy)/( 2.d0 * dsqrt (dt*x5) )
      cc = (-a-yy)/(2.d0 * dsqrt (dt*x5))

      bbb = 1.d0 - derf(bb)
      ccc = 1.d0 - derf (cc)

      pi = 3.14159265d0
      xsol = coni * aaa * (ccc -bbb) * (xx/( 4.d0 * dsqrt (pi*dl))) *ww

      return
      end



      real*8 function derf (xz)
      implicit real *8 (a-h, o-z)
      dimension d(101)

      if (dabs(xz) .gt. 3.6d0) then
            derf = dsign (1.d0,xz)
            return
      endif

      n = 100
      n1 = n+1
      pi = 3.14159265d0
      c = 2.d0 / dsqrt (pi)
      h = xz/n
      do 130 i = 1, n1
```

```
          y = (i-1)*h
          d(i) = dexp (-y*y)
  130 continue

      e1 = 0.d0
      do 140 i =3, n1, 2
          e1 = e1 + (d(i-2) + 4.d0 * d(i-1) + d(i)) * (h/3.d0)
  140 continue

      derf = c * e1

      return
      end
```

file - strip2.for

```
      subroutine conc(tt, xxsol)
      implicit real*8 (a-h, o-z)
      parameter (npoint=30, x1=0.d0, x2=1.d0)
      dimension xg(npoint), wg(npoint)

      x3 = tt
      call gauleg(x1, x2, xg, wg, npoint)
      call gauleg(x1, x3, xg, wg, npoint)
      xxsol = 0.0d0

      do 12 i = 1,npoint
          call func(xg(i), xsol)
          xxsol = xxsol + wg(i) * xsol
   12 continue

      return
      end
```

file - strip3.for

```
      subroutine gauleg(x1, x2, xg, wg, n)
      implicit real*8 (a-h, o-z)
      real*8 xg(n), wg(n)
      parameter (eps=3.d-12)

      m=(n+1)/2
      xm=0.5d0*(x2+x1)
      xl=0.5d0*(x2-x1)

      do 12 i=1,m
          z=dcos(3.141592654d0*(i-.25d0)/(n+.5d0))

 1        continue
          p1=1.d0
          p2=0.d0
          do 11 j=1,n
              p3=p2
              p2=p1
              p1=((2.d0*j-1.d0)*z*p2-(j-1.d0)*p3)/j
 11       continue

          pp=n*(z*p1-p2)/(z*z-1.d0)
          z1=z
          z=z1-p1/pp
          if(dabs(z-z1).gt.eps)go to 1

          xg(i)=xm-xl*z
          xg(n+1-i)=xm+xl*z
          wg(i)=2.d0*xl/((1.d0-z*z)*pp*pp)
          wg(n+1-i)=wg(i)
 12   continue

      return
      end
```

```
.....................................................................
file - inp    (sample input file)
.....................................................................
7  1  2
10. 15. 20. 25. 30. 35. 40.  23. 26.  29.  32.  35. 41. 50. 60. 70. 80. 90. 100.
0.  2. 4.  6. 8. 10. 15. 20. 25.  30.  35. 40.   45.  50.
100.        365.
1.       0.1     0.1     50.
0.         1.     0.
1.
.....................................................................
file - out    (result from run of sample input file - inp)
.....................................................................
 v =   1.0000E-01  dl =   1.0000E+00  dt =   1.0000E-01  a =   5.0000E+01
 alam =  0.0000E+00 r =  1.0000E+00 alfa =  0.0000E+00
 numx =     7 numy =     1 numt =     2
 time =   1.0000E+02
     x          y            c (ppm)
     3.2810E+01     0.0000E+00     7.1379E-01
     4.9215E+01     0.0000E+00     5.3461E-01
     6.5620E+01     0.0000E+00     3.6498E-01
     8.2025E+01     0.0000E+00     2.2561E-01
     9.8430E+01     0.0000E+00     1.2563E-01
     1.1484E+02     0.0000E+00     6.2769E-02
     1.3124E+02     0.0000E+00     2.8057E-02
 time =   3.6500E+02
     x          y            c (ppm)
     3.2810E+01     0.0000E+00     9.5269E-01
     4.9215E+01     0.0000E+00     9.1382E-01
     6.5620E+01     0.0000E+00     8.6420E-01
     8.2025E+01     0.0000E+00     8.0389E-01
     9.8430E+01     0.0000E+00     7.3409E-01
     1.1484E+02     0.0000E+00     6.5687E-01
     1.3124E+02     0.0000E+00     5.7498E-01
.....................................................................
file - strip.exe  (is the executable file, type "strip" to use program)
.....................................................................
```

0032438

APPENDIX B

DATA OUTPUT

SOMER160.DAT 26469 3-09-88 9:00 Run 1 Output

.6560E+01	.0000E+00	.2328E+02
.1640E+02	.0000E+00	.8560E+01
.2624E+02	.0000E+00	.1744E+01
.3608E+02	.0000E+00	.1880E+00
.4592E+02	.0000E+00	.1044E-01
.5576E+02	.0000E+00	.2939E-03
.6560E+02	.0000E+00	.4159E-05
.7544E+02	.0000E+00	.2938E-07
.8528E+02	.0000E+00	.1032E-09
.9512E+02	.0000E+00	.1795E-12
.1050E+03	.0000E+00	.1544E-15
.1148E+03	.0000E+00	.6559E-19
.1345E+03	.0000E+00	.1416E-26
.1640E+03	.0000E+00	.2198E-40
.1968E+03	.0000E+00	.5501E-59
.2296E+03	.0000E+00	.5059E-81
.2624E+03	.0000E+00	.1697E-99
.2952E+03	.0000E+00	.2067E-99
.3280E+03	.0000E+00	.9105E-99
.6560E+01	.6560E+01	.2328E+02
.6560E+01	-.6560E+01	.2328E+02
.1640E+02	.6560E+01	.8560E+01
.1640E+02	-.6560E+01	.8560E+01
.2624E+02	.6560E+01	.1744E+01
.2624E+02	-.6560E+01	.1744E+01
.3608E+02	.6560E+01	.1880E+00
.3608E+02	-.6560E+01	.1880E+00
.4592E+02	.6560E+01	.1044E-01
.4592E+02	-.6560E+01	.1044E-01
.5576E+02	.6560E+01	.2939E-03
.5576E+02	-.6560E+01	.2939E-03
.6560E+02	.6560E+01	.4159E-05
.6560E+02	-.6560E+01	.4159E-05
.7544E+02	.6560E+01	.2938E-07
.7544E+02	-.6560E+01	.2938E-07
.8528E+02	.6560E+01	.1032E-09
.8528E+02	-.6560E+01	.1032E-09
.9512E+02	.6560E+01	.1795E-12
.9512E+02	-.6560E+01	.1795E-12
.1050E+03	.6560E+01	.1544E-15
.1050E+03	-.6560E+01	.1544E-15
.1148E+03	.6560E+01	.6559E-19
.1148E+03	-.6560E+01	.6559E-19
.1345E+03	.6560E+01	.1416E-26
.1345E+03	-.6560E+01	.1416E-26
.1640E+03	.6560E+01	.2198E-40
.1640E+03	-.6560E+01	.2198E-40
.1968E+03	.6560E+01	.5501E-59
.1968E+03	-.6560E+01	.5501E-59
.2296E+03	.6560E+01	.5059E-81
.2296E+03	-.6560E+01	.5059E-81
.2624E+03	.6560E+01	.1697E-99
.2624E+03	-.6560E+01	.1697E-99
.2952E+03	.6560E+01	.2067E-99
.2952E+03	-.6560E+01	.2067E-99
.3280E+03	.6560E+01	.9105E-99
.3280E+03	-.6560E+01	.9105E-99
.6560E+01	.1312E+02	.2328E+02
.6560E+01	-.1312E+02	.2328E+02
.1640E+02	.1312E+02	.8560E+01
.1640E+02	-.1312E+02	.8560E+01
.2624E+02	.1312E+02	.1744E+01
.2624E+02	-.1312E+02	.1744E+01
.3608E+02	.1312E+02	.1880E+00
.3608E+02	-.1312E+02	.1880E+00
.4592E+02	.1312E+02	.1044E-01

0032440

.4592E+02	-.1312E+02	.1044E-01
.5576E+02	.1312E+02	.2939E-03
.5576E+02	-.1312E+02	.2939E-03
.6560E+02	.1312E+02	.4159E-05
.6560E+02	-.1312E+02	.4159E-05
.7544E+02	.1312E+02	.2938E-07
.7544E+02	-.1312E+02	.2938E-07
.8528E+02	.1312E+02	.1032E-09
.8528E+02	-.1312E+02	.1032E-09
.9512E+02	.1312E+02	.1795E-12
.9512E+02	-.1312E+02	.1795E-12
.1050E+03	.1312E+02	.1544E-15
.1050E+03	-.1312E+02	.1544E-15
.1148E+03	.1312E+02	.6559E-19
.1148E+03	-.1312E+02	.6559E-19
.1345E+03	.1312E+02	.1416E-26
.1345E+03	-.1312E+02	.1416E-26
.1640E+03	.1312E+02	.2198E-40
.1640E+03	-.1312E+02	.2198E-40
.1968E+03	.1312E+02	.5501E-59
.1968E+03	-.1312E+02	.5501E-59
.2296E+03	.1312E+02	.5059E-81
.2296E+03	-.1312E+02	.5059E-81
.2624E+03	.1312E+02	.1697E-99
.2624E+03	-.1312E+02	.1697E-99
.2952E+03	.1312E+02	.2067E-99
.2952E+03	-.1312E+02	.2067E-99
.3280E+03	.1312E+02	.9105E-99
.3280E+03	-.1312E+02	.9105E-99
.6560E+01	.1968E+02	.2328E+02
.6560E+01	-.1968E+02	.2328E+02
.1640E+02	.1968E+02	.8560E+01
.1640E+02	-.1968E+02	.8560E+01
.2624E+02	.1968E+02	.1744E+01
.2624E+02	-.1968E+02	.1744E+01
.3608E+02	.1968E+02	.1880E+00
.3608E+02	-.1968E+02	.1880E+00
.4592E+02	.1968E+02	.1044E-01
.4592E+02	-.1968E+02	.1044E-01
.5576E+02	.1968E+02	.2939E-03
.5576E+02	-.1968E+02	.2939E-03
.6560E+02	.1968E+02	.4159E-05
.6560E+02	-.1968E+02	.4159E-05
.7544E+02	.1968E+02	.2938E-07
.7544E+02	-.1968E+02	.2938E-07
.8528E+02	.1968E+02	.1032E-09
.8528E+02	-.1968E+02	.1032E-09
.9512E+02	.1968E+02	.1795E-12
.9512E+02	-.1968E+02	.1795E-12
.1050E+03	.1968E+02	.1544E-15
.1050E+03	-.1968E+02	.1544E-15
.1148E+03	.1968E+02	.6559E-19
.1148E+03	-.1968E+02	.6559E-19
.1345E+03	.1968E+02	.1416E-26
.1345E+03	-.1968E+02	.1416E-26
.1640E+03	.1968E+02	.2198E-40
.1640E+03	-.1968E+02	.2198E-40
.1968E+03	.1968E+02	.5501E-59
.1968E+03	-.1968E+02	.5501E-59
.2296E+03	.1968E+02	.5059E-81
.2296E+03	-.1968E+02	.5059E-81
.2624E+03	.1968E+02	.1697E-99
.2624E+03	-.1968E+02	.1697E-99
.2952E+03	.1968E+02	.2067E-99
.2952E+03	-.1968E+02	.2067E-99
.3280E+03	.1968E+02	.9105E-99
.3280E+03	-.1968E+02	.9105E-99
.6560E+01	.2624E+02	.2328E+02
.6560E+01	-.2624E+02	.2328E+02
.1640E+02	.2624E+02	.8560E+01

0032441

.1640E+02	-.2624E+02	.8560E+01
.2624E+02	.2624E+02	.1744E+01
.2624E+02	-.2624E+02	.1744E+01
.3608E+02	.2624E+02	.1880E+00
.3608E+02	-.2624E+02	.1880E+00
.4592E+02	.2624E+02	.1044E-01
.4592E+02	-.2624E+02	.1044E-01
.5576E+02	.2624E+02	.2939E-03
.5576E+02	-.2624E+02	.2939E-03
.6560E+02	.2624E+02	.4159E-05
.6560E+02	-.2624E+02	.4159E-05
.7544E+02	.2624E+02	.2938E-07
.7544E+02	-.2624E+02	.2938E-07
.8528E+02	.2624E+02	.1032E-09
.8528E+02	-.2624E+02	.1032E-09
.9512E+02	.2624E+02	.1795E-12
.9512E+02	-.2624E+02	.1795E-12
.1050E+03	.2624E+02	.1544E-15
.1050E+03	-.2624E+02	.1544E-15
.1148E+03	.2624E+02	.6559E-19
.1148E+03	-.2624E+02	.6559E-19
.1345E+03	.2624E+02	.1416E-26
.1345E+03	-.2624E+02	.1416E-26
.1640E+03	.2624E+02	.2198E-40
.1640E+03	-.2624E+02	.2198E-40
.1968E+03	.2624E+02	.5501E-59
.1968E+03	-.2624E+02	.5501E-59
.2296E+03	.2624E+02	.5059E-81
.2296E+03	-.2624E+02	.5059E-81
.2624E+03	.2624E+02	.1697E-99
.2624E+03	-.2624E+02	.1697E-99
.2952E+03	.2624E+02	.2067E-99
.2952E+03	-.2624E+02	.2067E-99
.3280E+03	.2624E+02	.9105E-99
.3280E+03	-.2624E+02	.9105E-99
.6560E+01	.3280E+02	.2328E+02
.6560E+01	-.3280E+02	.2328E+02
.1640E+02	.3280E+02	.8560E+01
.1640E+02	-.3280E+02	.8560E+01
.2624E+02	.3280E+02	.1744E+01
.2624E+02	-.3280E+02	.1744E+01
.3608E+02	.3280E+02	.1880E+00
.3608E+02	-.3280E+02	.1880E+00
.4592E+02	.3280E+02	.1044E-01
.4592E+02	-.3280E+02	.1044E-01
.5576E+02	.3280E+02	.2939E-03
.5576E+02	-.3280E+02	.2939E-03
.6560E+02	.3280E+02	.4159E-05
.6560E+02	-.3280E+02	.4159E-05
.7544E+02	.3280E+02	.2938E-07
.7544E+02	-.3280E+02	.2938E-07
.8528E+02	.3280E+02	.1032E-09
.8528E+02	-.3280E+02	.1032E-09
.9512E+02	.3280E+02	.1795E-12
.9512E+02	-.3280E+02	.1795E-12
.1050E+03	.3280E+02	.1544E-15
.1050E+03	-.3280E+02	.1544E-15
.1148E+03	.3280E+02	.6559E-19
.1148E+03	-.3280E+02	.6559E-19
.1345E+03	.3280E+02	.1416E-26
.1345E+03	-.3280E+02	.1416E-26
.1640E+03	.3280E+02	.2198E-40
.1640E+03	-.3280E+02	.2198E-40
.1968E+03	.3280E+02	.5501E-59
.1968E+03	-.3280E+02	.5501E-59
.2296E+03	.3280E+02	.5059E-81
.2296E+03	-.3280E+02	.5059E-81
.2624E+03	.3280E+02	.1697E-99
.2624E+03	-.3280E+02	.1697E-99
.2952E+03	.3280E+02	.2067E-99

0032442

.2952E+03	-.3280E+02	.2067E-99
.3280E+03	.3280E+02	.9105E-99
.3280E+03	-.3280E+02	.9105E-99
.6560E+01	.4920E+02	.2328E+02
.6560E+01	-.4920E+02	.2328E+02
.1640E+02	.4920E+02	.8560E+01
.1640E+02	-.4920E+02	.8560E+01
.2624E+02	.4920E+02	.1744E+01
.2624E+02	-.4920E+02	.1744E+01
.3608E+02	.4920E+02	.1880E+00
.3608E+02	-.4920E+02	.1880E+00
.4592E+02	.4920E+02	.1044E-01
.4592E+02	-.4920E+02	.1044E-01
.5576E+02	.4920E+02	.2939E-03
.5576E+02	-.4920E+02	.2939E-03
.6560E+02	.4920E+02	.4159E-05
.6560E+02	-.4920E+02	.4159E-05
.7544E+02	.4920E+02	.2938E-07
.7544E+02	-.4920E+02	.2938E-07
.8528E+02	.4920E+02	.1032E-09
.8528E+02	-.4920E+02	.1032E-09
.9512E+02	.4920E+02	.1795E-12
.9512E+02	-.4920E+02	.1795E-12
.1050E+03	.4920E+02	.1544E-15
.1050E+03	-.4920E+02	.1544E-15
.1148E+03	.4920E+02	.6559E-19
.1148E+03	-.4920E+02	.6559E-19
.1345E+03	.4920E+02	.1416E-26
.1345E+03	-.4920E+02	.1416E-26
.1640E+03	.4920E+02	.2198E-40
.1640E+03	-.4920E+02	.2198E-40
.1968E+03	.4920E+02	.5501E-59
.1968E+03	-.4920E+02	.5501E-59
.2296E+03	.4920E+02	.5059E-81
.2296E+03	-.4920E+02	.5059E-81
.2624E+03	.4920E+02	.1697E-99
.2624E+03	-.4920E+02	.1697E-99
.2952E+03	.4920E+02	.2067E-99
.2952E+03	-.4920E+02	.2067E-99
.3280E+03	.4920E+02	.9105E-99
.3280E+03	-.4920E+02	.9105E-99
.6560E+01	.6560E+02	.2328E+02
.6560E+01	-.6560E+02	.2328E+02
.1640E+02	.6560E+02	.8560E+01
.1640E+02	-.6560E+02	.8560E+01
.2624E+02	.6560E+02	.1744E+01
.2624E+02	-.6560E+02	.1744E+01
.3608E+02	.6560E+02	.1880E+00
.3608E+02	-.6560E+02	.1880E+00
.4592E+02	.6560E+02	.1044E-01
.4592E+02	-.6560E+02	.1044E-01
.5576E+02	.6560E+02	.2939E-03
.5576E+02	-.6560E+02	.2939E-03
.6560E+02	.6560E+02	.4159E-05
.6560E+02	-.6560E+02	.4159E-05
.7544E+02	.6560E+02	.2938E-07
.7544E+02	-.6560E+02	.2938E-07
.8528E+02	.6560E+02	.1032E-09
.8528E+02	-.6560E+02	.1032E-09
.9512E+02	.6560E+02	.1795E-12
.9512E+02	-.6560E+02	.1795E-12
.1050E+03	.6560E+02	.1544E-15
.1050E+03	-.6560E+02	.1544E-15
.1148E+03	.6560E+02	.6559E-19
.1148E+03	-.6560E+02	.6559E-19
.1345E+03	.6560E+02	.1416E-26
.1345E+03	-.6560E+02	.1416E-26
.1640E+03	.6560E+02	.2198E-40
.1640E+03	-.6560E+02	.2198E-40
.1968E+03	.6560E+02	.5501E-59

0032443

.1968E+03	-.6560E+02	.5501E-59
.2296E+03	.6560E+02	.5059E-81
.2296E+03	-.6560E+02	.5059E-81
.2624E+03	.6560E+02	.1697E-99
.2624E+03	-.6560E+02	.1697E-99
.2952E+03	.6560E+02	.2067E-99
.2952E+03	-.6560E+02	.2067E-99
.3280E+03	.6560E+02	.9105E-99
.3280E+03	-.6560E+02	.9105E-99
.6560E+01	.8200E+02	.2328E+02
.6560E+01	-.8200E+02	.2328E+02
.1640E+02	.8200E+02	.8560E+01
.1640E+02	-.8200E+02	.8560E+01
.2624E+02	.8200E+02	.1744E+01
.2624E+02	-.8200E+02	.1744E+01
.3608E+02	.8200E+02	.1880E+00
.3608E+02	-.8200E+02	.1880E+00
.4592E+02	.8200E+02	.1044E-01
.4592E+02	-.8200E+02	.1044E-01
.5576E+02	.8200E+02	.2939E-03
.5576E+02	-.8200E+02	.2939E-03
.6560E+02	.8200E+02	.4159E-05
.6560E+02	-.8200E+02	.4159E-05
.7544E+02	.8200E+02	.2938E-07
.7544E+02	-.8200E+02	.2938E-07
.8528E+02	.8200E+02	.1032E-09
.8528E+02	-.8200E+02	.1032E-09
.9512E+02	.8200E+02	.1795E-12
.9512E+02	-.8200E+02	.1795E-12
.1050E+03	.8200E+02	.1544E-15
.1050E+03	-.8200E+02	.1544E-15
.1148E+03	.8200E+02	.6559E-19
.1148E+03	-.8200E+02	.6559E-19
.1345E+03	.8200E+02	.1416E-26
.1345E+03	-.8200E+02	.1416E-26
.1640E+03	.8200E+02	.2198E-40
.1640E+03	-.8200E+02	.2198E-40
.1968E+03	.8200E+02	.5501E-59
.1968E+03	-.8200E+02	.5501E-59
.2296E+03	.8200E+02	.5059E-81
.2296E+03	-.8200E+02	.5059E-81
.2624E+03	.8200E+02	.1697E-99
.2624E+03	-.8200E+02	.1697e-99
.2952E+03	.8200E+02	.2067e-35
.2952E+03	-.8200E+02	.2067e-35
.3280E+03	.8200E+02	.9105e-68
.3280E+03	-.8200E+02	.9105e-68
.6560E+01	.9840E+02	.1164E+02
.6560E+01	-.9840E+02	.1164E+02
.1640E+02	.9840E+02	.4280E+01
.1640E+02	-.9840E+02	.4280E+01
.2624E+02	.9840E+02	.8722E+00
.2624E+02	-.9840E+02	.8722E+00
.3608E+02	.9840E+02	.9399E-01
.3608E+02	-.9840E+02	.9399E-01
.4592E+02	.9840E+02	.5219E-02
.4592E+02	-.9840E+02	.5219E-02
.5576E+02	.9840E+02	.1470E-03
.5576E+02	-.9840E+02	.1470E-03
.6560E+02	.9840E+02	.2080E-05
.6560E+02	-.9840E+02	.2080E-05
.7544E+02	.9840E+02	.1469E-07
.7544E+02	-.9840E+02	.1469E-07
.8528E+02	.9840E+02	.5158E-10
.8528E+02	-.9840E+02	.5158E-10
.9512E+02	.9840E+02	.8975E-13
.9512E+02	-.9840E+02	.8975E-13
.1050E+03	.9840E+02	.7722E-16
.1050E+03	-.9840E+02	.7722E-16
.1148E+03	.9840E+02	.3280E-19

0032444

.1148E+03	-.9840E+02	.3280E-19
.1345E+03	.9840E+02	.7080E-27
.1345E+03	-.9840E+02	.7080E-27
.1640E+03	.9840E+02	.1099E-40
.1640E+03	-.9840E+02	.1099E-40
.1968E+03	.9840E+02	.2751E-59
.1968E+03	-.9840E+02	.2751E-59
.2296E+03	.9840E+02	.2530E-81
.2296E+03	-.9840E+02	.2530E-81
.2624E+03	.9840E+02	.8486e-97
.2624E+03	-.9840E+02	.8486e-77
.2952E+03	.9840E+02	.1034e-35
.2952E+03	-.9840E+02	.1034e-35
.3280E+03	.9840E+02	.4552e-68
.3280E+03	-.9840E+02	.4552e-68
.6560E+01	.1148E+03	.2812E-05
.6560E+01	-.1148E+03	.2812E-05
.1640E+02	.1148E+03	.3854E-05
.1640E+02	-.1148E+03	.3854E-05
.2624E+02	.1148E+03	.1576E-05
.2624E+02	-.1148E+03	.1576E-05
.3608E+02	.1148E+03	.2619E-06
.3608E+02	-.1148E+03	.2619E-06
.4592E+02	.1148E+03	.1931E-07
.4592E+02	-.1148E+03	.1931E-07
.5576E+02	.1148E+03	.6598E-09
.5576E+02	-.1148E+03	.6598E-09
.6560E+02	.1148E+03	.1069E-10
.6560E+02	-.1148E+03	.1069E-10
.7544E+02	.1148E+03	.8326E-13
.7544E+02	-.1148E+03	.8326E-13
.8528E+02	.1148E+03	.3143E-15
.8528E+02	-.1148E+03	.3143E-15
.9512E+02	.1148E+03	.5778E-18
.9512E+02	-.1148E+03	.5778E-18
.1050E+03	.1148E+03	.5187E-21
.1050E+03	-.1148E+03	.5187E-21
.1148E+03	.1148E+03	.2278E-24
.1148E+03	-.1148E+03	.2278E-24
.1345E+03	.1148E+03	.5160E-32
.1345E+03	-.1148E+03	.5160E-32
.1640E+03	.1148E+03	.8376E-46
.1640E+03	-.1148E+03	.8376E-46
.1968E+03	.1148E+03	.2158E-64
.1968E+03	-.1148E+03	.2158E-64
.2296E+03	.1148E+03	.2021E-86
.2296E+03	-.1148E+03	.2021E-86
.2624E+03	.1148E+03	.6861e-99
.2624E+03	-.1148E+03	.6861e-99
.2952E+03	.1148E+03	.8425e-41
.2952E+03	-.1148E+03	.8425e-41
.3280E+03	.1148E+03	.3732e-73
.3280E+03	-.1148E+03	.3732e-73
.6560E+01	.1312E+03	.0000E+00
.6560E+01	-.1312E+03	.0000E+00
.1640E+02	.1312E+03	.0000E+00
.1640E+02	-.1312E+03	.0000E+00
.2624E+02	.1312E+03	.0000E+00
.2624E+02	-.1312E+03	.0000E+00
.3608E+02	.1312E+03	.0000E+00
.3608E+02	-.1312E+03	.0000E+00
.4592E+02	.1312E+03	.0000E+00
.4592E+02	-.1312E+03	.0000E+00
.5576E+02	.1312E+03	.0000E+00
.5576E+02	-.1312E+03	.0000E+00
.6560E+02	.1312E+03	.0000E+00
.6560E+02	-.1312E+03	.0000E+00
.7544E+02	.1312E+03	.0000E+00
.7544E+02	-.1312E+03	.0000E+00
.8528E+02	.1312E+03	.0000E+00

0032445

.8528E+02	-.1312E+03	.0000E+00
.9512E+02	.1312E+03	.0000E+00
.9512E+02	-.1312E+03	.0000E+00
.1050E+03	.1312E+03	.0000E+00
.1050E+03	-.1312E+03	.0000E+00
.1148E+03	.1312E+03	.0000E+00
.1148E+03	-.1312E+03	.0000E+00
.1345E+03	.1312E+03	.0000E+00
.1345E+03	-.1312E+03	.0000E+00
.1640E+03	.1312E+03	.0000E+00
.1640E+03	-.1312E+03	.0000E+00
.1968E+03	.1312E+03	.0000E+00
.1968E+03	-.1312E+03	.0000E+00
.2296E+03	.1312E+03	.0000E+00
.2296E+03	-.1312E+03	.0000E+00
.2624E+03	.1312E+03	.0000E+00
.2624E+03	-.1312E+03	.0000E+00
.2952E+03	.1312E+03	.0000E+00
.2952E+03	-.1312E+03	.0000E+00
.3280E+03	.1312E+03	.0000E+00
.3280E+03	-.1312E+03	.0000E+00
.6560E+01	.1476E+03	.0000E+00
.6560E+01	-.1476E+03	.0000E+00
.1640E+02	.1476E+03	.0000E+00
.1640E+02	-.1476E+03	.0000E+00
.2624E+02	.1476E+03	.0000E+00
.2624E+02	-.1476E+03	.0000E+00
.3608E+02	.1476E+03	.0000E+00
.3608E+02	-.1476E+03	.0000E+00
.4592E+02	.1476E+03	.0000E+00
.4592E+02	-.1476E+03	.0000E+00
.5576E+02	.1476E+03	.0000E+00
.5576E+02	-.1476E+03	.0000E+00
.6560E+02	.1476E+03	.0000E+00
.6560E+02	-.1476E+03	.0000E+00
.7544E+02	.1476E+03	.0000E+00
.7544E+02	-.1476E+03	.0000E+00
.8528E+02	.1476E+03	.0000E+00
.8528E+02	-.1476E+03	.0000E+00
.9512E+02	.1476E+03	.0000E+00
.9512E+02	-.1476E+03	.0000E+00
.1050E+03	.1476E+03	.0000E+00
.1050E+03	-.1476E+03	.0000E+00
.1148E+03	.1476E+03	.0000E+00
.1148E+03	-.1476E+03	.0000E+00
.1345E+03	.1476E+03	.0000E+00
.1345E+03	-.1476E+03	.0000E+00
.1640E+03	.1476E+03	.0000E+00
.1640E+03	-.1476E+03	.0000E+00
.1968E+03	.1476E+03	.0000E+00
.1968E+03	-.1476E+03	.0000E+00
.2296E+03	.1476E+03	.0000E+00
.2296E+03	-.1476E+03	.0000E+00
.2624E+03	.1476E+03	.0000E+00
.2624E+03	-.1476E+03	.0000E+00
.2952E+03	.1476E+03	.0000E+00
.2952E+03	-.1476E+03	.0000E+00
.3280E+03	.1476E+03	.0000E+00
.3280E+03	-.1476E+03	.0000E+00
.6560E+01	.1640E+03	.0000E+00
.6560E+01	-.1640E+03	.0000E+00
.1640E+02	.1640E+03	.0000E+00
.1640E+02	-.1640E+03	.0000E+00
.2624E+02	.1640E+03	.0000E+00
.2624E+02	-.1640E+03	.0000E+00
.3608E+02	.1640E+03	.0000E+00
.3608E+02	-.1640E+03	.0000E+00
.4592E+02	.1640E+03	.0000E+00
.4592E+02	-.1640E+03	.0000E+00
.5576E+02	.1640E+03	.0000E+00

.5576E+02	-.1640E+03	.0000E+00
.6560E+02	.1640E+03	.0000E+00
.6560E+02	-.1640E+03	.0000E+00
.7544E+02	.1640E+03	.0000E+00
.7544E+02	-.1640E+03	.0000E+00
.8528E+02	.1640E+03	.0000E+00
.8528E+02	-.1640E+03	.0000E+00
.9512E+02	.1640E+03	.0000E+00
.9512E+02	-.1640E+03	.0000E+00
.1050E+03	.1640E+03	.0000E+00
.1050E+03	-.1640E+03	.0000E+00
.1148E+03	.1640E+03	.0000E+00
.1148E+03	-.1640E+03	.0000E+00
.1345E+03	.1640E+03	.0000E+00
.1345E+03	-.1640E+03	.0000E+00
.1640E+03	.1640E+03	.0000E+00
.1640E+03	-.1640E+03	.0000E+00
.1968E+03	.1640E+03	.0000E+00
.1968E+03	-.1640E+03	.0000E+00
.2296E+03	.1640E+03	.0000E+00
.2296E+03	-.1640E+03	.0000E+00
.2624E+03	.1640E+03	.0000E+00
.2624E+03	-.1640E+03	.0000E+00
.2952E+03	.1640E+03	.0000E+00
.2952E+03	-.1640E+03	.0000E+00
.3280E+03	.1640E+03	.0000E+00
.3280E+03	-.1640E+03	.0000E+00

0032446

.6560E+01	.0000E+00	.2774E+02
.1640E+02	.0000E+00	.1676E+02
.2624E+02	.0000E+00	.7716E+01
.3608E+02	.0000E+00	.2636E+01
.4592E+02	.0000E+00	.6567E+00
.5576E+02	.0000E+00	.1180E+00
.6560E+02	.0000E+00	.1519E-01
.7544E+02	.0000E+00	.1393E-02
.8528E+02	.0000E+00	.9060E-04
.9512E+02	.0000E+00	.4172E-05
.1050E+03	.0000E+00	.1357E-06
.1148E+03	.0000E+00	.3113E-08
.1345E+03	.0000E+00	.5720E-12
.1640E+03	.0000E+00	.1015E-18
.1968E+03	.0000E+00	.7651E-28
.2296E+03	.0000E+00	.1121E-38
.2624E+03	.0000E+00	.3169E-51
.2952E+03	.0000E+00	.1720E-65
.3280E+03	.0000E+00	.1786E-81
.6560E+01	.6560E+01	.2774E+02
.6560E+01	-.6560E+01	.2774E+02
.1640E+02	.6560E+01	.1676E+02
.1640E+02	-.6560E+01	.1676E+02
.2624E+02	.6560E+01	.7716E+01
.2624E+02	-.6560E+01	.7716E+01
.3608E+02	.6560E+01	.2636E+01
.3608E+02	-.6560E+01	.2636E+01
.4592E+02	.6560E+01	.6567E+00
.4592E+02	-.6560E+01	.6567E+00
.5576E+02	.6560E+01	.1180E+00
.5576E+02	-.6560E+01	.1180E+00
.6560E+02	.6560E+01	.1519E-01
.6560E+02	-.6560E+01	.1519E-01
.7544E+02	.6560E+01	.1393E-02
.7544E+02	-.6560E+01	.1393E-02
.8528E+02	.6560E+01	.9060E-04
.8528E+02	-.6560E+01	.9060E-04
.9512E+02	.6560E+01	.4172E-05
.9512E+02	-.6560E+01	.4172E-05
.1050E+03	.6560E+01	.1357E-06
.1050E+03	-.6560E+01	.1357E-06
.1148E+03	.6560E+01	.3113E-08
.1148E+03	-.6560E+01	.3113E-08
.1345E+03	.6560E+01	.5720E-12
.1345E+03	-.6560E+01	.5720E-12
.1640E+03	.6560E+01	.1015E-18
.1640E+03	-.6560E+01	.1015E-18
.1968E+03	.6560E+01	.7651E-28
.1968E+03	-.6560E+01	.7651E-28
.2296E+03	.6560E+01	.1121E-38
.2296E+03	-.6560E+01	.1121E-38
.2624E+03	.6560E+01	.3169E-51
.2624E+03	-.6560E+01	.3169E-51
.2952E+03	.6560E+01	.1720E-65
.2952E+03	-.6560E+01	.1720E-65
.3280E+03	.6560E+01	.1786E-81
.3280E+03	-.6560E+01	.1786E-81
.6560E+01	.1312E+02	.2774E+02
.6560E+01	-.1312E+02	.2774E+02
.1640E+02	.1312E+02	.1676E+02
.1640E+02	-.1312E+02	.1676E+02
.2624E+02	.1312E+02	.7716E+01
.2624E+02	-.1312E+02	.7716E+01
.3608E+02	.1312E+02	.2636E+01
.3608E+02	-.1312E+02	.2636E+01
.4592E+02	.1312E+02	.6567E+00

0032448

.4592E+02	-.1312E+02	.6567E+00
.5576E+02	.1312E+02	.1180E+00
.5576E+02	-.1312E+02	.1180E+00
.6560E+02	.1312E+02	.1519E-01
.6560E+02	-.1312E+02	.1519E-01
.7544E+02	.1312E+02	.1393E-02
.7544E+02	-.1312E+02	.1393E-02
.8528E+02	.1312E+02	.9060E-04
.8528E+02	-.1312E+02	.9060E-04
.9512E+02	.1312E+02	.4172E-05
.9512E+02	-.1312E+02	.4172E-05
.1050E+03	.1312E+02	.1357E-06
.1050E+03	-.1312E+02	.1357E-06
.1148E+03	.1312E+02	.3113E-08
.1148E+03	-.1312E+02	.3113E-08
.1345E+03	.1312E+02	.5720E-12
.1345E+03	-.1312E+02	.5720E-12
.1640E+03	.1312E+02	.1015E-18
.1640E+03	-.1312E+02	.1015E-18
.1968E+03	.1312E+02	.7651E-28
.1968E+03	-.1312E+02	.7651E-28
.2296E+03	.1312E+02	.1121E-38
.2296E+03	-.1312E+02	.1121E-38
.2624E+03	.1312E+02	.3169E-51
.2624E+03	-.1312E+02	.3169E-51
.2952E+03	.1312E+02	.1720E-65
.2952E+03	-.1312E+02	.1720E-65
.3280E+03	.1312E+02	.1786E-81
.3280E+03	-.1312E+02	.1786E-81
.6560E+01	.1968E+02	.2774E+02
.6560E+01	-.1968E+02	.2774E+02
.1640E+02	.1968E+02	.1676E+02
.1640E+02	-.1968E+02	.1676E+02
.2624E+02	.1968E+02	.7716E+01
.2624E+02	-.1968E+02	.7716E+01
.3608E+02	.1968E+02	.2636E+01
.3608E+02	-.1968E+02	.2636E+01
.4592E+02	.1968E+02	.6567E+00
.4592E+02	-.1968E+02	.6567E+00
.5576E+02	.1968E+02	.1180E+00
.5576E+02	-.1968E+02	.1180E+00
.6560E+02	.1968E+02	.1519E-01
.6560E+02	-.1968E+02	.1519E-01
.7544E+02	.1968E+02	.1393E-02
.7544E+02	-.1968E+02	.1393E-02
.8528E+02	.1968E+02	.9060E-04
.8528E+02	-.1968E+02	.9060E-04
.9512E+02	.1968E+02	.4172E-05
.9512E+02	-.1968E+02	.4172E-05
.1050E+03	.1968E+02	.1357E-06
.1050E+03	-.1968E+02	.1357E-06
.1148E+03	.1968E+02	.3113E-08
.1148E+03	-.1968E+02	.3113E-08
.1345E+03	.1968E+02	.5720E-12
.1345E+03	-.1968E+02	.5720E-12
.1640E+03	.1968E+02	.1015E-18
.1640E+03	-.1968E+02	.1015E-18
.1968E+03	.1968E+02	.7651E-28
.1968E+03	-.1968E+02	.7651E-28
.2296E+03	.1968E+02	.1121E-38
.2296E+03	-.1968E+02	.1121E-38
.2624E+03	.1968E+02	.3169E-51
.2624E+03	-.1968E+02	.3169E-51
.2952E+03	.1968E+02	.1720E-65
.2952E+03	-.1968E+02	.1720E-65
.3280E+03	.1968E+02	.1786E-81
.3280E+03	-.1968E+02	.1786E-81
.6560E+01	.2624E+02	.2774E+02
.6560E+01	-.2624E+02	.2774E+02
.1640E+02	.2624E+02	.1676E+02

0032449

.1640E+02	-.2624E+02	.1676E+02
.2624E+02	.2624E+02	.7716E+01
.2624E+02	-.2624E+02	.7716E+01
.3608E+02	.2624E+02	.2636E+01
.3608E+02	-.2624E+02	.2636E+01
.4592E+02	.2624E+02	.6567E+00
.4592E+02	-.2624E+02	.6567E+00
.5576E+02	.2624E+02	.1180E+00
.5576E+02	-.2624E+02	.1180E+00
.6560E+02	.2624E+02	.1519E-01
.6560E+02	-.2624E+02	.1519E-01
.7544E+02	.2624E+02	.1393E-02
.7544E+02	-.2624E+02	.1393E-02
.8528E+02	.2624E+02	.9060E-04
.8528E+02	-.2624E+02	.9060E-04
.9512E+02	.2624E+02	.4172E-05
.9512E+02	-.2624E+02	.4172E-05
.1050E+03	.2624E+02	.1357E-06
.1050E+03	-.2624E+02	.1357E-06
.1148E+03	.2624E+02	.3113E-08
.1148E+03	-.2624E+02	.3113E-08
.1345E+03	.2624E+02	.5720E-12
.1345E+03	-.2624E+02	.5720E-12
.1640E+03	.2624E+02	.1015E-18
.1640E+03	-.2624E+02	.1015E-18
.1968E+03	.2624E+02	.7651E-28
.1968E+03	-.2624E+02	.7651E-28
.2296E+03	.2624E+02	.1121E-38
.2296E+03	-.2624E+02	.1121E-38
.2624E+03	.2624E+02	.3169E-51
.2624E+03	-.2624E+02	.3169E-51
.2952E+03	.2624E+02	.1720E-65
.2952E+03	-.2624E+02	.1720E-65
.3280E+03	.2624E+02	.1786E-81
.3280E+03	-.2624E+02	.1786E-81
.6560E+01	.3280E+02	.2774E+02
.6560E+01	-.3280E+02	.2774E+02
.1640E+02	.3280E+02	.1676E+02
.1640E+02	-.3280E+02	.1676E+02
.2624E+02	.3280E+02	.7716E+01
.2624E+02	-.3280E+02	.7716E+01
.3608E+02	.3280E+02	.2636E+01
.3608E+02	-.3280E+02	.2636E+01
.4592E+02	.3280E+02	.6567E+00
.4592E+02	-.3280E+02	.6567E+00
.5576E+02	.3280E+02	.1180E+00
.5576E+02	-.3280E+02	.1180E+00
.6560E+02	.3280E+02	.1519E-01
.6560E+02	-.3280E+02	.1519E-01
.7544E+02	.3280E+02	.1393E-02
.7544E+02	-.3280E+02	.1393E-02
.8528E+02	.3280E+02	.9060E-04
.8528E+02	-.3280E+02	.9060E-04
.9512E+02	.3280E+02	.4172E-05
.9512E+02	-.3280E+02	.4172E-05
.1050E+03	.3280E+02	.1357E-06
.1050E+03	-.3280E+02	.1357E-06
.1148E+03	.3280E+02	.3113E-08
.1148E+03	-.3280E+02	.3113E-08
.1345E+03	.3280E+02	.5720E-12
.1345E+03	-.3280E+02	.5720E-12
.1640E+03	.3280E+02	.1015E-18
.1640E+03	-.3280E+02	.1015E-18
.1968E+03	.3280E+02	.7651E-28
.1968E+03	-.3280E+02	.7651E-28
.2296E+03	.3280E+02	.1121E-38
.2296E+03	-.3280E+02	.1121E-38
.2624E+03	.3280E+02	.3169E-51
.2624E+03	-.3280E+02	.3169E-51
.2952E+03	.3280E+02	.1720E-65

0032450

.2952E+03	-.3280E+02	.1720E-65
.3280E+03	.3280E+02	.1786E-81
.3280E+03	-.3280E+02	.1786E-81
.6560E+01	.4920E+02	.2774E+02
.6560E+01	-.4920E+02	.2774E+02
.1640E+02	.4920E+02	.1676E+02
.1640E+02	-.4920E+02	.1676E+02
.2624E+02	.4920E+02	.7716E+01
.2624E+02	-.4920E+02	.7716E+01
.3608E+02	.4920E+02	.2636E+01
.3608E+02	-.4920E+02	.2636E+01
.4592E+02	.4920E+02	.6567E+00
.4592E+02	-.4920E+02	.6567E+00
.5576E+02	.4920E+02	.1180E+00
.5576E+02	-.4920E+02	.1180E+00
.6560E+02	.4920E+02	.1519E-01
.6560E+02	-.4920E+02	.1519E-01
.7544E+02	.4920E+02	.1393E-02
.7544E+02	-.4920E+02	.1393E-02
.8528E+02	.4920E+02	.9060E-04
.8528E+02	-.4920E+02	.9060E-04
.9512E+02	.4920E+02	.4172E-05
.9512E+02	-.4920E+02	.4172E-05
.1050E+03	.4920E+02	.1357E-06
.1050E+03	-.4920E+02	.1357E-06
.1148E+03	.4920E+02	.3113E-08
.1148E+03	-.4920E+02	.3113E-08
.1345E+03	.4920E+02	.5720E-12
.1345E+03	-.4920E+02	.5720E-12
.1640E+03	.4920E+02	.1015E-18
.1640E+03	-.4920E+02	.1015E-18
.1968E+03	.4920E+02	.7651E-28
.1968E+03	-.4920E+02	.7651E-28
.2296E+03	.4920E+02	.1121E-38
.2296E+03	-.4920E+02	.1121E-38
.2624E+03	.4920E+02	.3169E-51
.2624E+03	-.4920E+02	.3169E-51
.2952E+03	.4920E+02	.1720E-65
.2952E+03	-.4920E+02	.1720E-65
.3280E+03	.4920E+02	.1786E-81
.3280E+03	-.4920E+02	.1786E-81
.6560E+01	.6560E+02	.2774E+02
.6560E+01	-.6560E+02	.2774E+02
.1640E+02	.6560E+02	.1676E+02
.1640E+02	-.6560E+02	.1676E+02
.2624E+02	.6560E+02	.7716E+01
.2624E+02	-.6560E+02	.7716E+01
.3608E+02	.6560E+02	.2636E+01
.3608E+02	-.6560E+02	.2636E+01
.4592E+02	.6560E+02	.6567E+00
.4592E+02	-.6560E+02	.6567E+00
.5576E+02	.6560E+02	.1180E+00
.5576E+02	-.6560E+02	.1180E+00
.6560E+02	.6560E+02	.1519E-01
.6560E+02	-.6560E+02	.1519E-01
.7544E+02	.6560E+02	.1393E-02
.7544E+02	-.6560E+02	.1393E-02
.8528E+02	.6560E+02	.9060E-04
.8528E+02	-.6560E+02	.9060E-04
.9512E+02	.6560E+02	.4172E-05
.9512E+02	-.6560E+02	.4172E-05
.1050E+03	.6560E+02	.1357E-06
.1050E+03	-.6560E+02	.1357E-06
.1148E+03	.6560E+02	.3113E-08
.1148E+03	-.6560E+02	.3113E-08
.1345E+03	.6560E+02	.5720E-12
.1345E+03	-.6560E+02	.5720E-12
.1640E+03	.6560E+02	.1015E-18
.1640E+03	-.6560E+02	.1015E-18
.1968E+03	.6560E+02	.7651E-28

0032451

.1968E+03	-.6560E+02	.7651E-28
.2296E+03	.6560E+02	.1121E-38
.2296E+03	-.6560E+02	.1121E-38
.2624E+03	.6560E+02	.3169E-51
.2624E+03	-.6560E+02	.3169E-51
.2952E+03	.6560E+02	.1720E-65
.2952E+03	-.6560E+02	.1720E-65
.3280E+03	.6560E+02	.1786E-81
.3280E+03	-.6560E+02	.1786E-81
.6560E+01	.8200E+02	.2774E+02
.6560E+01	-.8200E+02	.2774E+02
.1640E+02	.8200E+02	.1676E+02
.1640E+02	-.8200E+02	.1676E+02
.2624E+02	.8200E+02	.7714E+01
.2624E+02	-.8200E+02	.7714E+01
.3608E+02	.8200E+02	.2635E+01
.3608E+02	-.8200E+02	.2635E+01
.4592E+02	.8200E+02	.6564E+00
.4592E+02	-.8200E+02	.6564E+00
.5576E+02	.8200E+02	.1180E+00
.5576E+02	-.8200E+02	.1180E+00
.6560E+02	.8200E+02	.1518E-01
.6560E+02	-.8200E+02	.1518E-01
.7544E+02	.8200E+02	.1392E-02
.7544E+02	-.8200E+02	.1392E-02
.8528E+02	.8200E+02	.9054E-04
.8528E+02	-.8200E+02	.9054E-04
.9512E+02	.8200E+02	.4169E-05
.9512E+02	-.8200E+02	.4169E-05
.1050E+03	.8200E+02	.1356E-06
.1050E+03	-.8200E+02	.1356E-06
.1148E+03	.8200E+02	.3111E-08
.1148E+03	-.8200E+02	.3111E-08
.1345E+03	.8200E+02	.5716E-12
.1345E+03	-.8200E+02	.5716E-12
.1640E+03	.8200E+02	.1014E-18
.1640E+03	-.8200E+02	.1014E-18
.1968E+03	.8200E+02	.7645E-28
.1968E+03	-.8200E+02	.7645E-28
.2296E+03	.8200E+02	.1120E-38
.2296E+03	-.8200E+02	.1120E-38
.2624E+03	.8200E+02	.3166E-51
.2624E+03	-.8200E+02	.3166E-51
.2952E+03	.8200E+02	.1718E-65
.2952E+03	-.8200E+02	.1718E-65
.3280E+03	.8200E+02	.1785E-81
.3280E+03	-.8200E+02	.1785E-81
.6560E+01	.9840E+02	.1387E+02
.6560E+01	-.9840E+02	.1387E+02
.1640E+02	.9840E+02	.8380E+01
.1640E+02	-.9840E+02	.8380E+01
.2624E+02	.9840E+02	.3858E+01
.2624E+02	-.9840E+02	.3858E+01
.3608E+02	.9840E+02	.1318E+01
.3608E+02	-.9840E+02	.1318E+01
.4592E+02	.9840E+02	.3283E+00
.4592E+02	-.9840E+02	.3283E+00
.5576E+02	.9840E+02	.5902E-01
.5576E+02	-.9840E+02	.5902E-01
.6560E+02	.9840E+02	.7595E-02
.6560E+02	-.9840E+02	.7595E-02
.7544E+02	.9840E+02	.6963E-03
.7544E+02	-.9840E+02	.6963E-03
.8528E+02	.9840E+02	.4530E-04
.8528E+02	-.9840E+02	.4530E-04
.9512E+02	.9840E+02	.2086E-05
.9512E+02	-.9840E+02	.2086E-05
.1050E+03	.9840E+02	.6785E-07
.1050E+03	-.9840E+02	.6785E-07
.1148E+03	.9840E+02	.1556E-08

0032452

.1148E+03	-.9840E+02	.1556E-08
.1345E+03	.9840E+02	.2860E-12
.1345E+03	-.9840E+02	.2860E-12
.1640E+03	.9840E+02	.5073E-19
.1640E+03	-.9840E+02	.5073E-19
.1968E+03	.9840E+02	.3826E-28
.1968E+03	-.9840E+02	.3826E-28
.2296E+03	.9840E+02	.5605E-39
.2296E+03	-.9840E+02	.5605E-39
.2624E+03	.9840E+02	.1584E-51
.2624E+03	-.9840E+02	.1584E-51
.2952E+03	.9840E+02	.8599E-66
.2952E+03	-.9840E+02	.8599E-66
.3280E+03	.9840E+02	.8932E-82
.3280E+03	-.9840E+02	.8932E-82
.6560E+01	.1148E+03	.7631E-03
.6560E+01	-.1148E+03	.7631E-03
.1640E+02	.1148E+03	.1582E-02
.1640E+02	-.1148E+03	.1582E-02
.2624E+02	.1148E+03	.1399E-02
.2624E+02	-.1148E+03	.1399E-02
.3608E+02	.1148E+03	.7200E-03
.3608E+02	-.1148E+03	.7200E-03
.4592E+02	.1148E+03	.2357E-03
.4592E+02	-.1148E+03	.2357E-03
.5576E+02	.1148E+03	.5116E-04
.5576E+02	-.1148E+03	.5116E-04
.6560E+02	.1148E+03	.7528E-05
.6560E+02	-.1148E+03	.7528E-05
.7544E+02	.1148E+03	.7609E-06
.7544E+02	-.1148E+03	.7609E-06
.8528E+02	.1148E+03	.5325E-07
.8528E+02	-.1148E+03	.5325E-07
.9512E+02	.1148E+03	.2592E-08
.9512E+02	-.1148E+03	.2592E-08
.1050E+03	.1148E+03	.8800E-10
.1050E+03	-.1148E+03	.8800E-10
.1148E+03	.1148E+03	.2088E-11
.1148E+03	-.1148E+03	.2088E-11
.1345E+03	.1148E+03	.4031E-15
.1345E+03	-.1148E+03	.4031E-15
.1640E+03	.1148E+03	.7485E-22
.1640E+03	-.1148E+03	.7485E-22
.1968E+03	.1148E+03	.5816E-31
.1968E+03	-.1148E+03	.5816E-31
.2296E+03	.1148E+03	.8682E-42
.2296E+03	-.1148E+03	.8682E-42
.2624E+03	.1148E+03	.2484E-54
.2624E+03	-.1148E+03	.2484E-54
.2952E+03	.1148E+03	.1360E-68
.2952E+03	-.1148E+03	.1360E-68
.3280E+03	.1148E+03	.1421E-84
.3280E+03	-.1148E+03	.1421E-84
.6560E+01	.1312E+03	.0000E+00
.6560E+01	-.1312E+03	.0000E+00
.1640E+02	.1312E+03	.0000E+00
.1640E+02	-.1312E+03	.0000E+00
.2624E+02	.1312E+03	.0000E+00
.2624E+02	-.1312E+03	.0000E+00
.3608E+02	.1312E+03	.0000E+00
.3608E+02	-.1312E+03	.0000E+00
.4592E+02	.1312E+03	.0000E+00
.4592E+02	-.1312E+03	.0000E+00
.5576E+02	.1312E+03	.0000E+00
.5576E+02	-.1312E+03	.0000E+00
.6560E+02	.1312E+03	.0000E+00
.6560E+02	-.1312E+03	.0000E+00
.7544E+02	.1312E+03	.0000E+00
.7544E+02	-.1312E+03	.0000E+00
.8528E+02	.1312E+03	.0000E+00

0032453

.8528E+02	-.1312E+03	.0000E+00
.9512E+02	.1312E+03	.0000E+00
.9512E+02	-.1312E+03	.0000E+00
.1050E+03	.1312E+03	.0000E+00
.1050E+03	-.1312E+03	.0000E+00
.1148E+03	.1312E+03	.0000E+00
.1148E+03	-.1312E+03	.0000E+00
.1345E+03	.1312E+03	.0000E+00
.1345E+03	-.1312E+03	.0000E+00
.1640E+03	.1312E+03	.0000E+00
.1640E+03	-.1312E+03	.0000E+00
.1968E+03	.1312E+03	.0000E+00
.1968E+03	-.1312E+03	.0000E+00
.2296E+03	.1312E+03	.0000E+00
.2296E+03	-.1312E+03	.0000E+00
.2624E+03	.1312E+03	.0000E+00
.2624E+03	-.1312E+03	.0000E+00
.2952E+03	.1312E+03	.0000E+00
.2952E+03	-.1312E+03	.0000E+00
.3280E+03	.1312E+03	.0000E+00
.3280E+03	-.1312E+03	.0000E+00
.6560E+01	.1476E+03	.0000E+00
.6560E+01	-.1476E+03	.0000E+00
.1640E+02	.1476E+03	.0000E+00
.1640E+02	-.1476E+03	.0000E+00
.2624E+02	.1476E+03	.0000E+00
.2624E+02	-.1476E+03	.0000E+00
.3608E+02	.1476E+03	.0000E+00
.3608E+02	-.1476E+03	.0000E+00
.4592E+02	.1476E+03	.0000E+00
.4592E+02	-.1476E+03	.0000E+00
.5576E+02	.1476E+03	.0000E+00
.5576E+02	-.1476E+03	.0000E+00
.6560E+02	.1476E+03	.0000E+00
.6560E+02	-.1476E+03	.0000E+00
.7544E+02	.1476E+03	.0000E+00
.7544E+02	-.1476E+03	.0000E+00
.8528E+02	.1476E+03	.0000E+00
.8528E+02	-.1476E+03	.0000E+00
.9512E+02	.1476E+03	.0000E+00
.9512E+02	-.1476E+03	.0000E+00
.1050E+03	.1476E+03	.0000E+00
.1050E+03	-.1476E+03	.0000E+00
.1148E+03	.1476E+03	.0000E+00
.1148E+03	-.1476E+03	.0000E+00
.1345E+03	.1476E+03	.0000E+00
.1345E+03	-.1476E+03	.0000E+00
.1640E+03	.1476E+03	.0000E+00
.1640E+03	-.1476E+03	.0000E+00
.1968E+03	.1476E+03	.0000E+00
.1968E+03	-.1476E+03	.0000E+00
.2296E+03	.1476E+03	.0000E+00
.2296E+03	-.1476E+03	.0000E+00
.2624E+03	.1476E+03	.0000E+00
.2624E+03	-.1476E+03	.0000E+00
.2952E+03	.1476E+03	.0000E+00
.2952E+03	-.1476E+03	.0000E+00
.3280E+03	.1476E+03	.0000E+00
.3280E+03	-.1476E+03	.0000E+00
.6560E+01	.1640E+03	.0000E+00
.6560E+01	-.1640E+03	.0000E+00
.1640E+02	.1640E+03	.0000E+00
.1640E+02	-.1640E+03	.0000E+00
.2624E+02	.1640E+03	.0000E+00
.2624E+02	-.1640E+03	.0000E+00
.3608E+02	.1640E+03	.0000E+00
.3608E+02	-.1640E+03	.0000E+00
.4592E+02	.1640E+03	.0000E+00
.4592E+02	-.1640E+03	.0000E+00
.5576E+02	.1640E+03	.0000E+00

0032454

.5576E+02	-.1640E+03	.0000E+00
.6560E+02	.1640E+03	.0000E+00
.6560E+02	-.1640E+03	.0000E+00
.7544E+02	.1640E+03	.0000E+00
.7544E+02	-.1640E+03	.0000E+00
.8528E+02	.1640E+03	.0000E+00
.8528E+02	-.1640E+03	.0000E+00
.9512E+02	.1640E+03	.0000E+00
.9512E+02	-.1640E+03	.0000E+00
.1050E+03	.1640E+03	.0000E+00
.1050E+03	-.1640E+03	.0000E+00
.1148E+03	.1640E+03	.0000E+00
.1148E+03	-.1640E+03	.0000E+00
.1345E+03	.1640E+03	.0000E+00
.1345E+03	-.1640E+03	.0000E+00
.1640E+03	.1640E+03	.0000E+00
.1640E+03	-.1640E+03	.0000E+00
.1968E+03	.1640E+03	.0000E+00
.1968E+03	-.1640E+03	.0000E+00
.2296E+03	.1640E+03	.0000E+00
.2296E+03	-.1640E+03	.0000E+00
.2624E+03	.1640E+03	.0000E+00
.2624E+03	-.1640E+03	.0000E+00
.2952E+03	.1640E+03	.0000E+00
.2952E+03	-.1640E+03	.0000E+00
.3280E+03	.1640E+03	.0000E+00
.3280E+03	-.1640E+03	.0000E+00

CASE34.OUT 48509 3-09-88 16:24

Run 3 Output

v = 2.1000E+00 dl = 1.0500E+01 dt = 1.0500E+00 a = 3.0000E+01
alam = 0.0000E+00 r = 1.0000E+01 alfa = 0.0000E+00
numx = 19 numy = 14 numt = 2
time = 6.0000E+01

x	y	c (ppm)
6.5620E+00	0.0000E+00	3.3205E+01
1.6405E+01	0.0000E+00	3.0930E+01
2.6248E+01	0.0000E+00	2.8004E+01
3.6091E+01	0.0000E+00	2.4376E+01
4.5934E+01	0.0000E+00	2.0289E+01
5.5777E+01	0.0000E+00	1.6077E+01
6.5620E+01	0.0000E+00	1.2083E+01
7.5463E+01	0.0000E+00	8.5859E+00
8.5306E+01	0.0000E+00	5.7545E+00
9.5149E+01	0.0000E+00	3.6303E+00
1.0499E+02	0.0000E+00	2.1522E+00
1.1484E+02	0.0000E+00	1.1974E+00
1.3452E+02	0.0000E+00	3.0506E-01
1.6405E+02	0.0000E+00	2.3836E-02
1.9686E+02	0.0000E+00	6.8559E-04
2.2967E+02	0.0000E+00	9.1731E-06
2.6248E+02	0.0000E+00	5.6668E-08
2.9529E+02	0.0000E+00	1.6085E-10
3.2810E+02	0.0000E+00	2.0906E-13
6.5620E+00	6.5620E+00	3.3205E+01
6.5620E+00	-6.5620E+00	3.3205E+01
1.6405E+01	6.5620E+00	3.0930E+01
1.6405E+01	-6.5620E+00	3.0930E+01
2.6248E+01	6.5620E+00	2.8004E+01
2.6248E+01	-6.5620E+00	2.8004E+01
3.6091E+01	6.5620E+00	2.4376E+01
3.6091E+01	-6.5620E+00	2.4376E+01
4.5934E+01	6.5620E+00	2.0289E+01
4.5934E+01	-6.5620E+00	2.0289E+01
5.5777E+01	6.5620E+00	1.6077E+01
5.5777E+01	-6.5620E+00	1.6077E+01
6.5620E+01	6.5620E+00	1.2083E+01
6.5620E+01	-6.5620E+00	1.2083E+01
7.5463E+01	6.5620E+00	8.5859E+00
7.5463E+01	-6.5620E+00	8.5859E+00
8.5306E+01	6.5620E+00	5.7545E+00
8.5306E+01	-6.5620E+00	5.7545E+00
9.5149E+01	6.5620E+00	3.6303E+00
9.5149E+01	-6.5620E+00	3.6303E+00
1.0499E+02	6.5620E+00	2.1522E+00
1.0499E+02	-6.5620E+00	2.1522E+00
1.1484E+02	6.5620E+00	1.1974E+00
1.1484E+02	-6.5620E+00	1.1974E+00
1.3452E+02	6.5620E+00	3.0506E-01
1.3452E+02	-6.5620E+00	3.0506E-01
1.6405E+02	6.5620E+00	2.3836E-02
1.6405E+02	-6.5620E+00	2.3836E-02
1.9686E+02	6.5620E+00	6.8559E-04
1.9686E+02	-6.5620E+00	6.8559E-04
2.2967E+02	6.5620E+00	9.1731E-06
2.2967E+02	-6.5620E+00	9.1731E-06
2.6248E+02	6.5620E+00	5.6668E-08
2.6248E+02	-6.5620E+00	5.6668E-08
2.9529E+02	6.5620E+00	1.6085E-10
2.9529E+02	-6.5620E+00	1.6085E-10
3.2810E+02	6.5620E+00	2.0906E-13
3.2810E+02	-6.5620E+00	2.0906E-13
6.5620E+00	1.3124E+01	3.3205E+01
6.5620E+00	-1.3124E+01	3.3205E+01
1.6405E+01	1.3124E+01	3.0930E+01
1.6405E+01	-1.3124E+01	3.0930E+01

0032456

2.6248E+01	1.3124E+01	2.8004E+01
2.6248E+01	-1.3124E+01	2.8004E+01
3.6091E+01	1.3124E+01	2.4376E+01
3.6091E+01	-1.3124E+01	2.4376E+01
4.5934E+01	1.3124E+01	2.0289E+01
4.5934E+01	-1.3124E+01	2.0289E+01
5.5777E+01	1.3124E+01	1.6077E+01
5.5777E+01	-1.3124E+01	1.6077E+01
6.5620E+01	1.3124E+01	1.2083E+01
6.5620E+01	-1.3124E+01	1.2083E+01
7.5463E+01	1.3124E+01	8.5859E+00
7.5463E+01	-1.3124E+01	8.5859E+00
8.5306E+01	1.3124E+01	5.7545E+00
8.5306E+01	-1.3124E+01	5.7545E+00
9.5149E+01	1.3124E+01	3.6303E+00
9.5149E+01	-1.3124E+01	3.6303E+00
1.0499E+02	1.3124E+01	2.1522E+00
1.0499E+02	-1.3124E+01	2.1522E+00
1.1484E+02	1.3124E+01	1.1974E+00
1.1484E+02	-1.3124E+01	1.1974E+00
1.3452E+02	1.3124E+01	3.0506E-01
1.3452E+02	-1.3124E+01	3.0506E-01
1.6405E+02	1.3124E+01	2.3836E-02
1.6405E+02	-1.3124E+01	2.3836E-02
1.9686E+02	1.3124E+01	6.8559E-04
1.9686E+02	-1.3124E+01	6.8559E-04
2.2967E+02	1.3124E+01	9.1731E-06
2.2967E+02	-1.3124E+01	9.1731E-06
2.6248E+02	1.3124E+01	5.6668E-08
2.6248E+02	-1.3124E+01	5.6668E-08
2.9529E+02	1.3124E+01	1.6085E-10
2.9529E+02	-1.3124E+01	1.6085E-10
3.2810E+02	1.3124E+01	2.0906E-13
3.2810E+02	-1.3124E+01	2.0906E-13
6.5620E+00	1.9686E+01	3.3205E+01
6.5620E+00	-1.9686E+01	3.3205E+01
1.6405E+01	1.9686E+01	3.0930E+01
1.6405E+01	-1.9686E+01	3.0930E+01
2.6248E+01	1.9686E+01	2.8004E+01
2.6248E+01	-1.9686E+01	2.8004E+01
3.6091E+01	1.9686E+01	2.4376E+01
3.6091E+01	-1.9686E+01	2.4376E+01
4.5934E+01	1.9686E+01	2.0289E+01
4.5934E+01	-1.9686E+01	2.0289E+01
5.5777E+01	1.9686E+01	1.6077E+01
5.5777E+01	-1.9686E+01	1.6077E+01
6.5620E+01	1.9686E+01	1.2083E+01
6.5620E+01	-1.9686E+01	1.2083E+01
7.5463E+01	1.9686E+01	8.5859E+00
7.5463E+01	-1.9686E+01	8.5859E+00
8.5306E+01	1.9686E+01	5.7545E+00
8.5306E+01	-1.9686E+01	5.7545E+00
9.5149E+01	1.9686E+01	3.6303E+00
9.5149E+01	-1.9686E+01	3.6303E+00
1.0499E+02	1.9686E+01	2.1522E+00
1.0499E+02	-1.9686E+01	2.1522E+00
1.1484E+02	1.9686E+01	1.1974E+00
1.1484E+02	-1.9686E+01	1.1974E+00
1.3452E+02	1.9686E+01	3.0506E-01
1.3452E+02	-1.9686E+01	3.0506E-01
1.6405E+02	1.9686E+01	2.3836E-02
1.6405E+02	-1.9686E+01	2.3836E-02
1.9686E+02	1.9686E+01	6.8559E-04
1.9686E+02	-1.9686E+01	6.8559E-04
2.2967E+02	1.9686E+01	9.1731E-06
2.2967E+02	-1.9686E+01	9.1731E-06
2.6248E+02	1.9686E+01	5.6668E-08
2.6248E+02	-1.9686E+01	5.6668E-08
2.9529E+02	1.9686E+01	1.6085E-10
2.9529E+02	-1.9686E+01	1.6085E-10

0032457

3.2810E+02	1.9686E+01	2.0906E-13
3.2810E+02	-1.9686E+01	2.0906E-13
6.5620E+00	2.6248E+01	3.3205E+01
6.5620E+00	-2.6248E+01	3.3205E+01
1.6405E+01	2.6248E+01	3.0930E+01
1.6405E+01	-2.6248E+01	3.0930E+01
2.6248E+01	2.6248E+01	2.8004E+01
2.6248E+01	-2.6248E+01	2.8004E+01
3.6091E+01	2.6248E+01	2.4376E+01
3.6091E+01	-2.6248E+01	2.4376E+01
4.5934E+01	2.6248E+01	2.0289E+01
4.5934E+01	-2.6248E+01	2.0289E+01
5.5777E+01	2.6248E+01	1.6077E+01
5.5777E+01	-2.6248E+01	1.6077E+01
6.5620E+01	2.6248E+01	1.2083E+01
6.5620E+01	-2.6248E+01	1.2083E+01
7.5463E+01	2.6248E+01	8.5859E+00
7.5463E+01	-2.6248E+01	8.5859E+00
8.5306E+01	2.6248E+01	5.7545E+00
8.5306E+01	-2.6248E+01	5.7545E+00
9.5149E+01	2.6248E+01	3.6303E+00
9.5149E+01	-2.6248E+01	3.6303E+00
1.0499E+02	2.6248E+01	2.1522E+00
1.0499E+02	-2.6248E+01	2.1522E+00
1.1484E+02	2.6248E+01	1.1974E+00
1.1484E+02	-2.6248E+01	1.1974E+00
1.3452E+02	2.6248E+01	3.0506E-01
1.3452E+02	-2.6248E+01	3.0506E-01
1.6405E+02	2.6248E+01	2.3836E-02
1.6405E+02	-2.6248E+01	2.3836E-02
1.9686E+02	2.6248E+01	6.8559E-04
1.9686E+02	-2.6248E+01	6.8559E-04
2.2967E+02	2.6248E+01	9.1731E-06
2.2967E+02	-2.6248E+01	9.1731E-06
2.6248E+02	2.6248E+01	5.6668E-08
2.6248E+02	-2.6248E+01	5.6668E-08
2.9529E+02	2.6248E+01	1.6085E-10
2.9529E+02	-2.6248E+01	1.6085E-10
3.2810E+02	2.6248E+01	2.0906E-13
3.2810E+02	-2.6248E+01	2.0906E-13
6.5620E+00	3.2810E+01	3.3205E+01
6.5620E+00	-3.2810E+01	3.3205E+01
1.6405E+01	3.2810E+01	3.0930E+01
1.6405E+01	-3.2810E+01	3.0930E+01
2.6248E+01	3.2810E+01	2.8004E+01
2.6248E+01	-3.2810E+01	2.8004E+01
3.6091E+01	3.2810E+01	2.4376E+01
3.6091E+01	-3.2810E+01	2.4376E+01
4.5934E+01	3.2810E+01	2.0289E+01
4.5934E+01	-3.2810E+01	2.0289E+01
5.5777E+01	3.2810E+01	1.6077E+01
5.5777E+01	-3.2810E+01	1.6077E+01
6.5620E+01	3.2810E+01	1.2083E+01
6.5620E+01	-3.2810E+01	1.2083E+01
7.5463E+01	3.2810E+01	8.5859E+00
7.5463E+01	-3.2810E+01	8.5859E+00
8.5306E+01	3.2810E+01	5.7545E+00
8.5306E+01	-3.2810E+01	5.7545E+00
9.5149E+01	3.2810E+01	3.6303E+00
9.5149E+01	-3.2810E+01	3.6303E+00
1.0499E+02	3.2810E+01	2.1522E+00
1.0499E+02	-3.2810E+01	2.1522E+00
1.1484E+02	3.2810E+01	1.1974E+00
1.1484E+02	-3.2810E+01	1.1974E+00
1.3452E+02	3.2810E+01	3.0506E-01
1.3452E+02	-3.2810E+01	3.0506E-01
1.6405E+02	3.2810E+01	2.3836E-02
1.6405E+02	-3.2810E+01	2.3836E-02
1.9686E+02	3.2810E+01	6.8559E-04
1.9686E+02	-3.2810E+01	6.8559E-04

0032458

2.2967E+02	3.2810E+01	9.1731E-06
2.2967E+02	-3.2810E+01	9.1731E-06
2.6248E+02	3.2810E+01	5.6668E-08
2.6248E+02	-3.2810E+01	5.6668E-08
2.9529E+02	3.2810E+01	1.6085E-10
2.9529E+02	-3.2810E+01	1.6085E-10
3.2810E+02	3.2810E+01	2.0906E-13
3.2810E+02	-3.2810E+01	2.0906E-13
6.5620E+00	4.9215E+01	3.3205E+01
6.5620E+00	-4.9215E+01	3.3205E+01
1.6405E+01	4.9215E+01	3.0930E+01
1.6405E+01	-4.9215E+01	3.0930E+01
2.6248E+01	4.9215E+01	2.8004E+01
2.6248F+01	-4.9215E+01	2.8004E+01
3.6091E+01	4.9215E+01	2.4376E+01
3.6091E+01	-4.9215E+01	2.4376E+01
4.5934E+01	4.9215E+01	2.0289E+01
4.5934E+01	-4.9215E+01	2.0289E+01
5.5777E+01	4.9215E+01	1.6077E+01
5.5777E+01	-4.9215E+01	1.6077E+01
6.5620E+01	4.9215E+01	1.2083E+01
6.5620E+01	-4.9215E+01	1.2083E+01
7.5463E+01	4.9215E+01	8.5859E+00
7.5463E+01	-4.9215E+01	8.5859E+00
8.5306E+01	4.9215E+01	5.7545E+00
8.5306E+01	-4.9215E+01	5.7545E+00
9.5149E+01	4.9215E+01	3.6303E+00
9.5149E+01	-4.9215E+01	3.6303E+00
1.0499E+02	4.9215E+01	2.1522E+00
1.0499E+02	-4.9215E+01	2.1522E+00
1.1484E+02	4.9215E+01	1.1974E+00
1.1484E+02	-4.9215E+01	1.1974E+00
1.3452E+02	4.9215E+01	3.0506E-01
1.3452E+02	-4.9215E+01	3.0506E-01
1.6405E+02	4.9215E+01	2.3836E-02
1.6405E+02	-4.9215E+01	2.3836E-02
1.9686E+02	4.9215E+01	6.8559E-04
1.9686E+02	-4.9215E+01	6.8559E-04
2.2967E+02	4.9215E+01	9.1730E-06
2.2967E+02	-4.9215E+01	9.1730E-06
2.6248E+02	4.9215E+01	5.6668E-08
2.6248E+02	-4.9215E+01	5.6668E-08
2.9529E+02	4.9215E+01	1.6085E-10
2.9529E+02	-4.9215E+01	1.6085E-10
3.2810E+02	4.9215E+01	2.0906E-13
3.2810E+02	-4.9215E+01	2.0906E-13
6.5620E+00	6.5620E+01	3.3204E+01
6.5620E+00	-6.5620E+01	3.3204E+01
1.6405E+01	6.5620E+01	3.0928E+01
1.6405E+01	-6.5620E+01	3.0928E+01
2.6248E+01	6.5620E+01	2.8000E+01
2.6248E+01	-6.5620E+01	2.8000E+01
3.6091E+01	6.5620E+01	2.4369E+01
3.6091E+01	-6.5620E+01	2.4369E+01
4.5934E+01	6.5620E+01	2.0281E+01
4.5934E+01	-6.5620E+01	2.0281E+01
5.5777E+01	6.5620E+01	1.6069E+01
5.5777E+01	-6.5620E+01	1.6069E+01
6.5620E+01	6.5620E+01	1.2075E+01
6.5620E+01	-6.5620E+01	1.2075E+01
7.5463E+01	6.5620E+01	8.5791E+00
7.5463E+01	-6.5620E+01	8.5791E+00
8.5306E+01	6.5620E+01	5.7492E+00
8.5306E+01	-6.5620E+01	5.7492E+00
9.5149E+01	6.5620E+01	3.6265E+00
9.5149E+01	-6.5620E+01	3.6265E+00
1.0499E+02	6.5620E+01	2.1497E+00
1.0499E+02	-6.5620E+01	2.1497E+00
1.1484E+02	6.5620E+01	1.1959E+00
1.1484E+02	-6.5620E+01	1.1959E+00

0032459

1.3452E+02	6.5620E+01	3.0461E-01
1.3452E+02	-6.5620E+01	3.0461E-01
1.6405E+02	6.5620E+01	2.3796E-02
1.6405E+02	-6.5620E+01	2.3796E-02
1.9686E+02	6.5620E+01	6.8432E-04
1.9686E+02	-6.5620E+01	6.8432E-04
2.2967E+02	6.5620E+01	9.1550E-06
2.2967E+02	-6.5620E+01	9.1550E-06
2.6248E+02	6.5620E+01	5.6551E-08
2.6248E+02	-6.5620E+01	5.6551E-08
2.9529E+02	6.5620E+01	1.6050E-10
2.9529E+02	-6.5620E+01	1.6050E-10
3.2810E+02	6.5620E+01	2.0860E-13
3.2810E+02	-6.5620E+01	2.0860E-13
6.5620E+00	8.2025E+01	3.3108E+01
6.5620E+00	-8.2025E+01	3.3108E+01
1.6405E+01	8.2025E+01	3.0647E+01
1.6405E+01	-8.2025E+01	3.0647E+01
2.6248E+01	8.2025E+01	2.7535E+01
2.6248E+01	-8.2025E+01	2.7535E+01
3.6091E+01	8.2025E+01	2.3772E+01
3.6091E+01	-8.2025E+01	2.3772E+01
4.5934E+01	8.2025E+01	1.9632E+01
4.5934E+01	-8.2025E+01	1.9632E+01
5.5777E+01	8.2025E+01	1.5446E+01
5.5777E+01	-8.2025E+01	1.5446E+01
6.5620E+01	8.2025E+01	1.1537E+01
6.5620E+01	-8.2025E+01	1.1537E+01
7.5463E+01	8.2025E+01	8.1557E+00
7.5463E+01	-8.2025E+01	8.1557E+00
8.5306E+01	8.2025E+01	5.4423E+00
8.5306E+01	-8.2025E+01	5.4423E+00
9.5149E+01	8.2025E+01	3.4209E+00
9.5149E+01	-8.2025E+01	3.4209E+00
1.0499E+02	8.2025E+01	2.0219E+00
1.0499E+02	-8.2025E+01	2.0219E+00
1.1484E+02	8.2025E+01	1.1220E+00
1.1484E+02	-8.2025E+01	1.1220E+00
1.3452E+02	8.2025E+01	2.8474E-01
1.3452E+02	-8.2025E+01	2.8474E-01
1.6405E+02	8.2025E+01	2.2161E-02
1.6405E+02	-8.2025E+01	2.2161E-02
1.9686E+02	8.2025E+01	6.3566E-04
1.9686E+02	-8.2025E+01	6.3566E-04
2.2967E+02	8.2025E+01	8.4899E-06
2.2967E+02	-8.2025E+01	8.4899E-06
2.6248E+02	8.2025E+01	5.2385E-08
2.6248E+02	-8.2025E+01	5.2385E-08
2.9529E+02	8.2025E+01	1.4856E-10
2.9529E+02	-8.2025E+01	1.4856E-10
3.2810E+02	8.2025E+01	1.9297E-13
3.2810E+02	-8.2025E+01	1.9297E-13
6.5620E+00	9.8430E+01	1.6602E+01
6.5620E+00	-9.8430E+01	1.6602E+01
1.6405E+01	9.8430E+01	1.5465E+01
1.6405E+01	-9.8430E+01	1.5465E+01
2.6248E+01	9.8430E+01	1.4002E+01
2.6248E+01	-9.8430E+01	1.4002E+01
3.6091E+01	9.8430E+01	1.2188E+01
3.6091E+01	-9.8430E+01	1.2188E+01
4.5934E+01	9.8430E+01	1.0145E+01
4.5934E+01	-9.8430E+01	1.0145E+01
5.5777E+01	9.8430E+01	8.0386E+00
5.5777E+01	-9.8430E+01	8.0386E+00
6.5620E+01	9.8430E+01	6.0413E+00
6.5620E+01	-9.8430E+01	6.0413E+00
7.5463E+01	9.8430E+01	4.2930E+00
7.5463E+01	-9.8430E+01	4.2930E+00
8.5306E+01	9.8430E+01	2.8773E+00
8.5306E+01	-9.8430E+01	2.8773E+00

9.5149E+01	9.8430E+01	1.8152E+00
9.5149E+01	-9.8430E+01	1.8152E+00
1.0499E+02	9.8430E+01	1.0761E+00
1.0499E+02	-9.8430E+01	1.0761E+00
1.1484E+02	9.8430E+01	5.9870E-01
1.1484E+02	-9.8430E+01	5.9870E-01
1.3452E+02	9.8430E+01	1.5253E-01
1.3452E+02	-9.8430E+01	1.5253E-01
1.6405E+02	9.8430E+01	1.1918E-02
1.6405E+02	-9.8430E+01	1.1918E-02
1.9686E+02	9.8430E+01	3.4280E-04
1.9686E+02	-9.8430E+01	3.4280E-04
2.2967E+02	9.8430E+01	4.5865E-06
2.2967E+02	-9.8430E+01	4.5865E-06
2.6248E+02	9.8430E+01	2.8334E-08
2.6248E+02	-9.8430E+01	2.8334E-08
2.9529E+02	9.8430E+01	8.0423E-11
2.9529E+02	-9.8430E+01	8.0423E-11
3.2810E+02	9.8430E+01	1.0453E-13
3.2810E+02	-9.8430E+01	1.0453E-13
6.5620E+00	1.1484E+02	9.7161E-02
6.5620E+00	-1.1484E+02	9.7161E-02
1.6405E+01	1.1484E+02	2.8289E-01
1.6405E+01	-1.1484E+02	2.8289E-01
2.6248E+01	1.1484E+02	4.6932E-01
2.6248E+01	-1.1484E+02	4.6932E-01
3.6091E+01	1.1484E+02	6.0392E-01
3.6091E+01	-1.1484E+02	6.0392E-01
4.5934E+01	1.1484E+02	6.5768E-01
4.5934E+01	-1.1484E+02	6.5768E-01
5.5777E+01	1.1484E+02	6.3105E-01
5.5777E+01	-1.1484E+02	6.3105E-01
6.5620E+01	1.1484E+02	5.4541E-01
6.5620E+01	-1.1484E+02	5.4541E-01
7.5463E+01	1.1484E+02	4.3021E-01
7.5463E+01	-1.1484E+02	4.3021E-01
8.5306E+01	1.1484E+02	3.1218E-01
8.5306E+01	-1.1484E+02	3.1218E-01
9.5149E+01	1.1484E+02	2.0944E-01
9.5149E+01	-1.1484E+02	2.0944E-01
1.0499E+02	1.1484E+02	1.3032E-01
1.0499E+02	-1.1484E+02	1.3032E-01
1.1484E+02	1.1484E+02	7.5363E-02
1.1484E+02	-1.1484E+02	7.5363E-02
1.3452E+02	1.1484E+02	2.0322E-02
1.3452E+02	-1.1484E+02	2.0322E-02
1.6405E+02	1.1484E+02	1.6755E-03
1.6405E+02	-1.1484E+02	1.6755E-03
1.9686E+02	1.1484E+02	4.9938E-05
1.9686E+02	-1.1484E+02	4.9938E-05
2.2967E+02	1.1484E+02	6.8321E-07
2.2967E+02	-1.1484E+02	6.8321E-07
2.6248E+02	1.1484E+02	4.2835E-09
2.6248E+02	-1.1484E+02	4.2835E-09
2.9529E+02	1.1484E+02	1.2284E-11
2.9529E+02	-1.1484E+02	1.2284E-11
3.2810E+02	1.1484E+02	1.6085E-14
3.2810E+02	-1.1484E+02	1.6085E-14
6.5620E+00	1.3124E+02	8.6991E-04
6.5620E+00	-1.3124E+02	8.6991E-04
1.6405E+01	1.3124E+02	2.6498E-03
1.6405E+01	-1.3124E+02	2.6498E-03
2.6248E+01	1.3124E+02	4.7359E-03
2.6248E+01	-1.3124E+02	4.7359E-03
3.6091E+01	1.3124E+02	6.6792E-03
3.6091E+01	-1.3124E+02	6.6792E-03
4.5934E+01	1.3124E+02	8.0220E-03
4.5934E+01	-1.3124E+02	8.0220E-03
5.5777E+01	1.3124E+02	8.4755E-03
5.5777E+01	-1.3124E+02	8.4755E-03

0032461

6.5620E+01	1.3124E+02	8.0165E-03
6.5620E+01	-1.3124E+02	8.0165E-03
7.5463E+01	1.3124E+02	6.8621E-03
7.5463E+01	-1.3124E+02	6.8621E-03
8.5306E+01	1.3124E+02	5.3552E-03
8.5306E+01	-1.3124E+02	5.3552E-03
9.5149E+01	1.3124E+02	3.8301E-03
9.5149E+01	-1.3124E+02	3.8301E-03
1.0499E+02	1.3124E+02	2.5201E-03
1.0499E+02	-1.3124E+02	2.5201E-03
1.1484E+02	1.3124E+02	1.5299E-03
1.1484E+02	-1.3124E+02	1.5299E-03
1.3452E+02	1.3124E+02	4.4645E-04
1.3452E+02	-1.3124E+02	4.4645E-04
1.6405E+02	1.3124E+02	4.0051E-05
1.6405E+02	-1.3124E+02	4.0051E-05
1.9686E+02	1.3124E+02	1.2706E-06
1.9686E+02	-1.3124E+02	1.2706E-06
2.2967E+02	1.3124E+02	1.8129E-08
2.2967E+02	-1.3124E+02	1.8129E-08
2.6248E+02	1.3124E+02	1.1704E-10
2.6248E+02	-1.3124E+02	1.1704E-10
2.9529E+02	1.3124E+02	3.4282E-13
2.9529E+02	-1.3124E+02	3.4282E-13
3.2810E+02	1.3124E+02	4.5596E-16
3.2810E+02	-1.3124E+02	4.5598E-16
6.5620E+00	1.4765E+02	1.9468E-06
6.5620E+00	-1.4765E+02	1.9468E-06
1.6405E+01	1.4765E+02	5.9948E-06
1.6405E+01	-1.4765E+02	5.9948E-06
2.6248E+01	1.4765E+02	1.0924E-05
2.6248E+01	-1.4765E+02	1.0924E-05
3.6091E+01	1.4765E+02	1.5821E-05
3.6091E+01	-1.4765E+02	1.5821E-05
4.5934E+01	1.4765E+02	1.9622E-05
4.5934E+01	-1.4765E+02	1.9622E-05
5.5777E+01	1.4765E+02	2.1493E-05
5.5777E+01	-1.4765E+02	2.1493E-05
6.5620E+01	1.4765E+02	2.1123E-05
6.5620E+01	-1.4765E+02	2.1123E-05
7.5463E+01	1.4765E+02	1.8804E-05
7.5463E+01	-1.4765E+02	1.8804E-05
8.5306E+01	1.4765E+02	1.5256E-05
8.5306E+01	-1.4765E+02	1.5256E-05
9.5149E+01	1.4765E+02	1.1332E-05
9.5149E+01	-1.4765E+02	1.1332E-05
1.0499E+02	1.4765E+02	7.7296E-06
1.0499E+02	-1.4765E+02	7.7296E-06
1.1484E+02	1.4765E+02	4.8546E-06
1.1484E+02	-1.4765E+02	4.8546E-06
1.3452E+02	1.4765E+02	1.5059E-06
1.3452E+02	-1.4765E+02	1.5059E-06
1.6405E+02	1.4765E+02	1.4561E-07
1.6405E+02	-1.4765E+02	1.4561E-07
1.9686E+02	1.4765E+02	4.9209E-09
1.9686E+02	-1.4765E+02	4.9209E-09
2.2967E+02	1.4765E+02	7.3603E-11
2.2967E+02	-1.4765E+02	7.3603E-11
2.6248E+02	1.4765E+02	4.9236E-13
2.6248E+02	-1.4765E+02	4.9236E-13
2.9529E+02	1.4765E+02	1.4816E-15
2.9529E+02	-1.4765E+02	1.4816E-15
3.2810E+02	1.4765E+02	2.0124E-18
3.2810E+02	-1.4765E+02	2.0124E-18
6.5620E+00	1.6405E+02	0.0000E+00
6.5620E+00	-1.6405E+02	0.0000E+00
1.6405E+01	1.6405E+02	0.0000E+00
1.6405E+01	-1.6405E+02	0.0000E+00
2.6248E+01	1.6405E+02	0.0000E+00
2.6248E+01	-1.6405E+02	0.0000E+00

0032462

Run 4 Output

3.6091E+01	1.6405E+02	0.0000E+00
3.6091E+01	-1.6405E+02	0.0000E+00
4.5934E+01	1.6405E+02	0.0000E+00
4.5934E+01	-1.6405E+02	0.0000E+00
5.5777E+01	1.6405E+02	0.0000E+00
5.5777E+01	-1.6405E+02	0.0000E+00
6.5620E+01	1.6405E+02	0.0000E+00
6.5620E+01	-1.6405E+02	0.0000E+00
7.5463E+01	1.6405E+02	0.0000E+00
7.5463E+01	-1.6405E+02	0.0000E+00
8.5306E+01	1.6405E+02	0.0000E+00
8.5306E+01	-1.6405E+02	0.0000E+00
9.5149E+01	1.6405E+02	0.0000E+00
9.5149E+01	-1.6405E+02	0.0000E+00
1.0499E+02	1.6405E+02	0.0000E+00
1.0499E+02	-1.6405E+02	0.0000E+00
1.1484E+02	1.6405E+02	0.0000E+00
1.1484E+02	-1.6405E+02	0.0000E+00
1.3452E+02	1.6405E+02	0.0000E+00
1.3452E+02	-1.6405E+02	0.0000E+00
1.6405E+02	1.6405E+02	0.0000E+00
1.6405E+02	-1.6405E+02	0.0000E+00
1.9686E+02	1.6405E+02	0.0000E+00
1.9686E+02	-1.6405E+02	0.0000E+00
2.2967E+02	1.6405E+02	0.0000E 00
2.2967E+02	-1.6405E+02	0.0000E+00
2.6248E+02	1.6405E+02	0.0000E+00
2.6248E+02	-1.6405E+02	0.0000E+00
2.9529E+02	1.6405E+02	0.0000E+00
2.9529E+02	-1.6405E+02	0.0000E+00
3.2810E+02	1.6405E+02	0.0000E+00
3.2810E+02	-1.6405E+02	0.0000E+00

time = 1.2000E+02

x	y	c (ppm)
6.5620E+00	0.0000E+00	3.2807E+01
1.6405E+01	0.0000E+00	3.3165E+01
2.6248E+01	0.0000E+00	3.2335E+01
3.6091E+01	0.0000E+00	3.1157E+01
4.5934E+01	0.0000E+00	2.9616E+01
5.5777E+01	0.0000E+00	2.7707E+01
6.5620E+01	0.0000E+00	2.5457E+01
7.5463E+01	0.0000E+00	2.2924E+01
8.5306E+01	0.0000E+00	2.0195E+01
9.5149E+01	0.0000E+00	1.7375E+01
1.0499E+02	0.0000E+00	1.4578E+01
1.1484E+02	0.0000E+00	1.1912E+01
1.3452E+02	0.0000E+00	7.3166E+00
1.6405E+02	0.0000E+00	2.8215E+00
1.9686E+02	0.0000E+00	7.0360E-01
2.2967E+02	0.0000E+00	1.2218E-01
2.6248E+02	0.0000E+00	1.4633E-02
2.9529E+02	0.0000E+00	1.2010E-03
3.2810E+02	0.0000E+00	6.7268E-05
6.5620E+00	6.5620E+00	3.2807E+01
6.5620E+00	-6.5620E+00	3.2807E+01
1.6405E+01	6.5620E+00	3.3165E+01
1.6405E+01	-6.5620E+00	3.3165E+01
2.6248E+01	6.5620E+00	3.2335E+01
2.6248E+01	-6.5620E+00	3.2335E+01
3.6091E+01	6.5620E+00	3.1157E+01
3.6091E+01	-6.5620E+00	3.1157E+01
4.5934E+01	6.5620E+00	2.9616E+01
4.5934E+01	-6.5620E+00	2.9616E+01
5.5777E+01	6.5620E+00	2.7707E+01
5.5777E+01	-6.5620E+00	2.7707E+01
6.5620E+01	6.5620E+00	2.5457E+01
6.5620E+01	-6.5620E+00	2.5457E+01
7.5463E+01	6.5620E+00	2.2924E+01
7.5463E+01	-6.5620E+00	2.2924E+01
8.5306E+01	6.5620E+00	2.0195E+01

0032463

8.5306E+01	-6.5620E+00	2.0195E+01
9.5149E+01	6.5620E+00	1.7375E+01
9.5149E+01	-6.5620E+00	1.7375E+01
1.0499E+02	6.5620E+00	1.4578E+01
1.0499E+02	-6.5620E+00	1.4578E+01
1.1484E+02	6.5620E+00	1.1912E+01
1.1484E+02	-6.5620E+00	1.1912E+01
1.3452E+02	6.5620E+00	7.3166E+00
1.3452E+02	-6.5620E+00	7.3166E+00
1.6405E+02	6.5620E+00	2.8215E+00
1.6405E+02	-6.5620E+00	2.8215E+00
1.9686E+02	6.5620E+00	7.0360E-01
1.9686E+02	-6.5620E+00	7.0360E-01
2.2967E+02	6.5620E+00	1.2218E-01
2.2967E+02	-6.5620E+00	1.2218E-01
2.6248E+02	6.5620E+00	1.4633E-02
2.6248E+02	-6.5620E+00	1.4633E-02
2.9529E+02	6.5620E+00	1.2010E-03
2.9529E+02	-6.5620E+00	1.2010E-03
3.2810E+02	6.5620E+00	6.7268E-05
3.2810E+02	-6.5620E+00	6.7268E-05
6.5620E+00	1.3124E+01	3.2807E+01
6.5620E+00	-1.3124E+01	3.2807E+01
1.6405E+01	1.3124E+01	3.3165E+01
1.6405E+01	-1.3124E+01	3.3165E+01
2.6248E+01	1.3124E+01	3.2335E+01
2.6248E+01	-1.3124E+01	3.2335E+01
3.6091E+01	1.3124E+01	3.1157E+01
3.6091E+01	-1.3124E+01	3.1157E+01
4.5934E+01	1.3124E+01	2.9616E+01
4.5934E+01	-1.3124E+01	2.9616E+01
5.5777E+01	1.3124E+01	2.7707E+01
5.5777E+01	-1.3124E+01	2.7707E+01
6.5620E+01	1.3124E+01	2.5457E+01
6.5620E+01	-1.3124E+01	2.5457E+01
7.5463E+01	1.3124E+01	2.2924E+01
7.5463E+01	-1.3124E+01	2.2924E+01
8.5306E+01	1.3124E+01	2.0195E+01
8.5306E+01	-1.3124E+01	2.0195E+01
9.5149E+01	1.3124E+01	1.7375E+01
9.5149E+01	-1.3124E+01	1.7375E+01
1.0499E+02	1.3124E+01	1.4578E+01
1.0499E+02	-1.3124E+01	1.4578E+01
1.1484E+02	1.3124E+01	1.1912E+01
1.1484E+02	-1.3124E+01	1.1912E+01
1.3452E+02	1.3124E+01	7.3166E+00
1.3452E+02	-1.3124E+01	7.3166E+00
1.6405E+02	1.3124E+01	2.8215E+00
1.6405E+02	-1.3124E+01	2.8215E+00
1.9686E+02	1.3124E+01	7.0360E-01
1.9686E+02	-1.3124E+01	7.0360E-01
2.2967E+02	1.3124E+01	1.2218E-01
2.2967E+02	-1.3124E+01	1.2218E-01
2.6248E+02	1.3124E+01	1.4633E-02
2.6248E+02	-1.3124E+01	1.4633E-02
2.9529E+02	1.3124E+01	1.2010E-03
2.9529E+02	-1.3124E+01	1.2010E-03
3.2810E+02	1.3124E+01	6.7268E-05
3.2810E+02	-1.3124E+01	6.7268E-05
6.5620E+00	1.9686E+01	3.2807E+01
6.5620E+00	-1.9686E+01	3.2807E+01
1.6405E+01	1.9686E+01	3.3165E+01
1.6405E+01	-1.9686E+01	3.3165E+01
2.6248E+01	1.9686E+01	3.2335E+01
2.6248E+01	-1.9686E+01	3.2335E+01
3.6091E+01	1.9686E+01	3.1157E+01
3.6091E+01	-1.9686E+01	3.1157E+01
4.5934E+01	1.9686E+01	2.9616E+01
4.5934E+01	-1.9686E+01	2.9616E+01
5.5777E+01	1.9686E+01	2.7707E+01

0032464

5.5777E+01	-1.9686E+01	2.7707E+01
6.5620E+01	1.9686E+01	2.5457E+01
6.5620E+01	-1.9686E+01	2.5457E+01
7.5463E+01	1.9686E+01	2.2924E+01
7.5463E+01	-1.9686E+01	2.2924E+01
8.5306E+01	1.9686E+01	2.0195E+01
8.5306E+01	-1.9686E+01	2.0195E+01
9.5149E+01	1.9686E+01	1.7375E+01
9.5149E+01	-1.9686E+01	1.7375E+01
1.0499E+02	1.9686E+01	1.4578E+01
1.0499E+02	-1.9686E+01	1.4578E+01
1.1484E+02	1.9686E+01	1.1912E+01
1.1484E+02	-1.9686E+01	1.1912E+01
1.3452E+02	1.9686E+01	7.3166E+00
1.3452E+02	-1.9686E+01	7.3166E+00
1.6405E+02	1.9686E+01	2.8215E+00
1.6405E+02	-1.9686E+01	2.8215E+00
1.9686E+02	1.9686E+01	7.0360E-01
1.9686E+02	-1.9686E+01	7.0360E-01
2.2967E+02	1.9686E+01	1.2218E-01
2.2967E+02	-1.9686E+01	1.2218E-01
2.6248E+02	1.9686E+01	1.4633E-02
2.6248E+02	-1.9686E+01	1.4633E-02
2.9529E+02	1.9686E+01	1.2010E-03
2.9529E+02	-1.9686E+01	1.2010E-03
3.2810E+02	1.9686E+01	6.7268E-05
3.2810E+02	-1.9686E+01	6.7268E-05
6.5620E+00	2.6248E+01	3.2807E+01
6.5620E+00	-2.6248E+01	3.2807E+01
1.6405E+01	2.6248E+01	3.3165E+01
1.6405E+01	-2.6248E+01	3.3165E+01
2.6248E+01	2.6248E+01	3.2335E+01
2.6248E+01	-2.6248E+01	3.2335E+01
3.6091E+01	2.6248E+01	3.1157E+01
3.6091E+01	-2.6248E+01	3.1157E+01
4.5934E+01	2.6248E+01	2.9616E+01
4.5934E+01	-2.6248E+01	2.9616E+01
5.5777E+01	2.6248E+01	2.7707E+01
5.5777E+01	-2.6248E+01	2.7707E+01
6.5620E+01	2.6248E+01	2.5457E+01
6.5620E+01	-2.6248E+01	2.5457E+01
7.5463E+01	2.6248E+01	2.2924E+01
7.5463E+01	-2.6248E+01	2.2924E+01
8.5306E+01	2.6248E+01	2.0195E+01
8.5306E+01	-2.6248E+01	2.0195E+01
9.5149E+01	2.6248E+01	1.7375E+01
9.5149E+01	-2.6248E+01	1.7375E+01
1.0499E+02	2.6248E+01	1.4578E+01
1.0499E+02	-2.6248E+01	1.4578E+01
1.1484E+02	2.6248E+01	1.1912E+01
1.1484E+02	-2.6248E+01	1.1912E+01
1.3452E+02	2.6248E+01	7.3166E+00
1.3452E+02	-2.6248E+01	7.3166E+00
1.6405E+02	2.6248E+01	2.8215E+00
1.6405E+02	-2.6248E+01	2.8215E+00
1.9686E+02	2.6248E+01	7.0360E-01
1.9686E+02	-2.6248E+01	7.0360E-01
2.2967E+02	2.6248E+01	1.2218E-01
2.2967E+02	-2.6248E+01	1.2218E-01
2.6248E+02	2.6248E+01	1.4633E-02
2.6248E+02	-2.6248E+01	1.4633E-02
2.9529E+02	2.6248E+01	1.2010E-03
2.9529E+02	-2.6248E+01	1.2010E-03
3.2810E+02	2.6248E+01	6.7268E-05
3.2810E+02	-2.6248E+01	6.7268E-05
6.5620E+00	3.2810E+01	3.2807E+01
6.5620E+00	-3.2810E+01	3.2807E+01
1.6405E+01	3.2810E+01	3.3165E+01
1.6405E+01	-3.2810E+01	3.3165E+01
2.6248E+01	3.2810E+01	3.2335E+01

0032465

2.6248E+01	-3.2810E+01	3.2335E+01
3.6091E+01	3.2810E+01	3.1157E+01
3.6091E+01	-3.2810E+01	3.1157E+01
4.5934E+01	3.2810E+01	2.9616E+01
4.5934E+01	-3.2810E+01	2.9616E+01
5.5777E+01	3.2810E+01	2.7707E+01
5.5777E+01	-3.2810E+01	2.7707E+01
6.5620E+01	3.2810E+01	2.5457E+01
6.5620E+01	-3.2810E+01	2.5457E+01
7.5463E+01	3.2810E+01	2.2924E+01
7.5463E+01	-3.2810E+01	2.2924E+01
8.5306E+01	3.2810E+01	2.0195E+01
8.5306E+01	-3.2810E+01	2.0195E+01
9.5149E+01	3.2810E+01	1.7375E+01
9.5149E+01	-3.2810E+01	1.7375E+01
1.0499E+02	3.2810E+01	1.4578E+01
1.0499E+02	-3.2810E+01	1.4578E+01
1.1484E+02	3.2810E+01	1.1912E+01
1.1484E+02	-3.2810E+01	1.1912E+01
1.3452E+02	3.2810E+01	7.3166E+00
1.3452E+02	-3.2810E+01	7.3166E+00
1.6405E+02	3.2810E+01	2.8214E+00
1.6405E+02	-3.2810E+01	2.8214E+00
1.9686E+02	3.2810E+01	7.0359E-01
1.9686E+02	-3.2810E+01	7.0359E-01
2.2967E+02	3.2810E+01	1.2218E-01
2.2967E+02	-3.2810E+01	1.2218E-01
2.6248E+02	3.2810E+01	1.4633E-02
2.6248E+02	-3.2810E+01	1.4633E-02
2.9529E+02	3.2810E+01	1.2010E-03
2.9529E+02	-3.2810E+01	1.2010E-03
3.2810E+02	3.2810E+01	6.7267E-05
3.2810E+02	-3.2810E+01	6.7267E-05
6.5620E+00	4.9215E+01	3.2807E+01
6.5620E+00	-4.9215E+01	3.2807E+01
1.6405E+01	4.9215E+01	3.3164E+01
1.6405E+01	-4.9215E+01	3.3164E+01
2.6248E+01	4.9215E+01	3.2334E+01
2.6248E+01	-4.9215E+01	3.2334E+01
3.6091E+01	4.9215E+01	3.1155E+01
3.6091E+01	-4.9215E+01	3.1155E+01
4.5934E+01	4.9215E+01	2.9613E+01
4.5934E+01	-4.9215E+01	2.9613E+01
5.5777E+01	4.9215E+01	2.7703E+01
5.5777E+01	-4.9215E+01	2.7703E+01
6.5620E+01	4.9215E+01	2.5453E+01
6.5620E+01	-4.9215E+01	2.5453E+01
7.5463E+01	4.9215E+01	2.2919E+01
7.5463E+01	-4.9215E+01	2.2919E+01
8.5306E+01	4.9215E+01	2.0189E+01
8.5306E+01	-4.9215E+01	2.0189E+01
9.5149E+01	4.9215E+01	1.7369E+01
9.5149E+01	-4.9215E+01	1.7369E+01
1.0499E+02	4.9215E+01	1.4572E+01
1.0499E+02	-4.9215E+01	1.4572E+01
1.1484E+02	4.9215E+01	1.1907E+01
1.1484E+02	-4.9215E+01	1.1907E+01
1.3452E+02	4.9215E+01	7.3127E+00
1.3452E+02	-4.9215E+01	7.3127E+00
1.6405E+02	4.9215E+01	2.8195E+00
1.6405E+02	-4.9215E+01	2.8195E+00
1.9686E+02	4.9215E+01	7.0303E-01
1.9686E+02	-4.9215E+01	7.0303E-01
2.2967E+02	4.9215E+01	1.2207E-01
2.2967E+02	-4.9215E+01	1.2207E-01
2.6248E+02	4.9215E+01	1.4618E-02
2.6248E+02	-4.9215E+01	1.4618E-02
2.9529E+02	4.9215E+01	1.1997E-03
2.9529E+02	-4.9215E+01	1.1997E-03
3.2810E+02	4.9215E+01	6.7193E-05

0032466

3.2810E+02	-4.9215E+01	6.7193E-05
6.5620E+00	6.5620E+01	3.2800E+01
6.5620E+00	-6.5620E+01	3.2800E+01
1.6405E+01	6.5620E+01	3.3143E+01
1.6405E+01	-6.5620E+01	3.3143E+01
2.6248E+01	6.5620E+01	3.2292E+01
2.6248E+01	-6.5620E+01	3.2292E+01
3.6091E+01	6.5620E+01	3.1090E+01
3.6091E+01	-6.5620E+01	3.1090E+01
4.5934E+01	6.5620E+01	2.9522E+01
4.5934E+01	-6.5620E+01	2.9522E+01
5.5777E+01	6.5620E+01	2.7588E+01
5.5777E+01	-6.5620E+01	2.7588E+01
6.5620E+01	6.5620E+01	2.5317E+01
6.5620E+01	-6.5620E+01	2.5317E+01
7.5463E+01	6.5620E+01	2.2770E+01
7.5463E+01	-6.5620E+01	2.2770E+01
8.5306E+01	6.5620E+01	2.0034E+01
8.5306E+01	-6.5620E+01	2.0034E+01
9.5149E+01	6.5620E+01	1.7216E+01
9.5149E+01	-6.5620E+01	1.7216E+01
1.0499E+02	6.5620E+01	1.4428E+01
1.0499E+02	-6.5620E+01	1.4428E+01
1.1484E+02	6.5620E+01	1.1778E+01
1.1484E+02	-6.5620E+01	1.1778E+01
1.3452E+02	6.5620E+01	7.2202E+00
1.3452E+02	-6.5620E+01	7.2202E+00
1.6405E+02	6.5620E+01	2.7780E+00
1.6405E+02	-6.5620E+01	2.7780E+00
1.9686E+02	6.5620E+01	6.9149E-01
1.9686E+02	-6.5620E+01	6.9149E-01
2.2967E+02	6.5620E+01	1.1992E-01
2.2967E+02	-6.5620E+01	1.1992E-01
2.6248E+02	6.5620E+01	1.4348E-02
2.6248E+02	-6.5620E+01	1.4348E-02
2.9529E+02	6.5620E+01	1.1768E-03
2.9529E+02	-6.5620E+01	1.1768E-03
3.2810E+02	6.5620E+01	6.5878E-05
3.2810E+02	-6.5620E+01	6.5878E-05
6.5620E+00	8.2025E+01	3.2630E+01
6.5620E+00	-8.2025E+01	3.2630E+01
1.6405E+01	8.2025E+01	3.2628E+01
1.6405E+01	-8.2025E+01	3.2628E+01
2.6248E+01	8.2025E+01	3.1376E+01
2.6248E+01	-8.2025E+01	3.1376E+01
3.6091E+01	8.2025E+01	2.9782E+01
3.6091E+01	-8.2025E+01	2.9782E+01
4.5934E+01	8.2025E+01	2.7888E+01
4.5934E+01	-8.2025E+01	2.7888E+01
5.5777E+01	8.2025E+01	2.5727E+01
5.5777E+01	-8.2025E+01	2.5727E+01
6.5620E+01	8.2025E+01	2.3342E+01
6.5620E+01	-8.2025E+01	2.3342E+01
7.5463E+01	8.2025E+01	2.0787E+01
7.5463E+01	-8.2025E+01	2.0787E+01
8.5306E+01	8.2025E+01	1.8137E+01
8.5306E+01	-8.2025E+01	1.8137E+01
9.5149E+01	8.2025E+01	1.5476E+01
9.5149E+01	-8.2025E+01	1.5476E+01
1.0499E+02	8.2025E+01	1.2893E+01
1.0499E+02	-8.2025E+01	1.2893E+01
1.1484E+02	8.2025E+01	1.0473E+01
1.1484E+02	-8.2025E+01	1.0473E+01
1.3452E+02	8.2025E+01	6.3710E+00
1.3452E+02	-8.2025E+01	6.3710E+00
1.6405E+02	8.2025E+01	2.4327E+00
1.6405E+02	-8.2025E+01	2.4327E+00
1.9686E+02	8.2025E+01	6.0240E-01
1.9686E+02	-8.2025E+01	6.0240E-01
2.2967E+02	8.2025E+01	1.0413E-01

0032467

2.2967E+02	-8.2025E+01	1.0413E-01
2.6248E+02	8.2025E+01	1.2432E-02
2.6248E+02	-8.2025E+01	1.2432E-02
2.9529E+02	8.2025E+01	1.0181E-03
2.9529E+02	-8.2025E+01	1.0181E-03
3.2810E+02	8.2025E+01	5.6933E-05
3.2810E+02	-8.2025E+01	5.6933E-05
6.5620E+00	9.8430E+01	1.6403E+01
6.5620E+00	-9.8430E+01	1.6403E+01
1.6405E+01	9.8430E+01	1.6583E+01
1.6405E+01	-9.8430E+01	1.6583E+01
2.6248E+01	9.8430E+01	1.6168E+01
2.6248E+01	-9.8430E+01	1.6168E+01
3.6091E+01	9.8430E+01	1.5579E+01
3.6091E+01	-9.8430E+01	1.5579E+01
4.5934E+01	9.8430E+01	1.4808E+01
4.5934E+01	-9.8430E+01	1.4808E+01
5.5777E+01	9.8430E+01	1.3853E+01
5.5777E+01	-9.8430E+01	1.3853E+01
6.5620E+01	9.8430E+01	1.2729E+01
6.5620E+01	-9.8430E+01	1.2729E+01
7.5463E+01	9.8430E+01	1.1462E+01
7.5463E+01	-9.8430E+01	1.1462E+01
8.5306E+01	9.8430E+01	1.0097E+01
8.5306E+01	-9.8430E+01	1.0097E+01
9.5149E+01	9.8430E+01	8.6874E+00
9.5149E+01	-9.8430E+01	8.6874E+00
1.0499E+02	9.8430E+01	7.2889E+00
1.0499E+02	-9.8430E+01	7.2889E+00
1.1484E+02	9.8430E+01	5.9562E+00
1.1484E+02	-9.8430E+01	5.9562E+00
1.3452E+02	9.8430E+01	3.6583E+00
1.3452E+02	-9.8430E+01	3.6583E+00
1.6405E+02	9.8430E+01	1.4107E+00
1.6405E+02	-9.8430E+01	1.4107E+00
1.9686E+02	9.8430E+01	3.5180E-01
1.9686E+02	-9.8430E+01	3.5180E-01
2.2967E+02	9.8430E+01	6.1091E-02
2.2967E+02	-9.8430E+01	6.1091E-02
2.6248E+02	9.8430E+01	7.3164E-03
2.6248E+02	-9.8430E+01	7.3164E-03
2.9529E+02	9.8430E+01	6.0051E-04
2.9529E+02	-9.8430E+01	6.0051E-04
3.2810E+02	9.8430E+01	3.3634E-05
3.2810E+02	-9.8430E+01	3.3634E-05
6.5620E+00	1.1484E+02	1.7712E-01
6.5620E+00	-1.1484E+02	1.7712E-01
1.6405E+01	1.1484E+02	5.3679E-01
1.6405E+01	-1.1484E+02	5.3679E-01
2.6248E+01	1.1484E+02	9.5920E-01
2.6248E+01	-1.1484E+02	9.5920E-01
3.6091E+01	1.1484E+02	1.3757E+00
3.6091E+01	-1.1484E+02	1.3757E+00
4.5934E+01	1.1484E+02	1.7280E+00
4.5934E+01	-1.1484E+02	1.7280E+00
5.5777E+01	1.1484E+02	1.9796E+00
5.5777E+01	-1.1484E+02	1.9796E+00
6.5620E+01	1.1484E+02	2.1153E+00
6.5620E+01	-1.1484E+02	2.1153E+00
7.5463E+01	1.1484E+02	2.1367E+00
7.5463E+01	-1.1484E+02	2.1367E+00
8.5306E+01	1.1484E+02	2.0575E+00
8.5306E+01	-1.1484E+02	2.0575E+00
9.5149E+01	1.1484E+02	1.8986E+00
9.5149E+01	-1.1484E+02	1.8986E+00
1.0499E+02	1.1484E+02	1.6843E+00
1.0499E+02	-1.1484E+02	1.6843E+00
1.1484E+02	1.1484E+02	1.4397E+00
1.1484E+02	-1.1484E+02	1.4397E+00
1.3452E+02	1.1484E+02	9.4557E-01

0032468

1.3452E+02	-1.1484E+02	9.4557E-01
1.6405E+02	1.1484E+02	3.8879E-01
1.6405E+02	-1.1484E+02	3.8879E-01
1.9686E+02	1.1484E+02	1.0120E-01
1.9686E+02	-1.1484E+02	1.0120E-01
2.2967E+02	1.1484E+02	1.8053E-02
2.2967E+02	-1.1484E+02	1.8053E-02
2.6248E+02	1.1484E+02	2.2009E-03
2.6248E+02	-1.1484E+02	2.2009E-03
2.9529E+02	1.1484E+02	1.8289E-04
2.9529E+02	-1.1484E+02	1.8289E-04
3.2810E+02	1.1484E+02	1.0335E-05
3.2810E+02	-1.1484E+02	1.0335E-05
6.5620E+00	1.3124E+02	7.0312E-03
6.5620E+00	-1.3124E+02	7.0312E-03
1.6405E+01	1.3124E+02	2.2310E-02
1.6405E+01	-1.3124E+02	2.2310E-02
2.6248E+01	1.3124E+02	4.3015E-02
2.6248E+01	-1.3124E+02	4.3015E-02
3.6091E+01	1.3124E+02	6.7781E-02
3.6091E+01	-1.3124E+02	6.7781E-02
4.5934E+01	1.3124E+02	9.4211E-02
4.5934E+01	-1.3124E+02	9.4211E-02
5.5777E+01	1.3124E+02	1.1937E-01
5.5777E+01	-1.3124E+02	1.1932E-01
6.5620E+01	1.3124E+02	1.4016E-01
6.5620E+01	-1.3124E+02	1.4016E-01
7.5463E+01	1.3124E+02	1.5437E-01
7.5463E+01	-1.3124E+02	1.5437E-01
8.5306E+01	1.3124E+02	1.6062E-01
8.5306E+01	-1.3124E+02	1.6062E-01
9.5149E+01	1.3124E+02	1.5872E-01
9.5149E+01	-1.3124E+02	1.5872E-01
1.0499E+02	1.3124E+02	1.4953E-01
1.0499E+02	-1.3124E+02	1.4953E-01
1.1484E+02	1.3124E+02	1.3470E-01
1.1484E+02	-1.3124E+02	1.3470E-01
1.3452E+02	1.3124E+02	9.6388E-02
1.3452E+02	-1.3124E+02	9.6388E-02
1.6405E+02	1.3124E+02	4.3453E-02
1.6405E+02	-1.3124E+02	4.3453E-02
1.9686E+02	1.3124E+02	1.2108E-02
1.9686E+02	-1.3124E+02	1.2108E-02
2.2967E+02	1.3124E+02	2.2609E-03
2.2967E+02	-1.3124E+02	2.2609E-03
2.6248E+02	1.3124E+02	2.8453E-04
2.6248E+02	-1.3124E+02	2.8453E-04
2.9529E+02	1.3124E+02	2.4189E-05
2.9529E+02	-1.3124E+02	2.4189E-05
3.2810E+02	1.3124E+02	1.3901E-06
3.2810E+02	-1.3124E+02	1.3901E-06
6.5620E+00	1.4765E+02	1.8955E-04
6.5620E+00	-1.4765E+02	1.8955E-04
1.6405E+01	1.4765E+02	6.0789E-04
1.6405E+01	-1.4765E+02	6.0789E-04
2.6248E+01	1.4765E+02	1.1947E-03
2.6248E+01	-1.4765E+02	1.1947E-03
3.6091E+01	1.4765E+02	1.9327E-03
3.6091E+01	-1.4765E+02	1.9327E-03
4.5934E+01	1.4765E+02	2.7734E-03
4.5934E+01	-1.4765E+02	2.7734E-03
5.5777E+01	1.4765E+02	3.6411E-03
5.5777E+01	-1.4765E+02	3.6411E-03
6.5620E+01	1.4765E+02	4.4443E-03
6.5620E+01	-1.4765E+02	4.4443E-03
7.5463E+01	1.4765E+02	5.0920E-03
7.5463E+01	-1.4765E+02	5.0920E-03
8.5306E+01	1.4765E+02	5.5110E-03
8.5306E+01	-1.4765E+02	5.5110E-03
9.5149E+01	1.4765E+02	5.6593E-03

0032469

9.5149E+01	-1.4765E+02	5.6593E-03
1.0499E+02	1.4765E+02	5.5326E-03
1.0499E+02	-1.4765E+02	5.5326E-03
1.1484E+02	1.4765E+02	5.1621E-03
1.1484E+02	-1.4765E+02	5.1621E-03
1.3452E+02	1.4765E+02	3.9364E-03
1.3452E+02	-1.4765E+02	3.9364E-03
1.6405E+02	1.4765E+02	1.9199E-03
1.6405E+02	-1.4765E+02	1.9199E-03
1.9686E+02	1.4765E+02	5.7193E-04
1.9686E+02	-1.4765E+02	5.7193E-04
2.2967E+02	1.4765E+02	1.1225E-04
2.2967E+02	-1.4765E+02	1.1225E-04
2.6248E+02	1.4765E+02	1.4665E-05
2.6248E+02	-1.4765E+02	1.4665E-05
2.9529E+02	1.4765E+02	1.2826E-06
2.9529E+02	-1.4765E+02	1.2826E-06
3.2810E+02	1.4765E+02	7.5336E-08
3.2810E+02	-1.4765E+02	7.5336E-08
6.5620E+00	1.6405E+02	2.5450E-06
6.5620E+00	-1.6405E+02	2.5450E-06
1.6405E+01	1.6405E+02	8.1958E-06
1.6405E+01	-1.6405E+02	8.1958E-06
2.6248E+01	1.6405E+02	1.6228E-05
2.6248E+01	-1.6405E+02	1.6228E-05
3.6091E+01	1.6405E+02	2.6533E-05
3.6091E+01	-1.6405E+02	2.6533E-05
4.5934E+01	1.6405E+02	3.8589E-05
4.5934E+01	-1.6405E+02	3.8589E-05
5.5777E+01	1.6405E+02	5.1466E-05
5.5777E+01	-1.6405E+02	5.1466E-05
6.5620E+01	1.6405E+02	6.3936E-05
6.5620E+01	-1.6405E+02	6.3936E-05
7.5463E+01	1.6405E+02	7.4663E-05
7.5463E+01	-1.6405E+02	7.4663E-05
8.5306E+01	1.6405E+02	8.2444E-05
8.5306E+01	-1.6405E+02	8.2444E-05
9.5149E+01	1.6405E+02	8.6429E-05
9.5149E+01	-1.6405E+02	8.6429E-05
1.0499E+02	1.6405E+02	8.6275E-05
1.0499E+02	-1.6405E+02	8.6275E-05
1.1484E+02	1.6405E+02	8.2189E-05
1.1484E+02	-1.6405E+02	8.2189E-05
1.3452E+02	1.6405E+02	6.5262E-05
1.3452E+02	-1.6405E+02	6.5262E-05
1.6405E+02	1.6405E+02	3.3654E-05
1.6405E+02	-1.6405E+02	3.3654E-05
1.9686E+02	1.6405E+02	1.0571E-05
1.9686E+02	-1.6405E+02	1.0571E-05
2.2967E+02	1.6405E+02	2.1673E-06
2.2967E+02	-1.6405E+02	2.1673E-06
2.6248E+02	1.6405E+02	2.9335E-07
2.6248E+02	-1.6405E+02	2.9335E-07
2.9529E+02	1.6405E+02	2.6402E-08
2.9529E+02	-1.6405E+02	2.6402E-08
3.2810E+02	1.6405E+02	1.5871E-09
3.2810E+02	-1.6405E+02	1.5871E-09

0032470

OUT 48511 3-09-88 11:33 Run 5 Output

v = 2.1000E-02 dl = 1.0500E-01 dt = 1.0500E-02 a = 3.0000E+01
alam = 0.0000E+00 r = 1.0000E+01 alfa = 0.0000E+00
numx = 19 numy = 14 numt = 2
time = 6.0000E+01

x	y	c (ppm)
6.5620E+00	0.0000E+00	3.0920E+00
1.6405E+01	0.0000E+00	4.6897E-04
2.6248E+01	0.0000E+00	7.7170E-11
3.6091E+01	0.0000E+00	1.1477E-20
4.5934E+01	0.0000E+00	0.0000E+00
5.5777E+01	0.0000E+00	0.0000E+00
6.5620E+01	0.0000E+00	0.0000E+00
7.5463E+01	0.0000E+00	0.0000E+00
8.5306E+01	0.0000E+00	0.0000E+00
9.5149E+01	0.0000E+00	0.0000E+00
1.0499E+02	0.0000E+00	0.0000E+00
1.1484E+02	0.0000E+00	0.0000E+00
1.3452E+02	0.0000E+00	0.0000E+00
1.6405E+02	0.0000E+00	0.0000E+00
1.9686E+02	0.0000E+00	0.0000E+00
2.2967E+02	0.0000E+00	0.0000E+00
2.6248E+02	0.0000E+00	0.0000E+00
2.9529E+02	0.0000E+00	0.0000E+00
3.2810E+02	0.0000E+00	0.0000E+00
6.5620E+00	6.5620E+00	3.0920E+00
6.5620E+00	-6.5620E+00	3.0920E+00
1.6405E+01	6.5620E+00	4.6897E-04
1.6405E+01	-6.5620E+00	4.6897E-04
2.6248E+01	6.5620E+00	7.7170E-11
2.6248E+01	-6.5620E+00	7.7170E-11
3.6091E+01	6.5620E+00	1.1477E-20
3.6091E+01	-6.5620E+00	1.1477E-20
4.5934E+01	6.5620E+00	0.0000E+00
4.5934E+01	-6.5620E+00	0.0000E+00
5.5777E+01	6.5620E+00	0.0000E+00
5.5777E+01	-6.5620E+00	0.0000E+00
6.5620E+01	6.5620E+00	0.0000E+00
6.5620E+01	-6.5620E+00	0.0000E+00
7.5463E+01	6.5620E+00	0.0000E+00
7.5463E+01	-6.5620E+00	0.0000E+00
8.5306E+01	6.5620E+00	0.0000E+00
8.5306E+01	-6.5620E+00	0.0000E+00
9.5149E+01	6.5620E+00	0.0000E+00
9.5149E+01	-6.5620E+00	0.0000E+00
1.0499E+02	6.5620E+00	0.0000E+00
1.0499E+02	-6.5620E+00	0.0000E+00
1.1484E+02	6.5620E+00	0.0000E+00
1.1484E+02	-6.5620E+00	0.0000E+00
1.3452E+02	6.5620E+00	0.0000E+00
1.3452E+02	-6.5620E+00	0.0000E+00
1.6405E+02	6.5620E+00	0.0000E+00
1.6405E+02	-6.5620E+00	0.0000E+00
1.9686E+02	6.5620E+00	0.0000E+00
1.9686E+02	-6.5620E+00	0.0000E+00
2.2967E+02	6.5620E+00	0.0000E+00
2.2967E+02	-6.5620E+00	0.0000E+00
2.6248E+02	6.5620E+00	0.0000E+00
2.6248E+02	-6.5620E+00	0.0000E+00
2.9529E+02	6.5620E+00	0.0000E+00
2.9529E+02	-6.5620E+00	0.0000E+00
3.2810E+02	6.5620E+00	0.0000E+00
3.2810E+02	-6.5620E+00	0.0000E+00
6.5620E+00	1.3124E+01	3.0920E+00
6.5620E+00	-1.3124E+01	3.0920E+00
1.6405E+01	1.3124E+01	4.6897E-04
1.6405E+01	-1.3124E+01	4.6897E-04

2.6248E+01	1.3124E+01	7.7170E-11
2.6248E+01	-1.3124E+01	7.7170E-11
3.6091E+01	1.3124E+01	1.1477E-20
3.6091E+01	-1.3124E+01	1.1477E-20
4.5934E+01	1.3124E+01	0.0000E+00
4.5934E+01	-1.3124E+01	0.0000E+00
5.5777E+01	1.3124E+01	0.0000E+00
5.5777E+01	-1.3124E+01	0.0000E+00
6.5620E+01	1.3124E+01	0.0000E+00
6.5620E+01	-1.3124E+01	0.0000E+00
7.5463E+01	1.3124E+01	0.0000E+00
7.5463E+01	-1.3124E+01	0.0000E+00
8.5306E+01	1.3124E+01	0.0000E+00
8.5306E+01	-1.3124E+01	0.0000E+00
9.5149E+01	1.3124E+01	0.0000E+00
9.5149E+01	-1.3124E+01	0.0000E+00
1.0499E+02	1.3124E+01	0.0000E+00
1.0499E+02	-1.3124E+01	0.0000E+00
1.1484E+02	1.3124E+01	0.0000E+00
1.1484E+02	-1.3124E+01	0.0000E+00
1.3452E+02	1.3124E+01	0.0000E+00
1.3452E+02	-1.3124E+01	0.0000E+00
1.6405E+02	1.3124E+01	0.0000E+00
1.6405E+02	-1.3124E+01	0.0000E+00
1.9686E+02	1.3124E+01	0.0000E+00
1.9686E+02	-1.3124E+01	0.0000E+00
2.2967E+02	1.3124E+01	0.0000E+00
2.2967E+02	-1.3124E+01	0.0000E+00
2.6248E+02	1.3124E+01	0.0000E+00
2.6248E+02	-1.3124E+01	0.0000E+00
2.9529E+02	1.3124E+01	0.0000E+00
2.9529E+02	-1.3124E+01	0.0000E+00
3.2810E+02	1.3124E+01	0.0000E+00
3.2810E+02	-1.3124E+01	0.0000E+00
6.5620E+00	1.9686E+01	3.0920E+00
6.5620E+00	-1.9686E+01	3.0920E+00
1.6405E+01	1.9686E+01	4.6897E-04
1.6405E+01	-1.9686E+01	4.6897E-04
2.6248E+01	1.9686E+01	7.7170E-11
2.6248E+01	-1.9686E+01	7.7170E-11
3.6091E+01	1.9686E+01	1.1477E-20
3.6091E+01	-1.9686E+01	1.1477E-20
4.5934E+01	1.9686E+01	0.0000E+00
4.5934E+01	-1.9686E+01	0.0000E+00
5.5777E+01	1.9686E+01	0.0000E+00
5.5777E+01	-1.9686E+01	0.0000E+00
6.5620E+01	1.9686E+01	0.0000E+00
6.5620E+01	-1.9686E+01	0.0000E+00
7.5463E+01	1.9686E+01	0.0000E+00
7.5463E+01	-1.9686E+01	0.0000E+00
8.5306E+01	1.9686E+01	0.0000E+00
8.5306E+01	-1.9686E+01	0.0000E+00
9.5149E+01	1.9686E+01	0.0000E+00
9.5149E+01	-1.9686E+01	0.0000E+00
1.0499E+02	1.9686E+01	0.0000E+00
1.0499E+02	-1.9686E+01	0.0000E+00
1.1484E+02	1.9686E+01	0.0000E+00
1.1484E+02	-1.9686E+01	0.0000E+00
1.3452E+02	1.9686E+01	0.0000E+00
1.3452E+02	-1.9686E+01	0.0000E+00
1.6405E+02	1.9686E+01	0.0000E+00
1.6405E+02	-1.9686E+01	0.0000E+00
1.9686E+02	1.9686E+01	0.0000E+00
1.9686E+02	-1.9686E+01	0.0000E+00
2.2967E+02	1.9686E+01	0.0000E+00
2.2967E+02	-1.9686E+01	0.0000E+00
2.6248E+02	1.9686E+01	0.0000E+00
2.6248E+02	-1.9686E+01	0.0000E+00
2.9529E+02	1.9686E+01	0.0000E+00
2.9529E+02	-1.9686E+01	0.0000E+00

3.2810E+02	1.9686E+01	0.0000E+00
3.2810E+02	-1.9686E+01	0.0000E+00
6.5620E+00	2.6248E+01	3.0920E+00
6.5620E+00	-2.6248E+01	3.0920E+00
1.6405E+01	2.6248E+01	4.6897E-04
1.6405E+01	-2.6248E+01	4.6897E-04
2.6248E+01	2.6248E+01	7.7170E-11
2.6248E+01	-2.6248E+01	7.7170E-11
3.6091E+01	2.6248E+01	1.1477E-20
3.6091E+01	-2.6248E+01	1.1477E-20
4.5934E+01	2.6248E+01	0.0000E+00
4.5934E+01	-2.6248E+01	0.0000E+00
5.5777E+01	2.6248E+01	0.0000E+00
5.5777E+01	-2.6248E+01	0.0000E+00
6.5620E+01	2.6248E+01	0.0000E+00
6.5620E+01	-2.6248E+01	0.0000E+00
7.5463E+01	2.6248E+01	0.0000E+00
7.5463E+01	-2.6248E+01	0.0000E+00
8.5306E+01	2.6248E+01	0.0000E+00
8.5306E+01	-2.6248E+01	0.0000E+00
9.5149E+01	2.6248E+01	0.0000E+00
9.5149E+01	-2.6248E+01	0.0000E+00
1.0499E+02	2.6248E+01	0.0000E+00
1.0499E+02	-2.6248E+01	0.0000E+00
1.1484E+02	2.6248E+01	0.0000E+00
1.1484E+02	-2.6248E+01	0.0000E+00
1.3452E+02	2.6248E+01	0.0000E+00
1.3452E+02	-2.6248E+01	0.0000E+00
1.6405E+02	2.6248E+01	0.0000E+00
1.6405E+02	-2.6248E+01	0.0000E+00
1.9686E+02	2.6248E+01	0.0000E+00
1.9686E+02	-2.6248E+01	0.0000E+00
2.2967E+02	2.6248E+01	0.0000E+00
2.2967E+02	-2.6248E+01	0.0000E+00
2.6248E+02	2.6248E+01	0.0000E+00
2.6248E+02	-2.6248E+01	0.0000E+00
2.9529E+02	2.6248E+01	0.0000E+00
2.9529E+02	-2.6248E+01	0.0000E+00
3.2810E+02	2.6248E+01	0.0000E+00
3.2810E+02	-2.6248E+01	0.0000E+00
6.5620E+00	3.2810E+01	3.0920E+00
6.5620E+00	-3.2810E+01	3.0920E+00
1.6405E+01	3.2810E+01	4.6897E-04
1.6405E+01	-3.2810E+01	4.6897E-04
2.6248E+01	3.2810E+01	7.7170E-11
2.6248E+01	-3.2810E+01	7.7170E-11
3.6091E+01	3.2810E+01	1.1477E-20
3.6091E+01	-3.2810E+01	1.1477E-20
4.5934E+01	3.2810E+01	0.0000E+00
4.5934E+01	-3.2810E+01	0.0000E+00
5.5777E+01	3.2810E+01	0.0000E+00
5.5777E+01	-3.2810E+01	0.0000E+00
6.5620E+01	3.2810E+01	0.0000E+00
6.5620E+01	-3.2810E+01	0.0000E+00
7.5463E+01	3.2810E+01	0.0000E+00
7.5463E+01	-3.2810E+01	0.0000E+00
8.5306E+01	3.2810E+01	0.0000E+00
8.5306E+01	-3.2810E+01	0.0000E+00
9.5149E+01	3.2810E+01	0.0000E+00
9.5149E+01	-3.2810E+01	0.0000E+00
1.0499E+02	3.2810E+01	0.0000E+00
1.0499E+02	-3.2810E+01	0.0000E+00
1.1484E+02	3.2810E+01	0.0000E+00
1.1484E+02	-3.2810E+01	0.0000E+00
1.3452E+02	3.2810E+01	0.0000E+00
1.3452E+02	-3.2810E+01	0.0000E+00
1.6405E+02	3.2810E+01	0.0000E+00
1.6405E+02	-3.2810E+01	0.0000E+00
1.9686E+02	3.2810E+01	0.0000E+00
1.9686E+02	-3.2810E+01	0.0000E+00

2.2967E+02	3.2810E+01	0.0000E+00
2.2967E+02	-3.2810E+01	0.0000E+00
2.6248E+02	3.2810E+01	0.0000E+00
2.6248E+02	-3.2810E+01	0.0000E+00
2.9529E+02	3.2810E+01	0.0000E+00
2.9529E+02	-3.2810E+01	0.0000E+00
3.2810E+02	3.2810E+01	0.0000E+00
3.2810E+02	-3.2810E+01	0.0000E+00
6.5620E+00	4.9215E+01	3.0920E+00
6.5620E+00	-4.9215E+01	3.0920E+00
1.6405E+01	4.9215E+01	4.6897E-04
1.6405E+01	-4.9215E+01	4.6897E-04
2.6248E+01	4.9215E+01	7.7170E-11
2.6248E+01	-4.9215E+01	7.7170E-11
3.6091E+01	4.9215E+01	1.1477E-20
3.6091E+01	-4.9215E+01	1.1477E-20
4.5934E+01	4.9215E+01	0.0000E+00
4.5934E+01	-4.9215E+01	0.0000E+00
5.5777E+01	4.9215E+01	0.0000E+00
5.5777E+01	-4.9215E+01	0.0000E+00
6.5620E+01	4.9215E+01	0.0000E+00
6.5620E+01	-4.9215E+01	0.0000E+00
7.5463E+01	4.9215E+01	0.0000E+00
7.5463E+01	-4.9215E+01	0.0000E+00
8.5306E+01	4.9215E+01	0.0000E+00
8.5306E+01	-4.9215E+01	0.0000E+00
9.5149E+01	4.9215E+01	0.0000E+00
9.5149E+01	-4.9215E+01	0.0000E+00
1.0499E+02	4.9215E+01	0.0000E+00
1.0499E+02	-4.9215E+01	0.0000E+00
1.1484E+02	4.9215E+01	0.0000E+00
1.1484E+02	-4.9215E+01	0.0000E+00
1.3452E+02	4.9215E+01	0.0000E+00
1.3452E+02	-4.9215E+01	0.0000E+00
1.6405E+02	4.9215E+01	0.0000E+00
1.6405E+02	-4.9215E+01	0.0000E+00
1.9686E+02	4.9215E+01	0.0000E+00
1.9686E+02	-4.9215E+01	0.0000E+00
2.2967E+02	4.9215E+01	0.0000E+00
2.2967E+02	-4.9215E+01	0.0000E+00
2.6248E+02	4.9215E+01	0.0000E+00
2.6248E+02	-4.9215E+01	0.0000E+00
2.9529E+02	4.9215E+01	0.0000E+00
2.9529E+02	-4.9215E+01	0.0000E+00
3.2810E+02	4.9215E+01	0.0000E+00
3.2810E+02	-4.9215E+01	0.0000E+00
6.5620E+00	6.5620E+01	3.0920E+00
6.5620E+00	-6.5620E+01	3.0920E+00
1.6405E+01	6.5620E+01	4.6897E-04
1.6405E+01	-6.5620E+01	4.6897E-04
2.6248E+01	6.5620E+01	7.7170E-11
2.6248E+01	-6.5620E+01	7.7170E-11
3.6091E+01	6.5620E+01	1.1477E-20
3.6091E+01	-6.5620E+01	1.1477E-20
4.5934E+01	6.5620E+01	0.0000E+00
4.5934E+01	-6.5620E+01	0.0000E+00
5.5777E+01	6.5620E+01	0.0000E+00
5.5777E+01	-6.5620E+01	0.0000E+00
6.5620E+01	6.5620E+01	0.0000E+00
6.5620E+01	-6.5620E+01	0.0000E+00
7.5463E+01	6.5620E+01	0.0000E+00
7.5463E+01	-6.5620E+01	0.0000E+00
8.5306E+01	6.5620E+01	0.0000E+00
8.5306E+01	-6.5620E+01	0.0000E+00
9.5149E+01	6.5620E+01	0.0000E+00
9.5149E+01	-6.5620E+01	0.0000E+00
1.0499E+02	6.5620E+01	0.0000E+00
1.0499E+02	-6.5620E+01	0.0000E+00
1.1484E+02	6.5620E+01	0.0000E+00
1.1484E+02	-6.5620E+01	0.0000E+00

0032474

1.3452E+02	6.5620E+01	0.0000E+00
1.3452E+02	-6.5620E+01	0.0000E+00
1.6405E+02	6.5620E+01	0.0000E+00
1.6405E+02	-6.5620E+01	0.0000E+00
1.9686E+02	6.5620E+01	0.0000E+00
1.9686E+02	-6.5620E+01	0.0000E+00
2.2967E+02	6.5620E+01	0.0000E+00
2.2967E+02	-6.5620E+01	0.0000E+00
2.6248E+02	6.5620E+01	0.0000E+00
2.6248E+02	-6.5620E+01	0.0000E+00
2.9529E+02	6.5620E+01	0.0000E+00
2.9529E+02	-6.5620E+01	0.0000E+00
3.2810E+02	6.5620E+01	0.0000E+00
3.2810E+02	-6.5620E+01	0.0000E+00
6.5620E+00	8.2025E+01	3.0920E+00
6.5620E+00	-8.2025E+01	3.0920E+00
1.6405E+01	8.2025E+01	4.6897E-04
1.6405E+01	-8.2025E+01	4.6897E-04
2.6248E+01	8.2025E+01	7.7170E-11
2.6248E+01	-8.2025E+01	7.7170E-11
3.6091E+01	8.2025E+01	1.1477E-20
3.6091E+01	-8.2025E+01	1.1477E-20
4.5934E+01	8.2025E+01	0.0000E+00
4.5934E+01	-8.2025E+01	0.0000E+00
5.5777E+01	8.2025E+01	0.0000E+00
5.5777E+01	-8.2025E+01	0.0000E+00
6.5620E+01	8.2025E+01	0.0000E+00
6.5620E+01	-8.2025E+01	0.0000E+00
7.5463E+01	8.2025E+01	0.0000E+00
7.5463E+01	-8.2025E+01	0.0000E+00
8.5306E+01	8.2025E+01	0.0000E+00
8.5306E+01	-8.2025E+01	0.0000E+00
9.5149E+01	8.2025E+01	0.0000E+00
9.5149E+01	-8.2025E+01	0.0000E+00
1.0499E+02	8.2025E+01	0.0000E+00
1.0499E+02	-8.2025E+01	0.0000E+00
1.1484E+02	8.2025E+01	0.0000E+00
1.1484E+02	-8.2025E+01	0.0000E+00
1.3452E+02	8.2025E+01	0.0000E+00
1.3452E+02	-8.2025E+01	0.0000E+00
1.6405E+02	8.2025E+01	0.0000E+00
1.6405E+02	-8.2025E+01	0.0000E+00
1.9686E+02	8.2025E+01	0.0000E+00
1.9686E+02	-8.2025E+01	0.0000E+00
2.2967E+02	8.2025E+01	0.0000E+00
2.2967E+02	-8.2025E+01	0.0000E+00
2.6248E+02	8.2025E+01	0.0000E+00
2.6248E+02	-8.2025E+01	0.0000E+00
2.9529E+02	8.2025E+01	0.0000E+00
2.9529E+02	-8.2025E+01	0.0000E+00
3.2810E+02	8.2025E+01	0.0000E+00
3.2810E+02	-8.2025E+01	0.0000E+00
6.5620E+00	9.8430E+01	1.5460E+00
6.5620E+00	-9.8430E+01	1.5460E+00
1.6405E+01	9.8430E+01	2.3449E-04
1.6405E+01	-9.8430E+01	2.3449E-04
2.6248E+01	9.8430E+01	3.8585E-11
2.6248E+01	-9.8430E+01	3.8585E-11
3.6091E+01	9.8430E+01	0.0000E+00
3.6091E+01	-9.8430E+01	0.0000E+00
4.5934E+01	9.8430E+01	0.0000E+00
4.5934E+01	-9.8430E+01	0.0000E+00
5.5777E+01	9.8430E+01	0.0000E+00
5.5777E+01	-9.8430E+01	0.0000E+00
6.5620E+01	9.8430E+01	0.0000E+00
6.5620E+01	-9.8430E+01	0.0000E+00
7.5463E+01	9.8430E+01	0.0000E+00
7.5463E+01	-9.8430E+01	0.0000E+00
8.5306E+01	9.8430E+01	0.0000E+00
8.5306E+01	-9.8430E+01	0.0000E+00

9.5149E+01	9.8430E+01	0.0000E+00
9.5149E+01	-9.8430E+01	0.0000E+00
1.0499E+02	9.8430E+01	0.0000E+00
1.0499E+02	-9.8430E+01	0.0000E+00
1.1484E+02	9.8430E+01	0.0000E+00
1.1484E+02	-9.8430E+01	0.0000E+00
1.3452E+02	9.8430E+01	0.0000E+00
1.3452E+02	-9.8430E+01	0.0000E+00
1.6405E+02	9.8430E+01	0.0000E+00
1.6405E+02	-9.8430E+01	0.0000E+00
1.9686E+02	9.8430E+01	0.0000E+00
1.9686E+02	-9.8430E+01	0.0000E+00
2.2967E+02	9.8430E+01	0.0000E+00
2.2967E+02	-9.8430E+01	0.0000E+00
2.6248E+02	9.8430E+01	0.0000E+00
2.6248E+02	-9.8430E+01	0.0000E+00
2.9529E+02	9.8430E+01	0.0000E+00
2.9529E+02	-9.8430E+01	0.0000E+00
3.2810E+02	9.8430E+01	0.0000E+00
3.2810E+02	-9.8430E+01	0.0000E+00
6.5620E+00	1.1484E+02	0.0000E+00
6.5620E+00	-1.1484E+02	0.0000E+00
1.6405E+01	1.1484E+02	0.0000E+00
1.6405E+01	-1.1484E+02	0.0000E+00
2.6248E+01	1.1484E+02	0.0000E+00
2.6248E+01	-1.1484E+02	0.0000E+00
3.6091E+01	1.1484E+02	0.0000E+00
3.6091E+01	-1.1484E+02	0.0000E+00
4.5934E+01	1.1484E+02	0.0000E+00
4.5934E+01	-1.1484E+02	0.0000E+00
5.5777E+01	1.1484E+02	0.0000E+00
5.5777E+01	-1.1484E+02	0.0000E+00
6.5620E+01	1.1484E+02	0.0000E+00
6.5620E+01	-1.1484E+02	0.0000E+00
7.5463E+01	1.1484E+02	0.0000E+00
7.5463E+01	-1.1484E+02	0.0000E+00
8.5306E+01	1.1484E+02	0.0000E+00
8.5306E+01	-1.1484E+02	0.0000E+00
9.5149E+01	1.1484E+02	0.0000E+00
9.5149E+01	-1.1484E+02	0.0000E+00
1.0499E+02	1.1484E+02	0.0000E+00
1.0499E+02	-1.1484E+02	0.0000E+00
1.1484E+02	1.1484E+02	0.0000E+00
1.1484E+02	-1.1484E+02	0.0000E+00
1.3452E+02	1.1484E+02	0.0000E+00
1.3452E+02	-1.1484E+02	0.0000E+00
1.6405E+02	1.1484E+02	0.0000E+00
1.6405E+02	-1.1484E+02	0.0000E+00
1.9686E+02	1.1484E+02	0.0000E+00
1.9686E+02	-1.1484E+02	0.0000E+00
2.2967E+02	1.1484E+02	0.0000E+00
2.2967E+02	-1.1484E+02	0.0000E+00
2.6248E+02	1.1484E+02	0.0000E+00
2.6248E+02	-1.1484E+02	0.0000E+00
2.9529E+02	1.1484E+02	0.0000E+00
2.9529E+02	-1.1484E+02	0.0000E+00
3.2810E+02	1.1484E+02	0.0000E+00
3.2810E+02	-1.1484E+02	0.0000E+00
6.5620E+00	1.3124E+02	0.0000E+00
6.5620E+00	-1.3124E+02	0.0000E+00
1.6405E+01	1.3124E+02	0.0000E+00
1.6405E+01	-1.3124E+02	0.0000E+00
2.6248E+01	1.3124E+02	0.0000E+00
2.6248E+01	-1.3124E+02	0.0000E+00
3.6091E+01	1.3124E+02	0.0000E+00
3.6091E+01	-1.3124E+02	0.0000E+00
4.5934E+01	1.3124E+02	0.0000E+00
4.5934E+01	-1.3124E+02	0.0000E+00
5.5777E+01	1.3124E+02	0.0000E+00
5.5777E+01	-1.3124E+02	0.0000E+00

6.5620E+01	1.3124E+02	0.0000E+00
6.5620E+01	-1.3124E+02	0.0000E+00
7.5463E+01	1.3124E+02	0.0000E+00
7.5463E+01	-1.3124E+02	0.0000E+00
8.5306E+01	1.3124E+02	0.0000E+00
8.5306E+01	-1.3124E+02	0.0000E+00
9.5149E+01	1.3124E+02	0.0000E+00
9.5149E+01	-1.3124E+02	0.0000E+00
1.0499E+02	1.3124E+02	0.0000E+00
1.0499E+02	-1.3124E+02	0.0000E+00
1.1484E+02	1.3124E+02	0.0000E+00
1.1484E+02	-1.3124E+02	0.0000E+00
1.3452E+02	1.3124E+02	0.0000E+00
1.3452E+02	-1.3124E+02	0.0000E+00
1.6405E+02	1.3124E+02	0.0000E+00
1.6405E+02	-1.3124E+02	0.0000E+00
1.9686E+02	1.3124E+02	0.0000E+00
1.9686E+02	-1.3124E+02	0.0000E+00
2.2967E+02	1.3124E+02	0.0000E+00
2.2967E+02	-1.3124E+02	0.0000E+00
2.6248E+02	1.3124E+02	0.0000E+00
2.6248E+02	-1.3124E+02	0.0000E+00
2.9529E+02	1.3124E+02	0.0000E+00
2.9529E+02	-1.3124E+02	0.0000E+00
3.2810E+02	1.3124E+02	0.0000E+00
3.2810E+02	-1.3124E+02	0.0000E+00
6.5620E+00	1.4765E+02	0.0000E+00
6.5620E+00	-1.4765E+02	0.0000E+00
1.6405E+01	1.4765E+02	0.0000E+00
1.6405E+01	-1.4765E+02	0.0000E+00
2.6248E+01	1.4765E+02	0.0000E+00
2.6248E+01	-1.4765E+02	0.0000E+00
3.6091E+01	1.4765E+02	0.0000E+00
3.6091E+01	-1.4765E+02	0.0000E+00
4.5934E+01	1.4765E+02	0.0000E+00
4.5934E+01	-1.4765E+02	0.0000E+00
5.5777E+01	1.4765E+02	0.0000E+00
5.5777E+01	-1.4765E+02	0.0000E+00
6.5620E+01	1.4765E+02	0.0000E+00
6.5620E+01	-1.4765E+02	0.0000E+00
7.5463E+01	1.4765E+02	0.0000E+00
7.5463E+01	-1.4765E+02	0.0000E+00
8.5306E+01	1.4765E+02	0.0000E+00
8.5306E+01	-1.4765E+02	0.0000E+00
9.5149E+01	1.4765E+02	0.0000E+00
9.5149E+01	-1.4765E+02	0.0000E+00
1.0499E+02	1.4765E+02	0.0000E+00
1.0499E+02	-1.4765E+02	0.0000E+00
1.1484E+02	1.4765E+02	0.0000E+00
1.1484E+02	-1.4765E+02	0.0000E+00
1.3452E+02	1.4765E+02	0.0000E+00
1.3452E+02	-1.4765E+02	0.0000E+00
1.6405E+02	1.4765E+02	0.0000E+00
1.6405E+02	-1.4765E+02	0.0000E+00
1.9686E+02	1.4765E+02	0.0000E+00
1.9686E+02	-1.4765E+02	0.0000E+00
2.2967E+02	1.4765E+02	0.0000E+00
2.2967E+02	-1.4765E+02	0.0000E+00
2.6248E+02	1.4765E+02	0.0000E+00
2.6248E+02	-1.4765E+02	0.0000E+00
2.9529E+02	1.4765E+02	0.0000E+00
2.9529E+02	-1.4765E+02	0.0000E+00
3.2810E+02	1.4765E+02	0.0000E+00
3.2810E+02	-1.4765E+02	0.0000E+00
6.5620E+00	1.6405E+02	0.0000E+00
6.5620E+00	-1.6405E+02	0.0000E+00
1.6405E+01	1.6405E+02	0.0000E+00
1.6405E+01	-1.6405E+02	0.0000E+00
2.6248E+01	1.6405E+02	0.0000E+00
2.6248E+01	-1.6405E+02	0.0000E+00

3.6091E+01	1.6405E+02	0.0000E+00
3.6091E+01	-1.6405E+02	0.0000E+00
4.5934E+01	1.6405E+02	0.0000E+00
4.5934E+01	-1.6405E+02	0.0000E+00
5.5777E+01	1.6405E+02	0.0000E+00
5.5777E+01	-1.6405E+02	0.0000E+00
6.5620E+01	1.6405E+02	0.0000E+00
6.5620E+01	-1.6405E+02	0.0000E+00
7.5463E+01	1.6405E+02	0.0000E+00
7.5463E+01	-1.6405E+02	0.0000E+00
8.5306E+01	1.6405E+02	0.0000E+00
8.5306E+01	-1.6405E+02	0.0000E+00
9.5149E+01	1.6405E+02	0.0000E+00
9.5149E+01	-1.6405E+02	0.0000E+00
1.0499E+02	1.6405E+02	0.0000E+00
1.0499E+02	-1.6405E+02	0.0000E+00
1.1484E+02	1.6405E+02	0.0000E+00
1.1484E+02	-1.6405E+02	0.0000E+00
1.3452E+02	1.6405E+02	0.0000E+00
1.3452E+02	-1.6405E+02	0.0000E+00
1.6405E+02	1.6405E+02	0.0000E+00
1.6405E+02	-1.6405E+02	0.0000E+00
1.9686E+02	1.6405E+02	0.0000E+00
1.9686E+02	-1.6405E+02	0.0000E+00
2.2967E+02	1.6405E+02	0.0000E+00
2.2967E+02	-1.6405E+02	0.0000E+00
2.6248E+02	1.6405E+02	0.0000E+00
2.6248E+02	-1.6405E+02	0.0000E+00
2.9529E+02	1.6405E+02	0.0000E+00
2.9529E+02	-1.6405E+02	0.0000E+00
3.2810E+02	1.6405E+02	0.0000E+00
3.2810E+02	-1.6405E+02	0.0000E+00

time = 1.2000E+02

Run 6 Output

x	y	c (ppm)
6.5620E+00	0.0000E+00	8.5608E+00
1.6405E+01	0.0000E+00	9.0630E-02
2.6248E+01	0.0000E+00	3.4900E-05
3.6091E+01	0.0000E+00	4.2663E-10
4.5934E+01	0.0000E+00	1.5704E-16
5.5777E+01	0.0000E+00	0.0000E+00
6.5620E+01	0.0000E+00	0.0000E+00
7.5463E+01	0.0000E+00	0.0000E+00
8.5306E+01	0.0000E+00	0.0000E+00
9.5149E+01	0.0000E+00	0.0000E+00
1.0499E+02	0.0000E+00	0.0000E+00
1.1484E+02	0.0000E+00	0.0000E+00
1.3452E+02	0.0000E+00	0.0000E+00
1.6405E+02	0.0000E+00	0.0000E+00
1.9686E+02	0.0000E+00	0.0000E+00
2.2967E+02	0.0000E+00	0.0000E+00
2.6248E+02	0.0000E+00	0.0000E+00
2.9529E+02	0.0000E+00	0.0000E+00
3.2810E+02	0.0000E+00	0.0000E+00
6.5620E+00	6.5620E+00	8.5608E+00
6.5620E+00	-6.5620E+00	8.5608E+00
1.6405E+01	6.5620E+00	9.0630E-02
1.6405E+01	-6.5620E+00	9.0630E-02
2.6248E+01	6.5620E+00	3.4900E-05
2.6248E+01	-6.5620E+00	3.4900E-05
3.6091E+01	6.5620E+00	4.2663E-10
3.6091E+01	-6.5620E+00	4.2663E-10
4.5934E+01	6.5620E+00	1.5704E-16
4.5934E+01	-6.5620E+00	1.5704E-16
5.5777E+01	6.5620E+00	0.0000E+00
5.5777E+01	-6.5620E+00	0.0000E+00
6.5620E+01	6.5620E+00	0.0000E+00
6.5620E+01	-6.5620E+00	0.0000E+00
7.5463E+01	6.5620E+00	0.0000E+00
7.5463E+01	-6.5620E+00	0.0000E+00
8.5306E+01	6.5620E+00	0.0000E+00

0032478

8.5306E+01	-6.5620E+00	0.0000E+00
9.5149E+01	6.5620E+00	0.0000E+00
9.5149E+01	-6.5620E+00	0.0000E+00
1.0499E+02	6.5620E+00	0.0000E+00
1.0499E+02	-6.5620E+00	0.0000E+00
1.1484E+02	6.5620E+00	0.0000E+00
1.1484E+02	-6.5620E+00	0.0000E+00
1.3452E+02	6.5620E+00	0.0000E+00
1.3452E+02	-6.5620E+00	0.0000E+00
1.6405E+02	6.5620E+00	0.0000E+00
1.6405E+02	-6.5620E+00	0.0000E+00
1.9686E+02	6.5620E+00	0.0000E+00
1.9686E+02	-6.5620E+00	0.0000E+00
2.2967E+02	6.5620E+00	0.0000E+00
2.2967E+02	-6.5620E+00	0.0000E+00
2.6248E+02	6.5620E+00	0.0000E+00
2.6248E+02	-6.5620E+00	0.0000E+00
2.9529E+02	6.5620E+00	0.0000E+00
2.9529E+02	-6.5620E+00	0.0000E+00
3.2810E+02	6.5620E+00	0.0000E+00
3.2810E+02	-6.5620E+00	0.0000E+00
6.5620E+00	1.3124E+01	8.5608E+00
6.5620E+00	-1.3124E+01	8.5608E+00
1.6405E+01	1.3124E+01	9.0630E-02
1.6405E+01	-1.3124E+01	9.0630E-02
2.6248E+01	1.3124E+01	3.4900E-05
2.6248E+01	-1.3124E+01	3.4900E-05
3.6091E+01	1.3124E+01	4.2663E-10
3.6091E+01	-1.3124E+01	4.2663E-10
4.5934E+01	1.3124E+01	1.5704E-16
4.5934E+01	-1.3124E+01	1.5704E-16
5.5777E+01	1.3124E+01	0.0000E+00
5.5777E+01	-1.3124E+01	0.0000E+00
6.5620E+01	1.3124E+01	0.0000E+00
6.5620E+01	-1.3124E+01	0.0000E+00
7.5463E+01	1.3124E+01	0.0000E+00
7.5463E+01	-1.3124E+01	0.0000E+00
8.5306E+01	1.3124E+01	0.0000E+00
8.5306E+01	-1.3124E+01	0.0000E+00
9.5149E+01	1.3124E+01	0.0000E+00
9.5149E+01	-1.3124E+01	0.0000E+00
1.0499E+02	1.3124E+01	0.0000E+00
1.0499E+02	-1.3124E+01	0.0000E+00
1.1484E+02	1.3124E+01	0.0000E+00
1.1484E+02	-1.3124E+01	0.0000E+00
1.3452E+02	1.3124E+01	0.0000E+00
1.3452E+02	-1.3124E+01	0.0000E+00
1.6405E+02	1.3124E+01	0.0000E+00
1.6405E+02	-1.3124E+01	0.0000E+00
1.9686E+02	1.3124E+01	0.0000E+00
1.9686E+02	-1.3124E+01	0.0000E+00
2.2967E+02	1.3124E+01	0.0000E+00
2.2967E+02	-1.3124E+01	0.0000E+00
2.6248E+02	1.3124E+01	0.0000E+00
2.6248E+02	-1.3124E+01	0.0000E+00
2.9529E+02	1.3124E+01	0.0000E+00
2.9529E+02	-1.3124E+01	0.0000E+00
3.2810E+02	1.3124E+01	0.0000E+00
3.2810E+02	-1.3124E+01	0.0000E+00
6.5620E+00	1.9686E+01	8.5608E+00
6.5620E+00	-1.9686E+01	8.5608E+00
1.6405E+01	1.9686E+01	9.0630E-02
1.6405E+01	-1.9686E+01	9.0630E-02
2.6248E+01	1.9686E+01	3.4900E-05
2.6248E+01	-1.9686E+01	3.4900E-05
3.6091E+01	1.9686E+01	4.2663E-10
3.6091E+01	-1.9686E+01	4.2663E-10
4.5934E+01	1.9686E+01	1.5704E-16
4.5934E+01	-1.9686E+01	1.5704E-16
5.5777E+01	1.9686E+01	0.0000E+00

5.5777E+01	-1.9686E+01	0.0000E+00
6.5620E+01	1.9686E+01	0.0000E+00
6.5620E+01	-1.9686E+01	0.0000E+00
7.5463E+01	1.9686E+01	0.0000E+00
7.5463E+01	-1.9686E+01	0.0000E+00
8.5306E+01	1.9686E+01	0.0000E+00
8.5306E+01	-1.9686E+01	0.0000E+00
9.5149E+01	1.9686E+01	0.0000E+00
9.5149E+01	-1.9686E+01	0.0000E+00
1.0499E+02	1.9686E+01	0.0000E+00
1.0499E+02	-1.9686E+01	0.0000E+00
1.1484E+02	1.9686E+01	0.0000E+00
1.1484E+02	-1.9686E+01	0.0000E+00
1.3452E+02	1.9686E+01	0.0000E+00
1.3452E+02	-1.9686E+01	0.0000E+00
1.6405E+02	1.9686E+01	0.0000E+00
1.6405E+02	-1.9686E+01	0.0000E+00
1.9686E+02	1.9686E+01	0.0000E+00
1.9686E+02	-1.9686E+01	0.0000E+00
2.2967E+02	1.9686E+01	0.0000E+00
2.2967E+02	-1.9686E+01	0.0000E+00
2.6248E+02	1.9686E+01	0.0000E+00
2.6248E+02	-1.9686E+01	0.0000E+00
2.9529E+02	1.9686E+01	0.0000E+00
2.9529E+02	-1.9686E+01	0.0000E+00
3.2810E+02	1.9686E+01	0.0000E+00
3.2810E+02	-1.9686E+01	0.0000E+00
6.5620E+00	2.6248E+01	8.5608E+00
6.5620E+00	-2.6248E+01	8.5608E+00
1.6405E+01	2.6248E+01	9.0630E-02
1.6405E+01	-2.6248E+01	9.0630E-02
2.6248E+01	2.6248E+01	3.4900E-05
2.6248E+01	-2.6248E+01	3.4900E-05
3.6091E+01	2.6248E+01	4.2663E-10
3.6091E+01	-2.6248E+01	4.2663E-10
4.5934E+01	2.6248E+01	1.5704E-16
4.5934E+01	-2.6248E+01	1.5704E-16
5.5777E+01	2.6248E+01	0.0000E+00
5.5777E+01	-2.6248E+01	0.0000E+00
6.5620E+01	2.6248E+01	0.0000E+00
6.5620E+01	-2.6248E+01	0.0000E+00
7.5463E+01	2.6248E+01	0.0000E+00
7.5463E+01	-2.6248E+01	0.0000E+00
8.5306E+01	2.6248E+01	0.0000E+00
8.5306E+01	-2.6248E+01	0.0000E+00
9.5149E+01	2.6248E+01	0.0000E+00
9.5149E+01	-2.6248E+01	0.0000E+00
1.0499E+02	2.6248E+01	0.0000E+00
1.0499E+02	-2.6248E+01	0.0000E+00
1.1484E+02	2.6248E+01	0.0000E+00
1.1484E+02	-2.6248E+01	0.0000E+00
1.3452E+02	2.6248E+01	0.0000E+00
1.3452E+02	-2.6248E+01	0.0000E+00
1.6405E+02	2.6248E+01	0.0000E+00
1.6405E+02	-2.6248E+01	0.0000E+00
1.9686E+02	2.6248E+01	0.0000E+00
1.9686E+02	-2.6248E+01	0.0000E+00
2.2967E+02	2.6248E+01	0.0000E+00
2.2967E+02	-2.6248E+01	0.0000E+00
2.6248E+02	2.6248E+01	0.0000E+00
2.6248E+02	-2.6248E+01	0.0000E+00
2.9529E+02	2.6248E+01	0.0000E+00
2.9529E+02	-2.6248E+01	0.0000E+00
3.2810E+02	2.6248E+01	0.0000E+00
3.2810E+02	-2.6248E+01	0.0000E+00
6.5620E+00	3.2810E+01	8.5608E+00
6.5620E+00	-3.2810E+01	8.5608E+00
1.6405E+01	3.2810E+01	9.0630E-02
1.6405E+01	-3.2810E+01	9.0630E-02
2.6248E+01	3.2810E+01	3.4900E-05

2.6248E+01	-3.2810E+01	3.4900E-05
3.6091E+01	3.2810E+01	4.2663E-10
3.6091E+01	-3.2810E+01	4.2663E-10
4.5934E+01	3.2810E+01	1.5704E-16
4.5934E+01	-3.2810E+01	1.5704E-16
5.5777E+01	3.2810E+01	0.0000E+00
5.5777E+01	-3.2810E+01	0.0000E+00
6.5620E+01	3.2810E+01	0.0000E+00
6.5620E+01	-3.2810E+01	0.0000E+00
7.5463E+01	3.2810E+01	0.0000E+00
7.5463E+01	-3.2810E+01	0.0000E+00
8.5306E+01	3.2810E+01	0.0000E+00
8.5306E+01	-3.2810E+01	0.0000E+00
9.5149E+01	3.2810E+01	0.0000E+00
9.5149E+01	-3.2810E+01	0.0000E+00
1.0499E+02	3.2810E+01	0.0000E+00
1.0499E+02	-3.2810E+01	0.0000E+00
1.1484E+02	3.2810E+01	0.0000E+00
1.1484E+02	-3.2810E+01	0.0000E+00
1.3452E+02	3.2810E+01	0.0000E+00
1.3452E+02	-3.2810E+01	0.0000E+00
1.6405E+02	3.2810E+01	0.0000E+00
1.6405E+02	-3.2810E+01	0.0000E+00
1.9686E+02	3.2810E+01	0.0000E+00
1.9686E+02	-3.2810E+01	0.0000E+00
2.2967E+02	3.2810E+01	0.0000E+00
2.2967E+02	-3.2810E+01	0.0000E+00
2.6248E+02	3.2810E+01	0.0000E+00
2.6248E+02	-3.2810E+01	0.0000E+00
2.9529E+02	3.2810E+01	0.0000E+00
2.9529E+02	-3.2810E+01	0.0000E+00
3.2810E+02	3.2810E+01	0.0000E+00
3.2810E+02	-3.2810E+01	0.0000E+00
6.5620E+00	4.9215E+01	8.5608E+00
6.5620E+00	-4.9215E+01	8.5608E+00
1.6405E+01	4.9215E+01	9.0630E-02
1.6405E+01	-4.9215E+01	9.0630E-02
2.6248E+01	4.9215E+01	3.4900E-05
2.6248E+01	-4.9215E+01	3.4900E-05
3.6091E+01	4.9215E+01	4.2663E-10
3.6091E+01	-4.9215E+01	4.2663E-10
4.5934E+01	4.9215E+01	1.5704E-16
4.5934E+01	-4.9215E+01	1.5704E-16
5.5777E+01	4.9215E+01	0.0000E+00
5.5777E+01	-4.9215E+01	0.0000E+00
6.5620E+01	4.9215E+01	0.0000E+00
6.5620E+01	-4.9215E+01	0.0000E+00
7.5463E+01	4.9215E+01	0.0000E+00
7.5463E+01	-4.9215E+01	0.0000E+00
8.5306E+01	4.9215E+01	0.0000E+00
8.5306E+01	-4.9215E+01	0.0000E+00
9.5149E+01	4.9215E+01	0.0000E+00
9.5149E+01	-4.9215E+01	0.0000E+00
1.0499E+02	4.9215E+01	0.0000E+00
1.0499E+02	-4.9215E+01	0.0000E+00
1.1484E+02	4.9215E+01	0.0000E+00
1.1484E+02	-4.9215E+01	0.0000E+00
1.3452E+02	4.9215E+01	0.0000E+00
1.3452E+02	-4.9215E+01	0.0000E+00
1.6405E+02	4.9215E+01	0.0000E+00
1.6405E+02	-4.9215E+01	0.0000E+00
1.9686E+02	4.9215E+01	0.0000E+00
1.9686E+02	-4.9215E+01	0.0000E+00
2.2967E+02	4.9215E+01	0.0000E+00
2.2967E+02	-4.9215E+01	0.0000E+00
2.6248E+02	4.9215E+01	0.0000E+00
2.6248E+02	-4.9215E+01	0.0000E+00
2.9529E+02	4.9215E+01	0.0000E+00
2.9529E+02	-4.9215E+01	0.0000E+00
3.2810E+02	4.9215E+01	0.0000E+00

3.2810E+02	-4.9215E+01	0.0000E+00
6.5620E+00	6.5620E+01	8.5608E+00
6.5620E+00	-6.5620E+01	8.5608E+00
1.6405E+01	6.5620E+01	9.0630E-02
1.6405E+01	-6.5620E+01	9.0630E-02
2.6248E+01	6.5620E+01	3.4900E-05
2.6248E+01	-6.5620E+01	3.4900E-05
3.6091E+01	6.5620E+01	4.2663E-10
3.6091E+01	-6.5620E+01	4.2663E-10
4.5934E+01	6.5620E+01	1.5704E-16
4.5934E+01	-6.5620E+01	1.5704E-16
5.5777E+01	6.5620E+01	0.0000E+00
5.5777E+01	-6.5620E+01	0.0000E+00
6.5620E+01	6.5620E+01	0.0000E+00
6.5620E+01	-6.5620E+01	0.0000E+00
7.5463E+01	6.5620E+01	0.0000E+00
7.5463E+01	-6.5620E+01	0.0000E+00
8.5306E+01	6.5620E+01	0.0000E+00
8.5306E+01	-6.5620E+01	0.0000E+00
9.5149E+01	6.5620E+01	0.0000E+00
9.5149E+01	-6.5620E+01	0.0000E+00
1.0499E+02	6.5620E+01	0.0000E+00
1.0499E+02	-6.5620E+01	0.0000E+00
1.1484E+02	6.5620E+01	0.0000E+00
1.1484E+02	-6.5620E+01	0.0000E+00
1.3452E+02	6.5620E+01	0.0000E+00
1.3452E+02	-6.5620E+01	0.0000E+00
1.6405E+02	6.5620E+01	0.0000E+00
1.6405E+02	-6.5620E+01	0.0000E+00
1.9686E+02	6.5620E+01	0.0000E+00
1.9686E+02	-6.5620E+01	0.0000E+00
2.2967E+02	6.5620E+01	0.0000E+00
2.2967E+02	-6.5620E+01	0.0000E+00
2.6248E+02	6.5620E+01	0.0000E+00
2.6248E+02	-6.5620E+01	0.0000E+00
2.9529E+02	6.5620E+01	0.0000E+00
2.9529E+02	-6.5620E+01	0.0000E+00
3.2810E+02	6.5620E+01	0.0000E+00
3.2810E+02	-6.5620E+01	0.0000E+00
6.5620E+00	8.2025E+01	8.5608E+00
6.5620E+00	-8.2025E+01	8.5608E+00
1.6405E+01	8.2025E+01	9.0630E-02
1.6405E+01	-8.2025E+01	9.0630E-02
2.6248E+01	8.2025E+01	3.4900E-05
2.6248E+01	-8.2025E+01	3.4900E-05
3.6091E+01	8.2025E+01	4.2663E-10
3.6091E+01	-8.2025E+01	4.2663E-10
4.5934E+01	8.2025E+01	1.5704E-16
4.5934E+01	-8.2025E+01	1.5704E-16
5.5777E+01	8.2025E+01	0.0000E+00
5.5777E+01	-8.2025E+01	0.0000E+00
6.5620E+01	8.2025E+01	0.0000E+00
6.5620E+01	-8.2025E+01	0.0000E+00
7.5463E+01	8.2025E+01	0.0000E+00
7.5463E+01	-8.2025E+01	0.0000E+00
8.5306E+01	8.2025E+01	0.0000E+00
8.5306E+01	-8.2025E+01	0.0000E+00
9.5149E+01	8.2025E+01	0.0000E+00
9.5149E+01	-8.2025E+01	0.0000E+00
1.0499E+02	8.2025E+01	0.0000E+00
1.0499E+02	-8.2025E+01	0.0000E+00
1.1484E+02	8.2025E+01	0.0000E+00
1.1484E+02	-8.2025E+01	0.0000E+00
1.3452E+02	8.2025E+01	0.0000E+00
1.3452E+02	-8.2025E+01	0.0000E+00
1.6405E+02	8.2025E+01	0.0000E+00
1.6405E+02	-8.2025E+01	0.0000E+00
1.9686E+02	8.2025E+01	0.0000E+00
1.9686E+02	-8.2025E+01	0.0000E+00
2.2967E+02	8.2025E+01	0.0000E+00

0032482

2.2967E+02	-8.2025E+01	0.0000E+00
2.6248E+02	8.2025E+01	0.0000E+00
2.6248E+02	-8.2025E+01	0.0000E+00
2.9529E+02	8.2025E+01	0.0000E+00
2.9529E+02	-8.2025E+01	0.0000E+00
3.2810E+02	8.2025E+01	0.0000E+00
3.2810E+02	-8.2025E+01	0.0000E+00
6.5620E+00	9.8430E+01	4.2804E+00
6.5620E+00	-9.8430E+01	4.2804E+00
1.6405E+01	9.8430E+01	4.5315E-02
1.6405E+01	-9.8430E+01	4.5315E-02
2.6248E+01	9.8430E+01	1.7450E-05
2.6248E+01	-9.8430E+01	1.7450E-05
3.6091E+01	9.8430E+01	2.1332E-10
3.6091E+01	-9.8430E+01	2.1332E-10
4.5934E+01	9.8430E+01	7.8522E-17
4.5934E+01	-9.8430E+01	7.8522E-17
5.5777E+01	9.8430E+01	0.0000E+00
5.5777E+01	-9.8430E+01	0.0000E+00
6.5620E+01	9.8430E+01	0.0000E+00
6.5620E+01	-9.8430E+01	0.0000E+00
7.5463E+01	9.8430E+01	0.0000E+00
7.5463E+01	-9.8430E+01	0.0000E+00
8.5306E+01	9.8430E+01	0.0000E+00
8.5306E+01	-9.8430E+01	0.0000E+00
9.5149E+01	9.8430E+01	0.0000E+00
9.5149E+01	-9.8430E+01	0.0000E+00
1.0499E+02	9.8430E+01	0.0000E+00
1.0499E+02	-9.8430E+01	0.0000E+00
1.1484E+02	9.8430E+01	0.0000E+00
1.1484E+02	-9.8430E+01	0.0000E+00
1.3452E+02	9.8430E+01	0.0000E+00
1.3452E+02	-9.8430E+01	0.0000E+00
1.6405E+02	9.8430E+01	0.0000E+00
1.6405E+02	-9.8430E+01	0.0000E+00
1.9686E+02	9.8430E+01	0.0000E+00
1.9686E+02	-9.8430E+01	0.0000E+00
2.2967E+02	9.8430E+01	0.0000E+00
2.2967E+02	-9.8430E+01	0.0000E+00
2.6248E+02	9.8430E+01	0.0000E+00
2.6248E+02	-9.8430E+01	0.0000E+00
2.9529E+02	9.8430E+01	0.0000E+00
2.9529E+02	-9.8430E+01	0.0000E+00
3.2810E+02	9.8430E+01	0.0000E+00
3.2810E+02	-9.8430E+01	0.0000E+00
6.5620E+00	1.1484E+02	0.0000E+00
6.5620E+00	-1.1484E+02	0.0000E+00
1.6405E+01	1.1484E+02	0.0000E+00
1.6405E+01	-1.1484E+02	0.0000E+00
2.6248E+01	1.1484E+02	0.0000E+00
2.6248E+01	-1.1484E+02	0.0000E+00
3.6091E+01	1.1484E+02	0.0000E+00
3.6091E+01	-1.1484E+02	0.0000E+00
4.5934E+01	1.1484E+02	0.0000E+00
4.5934E+01	-1.1484E+02	0.0000E+00
5.5777E+01	1.1484E+02	0.0000E+00
5.5777E+01	-1.1484E+02	0.0000E+00
6.5620E+01	1.1484E+02	0.0000E+00
6.5620E+01	-1.1484E+02	0.0000E+00
7.5463E+01	1.1484E+02	0.0000E+00
7.5463E+01	-1.1484E+02	0.0000E+00
8.5306E+01	1.1484E+02	0.0000E+00
8.5306E+01	-1.1484E+02	0.0000E+00
9.5149E+01	1.1484E+02	0.0000E+00
9.5149E+01	-1.1484E+02	0.0000E+00
1.0499E+02	1.1484E+02	0.0000E+00
1.0499E+02	-1.1484E+02	0.0000E+00
1.1484E+02	1.1484E+02	0.0000E+00
1.1484E+02	-1.1484E+02	0.0000E+00
1.3452E+02	1.1484E+02	0.0000E+00

1.3452E+02	-1.1484E+02	0.0000E+00
1.6405E+02	1.1484E+02	0.0000E+00
1.6405E+02	-1.1484E+02	0.0000E+00
1.9686E+02	1.1484E+02	0.0000E+00
1.9686E+02	-1.1484E+02	0.0000E+00
2.2967E+02	1.1484E+02	0.0000E+00
2.2967E+02	-1.1484E+02	0.0000E+00
2.6248E+02	1.1484E+02	0.0000E+00
2.6248E+02	-1.1484E+02	0.0000E+00
2.9529E+02	1.1484E+02	0.0000E+00
2.9529E+02	-1.1484E+02	0.0000E+00
3.2810E+02	1.1484E+02	0.0000E+00
3.2810E+02	-1.1484E+02	0.0000E+00
6.5620E+00	1.3124E+02	0.0000E+00
6.5620E+00	-1.3124E+02	0.0000E+00
1.6405E+01	1.3124E+02	0.0000E+00
1.6405E+01	-1.3124E+02	0.0000E+00
2.6248E+01	1.3124E+02	0.0000E+00
2.6248E+01	-1.3124E+02	0.0000E+00
3.6091E+01	1.3124E+02	0.0000E+00
3.6091E+01	-1.3124E+02	0.0000E+00
4.5934E+01	1.3124E+02	0.0000E+00
4.5934E+01	-1.3124E+02	0.0000E+00
5.5777E+01	1.3124E+02	0.0000E+00
5.5777E+01	-1.3124E+02	0.0000E+00
6.5620E+01	1.3124E+02	0.0000E+00
6.5620E+01	-1.3124E+02	0.0000E+00
7.5463E+01	1.3124E+02	0.0000E+00
7.5463E+01	-1.3124E+02	0.0000E+00
8.5306E+01	1.3124E+02	0.0000E+00
8.5306E+01	-1.3124E+02	0.0000E+00
9.5149E+01	1.3124E+02	0.0000E+00
9.5149E+01	-1.3124E+02	0.0000E+00
1.0499E+02	1.3124E+02	0.0000E+00
1.0499E+02	-1.3124E+02	0.0000E+00
1.1484E+02	1.3124E+02	0.0000E+00
1.1484E+02	-1.3124E+02	0.0000E+00
1.3452E+02	1.3124E+02	0.0000E+00
1.3452E+02	-1.3124E+02	0.0000E+00
1.6405E+02	1.3124E+02	0.0000E+00
1.6405E+02	-1.3124E+02	0.0000E+00
1.9686E+02	1.3124E+02	0.0000E+00
1.9686E+02	-1.3124E+02	0.0000E+00
2.2967E+02	1.3124E+02	0.0000E+00
2.2967E+02	-1.3124E+02	0.0000E+00
2.6248E+02	1.3124E+02	0.0000E+00
2.6248E+02	-1.3124E+02	0.0000E+00
2.9529E+02	1.3124E+02	0.0000E+00
2.9529E+02	-1.3124E+02	0.0000E+00
3.2810E+02	1.3124E+02	0.0000E+00
3.2810E+02	-1.3124E+02	0.0000E+00
6.5620E+00	1.4765E+02	0.0000E+00
6.5620E+00	-1.4765E+02	0.0000E+00
1.6405E+01	1.4765E+02	0.0000E+00
1.6405E+01	-1.4765E+02	0.0000E+00
2.6248E+01	1.4765E+02	0.0000E+00
2.6248E+01	-1.4765E+02	0.0000E+00
3.6091E+01	1.4765E+02	0.0000E+00
3.6091E+01	-1.4765E+02	0.0000E+00
4.5934E+01	1.4765E+02	0.0000E+00
4.5934E+01	-1.4765E+02	0.0000E+00
5.5777E+01	1.4765E+02	0.0000E+00
5.5777E+01	-1.4765E+02	0.0000E+00
6.5620E+01	1.4765E+02	0.0000E+00
6.5620E+01	-1.4765E+02	0.0000E+00
7.5463E+01	1.4765E+02	0.0000E+00
7.5463E+01	-1.4765E+02	0.0000E+00
8.5306E+01	1.4765E+02	0.0000E+00
8.5306E+01	-1.4765E+02	0.0000E+00
9.5149E+01	1.4765E+02	0.0000E+00

9.5149E+01	-1.4765E+02	0.0000E+00
1.0499E+02	1.4765E+02	0.0000E+00
1.0499E+02	-1.4765E+02	0.0000E+00
1.1484E+02	1.4765E+02	0.0000E+00
1.1484E+02	-1.4765E+02	0.0000E+00
1.3452E+02	1.4765E+02	0.0000E+00
1.3452E+02	-1.4765E+02	0.0000E+00
1.6405E+02	1.4765E+02	0.0000E+00
1.6405E+02	-1.4765E+02	0.0000E+00
1.9686E+02	1.4765E+02	0.0000E+00
1.9686E+02	-1.4765E+02	0.0000E+00
2.2967E+02	1.4765E+02	0.0000E+00
2.2967E+02	-1.4765E+02	0.0000E+00
2.6248E+02	1.4765E+02	0.0000E+00
2.6248E+02	-1.4765E+02	0.0000E+00
2.9529E+02	1.4765E+02	0.0000E+00
2.9529E+02	-1.4765E+02	0.0000E+00
3.2810E+02	1.4765E+02	0.0000E+00
3.2810E+02	-1.4765E+02	0.0000E+00
6.5620E+00	1.6405E+02	0.0000E+00
6.5620E+00	-1.6405E+02	0.0000E+00
1.6405E+01	1.6405E+02	0.0000E+00
1.6405E+01	-1.6405E+02	0.0000E+00
2.6248E+01	1.6405E+02	0.0000E+00
2.6248E+01	-1.6405E+02	0.0000E+00
3.6091E+01	1.6405E+02	0.0000E+00
3.6091E+01	-1.6405E+02	0.0000E+00
4.5934E+01	1.6405E+02	0.0000E+00
4.5934E+01	-1.6405E+02	0.0000E+00
5.5777E+01	1.6405E+02	0.0000E+00
5.5777E+01	-1.6405E+02	0.0000E+00
6.5620E+01	1.6405E+02	0.0000E+00
6.5620E+01	-1.6405E+02	0.0000E+00
7.5463E+01	1.6405E+02	0.0000E+00
7.5463E+01	-1.6405E+02	0.0000E+00
8.5306E+01	1.6405E+02	0.0000E+00
8.5306E+01	-1.6405E+02	0.0000E+00
9.5149E+01	1.6405E+02	0.0000E+00
9.5149E+01	-1.6405E+02	0.0000E+00
1.0499E+02	1.6405E+02	0.0000E+00
1.0499E+02	-1.6405E+02	0.0000E+00
1.1484E+02	1.6405E+02	0.0000E+00
1.1484E+02	-1.6405E+02	0.0000E+00
1.3452E+02	1.6405E+02	0.0000E+00
1.3452E+02	-1.6405E+02	0.0000E+00
1.6405E+02	1.6405E+02	0.0000E+00
1.6405E+02	-1.6405E+02	0.0000E+00
1.9686E+02	1.6405E+02	0.0000E+00
1.9686E+02	-1.6405E+02	0.0000E+00
2.2967E+02	1.6405E+02	0.0000E+00
2.2967E+02	-1.6405E+02	0.0000E+00
2.6248E+02	1.6405E+02	0.0000E+00
2.6248E+02	-1.6405E+02	0.0000E+00
2.9529E+02	1.6405E+02	0.0000E+00
2.9529E+02	-1.6405E+02	0.0000E+00
3.2810E+02	1.6405E+02	0.0000E+00
3.2810E+02	-1.6405E+02	0.0000E+00

NOTICE

THIS PAGE IS NOT SUITABLE FOR MICROFILMING, BUT IS AVAILABLE FOR REVIEW AT THE U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION VIII, HELENA, MONTANA.

TITLE BN Somers Results of Analytical Modeling Lower Bound run 1 thru 6 (diagrams)

FILE NO. 5.2.19 DOCUMENT NOS. 0032485 thru 0032490