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Gridded Annual Air Pollutant Emissions East of the Rocky Mountains

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GRIDDED ANNUAL AIR POLLUTANT
EMISSIONS EAST OF THE ROCKIES
EPA-600/4-79-030

ERRATA

In the captions of Figures 12-21, change
"20-Km grid" to "40-Km grid"

EPA-600/4-79=030
May 1979

GRIDDED ANNUAL POLLUTANT EMISSIONS EAST OF THE ROCKY MOUNTAINS

by

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AUTHORS' AFFILIATION

The author is on assignment with the U.S. Environmental Protection Agency from the National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

ABSTRACT

Annual pollutant emissions of particulates, sulfur dioxide, nitrogen oxides, hydrocarbons, and carbon monoxide from point and area sources are apportioned to 80-km grid squares on a 35 by 30 grid network. The grid network is a polar stereographic projection true at 60°N. The domain of the network includes southern Canada and much of the United States east of the Rocky Mountains. Southern Texas and northern New England are omitted.

In addition, the emissions of the five pollutants are apportioned to 20-km grid squares on a 40 by 40 grid network, which is a subset of the previously mentioned grid network. The domain of the 40 by 40 grid network encompasses the area roughly from Columbus, Ohio to Portland, Maine and from Richmond, Virginia to Ottawa, Ontario.

The emissions data were obtained from the 1977 Environmental Protection Agency National Emissions Data System (NEDS) file as well as from data compiled by the Ontario Ministry of the Environment and Environment Canada. These emission inventories, the design of the gridding procedures, and the major source classifications responsible for much of the emissions are discussed. The emission grids are presented in both figure and tabular forms.

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SECTION I

INTRODUCTION

The desire to study the effects of long-range transport of pollutants in the United States on local air quality and to identify source regions contributing to deterioated air quality created the need for long-range and regional-scale air quality simulation models. This in turn brings about the need for gridded pollutant emissions. The models and gridded pollutant emissions are essential tools in studying transport and transformation of pollutants as well as surface deposition.

Numerous modeling efforts incorporating gridded pollutant emissions have been compiled in Europe and the United States. Johnson, et al.[1] used the annual sulfur dioxide emissions inventory compiled by Rystad, et al.[2] to create gridded emission maps with grid dimensions of 0.5 degree latitude and 1.0 degree longitude. They developed a model to assess the impact of emissions from individual nations in western and central Europe. Bolin and Persson[3] developed a regional sulfur dispersion and deposition model for western Europe using a non-uniform emissions grid created from the same inventory. Sheih[4] used the sulfur dioxide emissions inventory for power plants compiled by the Federal Power Commission to model sulfur pollution over the northeastern United States. Other modeling efforts utilizing gridded emission are summarized by Liu and Durran[5].

To provide emissions data for air quality studies, the United States Environmental Protection Agency maintains a comprehensive inventory of annual anthropogenic emissions (from hereon, referred to as annual emissions) of five pollutants - particulates, sulfur dioxide, nitrogen oxides, hydrocarbons, and carbon monoxide. In addition, the Ontario Ministry of the Environment and the Canadian counterpart of the EPA, Environment Canada, maintain similar emission inventories.

From these emission inventories, gridded emission maps were created for the United States and Canada east of the Rocky Mountains. For large-scale air quality studies, the five pollutants were apportioned onto a uniform grid network with an 80-km grid spacing. (From here on, this network will be referred to as the 80-km grid network). For regional-scale modeling of the northeastern United States, the five pollutants were apportioned onto uniform grid networks with a 20-km grid spacing. (From here on, this grid network will be referred to as the 20-km grid network). These emission grids were designed as input data to specific air quality simulation studies, but it is hoped the gridded emissions presented here will be beneficial for other studies.

The pollutant emission inventories for the United States and Canada will be discussed in Section 2. The 80-km emission grids for the United States and southern Canada east of 105 degrees West and 20-km emissions grids for the northeastern United States and southeastern Ontario will be presented and discussed in Section 3. Data helpful to air quality simulation modelers are contained in the numerous appendices.

SECTION 2

POLLUTANT EMISSION INVENTORIES

UNITED STATES NATIONAL EMISSIONS DATA SYSTEM (NEDS)

In 1970 an amendment to the Clean Air Act passed by Congress required the individual state governments to compile, maintain, update, and submit to the Federal Government an annual pollutant emission inventory of point sources. Point sources are defined as stationary sources with the potential of emitting at least 100 tons per year of any of five primary criteria pollutants. The five criteria pollutants are particulates, sulfur dioxide, nitrogen oxides, hydrocarbons, and carbon monoxide. Potential emissions are defined to be the emissions from a source after the air pollution control equipment was removed or deactivated. The data were intended to be used to assess, at the local and state levels, the impact of source emissions on an area's air quality.

Emissions data from those sources not classified as point sources are contained in the NEDS area source inventory. These sources include mobile sources and stationary sources individually emitting less than 100 tons per year, but collectively, emitting a significant amount. Miscellaneous sources, such as, forest fires and agricultural burning are also included in the area source file.

United States Point Source Inventory

Since 1971 the National Air Data Branch (NADB) of the EPA Office of Air Quality Planning and Standards (OAQPS), via the ten EPA Regional Offices, has maintained and analyzed point source emissions data compiled by the state air pollution agencies. Originally, the data submitted by the states were converted to a uniform format by EPA internal and contractual efforts and stored into the newly created National Emissions Data System (NEDS). Now, however, much of the data have been submitted in a uniform format.

As of December 1977, NEDS contained approximately 200,000 United States point source records. Data in these records include, but are not limited to, the following:

a. Location of source (state, county, air quality control region, UTM coordinates)

b. Stack parameters (stack height, stack diameter, flow rate, temperature of the exhaust)

c. Normal operating schedule (seasonal, days per week, hours per day)

d. Annual emissions of the five primary pollutants

e. Pollutant control information

f. Pollutant control efficiency estimates.

Details of the contents of NEDS are furnished in "Guide For Compiling a Comprehensive Emissions Inventory"[6].

The annual emissions from point sources have been determined from a method employing one of the following:

a. Stack test results or other emission measurements

b. Material balance using engineering knowledge and expertise of process

c. Emission factors from "Compilation of Air Pollution Emission Factors"[7]

d. Guess.

It is required that some of these point source emission rates be updated semi-annually by the state agencies. The update requirement applies to the following point sources:

a. Those achieving final compliance with a state implementation plan, emission limitation regulation, or strategy

b. New or modified sources receiving approval to begin construction or operation

c. Those terminating operations during a reporting period.

More details concerning emission estimation procedures and reporting requirements can be found in "AEROS Manual Series", Vol. 1[8].

United States Area Source Inventory

Since the 1970 Clean Air Act Amendments did not require the states to compile and submit an area source inventory, the EPA and EPA contractors compiled area source inventories for each state. Due to the large number of area sources, the compilation and storage of data pertaining to individual area sources would not be practical. As an alternative, annual emissions from these sources in each of the approximately 3100 United States counties or county-equivalents are summed and stored in NEDS county-wide records.

Each area source record includes, but not limited to, the following:

a. Location (state and county only)

b. Estimated annual emissions from county sources

c. Quantity of fuels burned for residential, commercial, and industrial heating and transportation

d. Number of vehicle-miles traveled

e. Population data

No coordinates whatsoever were included in the area source records.

Emissions from area sources were estimated from emission factors and data compiled by county, state, and fereral agencies. The compiled data included vehicle-miles traveled, fuel retail sales records, fuel evaporative losses, population statistics, acreage of forests burned, etc. For details, see "Guide For Compiling a Comprehensive Emissions Inventory"[6].

Every year the EPA-NADB updates the NEDS area source emissions inventory either by estimating area source emissions from updated information gathered from various governmental agencies or accepting emissions estimates voluntarily submitted to EPA by the state agencies. These state-submitted data are reviewed by EPA for accuracy and completeness. Care is taken to avoid duplicating emissions data reported in the point source inventory. Upon final acceptance, the data are included in the NEDS area source emissions file.

ONTARIO POLLUTANT INVENTORY SYSTEM (OPIS)

As early as 1969 the Ontario Ministry of the Environment began to conduct detailed emission surveys in large urban areas in the province[9]. First, a comprehensive inventory was compiled for the city of Toronto. The compilation of comprehensive inventories for Hamilton and the Niagra Peninsula followed. In addition to area source data, these inventories included data from point sources, which were defined as stationary sources emitting at least 100 pounds per day of any of the five criteria pollutants.

Prior to the delivery of the inventories to EPA, industrial emissions data for the southeastern, northeastern, and western regions of Ontario were added to the inventory. Plans for the future included the completion of the inventory in these areas.

Since the annual emissions of pollutants from the industrial areas of Ontario north of Lakes Superior and Huron were not furnished in this inventory, total annual emission estimates were obtained for 1973 from the Wawa, Sudbury, Thunder Bay, and Sault Ste. Marie areas from another data source[10]. The pollutants from this data source only included particulates, sulfur dioxide, and nitrogen oxides, however. These total emissions were assumed to be point source emissions and added to the Ontario point source emission file.

Ontario Point Source Inventory

The OPIS point source inventory basically contains the same type of information in each of the 800 source as the records in the NEDS point source file. However, the Ontario inventory includes more detailed information concerning normal plant operations. The specific days of the week and diurnal variations of normal plant operations are included.

Essential plant operations data first were gathered by inspectors and engineers from the Regional Offices via personal contacts with plant managers. The basic data collected in the surveys were reviewed for accuracy and validity. Upon acceptance of the data, realistic emission estimates were derived by applying engineering knowledge and judgement to the type of technology, fuel, and operating and maintenance conditions of the source. Emission factors detailed in "Compilation of Air Pollutant Emission Factors"

were used when needed. Field-measured emissions and not emissions estimates were recorded when available.

Emissions data for new sources or modifications of existing sources are supplied to emissions inventory personnel from completed construction or modification approval applications. Other changes, such as, fuel switches and modification of manufacturing processes are updated by periodic source surveys conducted by Regional Officers. The periodic surveys are conducted every one or two years for each source depending upon the amount of emissions released from the source.

Ontario Area Source Inventory

In contrast to the similarities of the Ontario and United States point source inventories, the contents of the Ontario area source inventories are much different than the contents of the United States area source inventory. The records in the Ontario area source inventory contain emission estimates from all area sources within 1-km grid squares, where emissions from the United States area sources are summed for each county. Geographical coordinates, accurate to 1.0 km, are included in the 16000 Ontario area source records, while none are given in the United States area source records.

Another difference lies in the contents of the records of each inventory. Only the emissions estimates, normal diurnal emissions pattern, source location, and source description are supplied in OPIS. The NEDS area source records contain more information, however, over a much larger area.

In OPIS, the emissions from area sources were estimated in a similar fashion to those in NEDS. Automobile emissions were estimated by applying emission factors to fuel sales records and traffic flow records compiled by the Ministry of Transportation and Communication. Similarly, emissions from small industrial and commercial complexes were estimated from fuel consumption rates obtained from individual telephone contacts.

Emissions resulting from residential heating were estimated from fuel-sales records. Land-use and population distribution information were used to apportion the emissions to 1-km grid squares.

SASKATCHEWAN AND MANITOBA EMISSIONS INVENTORIES

In late 1976, annual emissions estimates for sources in Saskatchewan and Manitoba were obtained from Environment Canada. At the time the emissions data were requested, Environment Canada was in the process of accumulating, processing. and storing emissions data in the computerized National Emissions Inventory System[11]. As a result, such details as stack data and normal plant operation schedules for point sources were not available. Moreover, the annual emissions estimates were manually tabulated.

Because of the incompleteness of the system, no specific location of the source was furnished as in the data received from the Ontario Ministry of the Environment. Instead, the total emissions from point sources in each major urban area, as well as, the general coordinates of the urban area were furnished.

Area source emissions from sources in the area of interest, defined later, were estimated by Environment Canada to be 20% of the total area source emissions in each of the two provinces. In some cases, emissions from sources classically defined as point sources were included in the area source emissions table when site location information was unavailable.

SECTION 3
ANNUAL EMISSION GRID MAPS

In order to simulate air quality, emissions input data must be available and utilized. Emission rates apportioned to a uniform grid would be the most suitable form of emissions data input for numerical modeling purposes. The dimension of these grid squares would, of course, be dependent upon the particular horizontal scale of interest.

Since emission rates from sources fluctuate seasonally and annually, ideally the time period when the emissions were estimated should correspond to the time period the modeler chooses to simulate air quality. Unfortunately, comprehensive emission inventories for widespread time periods and extenisve areas do not exist. The maintenance requirements would be impractical. Updated information constantly replaces emissions data stored in the inventories.

Much of the point source emissions data in NEDS for some states has not been updated since 1973, however. Appendix A indicates by state the percentage of point source records entered or updated in NEDS for each year. The years range from 1969 to 1977. Most of the point source records were entered in NEDS around 1973.

Two sets of annual emission grids of particulates, sulfur dioxide, nitrogen oxides, hydrocarbons, and carbon monoxide are presented in this section. Ten uniform emission grids are contained in each set--five point and five area source emission grids. In addition, the grid configurations and gridding procedures are discussed.

The first set of emission grids presented have a grid spacing of 80-km and a domain covering a large portion of the United States and southern Canada east of 105 degrees west longitude. These emission grids would be optimal for large-scale air quality simulations.

The source emission grids in the second set have a grid spacing of 20-km. The domain of the grid network in this set extends from Columbus, Ohio to Portland, Maine and Richmond, Virginia to Ottawa, Ontario. These emission grids would be useful for regional-scale air quality simulations in the northeastern United States.

The two emission grid configurations and the figures and appendices in which they appear are summarized in Table 1.

ANNUAL EMISSION GRIDS FOR LONG-RANGE AIR QUALITY SIMULATION STUDIES

Configuration of the United States-Canadian Grid Network

For the study of long-range transport, transformation, and deposition of pollutants, emission grids with a grid spacing of approximately 80-km were created for point and area sources. The domain includes southern Canada and the United States east of 105 degrees with the exception of southern Texas and much of northern New England. The southeastern corner of Saskatchewan and the southern portions of Manitoba and Ontario have been included also. These areas contain the majority of both Canadian population and industrial areas.

The 35 by 30 grid network with an 80-km spacing is identical to that utilized by the prognostic Planetary Boundary Layer Model developed by Schaffer and Long[12]. The map is based upon a polar stereographic projection true at 60 degrees North and parallel to 105 degrees West.

Procedure for Gridding Emissions Onto the 80-km Grid Network

Annual Point Source Emissions--

The design of the emissions gridding procedure was dictated by the data content of each emission inventory utilized. The apportionment to grid squares of annual emissions from Ontario point and area sources and most of the United States point sources was rather straightforward. Every source documented in OPIS included a complete set of UTM coordinates (UTM zone, UTM-east, and UTM-north) identifying the location. A computer program, listed in Appendix B, was written and used to convert the UTM coordinates to latitude and longitude (UTMC), while another (CONVB) was written to convert latitude and longitude to grid coordinates. Total annual emissions

TABLE 1. SUMMARY OF THE EMISSION GRID NETWORKS

Grid Spacing	Grid Configuration	Number of Grid Squares	Geographical Domain	Type of Source Emissions	Figures	Appendices
80 km	35 by 30	1050	Most of U.S. and Southern Canada east of the Rockies	Point Area	1-5 6-10	D D
20 km	40 by 40	1600	Columbus, Ohio to Portland, Me. and Richmond, Va. to Ottawa, Ont.	Point Area	12-16 17-21	E E

from Ontario point and area sources were allocated to the grid squares in which the sources were located.

Problems surfaced during the apportionment of United States point source emissions to grid squares. First of all, as of late 1977, 19.3% of the NEDS records of point sources within the grid domain contained incomplete sets of UTM coordinates. Nearly all the point source records for Kansas did not include coordinates. Furthermore, an additional 2.3% of these point source records contained UTM coordinates with significant errors. Appendix C summarizes by state the number and percentage of point source records with site coordinates missing or in error.

For these point source records, the gridding procedure was designed to specify the location of the source at the geographical center of the county in which it was located. With this specification and an 80-km grid spacing, it is possible that the emissions from these point sources actually, but unknowingly, located within one grid square could be apportioned to an adjacent grid square.

Annual Area Source Emissions--

A similar procedure was adopted to allocate United States area source emissions. Since the NEDS data records for area sources contained total emissions for entire counties, these emissions were allocated to the grid square containing the approximate geographical center point of the respective county. The emissions from any given county were always allocated to one grid square. This resulted in a few grid squares showing no area source emissions, unfortunately. Another drawback was the fact that the emissions from primarily large urban areas (Chicago, Detroit, and New Orleans) could be allocated to the adjacent grid square containing the geographical center of the county. In these three cases, the area source emissions were allocated to the grid squares containing the urban area.

The procedure for apportioning annual emissions from point sources in Saskatchewan and Manitoba involved allocating the emissions to grid squares containing the urban centers in which the sources were located. Emissions from area sources in the two provinces, on the other hand, were apportioned to grid squares based upon the assumption that emissions from area sources are proportional to population density. The population in each grid

square in Sasketchewan and Manitoba was estimated using an international Atlas. The emissions apportioned to each grid square depended upon the percentage of population in the grid square.

Discussion of 80-km Emission Grids

The annual emissions for the 80-km grid are presented in two formats. First, the actual annual emissions from sources within each grid square are listed in Appendix D. These values are intended for direct input to air quality simulation models. The emission rates in the appendix are listed first for the grid square in the lower-left corner of the grid network (1,1). The emission rates from sources in the remaining grid squares in the bottom row follow. The rates from sources in the remaining rows are listed from the bottom to the top of the grid network.

Secondly, Figures 1-10 illustrate the relative magnitude of the annual point and area source emissions of the five criteria pollutants in each grid square. From the figures, high emission areas of the two countries are readily identified.

The areas of the United States and Canada where emissions are greatest are indicated by the presence of single-digit numbers in the grid squares. As indicated by the key in each figure, the higher the single-digit number, the greater the emissions from the sources within the grid square. Those grid squares with no numbers indicate the annual emissions of the pollutant from sources within the grid square are less than the minimum rate indicated in the key. Except for the 60,000 tons per year rate for the area source emissions map for carbon monoxide, the minimal value is 20,000 tons per year.

Point Source Emission Maps--

In the ensuing discussion, areas of Canada and the United States emitting the largest quantities of pollutants within the grid domain will be identified. The estimated annual emissions from individual point sources, as well as, the source classification (see Appendix A of "Guide for Compiling a Comprehensive Emission Inventory"[6] for a complete list) have been obtained directly from the emission inventories. The annual national emissions, as well as, information concerning source classifications of area sources in

the United States were obtained from "1973 National Emissions Report"[13].

Figure 1 illustrates the grid map of particulates emissions from point sources. Most of the point source emissions of this pollutant in the United States result from the burning of bituminous coal for electric generation (55% of the annual national total). Nearly 20% is attributed to the mineral products industry and 16% to the primary metals industry.

The areas where the largest quantities are emitted annually include the extreme northeastern corner of Alabama, western Pennsylvania, eastern Ohio, and southeastern Indiana where electric generating plants burn bituminous coal. Industrial boilers in eastern Pennsylvania also burn large quantities of bituminous coal and emit large quantities of particulates each year. Aluminum production near New Orleans, mineral production in southeastern Kentucky, and stone excavation in northern Kentucky are reportedly responsible for the high particulates emission in those areas.

The sulfur dioxide emission map illustrated in Figure 2 shows areas where large quantities of fossil fuels are burned from point sources. The point source class emitting the greatest amount of this pollutant annually-nearly 57% of the national total - is the bituminous coal-fired electric generating plant. The primary metals industry emits nearly 12%, while nearly 7% of the total annual emissions of the pollutant result from the burning of bituminous coal for industrial fuel. The petroleum industry emits about 4% of the national total each year.

The largest single emitter of sulfur dioxide is a smelter in Sudbury, Ontario where the estimated point source emissions exceed one million tons. The large emissions observed in southwestern Pennsylvania are attributed to coal-fired electric generating plants.

In the Midwest, point source emissions of sulfur dioxide are high near the cities of Gary, Toledo, Detroit, and Cleveland. The emissions are also high along the Mississippi River from St. Louis to Cairo, Illinois and along much of the Illinois and Ohio Rivers. The highest emission rates in the East are attributed to coal-fired electric generating plants in southeastern Pennsylvania and the petroleum industry in northern Delaware.

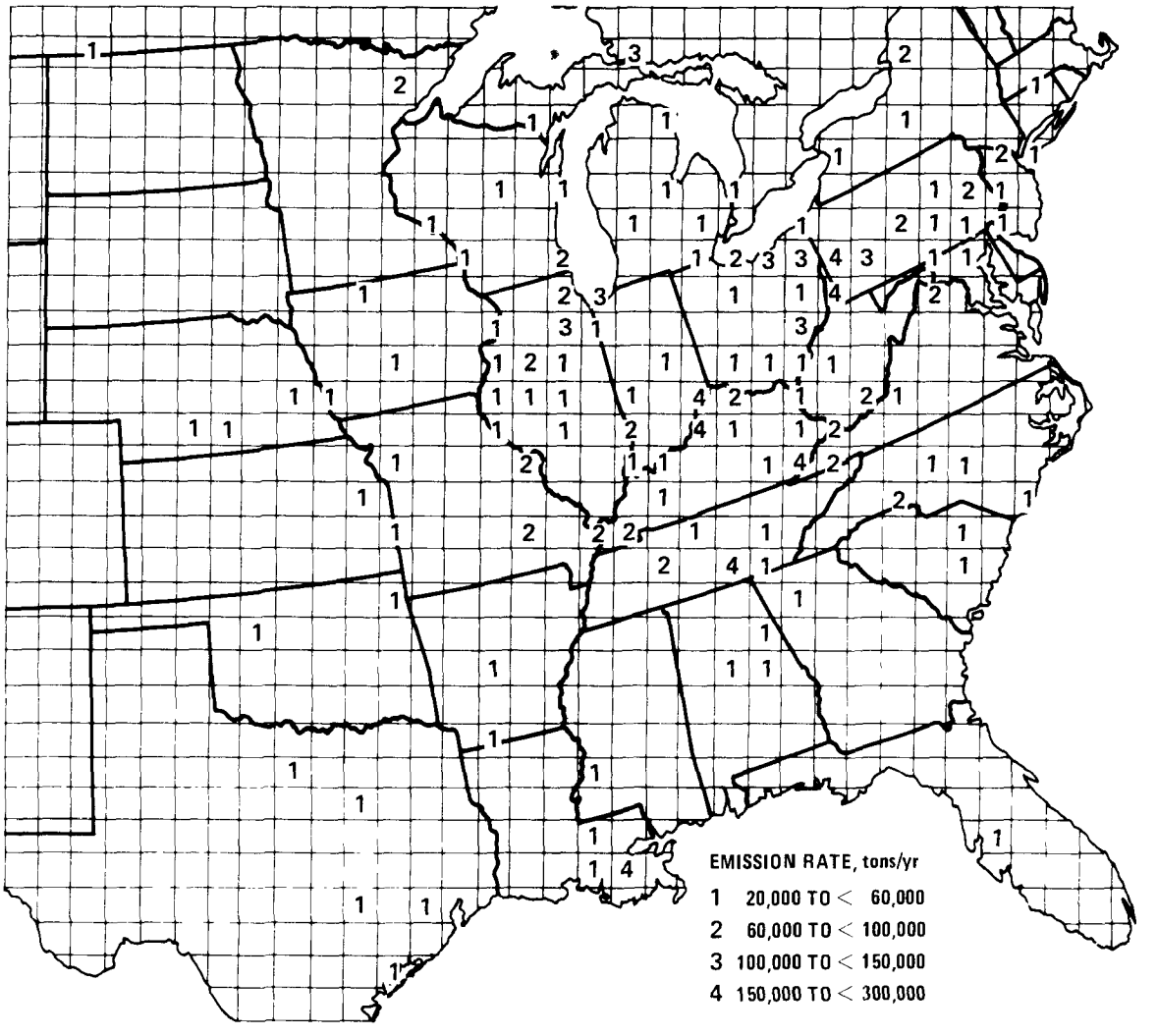

Figure 1. Gridded annual point source emissions (tons/year) of particulates for the U.S. and Canada (80-km grid).

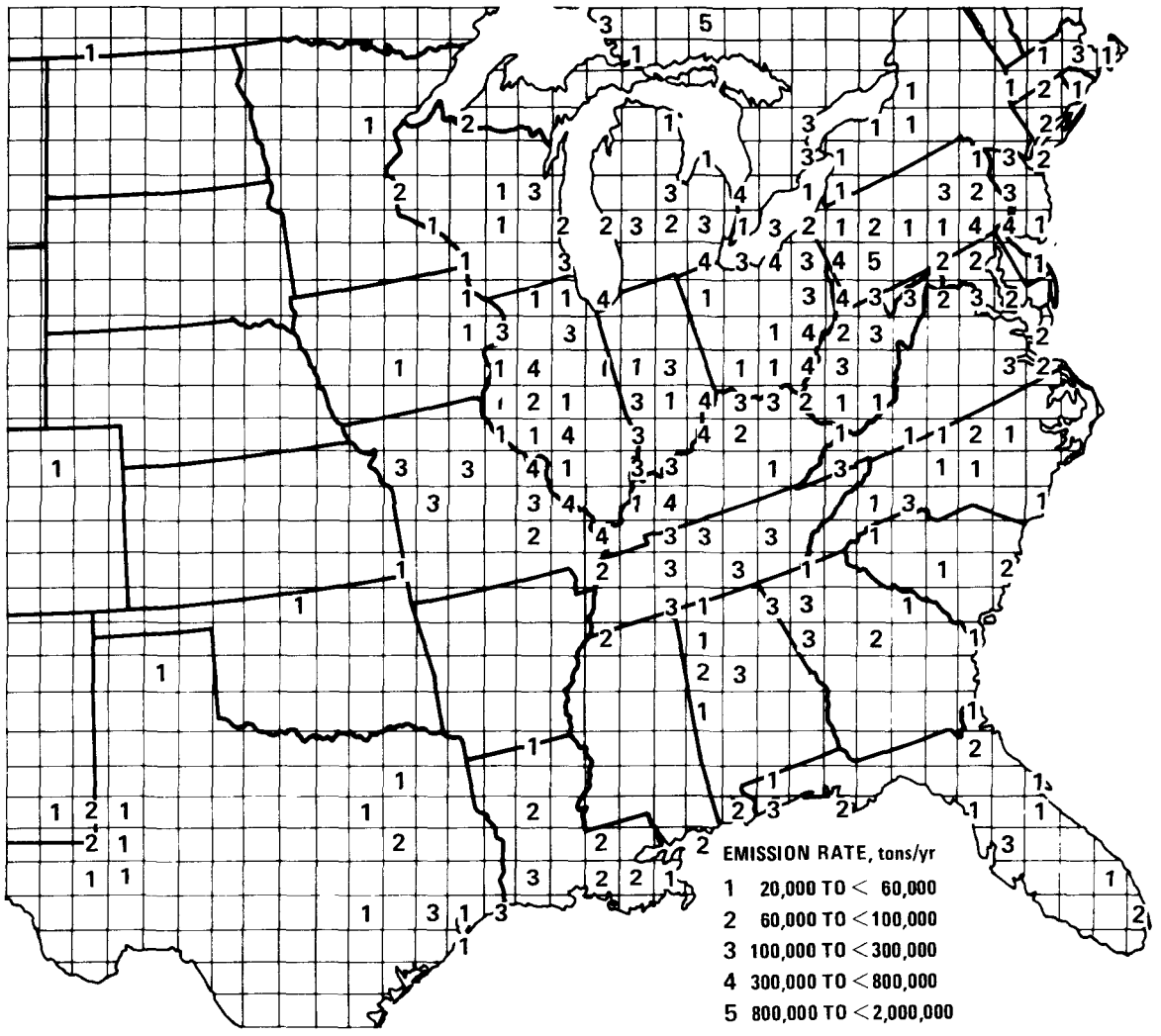

Figure 2. Gridded annual point source emissions (tons/year) of sulfur dioxide for the U.S. and Canada (80-km grid).

Figure 3 depicts the nitrogen oxides emissions from point sources. These emissions result primarily from the burning of bituminous coal, residual oil, and to a lesser extent, natural gas east of the Mississippi River. On the other side of the river, the emissions primarily are caused by the burning of natural gas and bituminous coal. Nationally, nearly 70% of the point source emissions of nitrogen oxides result from the process of generating electricity (about 45% from burning bituminous coal, 12% from natural gas and 10% from residual oil). Another 20% is attributed to the burning of fuel for industrial use.

Point sources in the grid square containing the Gary, Indiana metropolitan area emit more nitrogen oxides (approximately 430,000 tons/year) than the point sources in any other grid square. These emissions result largely from the generation of electricity for industrial use. Other areas where point source emissions are high are west central Illinois and the Pittsburgh and New York metropolitan areas.

Figure 4 illustrates areas where annual point source emissions of hydrocarbons are greatest. These emissions primarily result from evaporative losses of solvents used in industrial processes and petroleum products during the manufacturing, storing, and transporting processes. Nearly 50% of the annual national point source emissions of hydrocarbons is due to evaporative losses, while 25% is attributed to chemical manufacturing processes.

The greatest emissions of the pollutant are from sources located in or near large metropolitan areas where the refining and consumption of the products are greatest. Southwestern New Jersey, extreme southeastern Texas, and the Houston areas contain the largest point sources.

The final point source emission map, illustrated in Figure 5, shows the areas where annual carbon monoxide emissions are the greatest. The release of carbon monoxide results in the incomplete burning of fossil fuels and other materials containing carbon. Nationally, about 30% of the total annual point source emissions of the pollutant is attributed to the petroleum industry, 25% to the chemical manufacturing industry (largely from the production of carbon black), 17% to the primary metal industry, and 8% to the secondary metals industry.

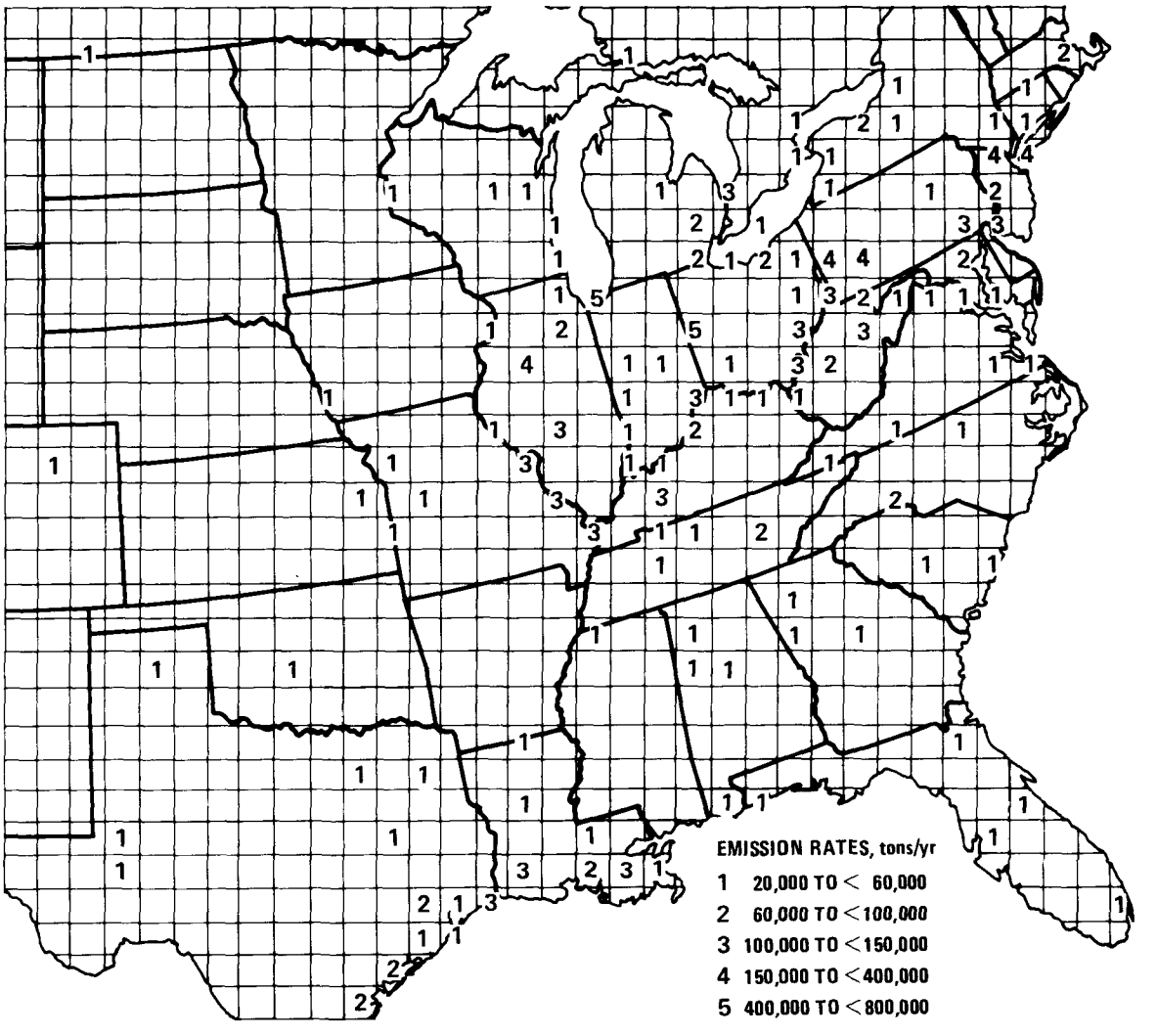

Figure 3. Gridded annual point source emissions (tons/year) of nitrogen oxides for the U.S. and Canada (80-km grid).

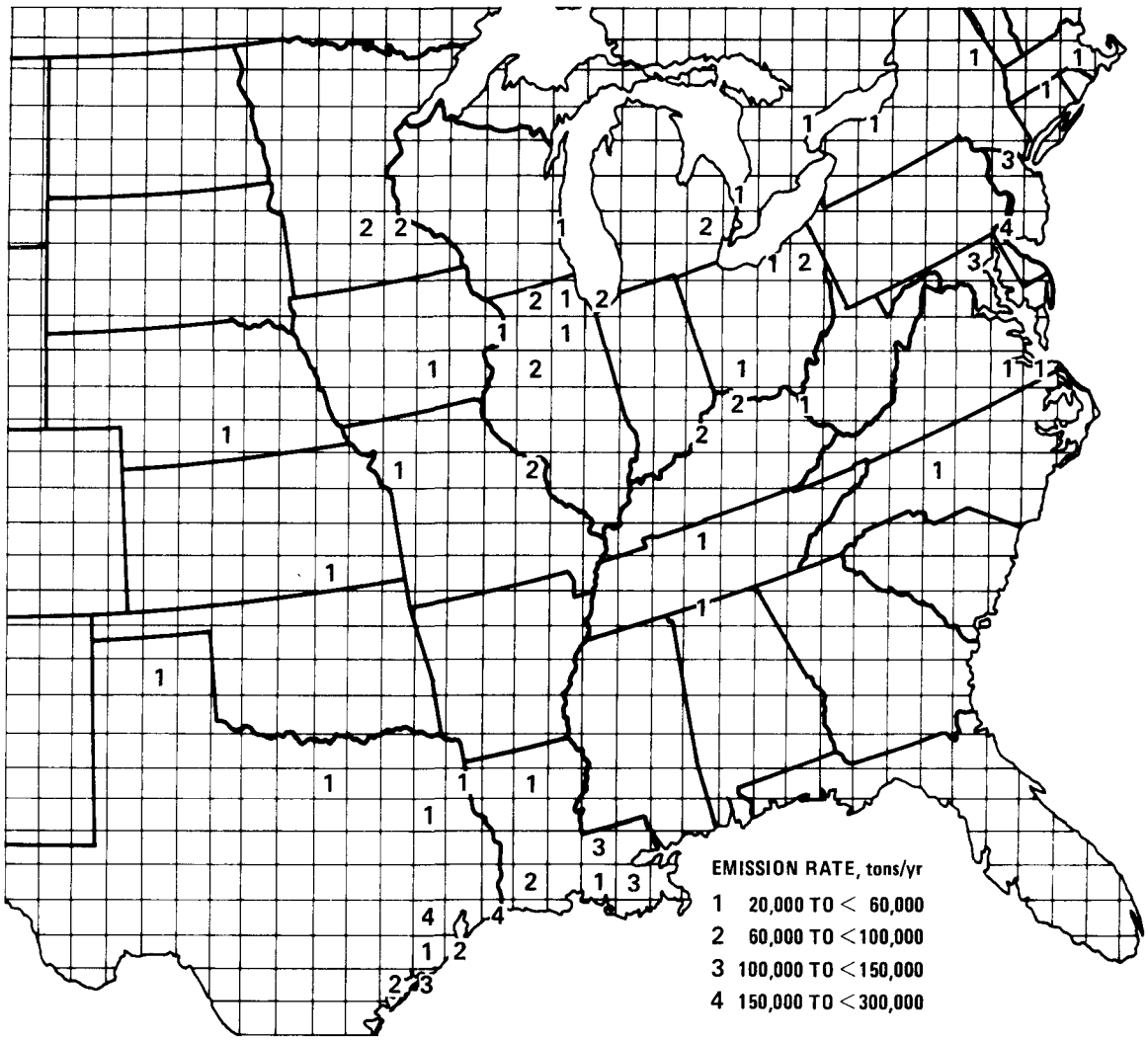

Figure 4. Gridded annual point source emissions (tons/year) of hydrocarbons for the U.S. and Canada (80-km grid).

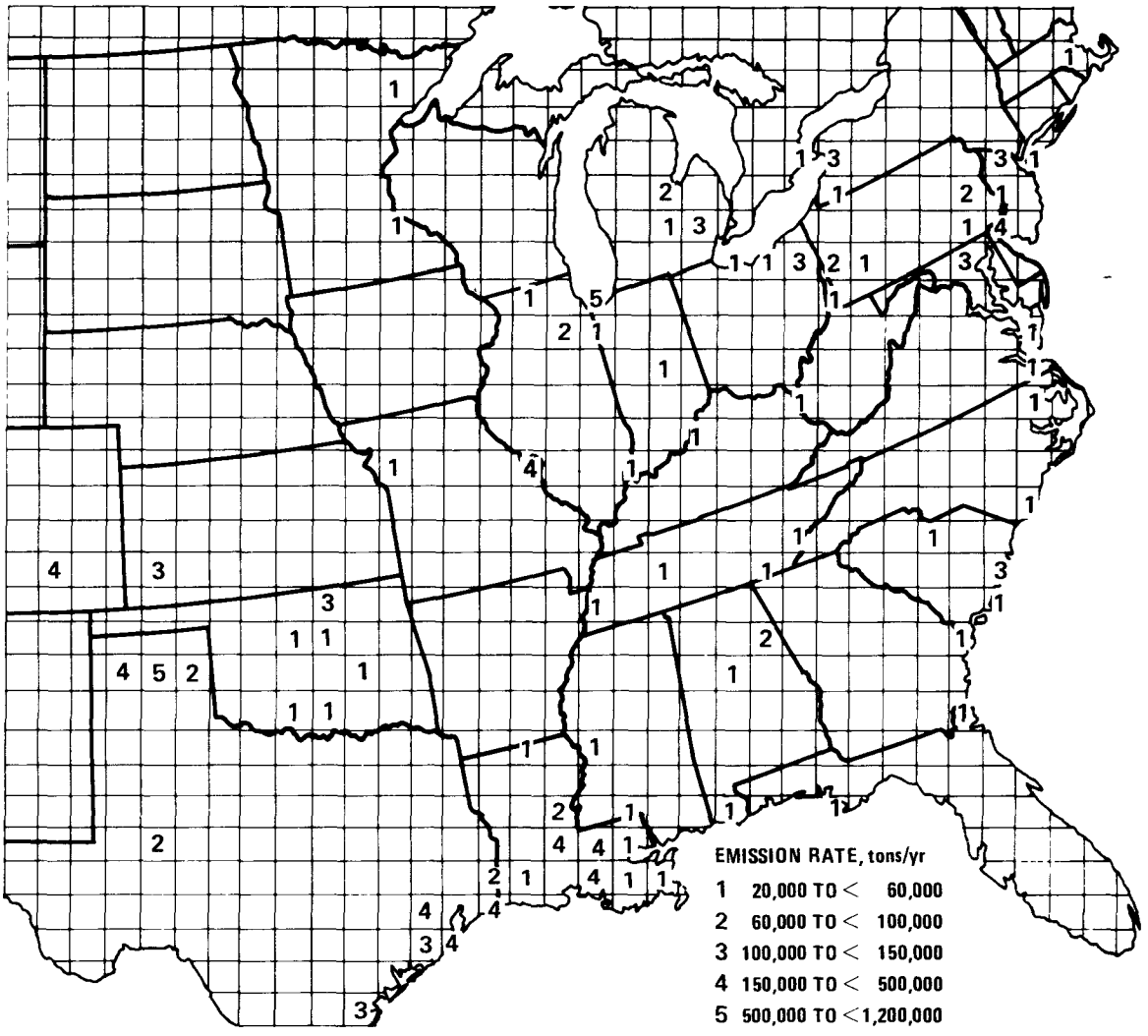

Figure 5. Gridded annual point source emissions (tons/year) of carbon monoxide for the U.S. and Canada (80-km grid).

The point sources in Gary, Indiana emit over one million tons of carbon monoxide each year. Much of this is emitted by the primary metals and petroleum industries. Meanwhile, the chemical manufacturing and petroleum industries annually emit nearly 700,000 and 100,000 tons of carbon monoxide, respectively, in the Amarillo, Texas area.

Area Source Emission Maps--

Figure 6 shows areas where annual area source emissions of particulates are greatest. These sources, concentrated around large metropolitan areas, include mobile sources and small stationary sources collectively, but not individually, emitting relatively large amounts of the pollutant. It can be seen from the comparison of Figures 1 and 6 most of the particulates emissions result from point sources.

The "1973 National Emissions Report" can be used to identify the types of area sources responsible for the majority of the pollutant emissions. For instance, in the Cleveland-Akron area, 79% of the area source emissions of particulates result from the burning of bituminous coal for industrial fuel and another 8% from land vehicle exhaust. In the Gary, Indiana area, 43% of the area source emissions of the pollutant result from the burning of bituminous coal for industrial fuel, while 25% is attributed to land vehicle exhaust and another 16% to solid waste disposal.

In New York City the largest single contributor to the area source emissions is the burning of residual oil for residential, industrial, and commercial space heating (32%). Meanwhile, 26% is attributed to land vehicle exhaust and 16% to solid waste disposal.

In nearby northern New Jersey almost 40% of the area source emissions of the pollutant is attributed to land vehicle exhaust. In addition, 22% is attributed to solid waste disposal and 22% to the burning of distillate oil for residential, industrial, and commercial fuel.

Figure 7 illustrates the area source emissions of sulfur dioxide. Like the emissions of particulates, the sulfur dioxide is emitted largely from point sources. Area sources of sulfur dioxide are concentrated in the highly industrialized and populated Midwest and Northeast. This includes Gary, Indiana, the Cleveland-Akron-Youngstown area, northern New Jersey, and New York City.

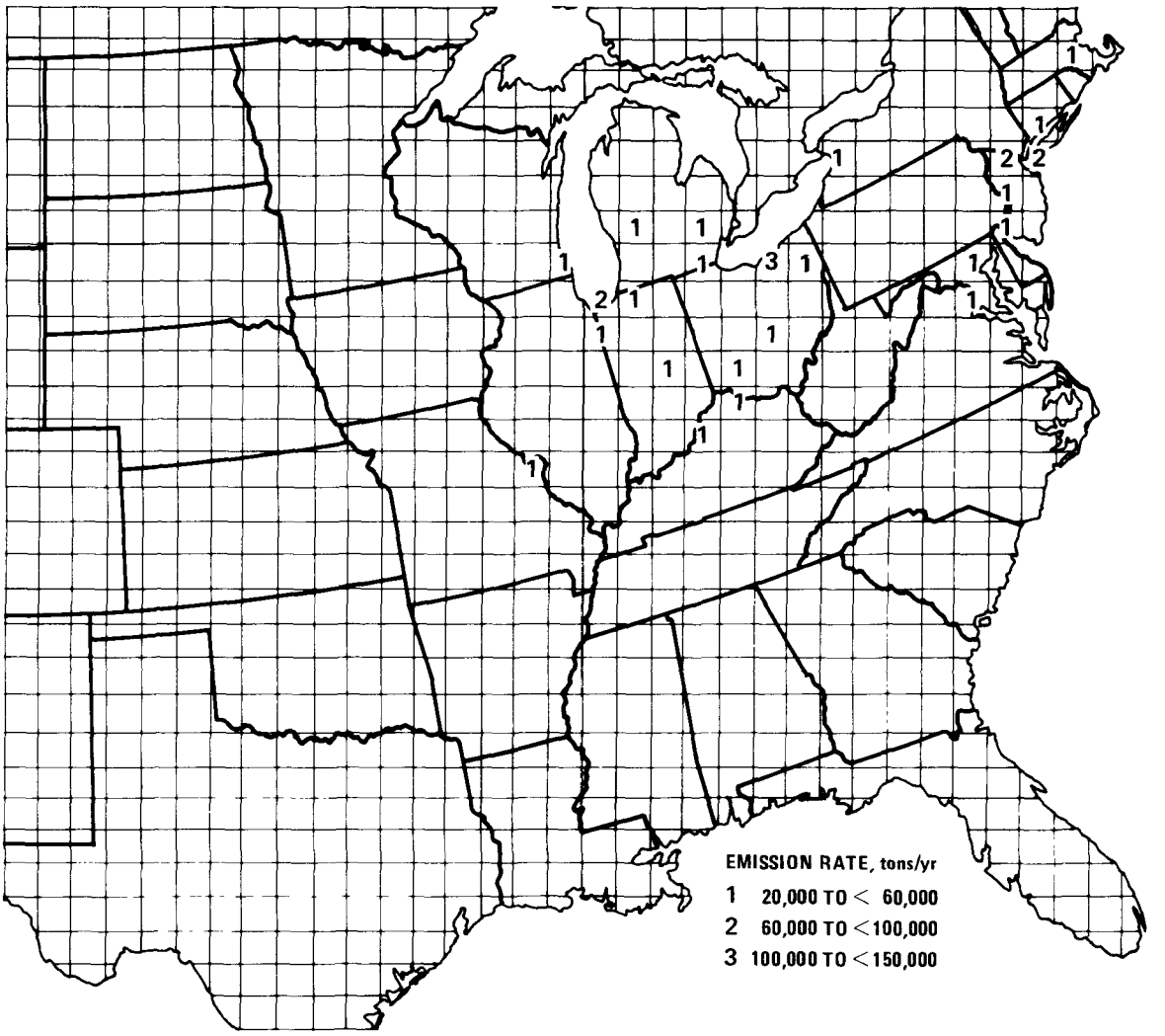

Figure 6. Gridded annual area source emissions (tons/year) of particulates for the U.S. and Canada (80-km grid).

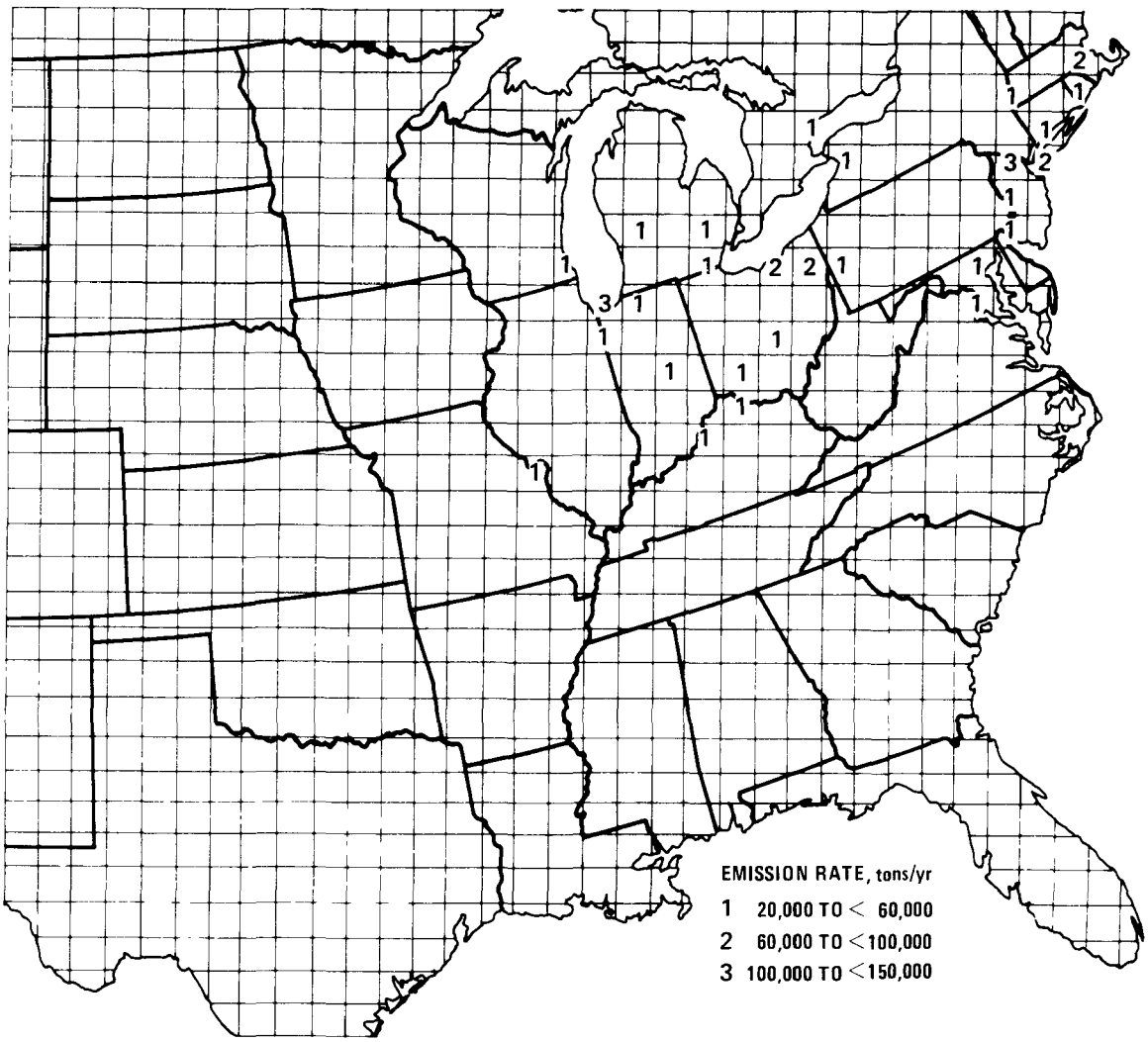

Figure 7. Gridded annual area source emissions (tons/year) of sulfur dioxide for the U.S. and Canada (80-km grid).

In Gary, the burning of bituminous coal for residential and industrial fuel accounts for nearly 60% of the area source emissions. The burning of residual oil for commercial fuel accounts for 11% and land vehicle exhaust accounts for 11% of the area source emissions.

Nearly 55% of the area source emissions of the pollutant in northern New Jersey is emitted by burning residual oil for commercial and industrial fuel. Another 29% results from the burning of distillate oil for residential, industrial, and commercial fuel. In nearby New York City, 60% of the area source emissions of the pollutant is due to the burning of residual oil and 24% to the burning of distillate oil for residential, industrial, and commercial fuel.

The greater Cleveland-Akron-Youngstown area of Ohio emits approximately 160,000 tons annually of sulfur dioxide from area sources. Nearly 75% of this rate is emitted from industrial burning of bituminous coal for fuel.

Figure 8 illustrates the nitrogen oxides emissions map for area sources. More nitrogen oxides are emitted by weight from land vehicle exhaust than sulfur dioxide or particulates from all area sources. Nationally, it is estimated that land vehicles emit nearly 9.3 million tons on nitrogen oxides annually (80% of the national total from area sources), while only 3.5 and 3.0 million tons of particulates and sulfur dioxide, respectively, are emitted annually from all area sources.

The vehicular emissions are pronounced in the Washington-Boston corridor. Similarly, the large volume of traffic in the Houston and Chicago-Gary areas and the northeastern Ohio area are responsible for the high emissions of nitrogen oxides. The lesser populated areas of Dallas, New Orleans, Miami, St. Louis, Milwaukee, Louisville, Detroit, and Pittsburgh emit lower amounts of the pollutant annually. However, the amounts are substantial - between 60,000 and 100,000 tons annually.

Figure 9 shows those areas where hydrocarbons are emitted in large quantities each year by area sources. Of the estimated 17.5 million tons of hydrocarbons emitted annually across the nation, 70% are attributed to land vehicle exhaust.

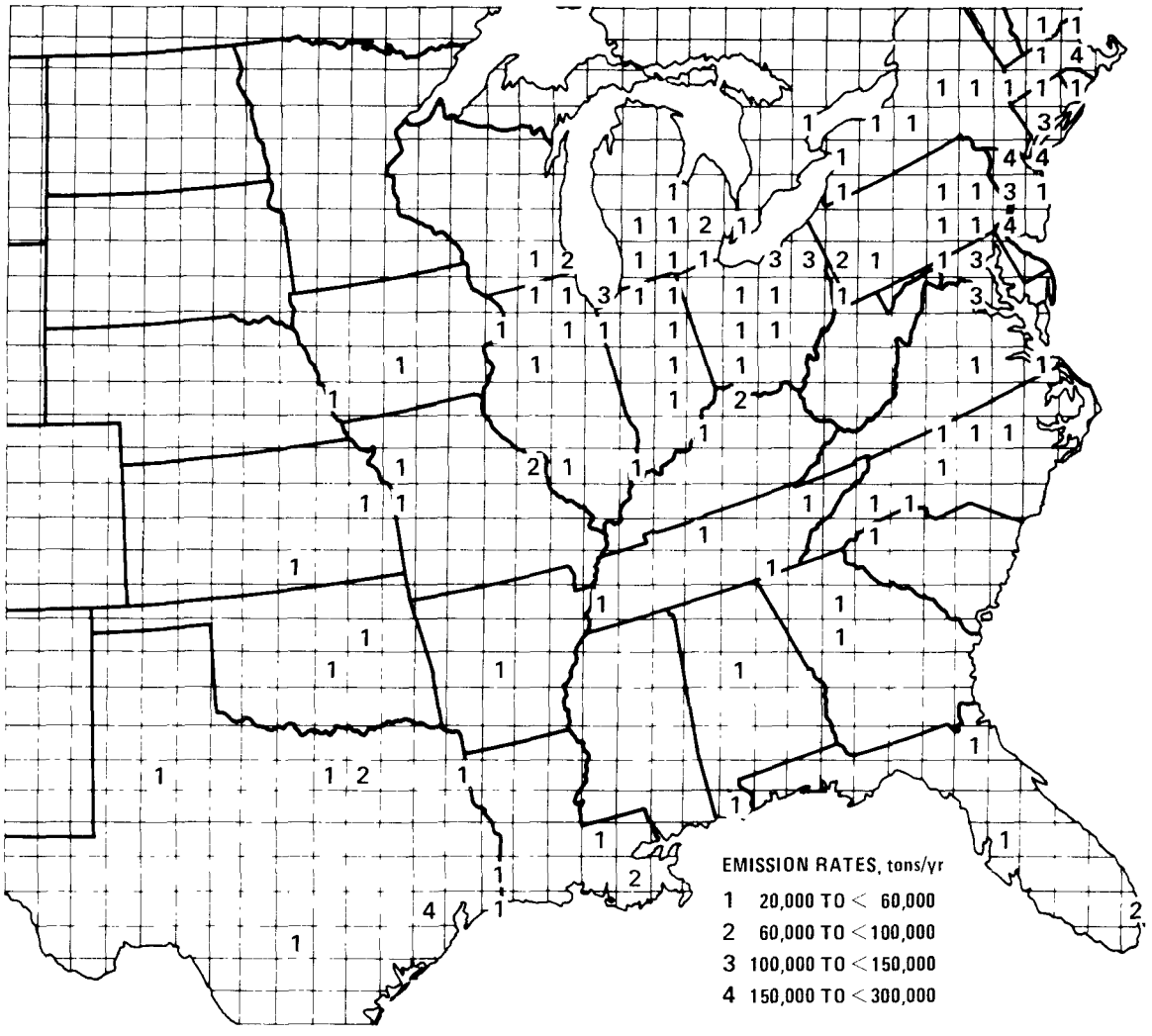

Figure 8. Gridded annual area source emissions (tons/year) of nitrogen oxides for the U.S. and Canada (80-km grid).

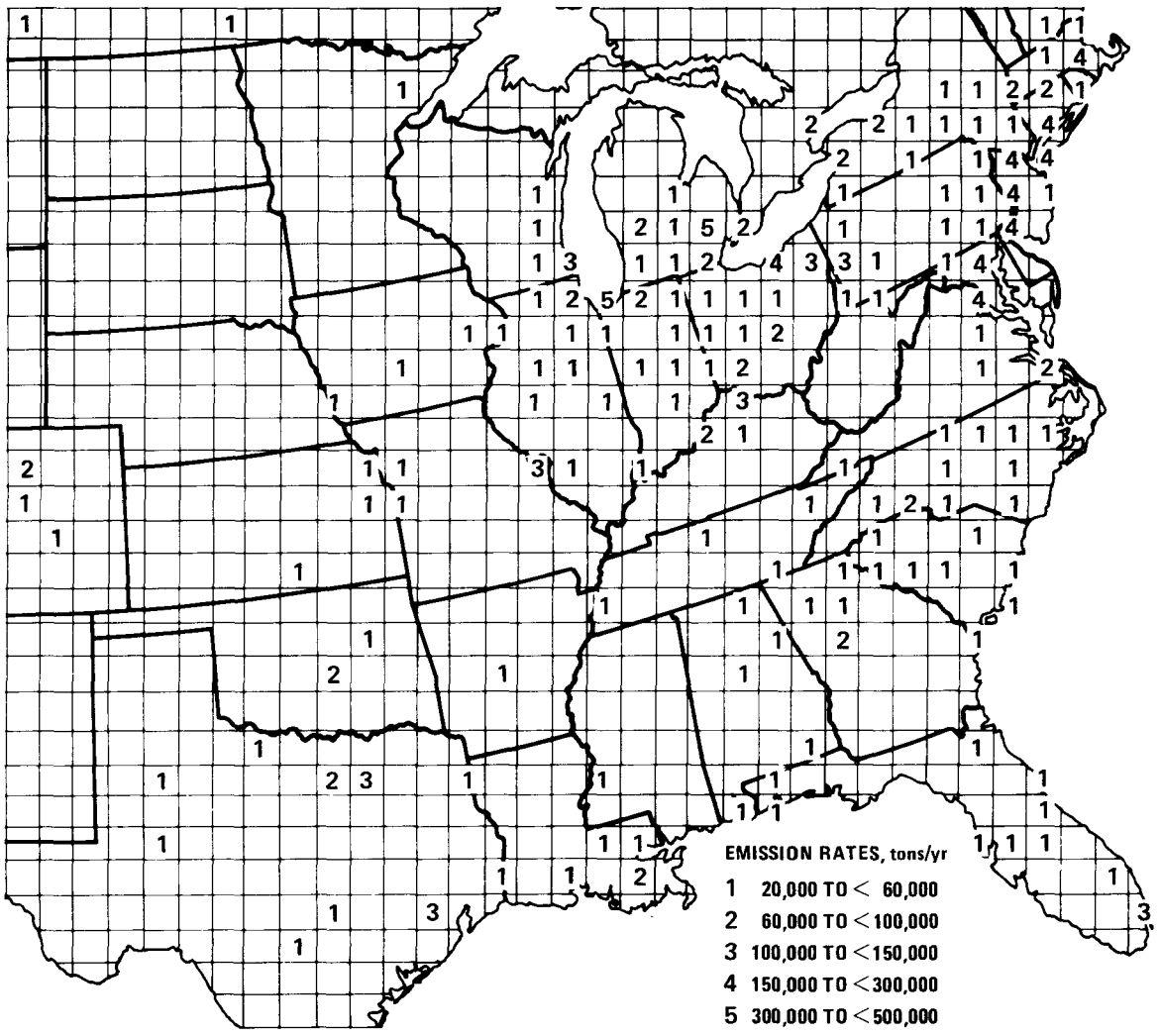

Figure 9. Gridded annual area source emissions (tons/year) of hydrocarbons for the U.S. and Canada (80-km grid).

The greatest quantities are emitted in the New York, Chicago, and Detroit metropolitan areas. Once again, the Washington-Boston corridor and metropolitan Cleveland are high emission areas. As expected, the less populated areas emit less hydrocarbons annually.

The last figure in this series. Figure 10, shows the areas where carbon monoxide is emitted in large quantities each year by area sources. Again, land vehicle exhaust is primarily responsible for the United States each year. Nearly 91% of the emissions is due to the exhaust, while almost 3% results from the burning of solid waste.

Those areas where nitrogen oxides and hydrocarbons emissions are high are also areas where carbon monoxide emissions are high. In Figure 10 many areas not identified in the previous emission maps as high emission areas show up as high emission areas, even though the minimum annual emission rate in the key was raised from 20,000 to 60,000 tons. This dramatizes how much more carbon monoxide is emitted by land vehicles than the other four pollutants considered here.

Less populated areas emit less carbon monoxide than the rates included in the highest category (800,000 to 1,600,000 tons), but the rates are substantial (300,000 to 800,000). These metropolitan areas include Miami, Atlanta, New Orleans, Houston, Dallas, Denver, Oklahoma City, St. Louis, Memphis, Charlotte, and numerous areas of the Midwest and Northeast. The Winnipeg, Manitoba and Regina, Saskatchewan metropolitan areas emit from 150,000 to 300,000 tons of carbon monoxide each year.

ANNUAL EMISSION GRIDS FOR REGIONAL-SCALE AIR QUALITY SIMULATIONS IN THE NORTHEASTERN UNITED STATES

Configuration of the Northeastern Emission Grid Network

To serve as input to air quality simulation models for the northeastern United States, higher resolution emission grids of annual area and point source emissions were created. The annual emission grid network for the Northeast is a 40 by 40 grid with a grid spacing of approximately 20 km. Figure 11 illustrates the relationship of this grid network with the 80-km grid network discussed earlier. In the figure, the largest grid square corresponds to grid square (30,26) on the 80-km grid network.

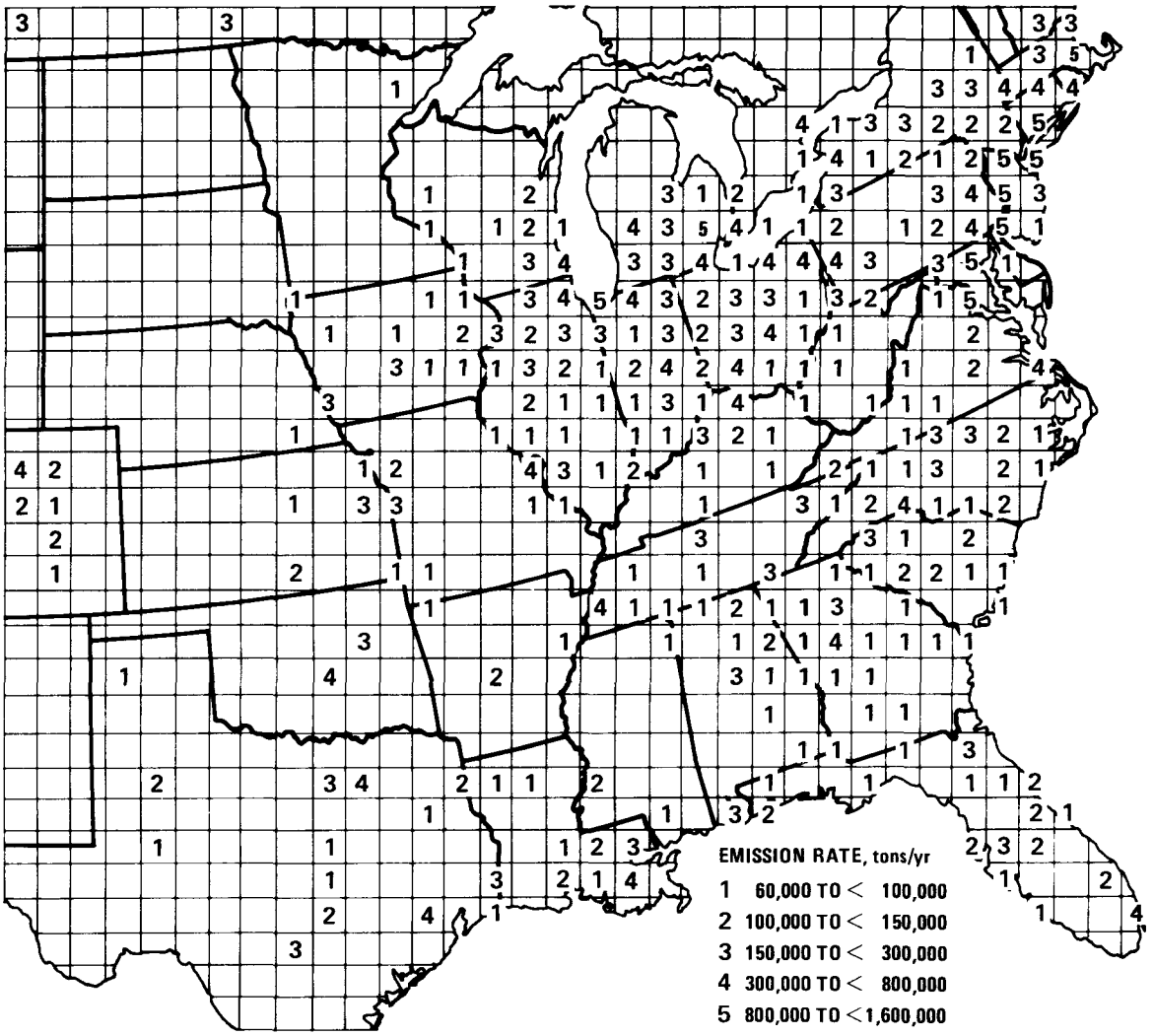

Figure 10. Gridded annual area source emission (tons/year) of carbon monoxide for the U.S. and Canada (80-km grid).

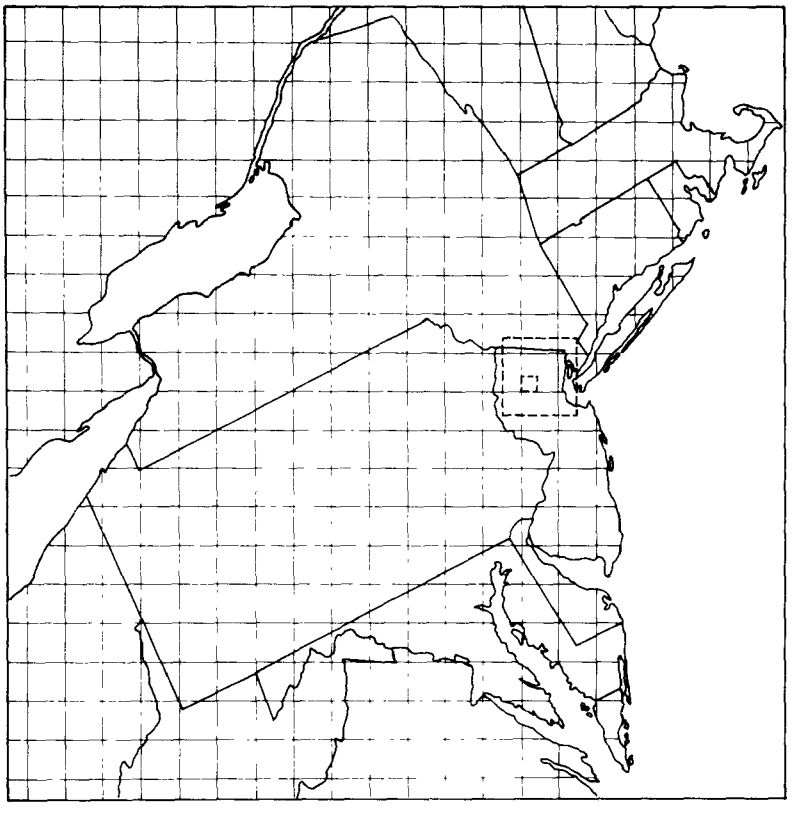

Figure 11. Orientation of single grid squares from the 80-km and 20-km grid networks superimposed on the entire 40-km grid network of the Northeast.

The smallest grid square in Figure 11 corresponds to grid square (27,21) on the 20-km grid network.

Procedure for Gridding Annual Emissions Onto the Northeast Grid Network

Annual Point Source Emissions--

The northeastern United States and southeastern Ontario point source emissions were apportioned to the 20-km grid network simply on the basis of source location. After the grid square containing each point source was identified, the emissions from the source were allocated to the appropriate grid squares. Point source emissions from United States sources with missing coordinates in NEDS were allocated to the grid square containing the geographical center of the county in which the source was located.

Annual Area Source Emissions--

Since the Ontario area source emissions file contained emission rates from sources within 1-km squares, the gridding procedure for the Ontario area source emissions was similar to the procedure used for the point source emissions. The area source emissions were simply allocated to the 20-km grid squares containing the centers of the 1-km squares.

Since no coordinates were furnished for the area sources in NEDS and the emissions were reported in NEDS as county-wide emissions, the gridding procedure for the United States area source emissions was markedly different. Because a 20-km grid spacing was chosen and the counties in the Northeast extend into several 20-km grid squares, the gridding procedure was designed to apportion the county-wide emissions to all grid squares containing portions of the individual counties.

Based upon the assumption that area source emissions in a given area are proportional to population density, the gridding procedure was designed to apportion the county-wide emissions to grid squares according to the percentage of the county population residing within the grid squares. Population distributions in each county were determined from 1970 United States Census Bureau Data, which included population and latitude and longitude of individual enumeration districts (towns and cities).

The gridding procedure involved converting the coordinates of each enumeration district to grid coordinates for each county. The population

of each enumeration district was allocated to the grid square containing the district. The percentage of the county population residing in the grid squares was then calculated.

Finally, the county-wide area source emissions were apportioned to the grid squares according to the percentage of population in each grid square. If 30% of the population of a county resided within the confines of a grid square, 30% of each of the annual rates of the five pollutants would be allocated to that grid square.

Discussion of the Northeastern Emission Grids

Annual Point Source Emission Grids--

The annual gridded emissions from point sources are presented in two formats. First, the actual point source emissions of the five criteria pollutants gridded onto the 20-km network are provided in tabular form in Appendix E. The emission rates in the appendix are listed first for the grid square in the lower left corner of the 20-km grid network (1,1). The point source emission rates from the remaining grid squares in that row follow. The point souce emissions from the grid squares in the remaining rows are listed in similar fashion.

The second format presents the relative magnitudes of the annual point source emissions on 20 by 20 grid maps with a grid spacing of 40 km. The 40-km grid maps were used in the figures to prevent clutter. The annual point source emissions of particulates, sulfur dioxide, nitrogen oxides, hydrocarbons and carbon monoxide are depicted in Figures 12-16, respectively. Since the source classifications of the major sources in the highest-emitting grid squares were discussed earlier (see Discussion of 80-km Emission Grids) discussion of the 20-km point source emission maps is limited to the highlighting of the emission rates in the highest-emitting grid squares.

As the figures illustrating the gridded emissions on the 80-km network, Figures 12-16 identify those grid squares containing point sources which emit large amounts of any of the five pollutants. A number from 1 to 5 appears in these grid squares and denotes the relative emission rate in tons/year. The range of each of the emission classes appears in the lower right corner of the figures.

The lowest class of emission rates in this series of figures begins with 10,000 tons/year as opposed to the 20,000 tons/year in most of the 80-km emission maps. The maximum rate in the lowest range, as well as the rates in the remaining classes, were selected according to the range of emission rates across the grid network.

The point sources emitting large quantities of particulates (see Figure 12) are concentrated along the eastern Ohio River Valley and the Delaware River Valley. The grid squares where these emissions are greatest include the northern West Virginia panhandle (146,000 tons/year), the Trenton, New Jersey area (115,000 tons/year), the Cleveland area (94,000 tons/year), a portion of southern Ohio (78,000 tons/year), and a portion of northern New York (71,500 tons/year).

The major point sources of sulfur dioxide in the Northeast are located in the higher populated areas (see Figure 13). The largest sources are concentrated in the eastern Ohio-western Pennsylvania and the southeastern Pennsylvania areas. The emissions from the two grid squares encompassing Indiana, Pennsylvania (in western Pennsylvania), each designated with a "4", total 890,000 tons/year. Other large sources are located in grid squares encompassing the Marietta, Ohio area (444,000 tons/year), the Harrisburg, Pennsylvania area (406,000 tons/year), the area to the northeast of Marietta (371,000 tons/year), the Wilmington, Delaware area (336,000 tons/year), and the Zanesville, Ohio area (303,000 tons/year).

Most of the nitrogen oxides in the Northeast are emitted from sources in the Ohio and Delaware River Valleys and the New York metropolitan area (see Figure 14). The largest sources are located in grid squares encompassing New York City (169,000 tons/year), Clarksburg, West Virginia (123,000 tons/year), Indiana, Pennsylvania (104,000 tons/year), Harrisburg, Pennsylvania (98,000 tons/year), Wheeling, West Virginia (90,000 tons/year), the New Jersey portion of the New York metropolitan area (86,000 tons/year), and a portion of southeastern Ohio (77,000 tons/year).

Similar to the sources of sulfur dioxide emissions, the point sources of hydrocarbons are concentrated in the highly populated areas of the Northeast (see Figure 15). The grid square encompassing the Philadelphia area contains sources which emit 153,000 tons/year. Other high emission

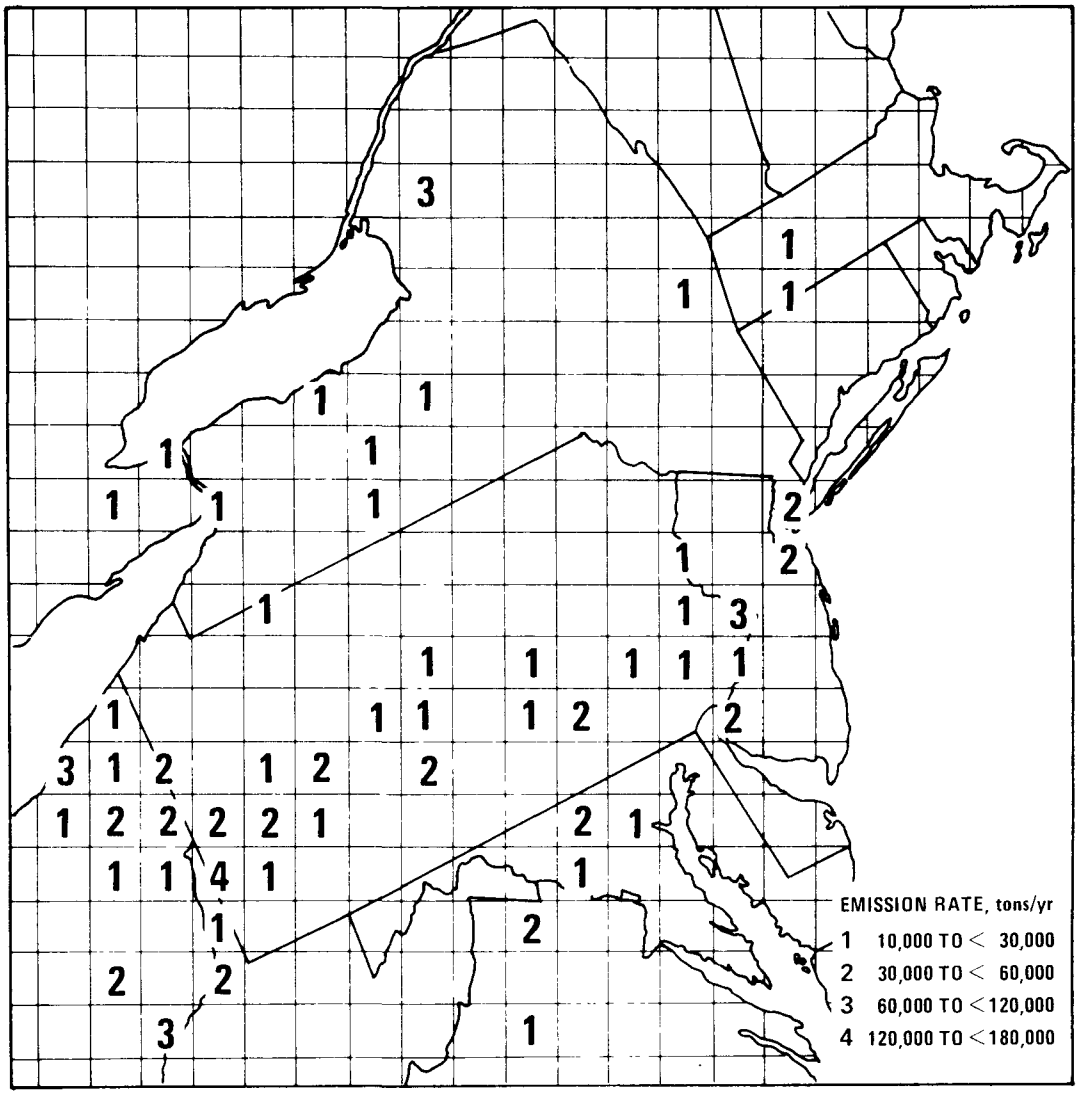

Figure 12. Gridded annual point source emissions (tons/year) of particulates for the northeastern U.S. and south eastern Ontario (20-km grid).

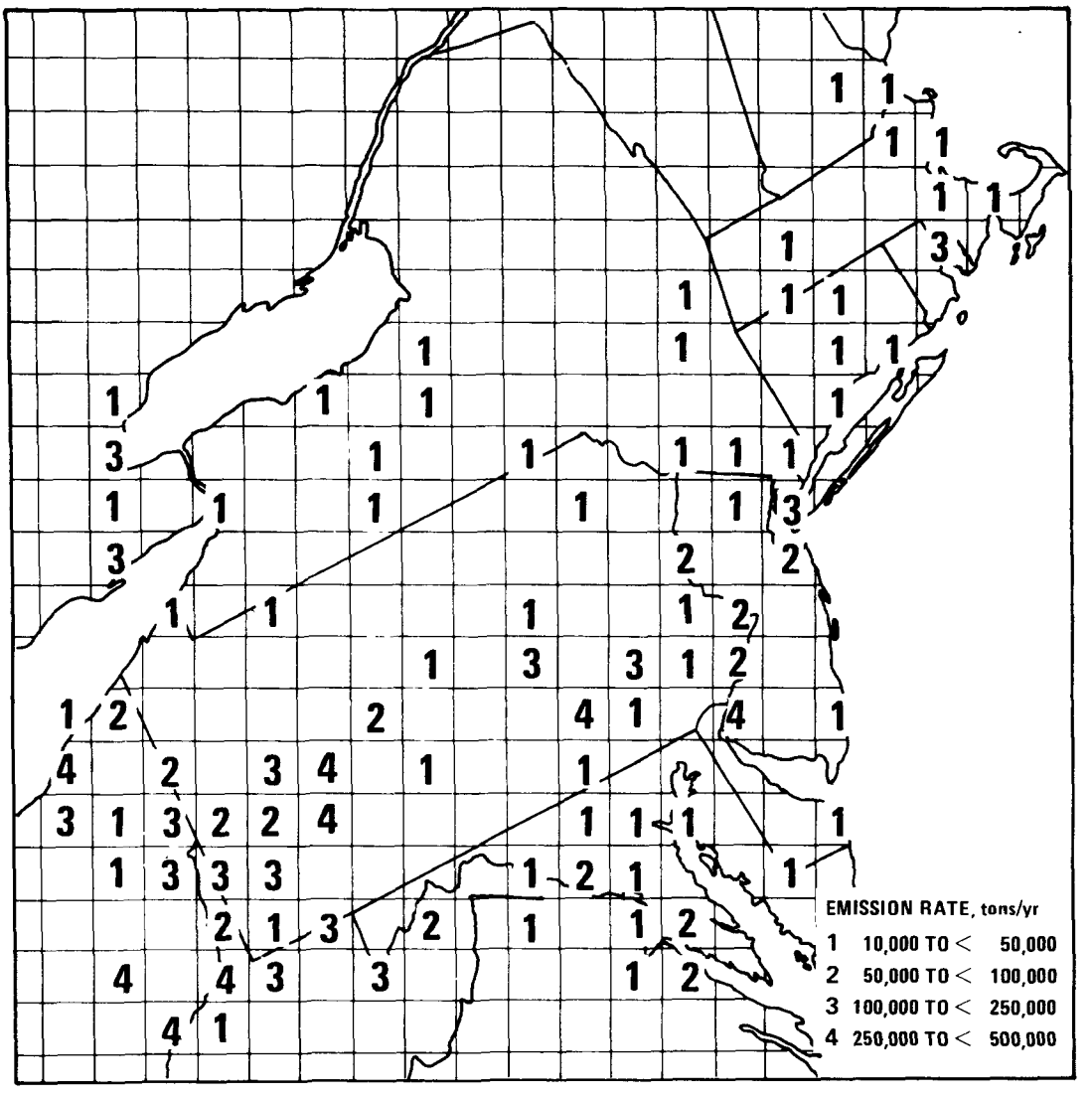

Figure 13. Gridded annual point source emissions (tons/year) of sulfur dioxide for the northeastern U.S. and southeastern Ontario (20-km grid).

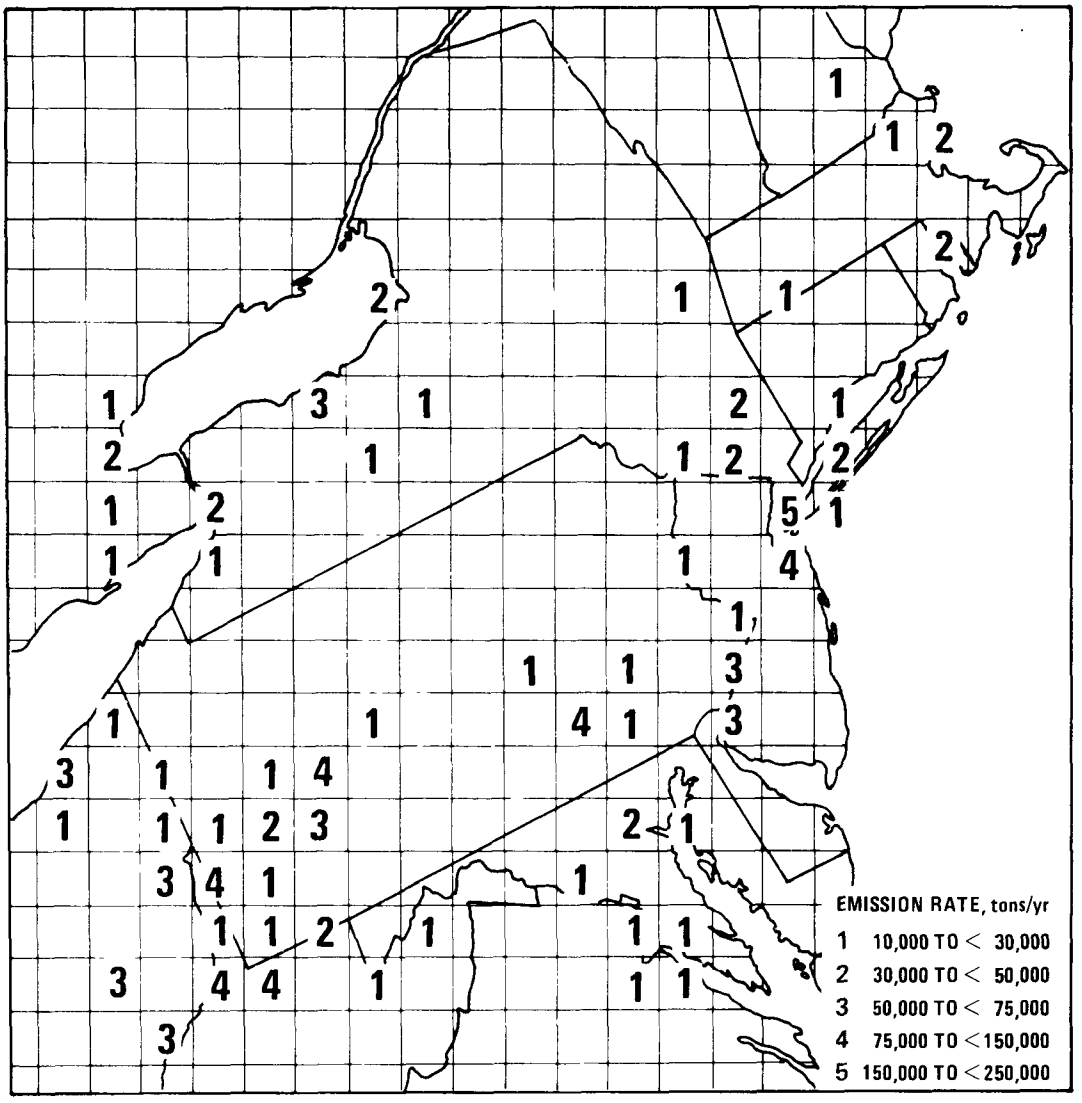

Figure 14. Gridded annual point source emissions (tons/year) of nitrogen oxides for the northeastern U.S. and southeastern Ontario (20-km grid).

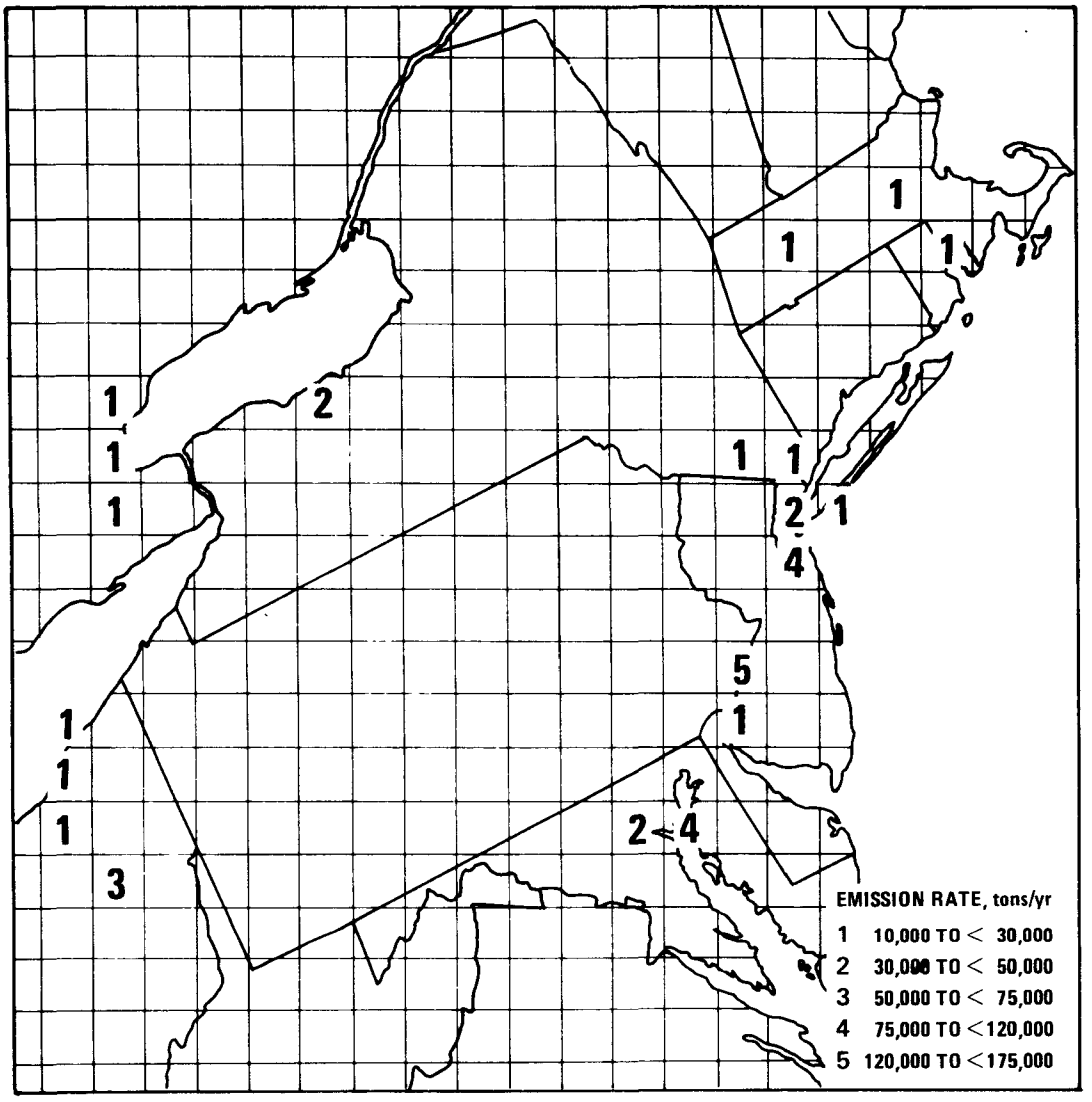

Figure 15. Gridded annual point source emissions (tons/year) of hydrocarbons for the northeastern U.S. and southeastern Ontario (20-km grid).

grid squares include those encompassing East Baltimore (86,000 tons/year), northeastern New Jersey (84,000 tons/year), and east-central Ohio (55,000 tons/year).

Figure 16 illustrates the location of large point sources of carbon monoxide in the Ohio and Delaware River Valleys and the Buffalo, New York area. The sources in the grid square containing the Philadedphia area emit more carbon monoxide (228,000 tons/year) than those in any other grid square. Other high emission grid squares contain sources in the Baltimore area (104,000 tons/year), Buffalo area (78,000 tons/year), and the New Jersey portion of the New York metropolitan area (76,000 tons/year).

Annual Area Source Emission Grids--

As mentioned previously, Northeastern annual area source emissions were gridded onto a network with a 20-km grid spacing. These area source emissions, like the point source emissions, are presented in two formats. First, the actual gridded emissions are provided in Appendix F in the same format as the gridded Northeastern point sorce emissions. Secondly, 40-km grid maps of area source emissions were created by summing the area source emissions from sets of four 20-km grid squares. Figures 17-21 illustrate the relative magnitude of the area source emissions of particulates, sulfur dioxide, nitrogen oxides, hydrocarbons, and carbon monoxide, respectively, for the 40-km grid network.

Since the area source emissions of particulates and sulfur dioxide are much less than the point source emissions, the minimal emission rate in the lowest emission class (class 1) was reduced from 10,000 to 5,000 tons/year in Figures 17 and 18. These two figures are quite similar in that the major area source emissions of the two pollutants are concentrated in the Boston to Washington, D. C. corridor and the northeastern Ohio area.

The grid square where the area source emissions of particulates are greatest (see Figure 17) is the one containing the Cleveland area where 90,596 tons/year are emitted. An annual total of 87,101 tons/year is emitted from area sources within the New York City grid square, while 44,168 tons/year are emitted from the grid square below the Cleveland grid square. The annual area source emissions in each of the remaining grid squares fall below 40,000 tons.

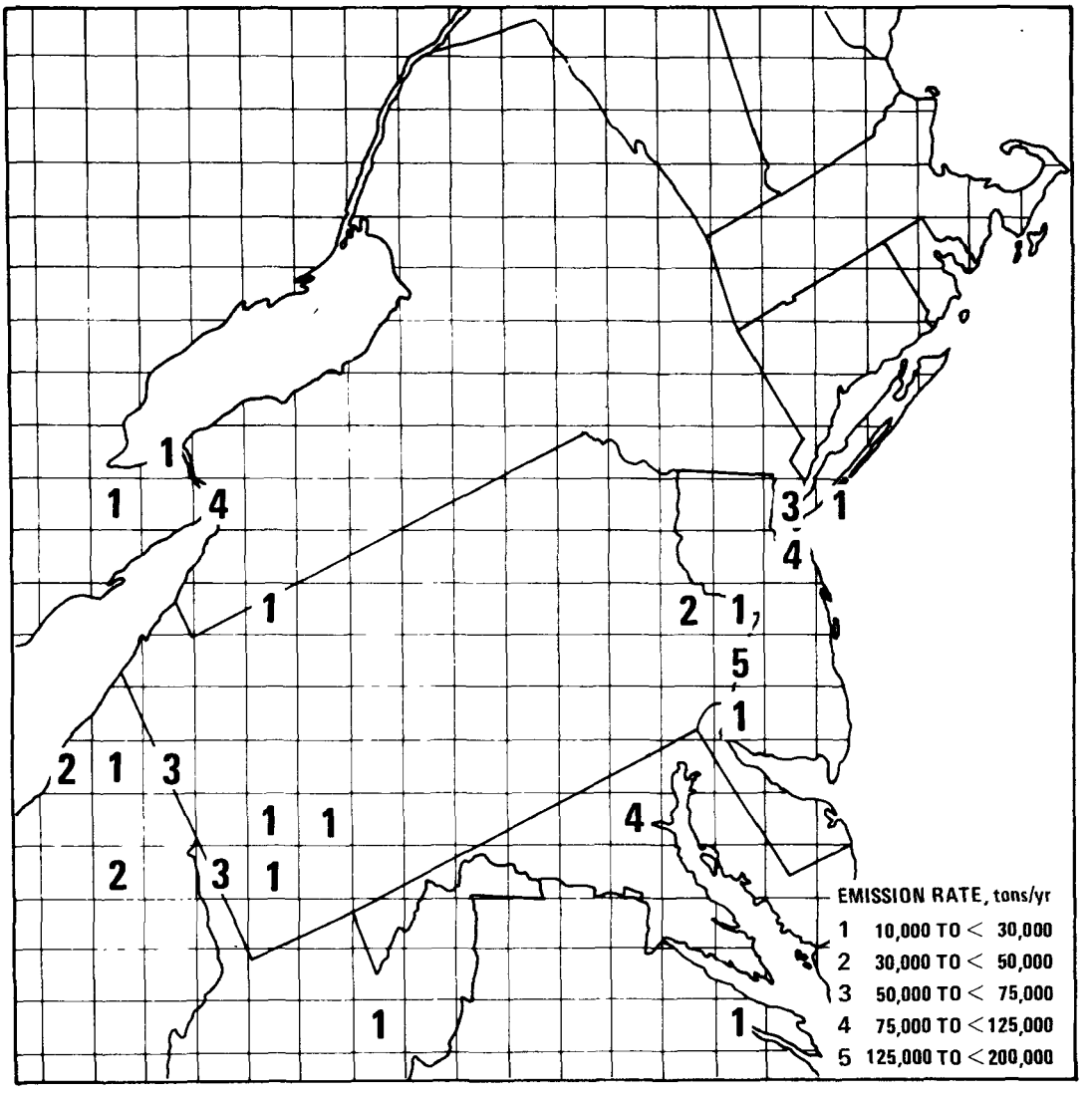

Figure 16. Gridded annual point source emissions (tons/year) of carbon monoxide for the northeastern U.S. and southeastern Ontario (20-km grid).

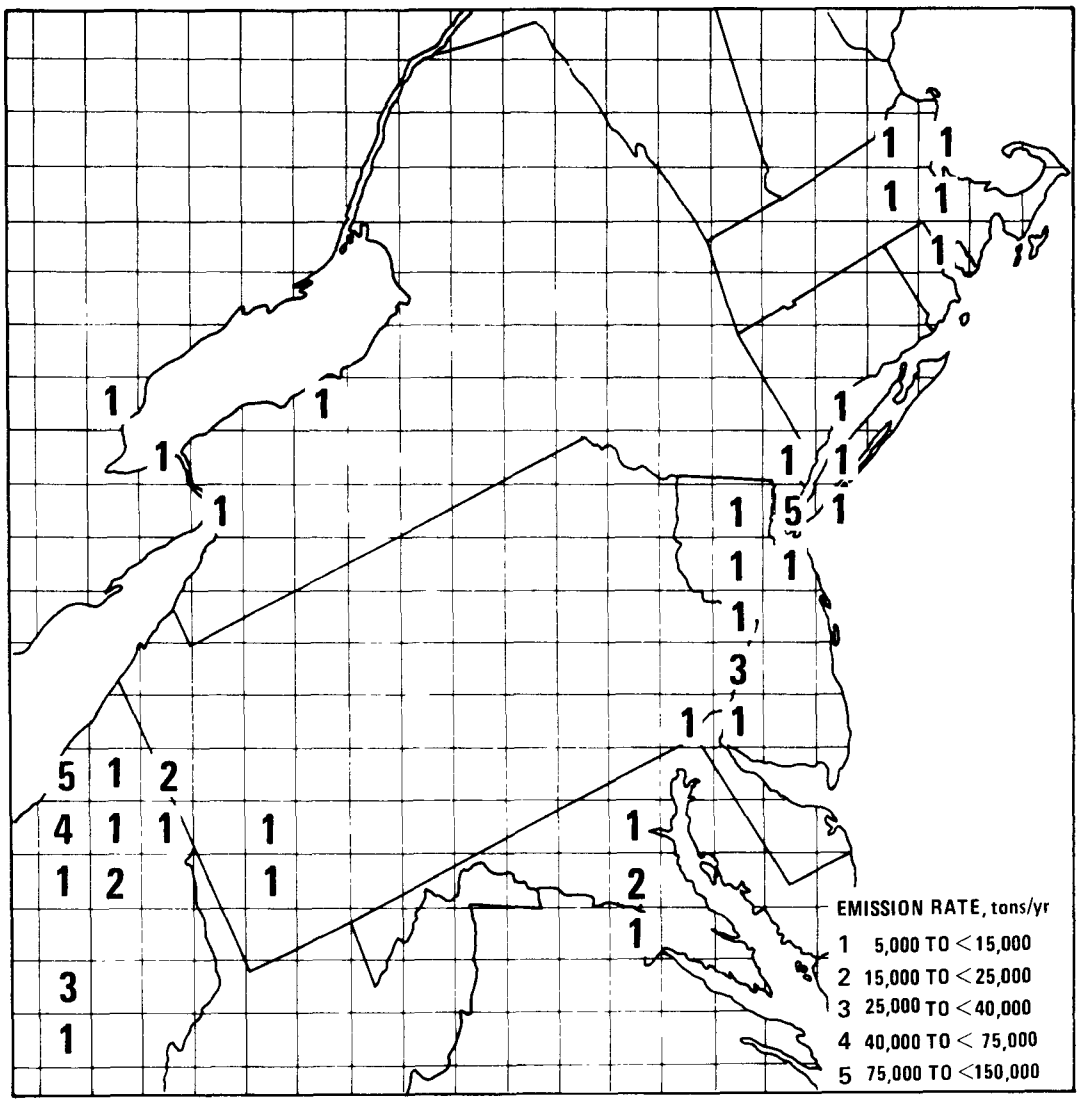

Figure 17. Gridded annual area source emissions (tons/Year) of particulates for the northeastern U.S. and southeastern Ontario (20-km grid).

As seen from Figure 18, the area sources in the New York City grid square emit much more sulfur dioxide than any other grid square - 158,185 tons/year. The next highest annual total is the 80,697 tons emitted from the area sources within the Cleveland grid square. The area sources in the Philadelphia area grid square emit 47,463 tons/year, while those in each of the remaining grid squares emit less than 40,000 tons/year.

The annual emissions of nitrogen oxides (see Figure 19) from area sources are appreciable higher than the particulates and sulfur dioxide emissions. The area sources in the New York City grid square emit 325,673 tons/year, while 143,382 tons/year are emitted from area sources in the Philadelphia area grid square. The next highest emission grid squares, in order, are Cleveland (78,823 tons/year), Washington, D. C.-Maryland suburbs (75,726 tons/year), and Baltimore (63,622 tons/year). The area sources in each of the remaining grid squares emit less than 50,000 tons/year.

The major area sources of hydrocarbons (see Figure 20) are concentrated in the Boston to Washington, D. C., the Pittsburgh to Cleveland, and to a lesser extent, the Rochester to Toronto corridors. The area source emissions of hydrocarbons are greatest in the New York City grid square where 475,048 tons/year are emitted annually. The area sources in the Philadelphia area grid square emit 193,491 tons/year, while those in the Cleveland grid square emit 154,749 tons/year. Those in the Washington, D. C.-Maryland suburbs emit 110,663 tons/year, while the area sources in each of the remaining grid squares emit less than 100,000 tons/year.

Figure 21 shows the areas of high carbon monoxide emissions are also areas of high hydrocarbons emissions. Once again, area sources within the New York City grid square emit the greatest amount 1,893,482 tons/year. The area sources with the Philadelphia-area grid square emit 1,093,002 tons/year while those in the Cleveland grid square emit 593,726 tons/year. The area sources in the Washington, D. C.-Maryland suburbs emit 574,083 tons/year, while those in each of the remaining grid squares emit less than 500,000 tons/year.

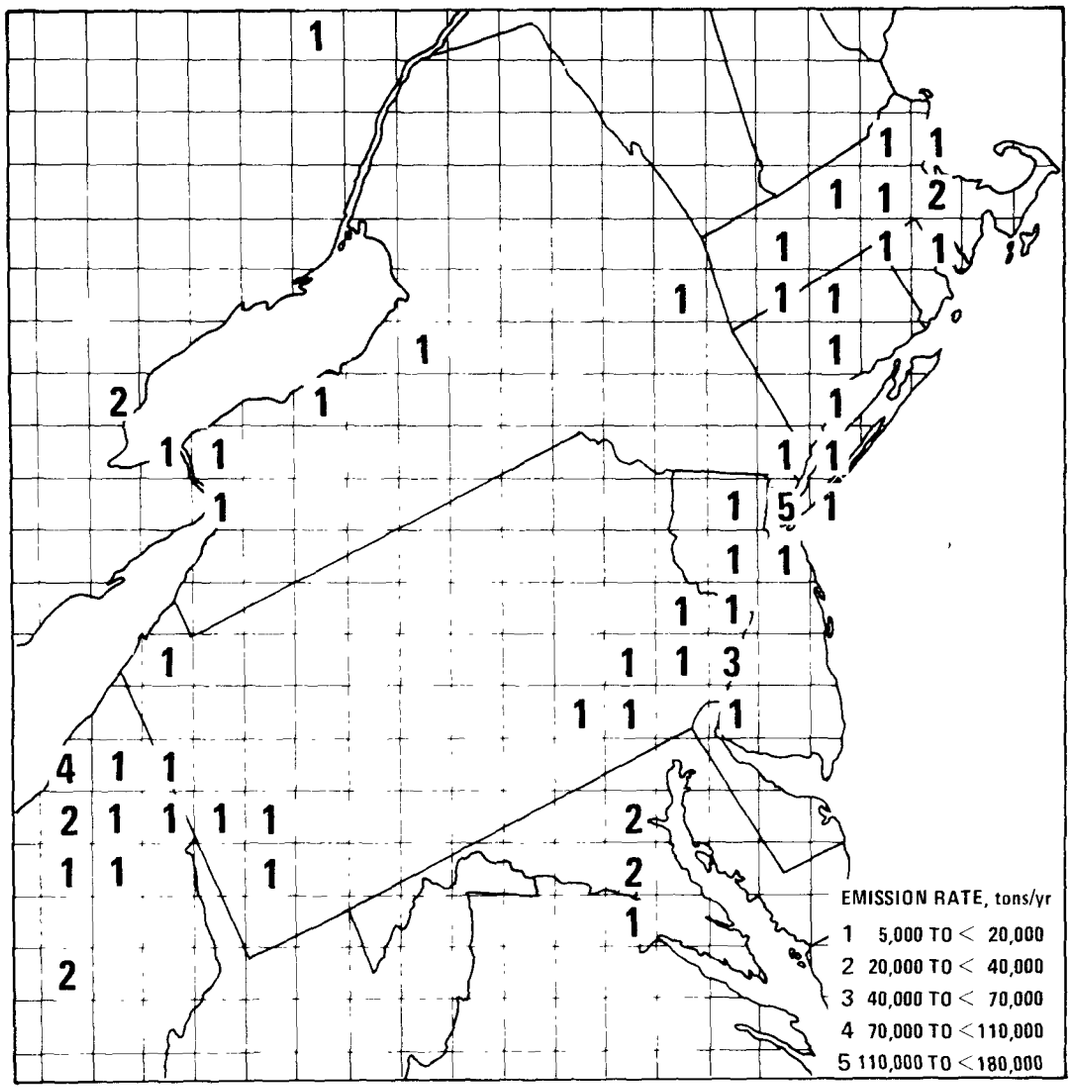

Figure 18. Gridded annual area source emissions (tons/year) of sulfur dioxide for the northeastern U.S. and southeastern Ontario (20-km grid).

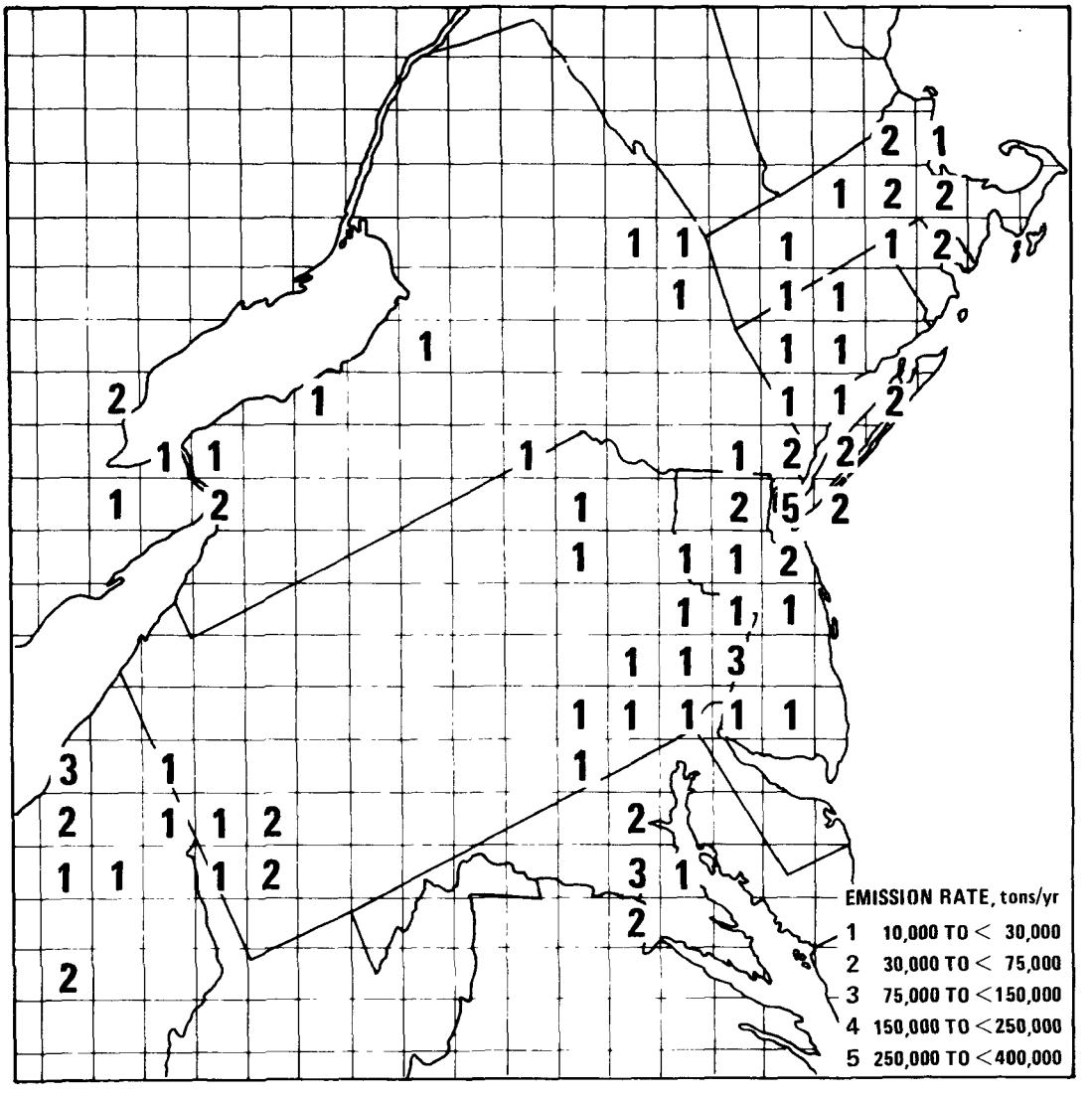

Figure 19. Gridded annual area source emissions (tons/year) of nitrogen oxide for the northeastern U.S. and southeastern Ontario (20-km grid).

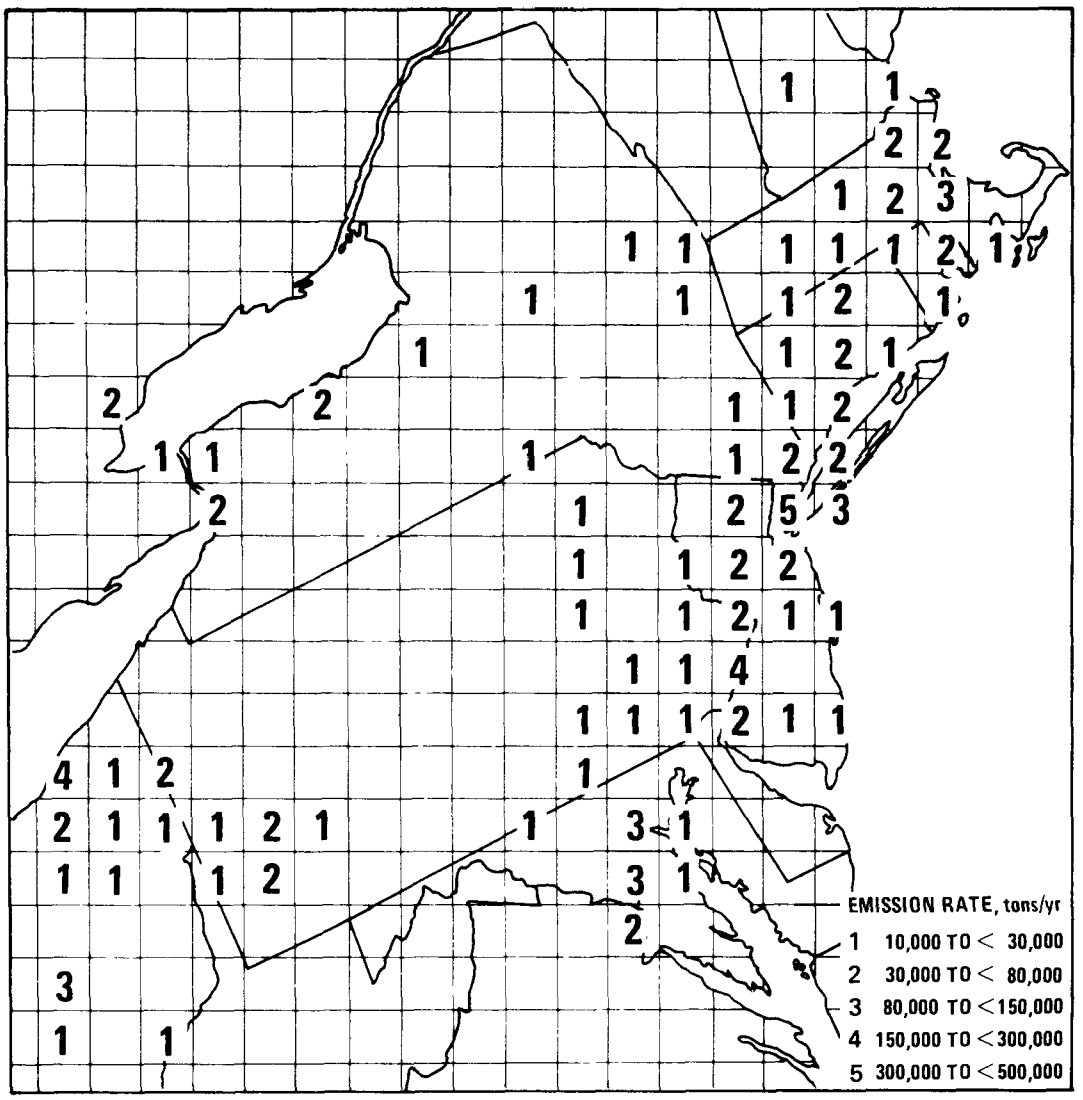

Figure 20. Gridded annual area source emissions (tons/year) of hydrocarbons for the northeastern U.S. and southeastern Ontario (20-km grid).

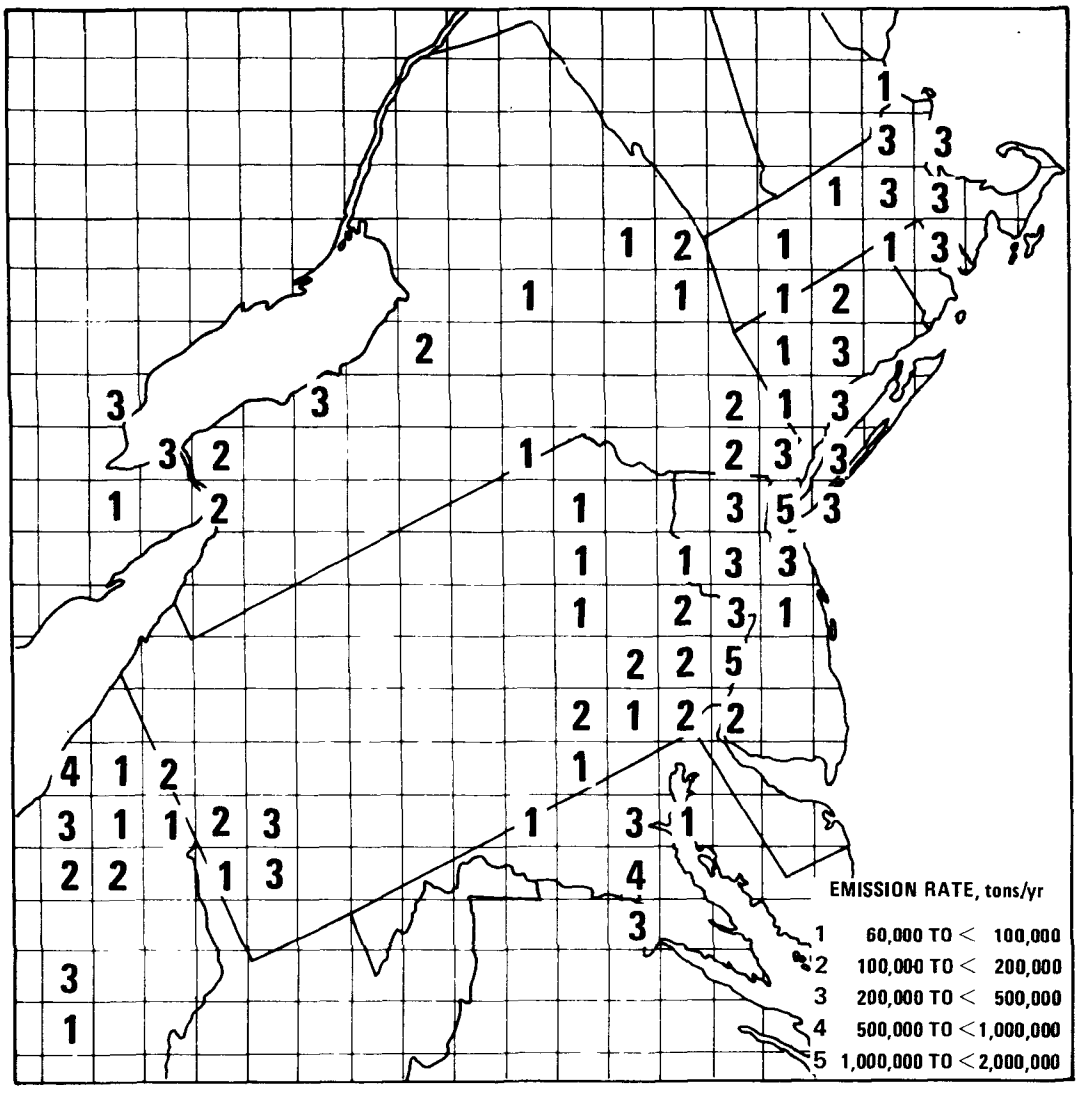

Figure 21. Gridded annual area source emissions (tons/year) of carbon monoxide for the northeastern U.S. and southeastern Ontario (20-km grid).

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APPENDIX A

YEARS OF NEDS POINT SOURCE EMISSION RECORDS

The following table shows for each state east of the Rocky Mountains the percentage of NEDS point source emission records created for each of the years in the period 1969-1977. There is one record for every type of fuel burned at each point source. In addition, the extreme righthand column contains the number of point source emission records for each state.

For each state in the table, there is a pair of numbers in adjacent columns enclosed by parentheses. The years at the top of the adjacent columns represent roughly the period in which most of the point source emission records for that state were created.

From the table, it is readily seen that these periods vary from state to state. This is a drawback inherent in the NEDS data base. However, since it is not known if the data from the earlier point source emission records have changed drastically over the years, it is impossible to estimate just how serious this drawback is from the table alone.

TABLE A-1 YEAR OF POINT SOURCE RECORDS IN NEDS (%)

State	≤69	70	71	72	73	74	75	76	77	Total number of records
Alabama	1	0	2	(40	6)	5	24	13	8	3861
Arkansas	13	4	3	1	3	(63	13)	1	0	1760
Colorado	5	6	2	6	22	(25	24)	9	0	744
Connecticut	0	0	(100)	0	0	0	0	0	0	516
Delaware	1	0	1	(64	1)	2	1	27	4	771
D. C.	0	13	0	0	3	4	(75	5)	0	101
Florida	4	16	(29	18)	10	7	15	1	0	4376
Georgia	2	0	0	1	2	10	(57	28)	0	1890
Illinois	0	(75	4)	17	3	1	0	0	0	3552
Indiana	0	0	0	2	1	38	3	(20	34)	6488
Iowa	7	0	0	15	26	(3	48)	1	0	6237
Kansas	1	1	11	12	(2	68)	1	2	2	7238
Kentucky	1	0	2	14	7	(0	76)	0	0	7792
Louisiana	3	11	11	19	5	(34	17)	0	0	2787
Maine	6	15	(39	24)	7	6	3	0	0	1982
Maryland	3	5	(42	17)	19	12	0	0	0	1974
Massachusetts	14	23	3	(30	15)	14	0	0	0	2523
Michigan	0	16	0	2	2	(1	78)	1	0	3384
Minnesota	0	0	2	0	1	(36	61)	0	0	1944
Mississippi	1	12	(15	42)	0	7	11	9	3	5482
Missouri	0	5	0	0	(20	72)	1	0	0	2438
Montana	0	11	0	(32	33)	14	7	3	0	535
Nebraska	1	0	0	0	7	(22	69)	0	0	4351
New Hampshire	0	15	0	(42	1)	17	22	2	0	692
New Jersey	0	1	0	0	0	37	(3	59)	0	5081
New Mexico	0	3	(43	40)	1	10	2	1	0	1531
New York	2	0	1	0	0	2	21	(25	40)	32182
North Carolina	1	9	(37	26)	19	6	2	0	0	6012
North Dakota	0	1	0	(79	1)	5	8	5	2	2571
Ohio	2	0	0	0	0	0	(45	46)	7	5897
Oklahoma	1	2	16	23	(10	31)	10	8	0	1908
Pennsylvania	1	(28	20)	2	13	1	36	0	0	5273
Rhode Island	1	0	0	0	(82	17)	0	0	0	913
South Carolina	0	23	17	(22	21)	13	4	1	0	2077
Tennessee	0	3	4	14	14	(20	30)	16	0	8716
Texas	1	4	0	0	(94	1)	0	0	1	10398
Vermont	18	0	0	2	0	(0	79)	0	0	782
Virginia	1	0	0	(92	0)	6	1	0	0	2948
West Virginia	2	0	0	0	0	(0	98)	3	0	1146
Wisconsin	1	0	(78	8)	7	1	1	3	0	1373
Wyoming	0	0	15	5	2	(32	46)	0	0	465

APPENDIX B

COMPUTER CODE TO CONVERT POLLUTANT SOURCE COORDINATES TO THE 80-GRID COORDINATES

The following computer code was used to convert pollutant source coordinates to grid coordinates on the 80-km grid. Subroutine UTMC converts the UTM coordinates of the sources ('NZ' is the UTM-zone, 'UTMN' is the UTM-north coordinate, while 'UTME' is the UTM-east coordinate) to latitide and longitude (DLAT and DLON, respectively). Subroutine CONVB, when 'KEY' is equal to one, converts to latitude and longitude to the 80-km grid coordinates ('X' is the row and 'Y' the column).

The grid network is a 35 by 30 array of uniform grid squares with an approximate dimension of 80 km. The grid network is a polar stereographic projection true at 60°N. The coordinates of the center of grid square (1,1) at the lower left corner of the grid are 29.675°N and 105.000°W.

```
      SUBROUTINE UTMC(NZ,UTMN,UTME,DLAT,DLON)
      RAD = 3.14159265 / 180.0
      DLAT = UTMN / 111.
      DDLON = (UTME - 500.) / ((111.226 + 0.0053*DLAT)*COS(DLAT*RAD))
      DUTMN = (3187.*SIN(2*DLAT*RAD))*(1. - COS(DDLON*RAD))
      UTMNMP = UTMN - DUTMN
      DLAT = (UTMNMP - 2.41 - 0.00903*DLAT**2) / 110.27
      DDLON = (UTME - 500.) / ((111.226 + 0.0053*DLAT)*COS(DLAT*RAD))
      DLONMP = 180. - 6.*NZ + 3
      DLON = DLONMP - DDLON
      RETURN
      END
```

```
      SUBROUTINE CONVB(X,Y,DLAT,DLON,KEY)
C        MAP/EARTH SPACE CONVERSION FOR POLAR STEREOGRAPHIC TRUE AT 60
C        DEGREES NORTH. GRID SPACING IS ASSUMED TO BE 1/4 STANDARD NMC.
C            BOUNDARY LAYER GRID WITH POLE POINT (1.,75.),REFERENCE
C            LONGITUDE ALONG Y AXIS IS 105 DEGREES WEST. GRID ORIGIN
C            POINT (X=1.,Y=1.) IS AT 28.675 DEG NORTH AND 105 DEGREES
C            WEST LONGITUDE.
C        KEY=1 CONVERTS LATITUDE AND LONGITUDE IN DEGREES TO MAP
C              X,Y COORDINATES. LONGITUDE CAN BE IN 0-360 DEGREE
C              SYSTEM OR 0-90 DEGREE EAST OF GREENWICH AND NEGATIVE
C              0-90 DEGREES WEST OF GREENWICH SYSTEM.
C      KEY=2 CONVERTS MAP X,Y TO LATITUDE AND LONGITUDE IN DEGREES.
C              LONGITUDE IS IN STANDARD 0-360 DEGREE EAST OF GREENWICH
C              FORM.
C      PARAMETERS...RA=MAP REFERENCE ANGLE. LONGITUDE LINE PARALLEL
C                       TO X AXIS... NOTE,THAT IS THE X AXIS,NOT Y AXIS
C                    XP,YP=POLE POINTS IN MAP SPACE
C                    C=GRID UNITS FROM POLE TO EQUATOR ON MAP.
C                       (C=31.204359 FOR STANDARD NMC GRID)
C                    C2=C*C
      DATA XP/1./,YP/75./,C/124.8174361 /,C2/15579.39235/,RA/-15./
      PI = 3.14159
      R=PI/180.
      D=180./PI
      GO TO(5,20),KEY
    5 PS=DLAT*R
      AL=(360. - DLON-RA)*R
      IF(PS .LT. 0. .OR. PS .GT. PI/2.) GO TO 10
      SP=SIN(PS)
      CP=COS(PS)
      CL=COS(AL)
      SL=SIN(AL)
      AA=C*CP/(1.+SP)
      X=XP+AA*CL
```

```
      Y=YP+AA*SL
      RETURN
   10 X=9999.
      Y=9999.
      RETURN
   20 CP=X-XP
      SP=Y-YP
      IF(CP)25,21,25
   21 IF(SP)23,22,24
   22 DLON=0.
      DLAT=90.
      RETURN
   23 DLON=3.*PI/2.
      GO TO 35
   24 DLON=PI/2.
      GO TO 35
   25 ALI=ATAN(ABS(SP/CP))
      IF(CP)26,21,29
   26 IF(SP)27,27,28
   27 DLON=ALI+PI
      GO TO 35
   28 DLON=PI-ALI
      GO TO 35
   29 IF(SP) 30,31,31
   30 DLON=2.*PI-ALI
      GO TO 35
   31 DLON=ALI
   35 AA=CP*CP+SP*SP
      AA=(C2-AA)/(C2+AA)
C        LATITUDE,LONGITUDE IN DEGREES
      DLAT=ASIN(AA)*D
      DLON=DLON*D+RA
      IF(DLON .LT. 0.) DLON=DLON+360.
      IF(DLON .GT. 360.) DLON=DLON-360.
      RETURN
      END
```

APPENDIX C

SUMMARY OF INADEQUATE COORDINATES IN THE NEDS POINT SOURCE INVENTORY

Much time and effort were taken to ensure the coordinates of the NEDS point sources were reasonable prior to the execution of the gridding procedure. No attempt was made to identify coordinate errors of small magnitude (less than 40 km). Instead, the more obvious errors (typically greater than 40 km) were identified and the coordinates replaced with the coordinates of the geographical center of the county in which the source was located. Since these coordinates were grossly in error and the true coordinates unknown, using the geographical center of the county for the location of the point source reduced the error in the gridding procedure.

The gross errors in the coordinates in the NEDS point source records resulted either from an incorrect UTM zone of an incorrect UTM-north coordinate and/or UTM-east coordinate. The procedure of error identification was simplified by quickly scanning the 80-km grid coordinates instead of the actual UTM coordinates directly. This made the procedure more efficient as well, since errors in the grid coordinates were more readily noticed than errors in the eleven-digit UTM coordinates.

The following table lists for each state east of the Rocky Mountains the number of NEDS point source records and the actual number and percentage of point source records with UTM coordinates in error. At least 10% of the Oklahoma and Georgia point source records contained UTM coordinates in error.

Also included in the table are the number and percentage of NEDS point source records with incomplete coordinates (no reported UTM zone and/or UTM-north and UTM-east coordinates). Almost all the Kansas point source records contained no UTM coordinates at all. Over two-thirds of the records for Nebraska and Michigan contained imcomplete coordinates.

TABLE C-1. STATISTICS OF INADEQUATE COORDINATES FOR POINT SOURCES IN NEDS

State	# records in NEDS	Coordinates in error (# records)	% of records in error	Incomplete coordinates (# records)	% of incomplete records
Alabama	3861	17	0.4	89	2.5
Arkansas	1760	12	0.7	8	0.5
Colorado	744	-	-	268	36.0
Connecticut	516	31	6.0	0	0.0
Delaware	771	6	0.8	125	16.2
D. C.	101	0	0.0	4	4.0
Florida	6514	105	1.6	1643	25.2
Georgia	1896	191	10.0	101	5.3
Illinois	3552	68	1.9	307	8.6
Indiana	6506	47	0.7	277	4.3
Iowa	9825	33	0.3	4378	44.6
Kansas	7524	0	0.0	7521	100.0
Kentucky	7792	268	3.4	46	0.6
Louisiana	2787	154	5.5	20	0.7
Maine	2138	-	-	289	13.5
Maryland	3696	2	0.1	6	0.2
Massachusetts	2541	45	1.8	120	4.7
Michigan	3384	257	7.6	2315	68.4
Minnesota	1944	0	0.0	1241	63.8
Mississippi	5482	69	1.3	3964	72.3
Missouri	2438	139	5.7	107	4.4
Montana	535	0	0.0	20	3.7
Nebraska	4375	113	2.6	3752	85.8
New Hampshire	692	4	0.6	26	3.8
New Jersey	5105	42	0.8	292	5.7
New Mexico	1531	12	0.8	134	8.8
New York	32182	173	0.5	399	1.2
North Carolina	8388	326	8.9	2609	31.1
North Dakota	2589	74	2.9	101	3.9
Ohio	5897	50	0.8	47	0.8
Oklahoma	1908	274	14.4	286	15.0
Pennsylvania	6293	105	1.7	499	7.1

TABLE C-1 (continued)

State	# records in NEDS	Coordinates in error (# records)	% of records in error	Incomplete coordinates (# records)	% of incomplete records
Rhode Island	913	4	0.4	78	8.5
South Carolina	2131	87	4.1	418	19.6
South Dakota	220	20	9.1	66	30.0
Tennessee	8716	617	7.1	465	5.3
Texas	10398	347	3.3	1230	11.8
Vermont	782	25	3.2	8	1.0
Virginia	2948	81	2.7	33	1.1
West Virginia	1146	32	2.8	26	2.3
Wisconsin	1357	37	2.7	187	13.6
Wyoming	465	7	1.5	188	40.4
Total	174,365	3874*	2.3*	33643	19.3

*not including Colorado and Maine

APPENDIX D

ANNUAL EMISSION GRIDS FOR LONG-RANGE AIR QUALITY SIMULATION STUDIES

Annual emissions expressed in tons of particulates, sulfur dioxide, nitrogen oxides, hydrocarbons, and carbon monoxide from point and area sources were apportioned to 80-km grid squares on a 35 by 30 grid network encompassing much of the United States and Southern Canada east of the Rocky Mountains. Section D-1 contains the gridded point source emissions, Section D-2 the gridded area source emissions, while Section D-3 contains the gridded point and area source emissions fo the five pollutants,

The first grid square listed in each section (1,1) refers to the grid square in the lower-left corner of the grid network depicted in Figures 1-10 of the text. Figure D-1 identifies the X and Y coordinates of the center of each of the 1050 grid squares. Each page of data in this appendix contains the annual emissions from sources within the grid squares of two adjacent rows (X varies from 1 to 35).

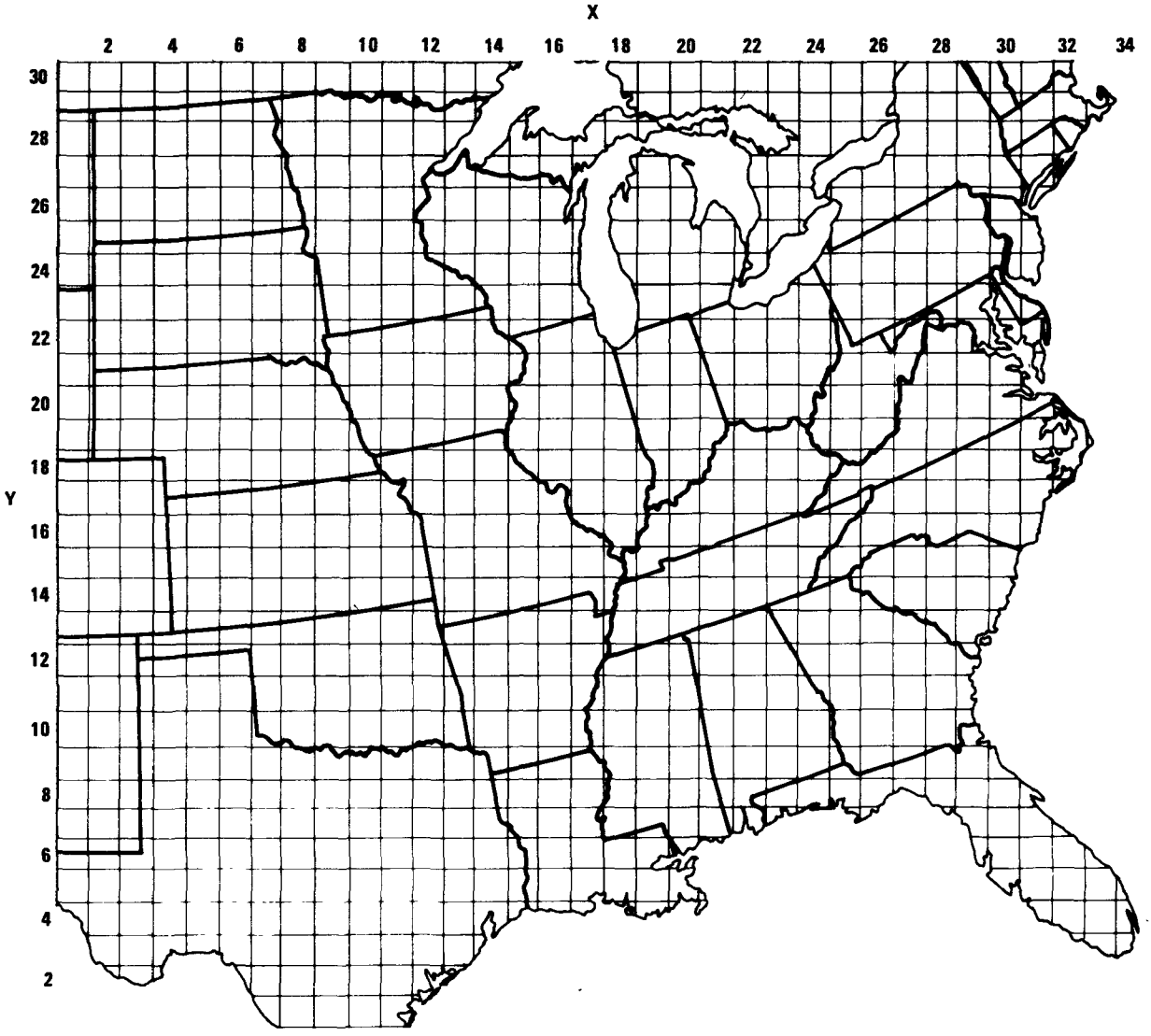

Figure D-1. The grid coordinates of the 35 by 30 grid network with an 80-km grid spacing.

SECTION D-1

GRIDDED POINT SOURCE EMISSIONS (TONS/YEAR) ON THE 80-KM GRID NETWORK

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 1)	0	0	0	0	0	(1, 2)	0	0	0	0	0
(2, 1)	0	0	0	0	0	(2, 2)	0	0	0	0	0
(3, 1)	0	0	0	0	0	(3, 2)	0	0	0	0	0
(4, 1)	0	0	0	0	0	(4, 2)	0	0	0	0	0
(5, 1)	0	0	0	0	0	(5, 2)	0	0	0	0	0
(6, 1)	0	0	0	0	0	(6, 2)	1	0	8	78	0
(7, 1)	869	0	10	0	0	(7, 2)	1469	0	0	0	0
(8, 1)	3	10	987	2051	2	(8, 2)	3806	953	3	0	1
(9, 1)	10	1948	310	130	2	(9, 2)	726	11760	10585	1652	620
(10, 1)	446	1159	1107	874	3	(10, 2)	102	5106	805	648	6
(11, 1)	5649	3999	78674	6572	124597	(11, 2)	528	45	11543	7602	14856
(12, 1)	1	0	81	33	0	(12, 2)	25543	2530	96324	67072	448
(13, 1)	0	0	0	0	0	(13, 2)	3272	687	15306	149986	6896
(14, 1)	0	0	0	0	0	(14, 2)	0	0	0	0	0
(15, 1)	0	0	0	0	0	(15, 2)	0	0	0	0	0
(16, 1)	0	0	0	0	0	(16, 2)	0	0	0	0	0
(17, 1)	0	0	0	0	0	(17, 2)	0	0	0	0	0
(18, 1)	0	0	0	0	0	(18, 2)	0	0	0	0	0
(19, 1)	2	0	17	0	1	(19, 2)	0	0	0	0	0
(20, 1)	0	0	0	0	0	(20, 2)	0	0	0	0	0
(21, 1)	0	0	0	0	0	(21, 2)	0	0	0	0	0
(22, 1)	0	0	0	0	0	(22, 2)	0	0	0	0	0
(23, 1)	0	0	0	0	0	(23, 2)	0	0	0	0	0
(24, 1)	0	0	0	0	0	(24, 2)	0	0	0	0	0
(25, 1)	0	0	0	0	0	(25, 2)	0	0	0	0	0
(26, 1)	0	0	0	0	0	(26, 2)	0	0	0	0	0
(27, 1)	0	0	0	0	0	(27, 2)	0	0	0	0	0
(28, 1)	0	0	0	0	0	(28, 2)	0	0	0	0	0
(29, 1)	0	0	0	0	0	(29, 2)	0	0	0	0	0
(30, 1)	0	0	0	0	0	(30, 2)	0	0	0	0	0
(31, 1)	0	0	0	0	0	(31, 2)	0	0	0	0	0
(32, 1)	0	0	0	0	0	(32, 2)	0	0	0	0	0
(33, 1)	0	0	0	0	0	(33, 2)	80	506	2443	48	74
(34, 1)	0	0	0	0	0	(34, 2)	0	0	0	0	0
(35, 1)	0	0	0	0	0	(35, 2)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 34 US-CANADIAN GRID
(GRID SPACING = 90KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 3)	0	0	0	0	0	(1, 4)	15	0	4	0	0
(2, 3)	0	0	0	0	0	(2, 4)	0	0	0	0	0
(3, 3)	0	0	0	0	0	(3, 4)	256	1754	123	16	1
(4, 3)	0	0	0	0	0	(4, 4)	138	3433	3492	6797	179
(5, 3)	0	0	0	0	0	(5, 4)	4	202	19563	2074	4
(6, 3)	0	0	191	13	0	(6, 4)	3	2	415	1237	4
(7, 3)	0	0	0	0	0	(7, 4)	1	2	119	25	4
(8, 3)	0	0	0	0	0	(8, 4)	133	0	36	48	7
(9, 3)	9562	4789	9443	3361	638	(9, 4)	3556	0	0	0	0
(10, 3)	4671	1	336	212	4	(10, 4)	15626	727	4957	8775	200
(11, 3)	255	0	54	40	0	(11, 4)	25139	47685	11377	7308	881
(12, 3)	4990	1	7808	7083	576	(12, 4)	0	0	0	0	0
(13, 3)	5533	10741	46625	59776	119746	(13, 4)	48995	100143	83297	187925	183589
(14, 3)	7149	24994	41645	75952	217069	(14, 4)	2783	21670	34761	8640	4402
(15, 3)	0	0	0	0	0	(15, 4)	13803	115078	104342	245069	246473
(16, 3)	0	0	0	0	0	(16, 4)	35	5	1222	389	84
(17, 3)	0	0	0	0	0	(17, 4)	8	4	374	21	114
(18, 3)	0	0	0	0	0	(18, 4)	0	0	0	0	0
(19, 3)	0	0	0	0	0	(19, 4)	78	5	1100	22	47
(20, 3)	0	0	0	0	0	(20, 4)	0	0	0	0	0
(21, 3)	0	0	0	0	0	(21, 4)	41	1	516	0	38
(22, 3)	0	0	0	0	0	(22, 4)	0	0	0	0	0
(23, 3)	0	0	0	0	0	(23, 4)	0	0	0	0	0
(24, 3)	0	0	0	0	0	(24, 4)	0	0	0	0	0
(25, 3)	0	0	0	0	0	(25, 4)	0	0	0	0	0
(26, 3)	0	0	0	0	0	(26, 4)	0	0	0	0	0
(27, 3)	0	0	0	0	0	(27, 4)	0	0	0	0	0
(28, 3)	0	0	0	0	0	(28, 4)	0	0	0	0	0
(29, 3)	0	0	0	0	0	(29, 4)	0	0	0	0	0
(30, 3)	0	0	0	0	0	(30, 4)	0	0	0	0	0
(31, 3)	0	0	0	0	0	(31, 4)	1255	15847	13673	256	384
(32, 3)	89	8	9	3	53	(32, 4)	385	761	272	118	118
(33, 3)	0	0	0	0	0	(33, 4)	58	0	0	0	0
(34, 3)	602	9487	6845	111	243	(34, 4)	12891	63834	45254	4780	5376
(35, 3)	0	0	0	0	0	(35, 4)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 5)	2987	0	0	0	0	(1, 6)	0	0	0	0	0
(2, 5)	0	0	0	0	0	(2, 6)	14013	129	1235	346	65
(3, 5)	553	42700	9441	7753	47	(3, 6)	410	57034	12947	12375	5121
(4, 5)	363	25452	24817	8726	52	(4, 6)	721	41759	35804	17163	4579
(5, 5)	31	52	5228	1072	7	(5, 6)	1385	18578	7829	16185	69655
(6, 5)	2	0	437	59	0	(6, 6)	2291	1698	18250	431	91
(7, 5)	303	215	3204	271	427	(7, 6)	475	16	1514	112	11
(8, 5)	447	0	877	0	0	(8, 6)	2152	4	769	2507	19
(9, 5)	66	0	0	0	0	(9, 6)	882	0	3	0	1
(10, 5)	2426	20	615	14500	17	(10, 6)	1284	12	4993	3484	144
(11, 5)	10	0	1	857	83	(11, 6)	3707	2026	11389	505	285
(12, 5)	135	66	1102	367	55	(12, 6)	14318	95486	24814	1107	2298
(13, 5)	4349	116	4007	333	1987	(13, 6)	655	12	149	7798	734
(14, 5)	6077	208	1822	1006	1824	(14, 6)	2099	950	1919	380	4080
(15, 5)	3425	427	2535	4179	89272	(15, 6)	109	33	144	2451	489
(16, 5)	13307	128448	115054	73420	36296	(16, 6)	5815	396	3135	516	946
(17, 5)	1695	760	6415	3905	820	(17, 6)	227	98	19024	18424	233504
(18, 5)	28821	97192	78066	37638	261902	(18, 6)	43966	79675	52319	145680	173052
(19, 5)	173874	60258	100046	105310	55779	(19, 6)	2891	225	3058	3256	35023
(20, 5)	17993	48327	49693	19962	38591	(20, 6)	53	1	49	43	494
(21, 5)	1167	3546	1890	314	187	(21, 6)	3584	74651	15366	1655	789
(22, 5)	0	0	0	0	0	(22, 6)	0	0	0	5	0
(23, 5)	0	0	0	0	0	(23, 6)	0	0	0	0	0
(24, 5)	0	0	0	0	0	(24, 6)	0	0	0	0	0
(25, 5)	0	0	0	0	0	(25, 6)	0	0	0	0	0
(26, 5)	0	0	0	0	0	(26, 6)	0	0	0	0	0
(27, 5)	0	0	0	0	0	(27, 6)	0	0	0	0	0
(28, 5)	0	0	0	0	0	(28, 6)	0	0	0	0	0
(29, 5)	61	4	8	0	1	(29, 6)	1709	16962	5064	98	152
(30, 5)	3029	16001	16873	55	91	(30, 6)	26582	254547	45025	825	2397
(31, 5)	826	228	346	46	49	(31, 6)	18381	6306	3061	180	162
(32, 5)	1186	1690	1039	683	689	(32, 6)	407	6524	5337	67	273
(33, 5)	4535	27491	16480	2610	2837	(33, 6)	488	5126	3574	77	129
(34, 5)	444	150	96	119	1638	(34, 6)	0	0	0	0	0
(35, 5)	0	0	0	0	0	(35, 6)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
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(GRID SPACING = 80KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 7)	1	0	1	34	1	(1, 8)	0	0	0	0	0
(2, 7)	5256	23175	1252	4711	4842	(2, 8)	2934	13	188	1001	27
(3, 7)	452	75103	5161	12235	131	(3, 8)	26	1801	331	512	10
(4, 7)	891	22199	10125	1214	28	(4, 8)	1065	3205	7653	532	58
(5, 7)	903	596	2128	409	1	(5, 8)	4043	97	4274	2766	5562
(6, 7)	1244	390	10467	2359	5	(6, 8)	0	0	0	0	0
(7, 7)	7531	161	2936	3524	97	(7, 8)	361	62	3547	83	27
(8, 7)	161	0	1115	426	0	(8, 8)	1	0	82	314	0
(9, 7)	7412	69	3314	493	25	(9, 8)	33384	8	7853	1490	57
(10, 7)	15915	889	7143	12578	1677	(10, 8)	8615	7623	9771	31988	219
(11, 7)	32458	35176	1212	822	9	(11, 8)	8689	8304	22732	13454	870
(12, 7)	3538	296	7007	2925	61	(12, 8)	666	40380	2264	1135	15
(13, 7)	7447	2139	11973	22565	4323	(13, 8)	3419	11615	26818	18731	10492
(14, 7)	1706	43	4623	5578	438	(14, 8)	6550	1726	9624	32146	3450
(15, 7)	3064	2461	719	143	5939	(15, 8)	441	76	2807	1134	550
(16, 7)	7773	66959	38663	549	4895	(16, 8)	2168	2613	7089	33989	16234
(17, 7)	6920	6475	2538	324	61095	(17, 8)	63	11	66	81	621
(18, 7)	814	21	161	1440	4207	(18, 8)	46309	15196	15856	2013	2320
(19, 7)	8375	1723	3353	591	24746	(19, 8)	366	331	151	724	994
(20, 7)	14502	15403	5330	4750	17513	(20, 8)	1843	13749	4453	2042	369
(21, 7)	6257	13396	2950	7661	9811	(21, 8)	1252	6043	54	2438	1958
(22, 7)	8583	95249	58706	3905	26289	(22, 8)	4033	12146	1872	473	665
(23, 7)	14757	130523	40556	7659	14936	(23, 8)	2454	32744	175	85	868
(24, 7)	31	1	1	1	7	(24, 8)	118	0	0	0	0
(25, 7)	12589	60305	12683	625	54600	(25, 8)	6532	2714	1932	1460	365
(26, 7)	4148	10892	2451	335	9924	(26, 8)	3243	3953	4568	618	622
(27, 7)	0	0	0	0	0	(27, 8)	9603	3701	4592	329	1429
(28, 7)	0	0	0	0	0	(28, 8)	214	102	544	99	137
(29, 7)	9263	50780	18633	356	545	(29, 8)	1420	9535	3112	89	166
(30, 7)	1500	155	237	29	33	(30, 8)	15437	9985	2878	1233	13291
(31, 7)	10025	52693	26443	1876	3412	(31, 8)	2041	25292	19761	473	1012
(32, 7)	647	10770	13910	240	410	(32, 8)	0	0	0	0	0
(33, 7)	0	0	0	0	0	(33, 8)	0	0	0	0	0
(34, 7)	0	0	0	0	0	(34, 8)	0	0	0	0	0
(35, 7)	0	0	0	0	0	(35, 8)	0	0	0	0	0

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POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 9)	0	0	0	0	0	(1,10)	9	1	3	17	48
(2, 9)	336	0	0	0	0	(2,10)	5	2	1477	243	20
(3, 9)	801	0	0	0	0	(3,10)	2093	0	0	0	0
(4, 9)	9502	92	3774	1332	45	(4,10)	2251	29	51	1	6
(5, 9)	4068	2341	1609	2539	1	(5,10)	6296	2441	2341	6639	933
(6, 9)	1494	0	135	258	0	(6,10)	97	0	0	0	0
(7, 9)	1491	53	1032	51	7	(7,10)	4371	0	0	0	0
(8, 9)	106	0	719	326	23	(8,10)	46	2	2430	4	69
(9, 9)	51	0	195	1932	9	(9,10)	2228	12102	1987	18400	37065
(10, 9)	415	0	883	236	1	(10,10)	3689	5277	3525	11235	35641
(11, 9)	2965	76	936	024	173	(11,10)	270	0	0	13	0
(12, 9)	585	590	8878	309	230	(12,10)	0	0	0	0	0
(13, 9)	3023	6129	1072	2536	324	(13,10)	1280	16	105	71	168
(14, 9)	2468	1920	2973	391	1334	(14,10)	2123	1816	939	1645	4157
(15, 9)	42523	5672	6569	550	17387	(15,10)	7642	2356	3539	891	4216
(16, 9)	16092	20819	26117	7239	42829	(16,10)	1210	170	1191	319	500
(17, 9)	173	9	45	85	267	(17,10)	6146	6403	5510	1058	1923
(18, 9)	3379	5615	8379	749	20893	(18,10)	3144	2199	830	747	1879
(19, 9)	13662	4696	186	1589	17773	(19,10)	902	44	76	163	314
(20, 9)	8436	3574	1188	1946	3295	(20,10)	4513	10	164	205	1603
(21, 9)	5286	12804	0	50	1402	(21,10)	851	46918	19319	202	666
(22, 9)	175	385	0	0	0	(22,10)	686	295	31	1	1
(23, 9)	417	3551	256	3	11	(23,10)	2040	427	114	0	0
(24, 9)	53	2910	0	0	0	(24,10)	742	0	0	0	0
(25, 9)	1920	8233	3809	460	17358	(25,10)	9469	185	97	19	19
(26, 9)	396	217	509	32	200	(26,10)	915	6063	1865	31	92
(27, 9)	1019	2196	1852	186	9895	(27,10)	0	0	0	0	0
(28, 9)	758	16033	6997	93	648	(28,10)	108	28	149	73	50
(29, 9)	18336	62764	34934	1558	3830	(29,10)	7997	35037	13825	1967	28040
(30, 9)	147	204	131	1	3	(30,10)	0	0	0	0	0
(31, 9)	0	0	0	0	0	(31,10)	0	0	0	0	0
(32, 9)	0	0	0	0	0	(32,10)	0	0	0	0	0
(33, 9)	0	0	0	0	0	(33,10)	0	0	0	0	0
(34, 9)	0	0	0	0	0	(34,10)	0	0	0	0	0
(35, 9)	0	0	0	0	0	(35,10)	0	0	0	0	0

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POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,11)	56	11	69	88	991	(1,12)	10749	1	8	86	1014
(2,11)	0	0	0	0	0	(2,12)	0	0	0	0	0
(3,11)	0	0	0	0	0	(3,12)	3	6	729	107	2
(4,11)	3884	4635	17465	19753	171796	(4,12)	1213	336	0	1	537
(5,11)	4856	41100	35595	51012	524988	(5,12)	1935	1006	3796	2905	4
(6,11)	462	1085	987	5492	99230	(6,12)	0	0	0	0	0
(7,11)	13	288	93	1	7	(7,12)	53	4	3109	6	88
(8,11)	1903	0	0	4	0	(8,12)	26070	10	50	90	0
(9,11)	1078	100	22074	7115	741	(9,12)	8049	3013	5119	6344	41319
(10,11)	2227	17	17039	55	484	(10,12)	239	6972	1117	5457	28206
(11,11)	3798	1353	722	3419	28761	(11,12)	17463	7322	13603	4131	2662
(12,11)	0	0	0	0	0	(12,12)	865	118	3793	18	102
(13,11)	5106	2	19	747	2539	(13,12)	4197	1044	480	653	414
(14,11)	1935	64	426	33	126	(14,12)	7259	3	93	646	2093
(15,11)	24292	8296	11795	1940	1918	(15,12)	1016	276	0	268	3307
(16,11)	18795	51	472	495	3011	(16,12)	8314	1415	585	163	365
(17,11)	3222	9100	12687	2836	1217	(17,12)	1397	1206	971	469	1897
(18,11)	2759	41	275	234	1178	(18,12)	7999	76840	40402	5003	6011
(19,11)	2456	84	548	229	1247	(19,12)	3856	4	25	261	680
(20,11)	19754	132	181	1130	330	(20,12)	1797	147	76	406	5217
(21,11)	12524	60957	25666	436	917	(21,12)	2132	59711	32133	511	3238
(22,11)	46187	190252	50968	6971	47865	(22,12)	285	0	0	0	0
(23,11)	34070	15324	0	0	420	(23,12)	43455	4952	219	864	74837
(24,11)	907	3941	1607	748	227	(24,12)	4400	115124	25246	482	8509
(25,11)	217	505	181	72	8	(25,12)	604	225	863	149	161
(26,11)	2415	17830	6905	164	4918	(26,12)	8856	64224	27911	476	1575
(27,11)	237	9	35	64	31	(27,12)	4663	995	469	26	52
(28,11)	7359	11340	1633	272	9903	(28,12)	305	916	79	50	58
(29,11)	1755	592	557	2	5793	(29,12)	8173	35471	19746	978	47016
(30,11)	0	0	0	0	0	(30,12)	33	31	5	0	0
(31,11)	0	0	0	0	0	(31,12)	0	0	0	0	0
(32,11)	0	0	0	0	0	(32,12)	0	0	0	0	0
(33,11)	0	0	0	0	0	(33,12)	0	0	0	0	0
(34,11)	0	0	0	0	0	(34,12)	0	0	0	0	0
(35,11)	0	0	0	0	0	(35,12)	0	0	0	0	0

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POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,13)	0	0	0	0	0	(1,14)	678	18500	19836	470	1490
(2,13)	2513	143	304	11	31	(2,14)	2364	2631	1453	2161	207980
(3,13)	0	0	0	0	0	(3,14)	65	0	0	0	2
(4,13)	1397	0	53	1	4	(4,14)	1495	6	243	1	10
(5,13)	781	12	1582	27	42	(5,14)	12304	11	3196	9455	106309
(6,13)	1355	0	159	1	1	(6,14)	5710	463	1790	16	93
(7,13)	973	4	253	17	10	(7,14)	1898	0	657	3	0
(8,13)	2031	15	143	7	20	(8,14)	3372	3	243	6	21
(9,13)	88	51979	81	1617	2	(9,14)	6083	1714	4814	2044	631
(10,13)	2099	6590	1895	14458	101227	(10,14)	4221	14878	9291	28235	1378
(11,13)	1373	12	12156	190	346	(11,14)	8761	6625	3042	2495	2798
(12,13)	27550	2241	3248	6	83	(12,14)	16632	57908	11827	329	715
(13,13)	5731	4	3	503	928	(13,14)	3297	77	316	780	1393
(14,13)	1953	1	2	505	1546	(14,14)	4327	1878	1716	4442	2772
(15,13)	400	0	0	100	320	(15,14)	10333	783	1052	4552	7632
(16,13)	1497	157	62	2980	1089	(16,14)	2816	6	22	624	977
(17,13)	5715	52	171	246	694	(17,14)	806	154	283	529	384
(18,13)	8586	6275	1323	9664	16607	(18,14)	5172	71836	13873	1835	2295
(19,13)	1366	195	860	1896	585	(19,14)	4345	765	669	1206	2104
(20,13)	7540	223871	4557	2518	8301	(20,14)	97637	257578	34608	1043	34438
(21,13)	14025	37323	8916	28623	11018	(21,14)	10295	12834	2309	370	874
(22,13)	4461	1245	2300	1035	169	(22,14)	202851	213094	847	580	4824
(23,13)	6879	118426	16926	697	998	(23,14)	23124	9623	4838	9323	27253
(24,13)	27079	188808	43202	596	2033	(24,14)	1713	31242	174	58	31
(25,13)	353	279	49	31	5	(25,14)	1153	301	134	213	309
(26,13)	146	1	126	373	4	(26,14)	522	1417	927	491	73
(27,13)	10799	37224	16494	896	10350	(27,14)	2902	3503	2912	956	5768
(28,13)	7426	13404	9065	241	863	(28,14)	5759	47741	27250	1507	2405
(29,13)	3880	15879	12358	4055	1427	(29,14)	32115	8946	2714	339	1709
(30,13)	6092	17683	5546	1853	25995	(30,14)	15171	85510	28693	14523	50504
(31,13)	0	0	0	0	0	(31,14)	0	0	0	0	0
(32,13)	0	0	0	0	0	(32,14)	0	0	0	0	0
(33,13)	0	0	0	0	0	(33,14)	0	0	0	0	0
(34,13)	0	0	0	0	0	(34,14)	0	0	0	0	0
(35,13)	0	0	0	0	0	(35,14)	0	0	0	0	0

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POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,15)	1409	10508	10115	218	545	(1,16)	2392	5294	8136	1004	525
(2,15)	334	189	108	7	13	(2,16)	1	0	19	2	0
(3,15)	105	0	0	0	0	(3,16)	0	0	0	0	0
(4,15)	1694	0	14	1	3	(4,16)	1643	5	297	8	49
(5,15)	5988	58	341	21	3696	(5,16)	2098	5	1045	0	42
(6,15)	884	0	0	0	0	(6,16)	2347	1	797	4	25
(7,15)	1806	0	543	3	20	(7,16)	2700	20	701	25	180
(8,15)	5554	1155	7841	64	739	(8,16)	456	0	0	0	0
(9,15)	3709	1735	3008	2776	437	(9,16)	805	233	3116	87	91
(10,15)	809	24	88	2	7	(10,16)	349	0	0	0	0
(11,15)	3955	3434	648	0	321	(11,16)	23149	3590	28044	17702	9553
(12,15)	26832	1060	29745	14638	801	(12,16)	3216	1235	1521	209	186
(13,15)	280	4	13	12	29	(13,16)	8492	131016	49553	321	923
(14,15)	1493	10	85	235	734	(14,16)	4333	47	233	3209	3442
(15,15)	15175	758	442	6235	12219	(15,16)	12682	519	416	4824	7362
(16,15)	72881	83610	12722	8846	13161	(16,16)	16508	114969	3417	750	300
(17,15)	3992	288	342	96	403	(17,16)	7859	477293	129872	956	3407
(18,15)	84504	429850	105250	1530	12954	(13,16)	13831	8002	3225	31	89
(19,15)	69181	7759	2768	10416	1763	(19,16)	13590	44451	65	228	124
(20,15)	6774	287816	32056	1218	2302	(20,16)	51700	477032	158013	2440	4673
(21,15)	28286	225187	31574	45437	9232	(21,16)	9817	42	131	3021	322
(22,15)	3247	79	249	1032	3340	(22,16)	4976	16	27	2459	1614
(23,15)	53632	188689	63281	2584	13757	(23,16)	3830	1095	728	2336	3204
(24,15)	4127	6918	3008	1736	30102	(24,16)	7584	7276	2861	2491	658
(25,15)	9033	11174	4558	334	18767	(25,16)	15182	7343	3172	718	395
(26,15)	13400	24238	13382	2434	2268	(26,16)	6603	23736	11656	1113	551
(27,15)	2953	3985	2230	4248	2895	(27,16)	39410	196508	90323	2102	10810
(28,15)	12485	11076	3683	2915	22719	(28,16)	5423	3320	1853	334	498
(29,15)	29936	13461	9386	4437	13070	(29,16)	15531	866	451	379	93
(30,15)	1095	8123	6287	578	2601	(30,16)	3195	6726	3803	226	3717
(31,15)	0	0	0	0	0	(31,16)	36585	44633	14367	8428	28893
(32,15)	0	0	0	0	0	(32,16)	0	0	0	0	0
(33,15)	0	0	0	0	0	(33,16)	0	0	0	0	0
(34,15)	0	0	0	0	0	(34,16)	0	0	0	0	0
(35,15)	0	0	0	0	0	(35,16)	0	0	0	0	0

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POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,17)	2930	8556	9618	3532	19179	(1,18)	1532	7011	1156	2	6
(2,17)	1039	23250	23888	442	1416	(2,18)	257	4	6	1	1
(3,17)	0	0	0	0	0	(3,18)	433	24	64	11	1
(4,17)	2566	504	3488	12	91	(4,18)	8881	12	295	3	17
(5,17)	1086	0	5	0	0	(5,18)	495	0	0	0	0
(6,17)	4106	113	124	11	50	(6,18)	43858	596	1955	16	65
(7,17)	3138	674	1826	15879	260	(7,18)	20115	362	1101	21523	43
(8,17)	3143	2654	372	57	23	(8,18)	6592	24	855	7722	36
(9,17)	4405	163	324	1	10	(9,18)	7956	14478	8586	246	579
(10,17)	4070	16	306	20	125	(10,18)	4373	63	749	114	175
(11,17)	7423	798	1180	449	173	(11,18)	1774	990	613	8	14
(12,17)	41683	136027	52495	30419	59901	(12,18)	6059	66	44	308	3
(13,17)	2236	1023	203	31	26	(13,18)	3708	1847	333	234	99
(14,17)	10142	100846	14088	1285	1437	(14,18)	3112	8	16	20	6
(15,17)	4120	7373	1270	1807	172	(15,18)	24051	48448	24239	10879	5163
(16,17)	36294	688029	136694	74143	194108	(16,18)	8731	54847	13748	151	490
(17,17)	6464	20498	3814	2127	2386	(17,18)	22943	316615	116001	639	2131
(18,17)	1381	3522	920	24	56	(18,18)	2626	0	2	0	0
(19,17)	20051	192735	38892	11356	21086	(19,18)	75767	224398	58001	3916	2563
(20,17)	24183	238256	41165	6610	10928	(20,18)	5100	4472	1310	3718	214
(21,17)	7331	7459	600	18143	108	(21,18)	155963	422073	95811	62589	31149
(22,17)	7794	62	5278	1141	37	(22,18)	28194	79044	16098	12799	1309
(23,17)	27320	33738	7639	960	475	(23,18)	8921	8395	4854	1567	314
(24,17)	170573	2314	858	2915	4695	(24,18)	32848	201	131	524	546
(25,17)	65864	107148	58308	14434	12654	(25,18)	87247	25747	17567	3001	2774
(26,17)	2653	1336	489	176	403	(26,18)	7164	486	291	534	79
(27,17)	2638	2178	1066	1681	333	(27,18)	10592	53960	28721	5396	3499
(28,17)	21403	26616	12493	45932	16901	(28,18)	18045	30050	16262	2001	1495
(29,17)	22235	23000	7718	1168	2304	(29,18)	6471	73117	26926	2905	1498
(30,17)	1885	3132	1237	343	92	(30,18)	2808	21502	9817	1651	2169
(31,17)	771	901	431	96	117	(31,18)	3866	15196	3358	790	10179
(32,17)	54	367	74	6	12	(32,18)	24	0	0	0	0
(33,17)	0	0	0	0	0	(33,18)	0	0	0	0	0
(34,17)	0	0	0	0	0	(34,18)	0	0	0	0	0
(35,17)	0	0	0	0	0	(35,18)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,19)	0	0	0	0	0	(1,20)	0	0	0	0	0
(2,19)	2577	407	1695	141	4691	(2,20)	0	0	0	0	0
(3,19)	1095	64	281	19	37	(3,20)	886	5	121	21	34
(4,19)	121	0	0	0	0	(4,20)	0	0	0	0	0
(5,19)	15	0	0	0	0	(5,20)	103	0	0	0	0
(6,19)	1411	3	3	0	2	(6,20)	104	0	0	0	0
(7,19)	3074	0	0	0	0	(7,20)	847	0	13	0	2
(8,19)	4745	4	30	61	3	(8,20)	2634	24	166	65	174
(9,19)	26798	344	1548	157	500	(9,20)	17584	16308	11244	218	579
(10,19)	35877	16353	19999	14622	11266	(10,20)	4289	22	104	29	8
(11,19)	371	33	46	1	3	(11,20)	3152	23	57	2	3
(12,19)	731	776	101	6	13	(12,20)	25591	32777	11192	712	979
(13,19)	986	1037	220	15	633	(13,20)	8164	14713	6016	36703	2464
(14,19)	736	55	1342	28	68	(14,20)	2561	5	42	3	969
(15,19)	28282	33803	6730	1635	669	(15,20)	20733	24791	11741	1599	787
(16,19)	38560	67623	18330	309	529	(16,20)	82876	572547	182952	80762	7445
(17,19)	33456	56967	15369	729	2717	(17,20)	54446	2611	4041	441	619
(18,19)	15998	8611	1683	388	167	(18,20)	12945	26683	4878	476	266
(19,19)	28786	210494	45460	4562	3654	(19,20)	8532	21715	28846	2196	869
(20,19)	7911	36345	9603	8131	1277	(20,20)	20243	153763	26995	14829	59980
(21,19)	154648	461761	112290	13295	3728	(21,20)	2986	11481	3612	4862	9441
(22,19)	79203	181766	40003	64575	10243	(22,20)	43962	57537	42935	21313	12046
(23,19)	8241	162832	42246	475	11613	(23,20)	28613	58758	7841	2	0
(24,19)	58723	91706	35933	30613	28617	(24,20)	51261	396565	118513	739	12500
(25,19)	3994	25720	13184	269	8118	(25,20)	37924	137239	65736	1276	4328
(26,19)	80645	22983	11340	7948	685	(26,20)	1981	378	181	123	331
(27,19)	41497	7267	8558	3707	1630	(27,20)	5858	12019	6804	545	2005
(28,19)	6499	3845	506	1518	12174	(28,20)	9331	10810	3750	6748	17157
(29,19)	5395	916	506	111	872	(29,20)	16891	13773	7403	8810	1024
(30,19)	12670	7804	3217	2136	18363	(30,20)	14316	146743	53527	26930	16875
(31,19)	10130	11233	5067	10741	20006	(31,20)	15519	73278	22488	43321	52325
(32,19)	172	2	10	3	15	(32,20)	10	97	118	5	11
(33,19)	0	0	0	0	0	(33,20)	0	0	0	0	0
(34,19)	0	0	0	0	0	(34,20)	0	0	0	0	0
(35,19)	0	0	0	0	0	(35,20)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,21)	0	0	0	0	0	(1,22)	0	0	0	0	0
(2,21)	637	349	173	67	178	(2,22)	1919	534	675	471	5054
(3,21)	0	0	0	0	0	(3,22)	9771	4436	1629	546	87
(4,21)	120	0	0	0	0	(4,22)	0	0	0	0	1
(5,21)	0	0	0	0	0	(5,22)	0	0	0	0	0
(6,21)	608	1	1	1	1	(6,22)	136	0	0	0	0
(7,21)	295	0	0	0	0	(7,22)	202	147	172	10	23
(8,21)	2594	24	231	296	72	(8,22)	978	0	0	0	0
(9,21)	6188	1027	2446	47	97	(9,22)	5492	2479	2244	1813	115
(10,21)	2328	41	533	12	66	(10,22)	5496	4925	1374	51	56
(11,21)	10813	2297	2343	9893	116	(11,22)	38642	93	550	1845	5909
(12,21)	9466	9073	2478	130	447	(12,22)	12169	14481	1659	62	23
(13,21)	18718	13376	7118	378	19002	(13,22)	395	94	340	26	5254
(14,21)	14235	25872	12463	323	1988	(14,22)	3575	58100	19848	359	4522
(15,21)	25104	105468	51481	23215	8732	(15,22)	2750	5032	820	15	824
(16,21)	9105	13581	3959	1936	10901	(16,22)	9351	46231	17444	75602	33115
(17,21)	111946	204653	69041	58660	79992	(17,22)	74250	45400	22506	53951	7740
(18,21)	35254	13296	3393	6280	26883	(18,22)	135755	528566	430439	99854	1140655
(19,21)	8750	7114	861	851	326	(19,22)	2061	5327	1931	10862	5462
(20,21)	12673	16137	3595	12501	9933	(20,22)	4714	2606	1147	17671	8624
(21,21)	5121	7576	724857	3545	3393	(21,22)	15492	25750	5259	4862	3039
(22,21)	14090	11075	2262	351	1288	(22,22)	50367	12278	1172	1211	2520
(23,21)	17765	33815	5655	1097	5440	(23,22)	7139	5306	1108	1622	8261
(24,21)	120405	551158	105162	1159	9301	(24,22)	39167	221451	38242	670	9821
(25,21)	3986	76409	5464	1132	408	(25,22)	190250	614343	114347	6918	34140
(26,21)	5117	222656	123763	752	12711	(26,22)	13652	198429	64748	1611	3552
(27,21)	2620	304	58	119	12	(27,22)	15143	184350	53155	1767	4633
(28,21)	19289	1977	725	930	128	(28,22)	80891	61360	20484	1264	2377
(29,21)	4860	4676	794	3695	232	(29,22)	16727	141096	50799	11656	12504
(30,21)	3545	5422	2110	698	13859	(30,22)	4648	70458	20124	363	963
(31,21)	6580	71683	12782	4237	57861	(31,22)	87	695	239	44	15
(32,21)	0	0	0	0	0	(32,22)	0	0	0	0	0
(33,21)	0	0	0	0	0	(33,22)	0	0	0	0	0
(34,21)	0	0	0	0	0	(34,22)	0	0	0	0	0
(35,21)	0	0	0	0	0	(35,22)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,23)	0	0	0	0	0	(1,24)	0	0	0	0	0
(2,23)	1256	2	18	202	2384	(2,24)	5630	0	0	0	0
(3,23)	0	0	0	0	0	(3,24)	0	0	0	0	0
(4,23)	221	0	0	0	0	(4,24)	0	0	0	0	0
(5,23)	306	0	0	0	0	(5,24)	462	428	163	13	25
(6,23)	84	0	0	0	0	(6,24)	120	0	0	0	0
(7,23)	1130	35	64	0	0	(7,24)	4462	55	93	335	13
(8,23)	546	0	0	0	0	(8,24)	1311	1	7	1685	93
(9,23)	1973	558	94	102	0	(9,24)	6669	2070	1032	17	60
(10,23)	2127	0	0	0	0	(10,24)	7636	1530	885	22	78
(11,23)	5108	2000	1540	1735	63	(11,24)	5438	640	442	79330	113
(12,23)	995	2446	1749	288	71	(12,24)	7811	8226	3903	85505	52798
(13,23)	2843	5556	1877	1787	1105	(13,24)	35755	36320	5979	105	404
(14,23)	24060	59396	8949	1263	730	(14,24)	1957	0	3	45	367
(15,23)	467	589	133	10	1537	(15,24)	4315	31419	7117	318	6911
(16,23)	4673	12350	5137	309	2206	(16,24)	2743	5572	1603	406	12146
(17,23)	82378	199496	49203	12268	14362	(17,24)	5356	84931	38776	21577	4813
(18,23)	0	0	0	0	0	(18,24)	2572	93106	15296	2864	12983
(19,23)	3231	12451	7741	4704	2007	(19,24)	22583	110994	17138	16734	1798
(20,23)	787	3512	3654	10536	5400	(20,24)	3534	66385	11751	17359	59222
(21,23)	27540	353974	68361	14736	4298	(21,24)	39814	124420	78808	97248	113841
(22,23)	84737	149480	25248	15436	23389	(22,24)	14032	31597	18946	16550	19383
(23,23)	110032	314653	63843	25711	50885	(23,24)	11204	215540	33804	1336	1825
(24,23)	134252	233022	38803	77463	121832	(24,24)	25454	86726	13111	13141	1022
(25,23)	153549	519641	204038	14288	87725	(25,24)	10140	24275	5233	368	513
(26,23)	110367	1165719	234224	6301	43542	(26,24)	18403	78045	15376	1071	981
(27,23)	17753	3219	803	131	72	(27,24)	65053	23424	7129	239	2463
(28,23)	40852	65361	3966	104	7737	(28,24)	40080	28220	9446	237	338
(29,23)	24880	65249	65437	129536	105220	(29,24)	47293	530135	123647	4432	24475
(30,23)	931	12964	4002	688	256	(30,24)	51844	783510	117222	179133	222202
(31,23)	2913	26075	7554	256	422	(31,24)	5433	34885	6914	123	3124
(32,23)	2	0	0	0	0	(32,24)	0	0	0	0	0
(33,23)	0	0	0	0	0	(33,24)	0	0	0	0	0
(34,23)	0	0	0	0	0	(34,24)	0	0	0	0	0
(35,23)	0	0	0	0	0	(35,24)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,25)	0	0	0	0	0	(1,26)	0	0	0	0	0
(2,25)	38	0	52	1	7	(2,26)	79	0	0	0	0
(3,25)	1924	1	1	1	1	(3,26)	1094	384	379	25	44
(4,25)	503	0	0	0	0	(4,26)	758	19420	12852	250	793
(5,25)	95	0	0	0	0	(5,26)	1927	5584	2716	861	89
(6,25)	249	0	0	0	0	(6,26)	946	170	106	7	14
(7,25)	517	0	0	0	0	(7,26)	835	2	4	0	1
(8,25)	2140	124	43	50	138	(8,26)	4567	381	364	18	43
(9,25)	268	0	0	0	0	(9,26)	2250	7926	4562	110	376
(10,25)	5075	893	939	1138	1190	(10,26)	236	61	27	2	4
(11,25)	175	1589	313	26	23	(11,26)	11	0	0	0	0
(12,25)	1860	63756	40355	348	770	(12,26)	1474	3553	915	75	90
(13,25)	2469	2149	842	40	576	(13,26)	0	0	0	0	0
(14,25)	8080	4100	3731	110	1070	(14,26)	1446	5303	2808	84	178
(15,25)	28972	30303	45850	4000	10489	(15,26)	4086	1061	644	60	94
(16,25)	16281	120197	37543	941	9357	(16,26)	9931	6372	1790	319	417
(17,25)	27650	3674	2167	161	319	(17,26)	121	10	8	64	268
(18,25)	1711	6382	1986	585	4204	(18,26)	451	1087	442	124	57
(19,25)	158	300	481	750	32	(19,26)	36	171	187	20	62
(20,25)	49419	162376	48870	7652	79992	(20,26)	2203	16911	95	1133	4
(21,25)	218	479	616	732	5696	(21,26)	3090	23274	6914	8747	696
(22,25)	40051	633324	134502	31737	4622	(22,26)	0	0	0	0	0
(23,25)	128	619	417	48	36	(23,26)	104	1336	390	26	9
(24,25)	7647	47406	7066	1574	1241	(24,26)	18871	148072	50870	13397	21503
(25,25)	17440	20657	20141	2220	22680	(25,26)	43573	38119	37978	10900	100742
(26,25)	6788	13111	3707	351	387	(26,26)	797	20	721	525	84
(27,25)	4195	14529	3265	270	508	(27,26)	19749	11646	8943	1071	2755
(28,25)	33710	167922	23362	432	5212	(28,26)	1602	14	475	3185	30
(29,25)	70076	62999	19374	12278	72463	(29,26)	13466	48419	14644	310	2813
(30,25)	43853	106290	77484	15022	50554	(30,26)	65246	236584	178524	144917	102878
(31,25)	2255	1438	2202	25	39	(31,26)	26200	87454	152624	19693	43476
(32,25)	0	0	0	0	0	(32,26)	0	0	0	0	0
(33,25)	0	0	0	0	0	(33,26)	0	0	0	0	0
(34,25)	0	0	0	0	0	(34,26)	0	0	0	0	0
(35,25)	0	0	0	0	0	(35,26)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,27)	3	0	26	2	1	(1,28)	0	0	0	0	0
(2,27)	6545	16186	2729	322	203	(2,28)	223	0	0	0	0
(3,27)	106	0	0	1	0	(3,28)	496	5529	153	11	6
(4,27)	4648	819	1840	31	105	(4,28)	723	43	34	2	4
(5,27)	406	0	0	0	0	(5,28)	469	111	70	4	9
(6,27)	3094	13	7	0	1	(6,28)	995	0	17	0	1
(7,27)	823	53	11	1	1	(7,28)	2288	568	133	31	78
(8,27)	6268	2468	1806	89	205	(8,28)	2173	0	348	23	76
(9,27)	0	0	0	0	0	(9,28)	0	0	0	0	0
(10,27)	0	0	0	0	0	(10,28)	3260	845	1603	71	4073
(11,27)	9435	32352	16085	263	947	(11,28)	11488	1393	3217	59	347
(12,27)	5637	5380	943	1494	734	(12,28)	88031	11924	7244	173	20236
(13,27)	1284	6827	2036	55	125	(13,28)	0	0	0	0	0
(14,27)	5427	83507	1798	247	230	(14,28)	0	0	0	0	0
(15,27)	0	0	0	0	0	(15,28)	29	1250	686	29	228
(16,27)	31433	17362	5101	638	690	(16,28)	515	13712	4543	76	252
(17,27)	1739	3007	3198	270	290	(17,28)	21	25	63	17	18
(18,27)	113	2438	904	0	0	(18,28)	401	24	33	32	94
(19,27)	1796	5192	3271	370	332	(19,28)	0	0	0	0	0
(20,27)	28582	27145	5003	744	104	(20,28)	52	743	192	7	0
(21,27)	5	35	46	6	0	(21,28)	258	3537	1145	79	7
(22,27)	234	2097	1075	3451	4412	(22,28)	307	2244	801	39	2
(23,27)	0	0	0	0	0	(23,28)	0	0	0	0	0
(24,27)	13707	202804	54089	26328	5047	(24,28)	0	0	0	0	0
(25,27)	1689	348	914	1376	999	(25,28)	0	0	0	0	0
(26,27)	18367	47659	61926	33430	3495	(26,28)	0	0	0	0	0
(27,27)	39471	49561	32722	1473	1474	(27,28)	12673	38762	59574	4778	4431
(28,27)	10055	12270	9858	1719	913	(28,28)	3816	1475	1752	1011	202
(29,27)	752	49	286	86	38	(29,28)	12888	19828	16350	5155	833
(30,27)	9544	18528	53979	4716	2005	(30,28)	4071	37304	3727	2889	3757
(31,27)	11048	75222	36154	11523	1894	(31,28)	29388	82991	33338	20309	10353
(32,27)	44	2	93	56	9	(32,28)	4651	27112	7609	11985	2040
(33,27)	0	0	0	42	0	(33,28)	14	135	27	9	22
(34,27)	0	0	0	13	0	(34,28)	0	0	0	0	0
(35,27)	0	0	0	0	0	(35,28)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
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(GRID SPACING = 80KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,29)	0	0	0	0	0	(1,30)	3911	95	749	907	3825
(2,29)	0	0	0	0	0	(2,30)	0	0	0	0	0
(3,29)	56389	29910	22213	393	1242	(3,30)	0	0	0	0	0
(4,29)	0	0	0	0	0	(4,30)	0	0	0	0	0
(5,29)	0	0	0	0	0	(5,30)	2742	1391	2186	11	35
(6,29)	36	0	0	0	0	(6,30)	0	0	0	0	0
(7,29)	57	0	0	0	0	(7,30)	9054	1474	434	88	3866
(8,29)	765	0	0	0	0	(8,30)	0	0	0	0	0
(9,29)	229	6	13	59	49	(9,30)	0	0	0	0	0
(10,29)	0	0	0	0	0	(10,30)	0	0	0	0	0
(11,29)	0	0	0	0	0	(11,30)	0	0	0	0	0
(12,29)	0	0	0	0	0	(12,30)	0	0	0	0	0
(13,29)	0	0	0	0	0	(13,30)	0	0	0	0	0
(14,29)	0	0	0	0	0	(14,30)	17850	17850	4465	0	0
(15,29)	0	0	0	0	0	(15,30)	0	0	0	0	0
(16,29)	0	0	0	0	0	(16,30)	0	0	0	0	0
(17,29)	0	0	0	0	0	(17,30)	0	0	0	0	0
(18,29)	0	0	0	0	0	(18,30)	2670	260000	17850	0	0
(19,29)	125000	53600	44600	0	0	(19,30)	0	0	0	0	0
(20,29)	1	0	0	0	0	(20,30)	0	0	0	0	0
(21,29)	0	0	0	0	0	(21,30)	17850	1205000	4465	0	0
(22,29)	0	0	0	0	0	(22,30)	0	0	0	0	0
(23,29)	0	0	0	0	0	(23,30)	0	0	0	0	0
(24,29)	0	0	0	0	0	(24,30)	0	0	0	0	0
(25,29)	0	0	0	0	0	(25,30)	0	0	0	0	0
(26,29)	0	0	0	0	0	(26,30)	0	0	0	0	0
(27,29)	72315	368	2004	860	212	(27,30)	5905	916	964	165	229
(28,29)	16	0	2	11	0	(28,30)	246	1328	430	519	74
(29,29)	1986	105	2845	21089	274	(29,30)	1701	2861	1447	2039	171
(30,29)	963	3103	929	2322	2662	(30,30)	9	28	44	277	4
(31,29)	15056	21349	8463	9865	14934	(31,30)	1200	6627	2070	1253	1903
(32,29)	16745	173685	90245	59336	23696	(32,30)	1061	13340	10675	3105	1417
(33,29)	1505	31296	8745	615	2089	(33,30)	0	0	0	0	0
(34,29)	0	0	0	0	0	(34,30)	0	0	0	0	0
(35,29)	0	0	0	0	0	(35,30)	0	0	0	0	0

SECTION D-2

GRIDDED AREA SOURCE EMISSION (TONS/YEAR) ON THE 80-KM GRID NETWORK

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 1)	0	0	0	0	0	(1, 2)	0	0	0	0	0
(2, 1)	0	0	0	0	0	(2, 2)	0	0	0	0	0
(3, 1)	0	0	0	0	0	(3, 2)	0	0	0	0	0
(4, 1)	0	0	0	0	0	(4, 2)	0	0	0	0	0
(5, 1)	0	0	0	0	0	(5, 2)	0	0	0	0	0
(6, 1)	0	0	0	0	0	(6, 2)	0	0	0	0	0
(7, 1)	110	70	809	868	4230	(7, 2)	48	46	500	469	2270
(8, 1)	90	59	783	750	3704	(8, 2)	293	215	2562	2543	12955
(9, 1)	106	75	1030	1115	5781	(9, 2)	1550	549	5423	7392	28347
(10, 1)	3170	736	4229	10001	23337	(10, 2)	282	172	2520	2665	13706
(11, 1)	800	641	7011	7312	31207	(11, 2)	662	438	5393	6135	30639
(12, 1)	0	0	0	0	0	(12, 2)	484	458	4571	5789	23144
(13, 1)	0	0	0	0	0	(13, 2)	1574	1637	14225	12809	53559
(14, 1)	0	0	0	0	0	(14, 2)	0	0	0	0	0
(15, 1)	0	0	0	0	0	(15, 2)	0	0	0	0	0
(16, 1)	0	0	0	0	0	(16, 2)	0	0	0	0	0
(17, 1)	0	0	0	0	0	(17, 2)	0	0	0	0	0
(18, 1)	0	0	0	0	0	(18, 2)	0	0	0	0	0
(19, 1)	0	0	0	0	0	(19, 2)	0	0	0	0	0
(20, 1)	0	0	0	0	0	(20, 2)	0	0	0	0	0
(21, 1)	0	0	0	0	0	(21, 2)	0	0	0	0	0
(22, 1)	0	0	0	0	0	(22, 2)	0	0	0	0	0
(23, 1)	0	0	0	0	0	(23, 2)	0	0	0	0	0
(24, 1)	0	0	0	0	0	(24, 2)	0	0	0	0	0
(25, 1)	0	0	0	0	0	(25, 2)	0	0	0	0	0
(26, 1)	0	0	0	0	0	(26, 2)	0	0	0	0	0
(27, 1)	0	0	0	0	0	(27, 2)	0	0	0	0	0
(28, 1)	0	0	0	0	0	(28, 2)	0	0	0	0	0
(29, 1)	0	0	0	0	0	(29, 2)	0	0	0	0	0
(30, 1)	0	0	0	0	0	(30, 2)	0	0	0	0	0
(31, 1)	0	0	0	0	0	(31, 2)	0	0	0	0	0
(32, 1)	0	0	0	0	0	(32, 2)	0	0	0	0	0
(33, 1)	0	0	0	0	0	(33, 2)	484	202	2105	4989	22654
(34, 1)	0	0	0	0	0	(34, 2)	0	0	0	0	0
(35, 1)	0	0	0	0	0	(35, 2)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 3)	0	0	0	0	0	(1, 4)	0	0	0	0	0
(2, 3)	98	130	1128	580	2482	(2, 4)	28	26	292	289	1445
(3, 3)	97	95	955	1019	4446	(3, 4)	0	0	0	0	0
(4, 3)	0	0	0	0	0	(4, 4)	191	119	1741	1955	9310
(5, 3)	59	79	723	300	1531	(5, 4)	62	23	493	774	4091
(6, 3)	4724	994	3660	12234	13810	(6, 4)	91	61	843	1014	5539
(7, 3)	24	12	212	333	2225	(7, 4)	53	21	444	671	3606
(8, 3)	244	160	2044	2178	10485	(8, 4)	46	22	397	568	3333
(9, 3)	9914	4478	40481	57959	211777	(9, 4)	201	121	1823	1741	8841
(10, 3)	656	389	5474	6271	29603	(10, 4)	3695	1590	17209	25234	104747
(11, 3)	154	96	1288	1468	7739	(11, 4)	622	486	5813	5851	28304
(12, 3)	653	471	5972	5840	25572	(12, 4)	492	313	4389	5016	24482
(13, 3)	578	420	5174	5006	23874	(13, 4)	15510	12393	105054	132515	509603
(14, 3)	1444	1549	11436	12169	49962	(14, 4)	1350	493	6698	8695	37803
(15, 3)	0	0	0	0	0	(15, 4)	3225	3760	24914	17579	76337
(16, 3)	0	0	0	0	0	(16, 4)	161	195	1501	1871	6063
(17, 3)	0	0	0	0	0	(17, 4)	0	0	0	0	0
(18, 3)	0	0	0	0	0	(18, 4)	0	0	0	0	0
(19, 3)	0	0	0	0	0	(19, 4)	887	397	4710	6508	29196
(20, 3)	0	0	0	0	0	(20, 4)	0	0	0	0	0
(21, 3)	0	0	0	0	0	(21, 4)	0	0	0	0	0
(22, 3)	0	0	0	0	0	(22, 4)	0	0	0	0	0
(23, 3)	0	0	0	0	0	(23, 4)	0	0	0	0	0
(24, 3)	0	0	0	0	0	(24, 4)	0	0	0	0	0
(25, 3)	0	0	0	0	0	(25, 4)	0	0	0	0	0
(26, 3)	0	0	0	0	0	(26, 4)	0	0	0	0	0
(27, 3)	0	0	0	0	0	(27, 4)	0	0	0	0	0
(28, 3)	0	0	0	0	0	(28, 4)	0	0	0	0	0
(29, 3)	0	0	0	0	0	(29, 4)	0	0	0	0	0
(30, 3)	0	0	0	0	0	(30, 4)	0	0	0	0	0
(31, 3)	0	0	0	0	0	(31, 4)	3177	538	6431	13738	65929
(32, 3)	1502	183	2361	562	26556	(32, 4)	826	50	873	2054	10586
(33, 3)	0	0	0	0	0	(33, 4)	0	0	0	0	0
(34, 3)	0	0	0	0	0	(34, 4)	9250	7963	70269	139702	666579
(35, 3)	0	0	0	0	0	(35, 4)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 5)	150	92	1498	1074	7430	(1, 6)	0	0	0	0	0
(2, 5)	98	82	1025	1024	4400	(2, 6)	0	0	0	0	0
(3, 5)	366	245	3265	3465	15843	(3, 6)	83	55	680	820	3663
(4, 5)	48	21	397	561	2474	(4, 6)	839	617	6821	6338	30045
(5, 5)	77	78	798	540	2359	(5, 6)	6005	1461	9708	20672	54932
(6, 5)	0	0	0	0	0	(6, 6)	212	136	1999	2286	11107
(7, 5)	1083	724	5809	7864	32223	(7, 6)	385	332	3670	3376	16122
(8, 5)	98	61	850	932	5210	(8, 6)	353	259	3026	3330	16534
(9, 5)	338	294	3690	4195	20668	(9, 6)	282	159	2494	3041	16143
(10, 5)	2474	1036	12033	15908	65258	(10, 6)	2177	1393	16688	18501	85209
(11, 5)	378	340	3534	3268	16225	(11, 6)	308	181	2604	3057	15619
(12, 5)	646	391	5051	5825	27965	(12, 6)	994	429	5755	6604	31466
(13, 5)	1102	259	4198	5557	25851	(13, 6)	1642	519	6127	6382	31367
(14, 5)	1035	325	3709	4384	20121	(14, 6)	1120	684	6172	6017	26596
(15, 5)	9160	1780	23198	32705	164728	(15, 6)	1655	164	2390	4516	23713
(16, 5)	3296	247	4161	8494	47494	(16, 6)	3781	916	8065	15178	57164
(17, 5)	2210	1211	15541	20701	107964	(17, 6)	2424	787	12143	16463	86832
(18, 5)	2148	1243	15469	15161	72777	(18, 6)	3158	2152	19842	22602	108987
(19, 5)	1589	995	11642	12088	54701	(19, 6)	9669	666	11967	25624	133987
(20, 5)	10077	7955	65003	79085	379803	(20, 6)	472	53	994	2222	10563
(21, 5)	0	0	0	0	0	(21, 6)	0	0	0	0	0
(22, 5)	0	0	0	0	0	(22, 6)	0	0	0	0	0
(23, 5)	0	0	0	0	0	(23, 6)	0	0	0	0	0
(24, 5)	0	0	0	0	0	(24, 6)	0	0	0	0	0
(25, 5)	0	0	0	0	0	(25, 6)	0	0	0	0	0
(26, 5)	0	0	0	0	0	(26, 6)	0	0	0	0	0
(27, 5)	0	0	0	0	0	(27, 6)	0	0	0	0	0
(28, 5)	0	0	0	0	0	(28, 6)	0	0	0	0	0
(29, 5)	0	0	0	0	0	(29, 6)	3178	2147	19439	37299	175890
(30, 5)	4712	801	9079	18315	87726	(30, 6)	5057	3144	25718	48240	233324
(31, 5)	3790	102	1801	6241	24083	(31, 6)	8354	810	10704	24984	111196
(32, 5)	4162	138	2363	7975	30846	(32, 6)	4329	308	4968	11976	54406
(33, 5)	1925	1349	14217	26511	136386	(33, 6)	3028	318	4612	9681	43608
(34, 5)	0	0	0	0	0	(34, 6)	0	0	0	0	0
(35, 5)	0	0	0	0	0	(35, 6)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 30 KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 7)	0	0	0	0	0	(1, 8)	0	0	0	0	0
(2, 7)	396	215	2778	3150	14893	(2, 8)	407	327	3123	3617	17560
(3, 7)	528	344	3349	3732	18306	(3, 8)	0	0	0	0	0
(4, 7)	191	101	1733	1627	8573	(4, 8)	677	394	5990	5287	28497
(5, 7)	242	137	2147	2037	11037	(5, 8)	11813	7114	19894	39597	106630
(6, 7)	936	269	2721	2716	13652	(6, 8)	183	52	980	1285	6695
(7, 7)	2283	1136	10801	14417	39863	(7, 8)	200	176	2442	2459	13025
(8, 7)	460	243	4155	5215	25176	(8, 8)	223	145	2165	2528	12372
(9, 7)	335	439	4430	5833	21794	(9, 8)	273	125	1900	2338	11342
(10, 7)	358	400	7123	8102	38170	(10, 8)	7024	4045	48597	63993	275598
(11, 7)	1421	987	13400	12657	59074	(11, 8)	11647	9379	85097	102473	416406
(12, 7)	270	208	2548	2451	11525	(12, 8)	941	783	5931	7832	38083
(13, 7)	2403	1007	12410	15104	71681	(13, 8)	1845	952	9300	3815	45524
(14, 7)	950	289	3451	4120	20200	(14, 8)	5272	1796	13500	28886	134279
(15, 7)	1634	423	6807	9140	46151	(15, 8)	2529	801	10553	13128	66667
(16, 7)	414	178	2572	2525	14431	(16, 8)	2710	797	9868	14741	63816
(17, 7)	1332	413	6265	3723	40386	(17, 8)	363	475	6143	7577	40518
(18, 7)	1243	128	2373	3630	16312	(18, 8)	3812	1195	17232	24446	116132
(19, 7)	2187	419	9485	11456	57203	(19, 8)	1169	145	3221	4624	20821
(20, 7)	4523	436	9945	15061	75649	(20, 8)	1587	262	5463	7856	37774
(21, 7)	1363	418	7252	12336	51230	(21, 8)	2565	601	3632	6316	30213
(22, 7)	7414	3398	19814	32137	160586	(22, 8)	0	0	0	0	0
(23, 7)	9003	1893	12441	32157	174547	(23, 8)	5875	1661	10173	19932	85358
(24, 7)	0	0	0	0	0	(24, 8)	1798	415	3215	5885	27049
(25, 7)	1836	535	4507	3681	40946	(25, 8)	1573	183	2703	5849	22121
(26, 7)	622	106	384	2243	5729	(26, 8)	3603	611	6800	13055	61617
(27, 7)	0	0	0	0	0	(27, 8)	1203	104	1041	3038	16486
(28, 7)	231	33	466	572	4142	(28, 8)	1277	105	1402	3272	14671
(29, 7)	1613	126	2775	4730	20114	(29, 8)	2889	520	7923	14201	71380
(30, 7)	1983	318	4999	9108	43265	(30, 8)	4052	479	6873	13845	63437
(31, 7)	2785	1686	15138	23063	148740	(31, 8)	3466	944	11450	21427	105403
(32, 7)	1930	918	9417	17643	87580	(32, 8)	0	0	0	0	0
(33, 7)	0	0	0	0	0	(33, 8)	0	0	0	0	0
(34, 7)	0	0	0	0	0	(34, 8)	0	0	0	0	0
(35, 7)	0	0	0	0	0	(35, 8)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 9)	192	56	977	1293	6327	(1,10)	227	63	1461	1947	8826
(2, 9)	52	23	409	583	2737	(2,10)	0	0	0	0	0
(3, 9)	185	114	1409	1532	8568	(3,10)	1113	510	4823	6147	26482
(4, 9)	847	512	7789	6370	37408	(4,10)	258	181	2325	1957	11698
(5, 9)	316	646	8476	6584	39224	(5,10)	437	204	3263	4107	20345
(6, 9)	103	93	1046	1072	5365	(6,10)	390	252	3321	3695	18615
(7, 9)	150	137	1474	1329	6677	(7,10)	2331	585	3254	8342	25117
(8, 9)	6054	1605	10446	21186	57075	(8,10)	1419	551	6466	11977	57024
(9, 9)	576	272	4072	5249	25498	(9,10)	441	159	2376	4218	21853
(10, 9)	455	239	3197	4437	20665	(10,10)	1447	825	7224	11163	54647
(11, 9)	3252	1324	11369	15597	57845	(11,10)	412	114	1559	2545	11760
(12, 9)	523	305	3652	3999	19799	(12,10)	413	102	1422	2324	10740
(13, 9)	1711	562	7588	9635	46614	(13,10)	965	469	3302	4938	22732
(14, 9)	835	311	4139	5133	25219	(14,10)	643	288	3235	3758	18286
(15, 9)	1141	600	4612	5337	25908	(15,10)	1726	611	5587	7815	37234
(16, 9)	1489	557	6288	7757	38237	(16,10)	695	193	2363	3238	15956
(17, 9)	665	307	4736	5834	32252	(17,10)	1394	627	8894	11485	54915
(18, 9)	372	146	2391	2961	13237	(18,10)	651	377	5826	7520	35872
(19, 9)	1635	344	7129	9509	45496	(19,10)	601	195	3739	4530	20914
(20, 9)	1630	355	6641	9415	45561	(20,10)	623	274	5090	6453	29674
(21, 9)	1346	619	3609	5501	24107	(21,10)	1551	573	3019	4713	20395
(22, 9)	3600	1766	7066	10363	48032	(22,10)	1465	604	3961	6008	28481
(23, 9)	1584	530	3189	5238	21659	(23,10)	3797	2199	11289	18502	82882
(24, 9)	12489	3306	11564	33507	76684	(24,10)	2822	851	5973	9636	47132
(25, 9)	4847	1655	10181	18146	82367	(25,10)	1620	509	2940	4970	22135
(26, 9)	2162	665	4805	8423	40988	(26,10)	3473	1707	11615	16942	84269
(27, 9)	3141	1272	10289	15243	74897	(27,10)	3643	1009	8598	13874	70606
(28, 9)	1927	194	3320	6480	30349	(28,10)	2627	746	5741	8952	41559
(29, 9)	6884	3075	23542	47330	215474	(29,10)	2748	611	5843	9204	39892
(30, 9)	1298	138	1984	4161	19026	(30,10)	0	0	0	0	0
(31, 9)	0	0	0	0	0	(31,10)	0	0	0	0	0
(32, 9)	0	0	0	0	0	(32,10)	0	0	0	0	0
(33, 9)	0	0	0	0	0	(33,10)	0	0	0	0	0
(34, 9)	0	0	0	0	0	(34,10)	0	0	0	0	0
(35, 9)	0	0	0	0	0	(35,10)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,11)	538	261	2183	2676	11938	(1,12)	173	110	1246	1492	7006
(2,11)	44	13	170	244	1157	(2,12)	0	0	0	0	0
(3,11)	0	0	0	0	0	(3,12)	79	45	653	765	3868
(4,11)	1713	1155	12145	13229	61379	(4,12)	342	234	2979	2686	14995
(5,11)	410	333	3798	3801	17102	(5,12)	402	204	2603	3249	18172
(6,11)	494	376	4578	4614	21887	(6,12)	243	226	2500	1456	8301
(7,11)	361	112	1502	2431	12757	(7,12)	357	123	1631	2554	12921
(8,11)	1053	451	4727	7095	36037	(8,12)	486	179	2231	3503	17571
(9,11)	619	272	3895	6604	35704	(9,12)	3287	1106	6896	14356	52217
(10,11)	7360	4662	48472	9544	49215	(10,12)	932	634	4831	7700	37660
(11,11)	1067	325	4395	8447	38229	(11,12)	4234	4955	28138	46209	233961
(12,11)	327	88	1138	1843	7806	(12,12)	1900	806	8357	13411	63620
(13,11)	1781	1029	8424	10469	50182	(13,12)	1633	262	3983	5641	25894
(14,11)	488	116	1468	2337	11206	(14,12)	1091	387	4269	5722	27533
(15,11)	4093	2529	23916	28032	136338	(15,12)	1551	404	5097	7376	35029
(16,11)	1428	829	7411	8372	41507	(16,12)	1259	280	3905	5809	29187
(17,11)	1420	803	6853	8739	43139	(17,12)	2013	784	10018	12932	61352
(18,11)	886	295	5376	6302	30640	(18,12)	825	281	4940	5861	26855
(19,11)	1340	361	3896	5905	26869	(19,12)	839	297	5376	6383	32376
(20,11)	2156	802	7737	10941	47600	(20,12)	2622	1435	9882	13083	63666
(21,11)	2734	1556	7339	11004	55106	(21,12)	2778	1425	7177	11032	51058
(22,11)	13170	8689	36502	50094	269542	(22,12)	3112	1455	8732	13292	63913
(23,11)	5470	2521	8430	13312	84669	(23,12)	5990	3814	15113	22072	111638
(24,11)	3650	1608	9527	15004	73335	(24,12)	2822	1327	9631	14379	71923
(25,11)	3965	1959	9932	16451	77992	(25,12)	9827	7711	44356	76848	375169
(26,11)	3354	1257	9714	15577	77961	(26,12)	2203	1612	8737	15297	77934
(27,11)	2281	655	4371	7370	35467	(27,12)	3613	1003	7278	12344	59791
(28,11)	2634	721	5519	9291	44283	(28,12)	3043	833	7472	12101	60208
(29,11)	2154	893	5039	10330	45959	(29,12)	4008	2251	11233	21770	91862
(30,11)	0	0	0	0	0	(30,12)	0	0	0	0	0
(31,11)	0	0	0	0	0	(31,12)	0	0	0	0	0
(32,11)	0	0	0	0	0	(32,12)	0	0	0	0	0
(33,11)	0	0	0	0	0	(33,12)	0	0	0	0	0
(34,11)	0	0	0	0	0	(34,12)	0	0	0	0	0
(35,11)	0	0	0	0	0	(35,12)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
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(GRID SPACING = 80KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,13)	62	21	219	340	1684	(1,14)	260	192	572	964	5386
(2,13)	295	193	937	1399	7234	(2,14)	2804	1175	8282	11870	60874
(3,13)	0	0	0	0	0	(3,14)	51	28	424	739	3987
(4,13)	124	54	786	1188	5756	(4,14)	185	90	1203	1931	10089
(5,13)	503	193	1887	2613	10503	(5,14)	531	384	3507	4976	23763
(6,13)	233	80	1239	1849	9096	(6,14)	564	363	3473	4387	22575
(7,13)	252	112	1342	1964	10056	(7,14)	212	124	1122	1644	7595
(8,13)	623	242	3131	4665	23974	(8,14)	626	245	2830	4454	19620
(9,13)	129	49	769	1060	5511	(9,14)	6968	4926	21762	39131	137705
(10,13)	1259	898	6781	10530	52680	(10,14)	2629	906	6892	10559	40789
(11,13)	998	562	5908	8807	44366	(11,14)	1736	1752	7614	10509	40645
(12,13)	1975	924	5747	9187	43930	(12,14)	7132	5489	13093	18062	85757
(13,13)	3510	1256	10745	14067	72396	(13,14)	3110	1615	10385	14325	71852
(14,13)	1737	161	2358	4558	22419	(14,14)	877	482	2036	3034	13488
(15,13)	2617	320	3323	6404	31912	(15,14)	1840	921	2404	3388	15383
(16,13)	2211	415	5054	7650	38816	(16,14)	1244	408	2391	3332	15967
(17,13)	849	487	5345	5965	30422	(17,14)	2217	1405	6807	8499	46065
(18,13)	7020	5874	46827	56459	300777	(18,14)	1814	1744	9043	11206	58773
(19,13)	1552	1163	10587	12291	60497	(19,14)	1857	1581	12902	15876	75977
(20,13)	3226	1982	10893	15665	74801	(20,14)	568	444	3853	5383	21448
(21,13)	2991	2302	12820	17430	86398	(21,14)	2001	2150	12664	15861	81537
(22,13)	4764	3421	17267	24859	128337	(22,14)	1221	1470	7003	9031	41671
(23,13)	4221	2335	13123	18872	91856	(23,14)	5337	4318	24607	34118	179237
(24,13)	5152	3344	15267	22768	97993	(24,14)	2775	1272	6552	9517	42154
(25,13)	8315	6336	35126	56213	288504	(25,14)	4743	2052	13405	22337	99202
(26,13)	3098	799	5872	10076	47217	(26,14)	4754	1656	10788	22079	81996
(27,13)	3746	1919	10577	19186	94922	(27,14)	7138	1752	13965	27571	109711
(28,13)	1803	305	2553	5792	22692	(28,14)	6249	3108	16897	36589	135694
(29,13)	2106	303	2879	6556	25795	(29,14)	4055	849	8045	17454	60066
(30,13)	4764	3101	11372	25386	86170	(30,14)	4572	697	6800	20920	62837
(31,13)	0	0	0	0	0	(31,14)	0	0	0	0	0
(32,13)	0	0	0	0	0	(32,14)	0	0	0	0	0
(33,13)	0	0	0	0	0	(33,14)	0	0	0	0	0
(34,13)	0	0	0	0	0	(34,14)	0	0	0	0	0
(35,13)	0	0	0	0	0	(35,14)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
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(GRID SPACING = 30KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,15)	468	234	1737	2436	12873	(1,16)	3694	1602	15242	22308	119553
(2,15)	4768	1603	13482	22472	100054	(2,16)	2192	1167	9924	14801	81406
(3,15)	95	52	952	1422	6384	(3,16)	70	35	607	948	5691
(4,15)	102	62	546	708	4069	(4,16)	175	71	983	1456	7051
(5,15)	355	176	1956	2625	14413	(5,16)	111	63	1101	1399	7094
(6,15)	112	48	542	734	3968	(6,16)	456	196	2616	3527	18006
(7,15)	237	114	1394	2131	3901	(7,16)	601	335	4030	5851	26542
(8,15)	1816	1259	8527	11319	47101	(8,16)	396	217	2157	3299	15468
(9,15)	1136	690	5204	7017	32875	(9,16)	3451	1055	9700	15002	62683
(10,15)	5329	703	5088	12030	47003	(10,16)	1863	275	1356	4452	18272
(11,15)	345	430	7307	5326	21990	(11,16)	5954	6113	32507	33300	152191
(12,15)	1193	1253	4201	5413	26952	(12,16)	6227	3590	37877	50581	259811
(13,15)	1042	587	2527	3444	17825	(13,16)	2302	1946	5688	7858	41655
(14,15)	2444	1357	4073	5212	26359	(14,16)	3211	4060	6420	9234	45761
(15,15)	1370	1135	3483	4467	21193	(15,16)	2523	1877	4834	5830	29893
(16,15)	605	318	857	1151	5857	(16,16)	5145	3688	15670	19431	92226
(17,15)	2621	1916	5806	7436	38909	(17,16)	4654	4473	10842	14498	70319
(18,15)	2619	3043	8349	10474	52912	(18,16)	2462	2772	6598	10100	47654
(19,15)	2103	2320	5984	8081	40081	(19,16)	2253	2866	6235	11381	57473
(20,15)	1113	1056	7116	3350	43874	(20,16)	3269	3665	8416	12024	57823
(21,15)	5003	5946	38192	41002	232000	(21,16)	3675	3161	8512	11780	63647
(22,15)	1402	1831	3187	11154	50952	(22,16)	1124	830	3342	4962	22205
(23,15)	1605	2575	9115	12248	56317	(23,16)	1347	2987	5333	7360	31213
(24,15)	1663	1279	8937	11705	57854	(24,16)	4925	4170	20909	37375	185978
(25,15)	2003	1848	8333	9356	44137	(25,16)	1928	1463	10412	13120	65358
(26,15)	10512	10229	34318	62036	232241	(26,16)	5672	6052	22252	24458	113203
(27,15)	5247	1258	9474	13136	71003	(27,16)	11923	8571	41394	62285	301497
(28,15)	3977	966	6591	12386	43922	(28,16)	7513	2957	13525	22445	95453
(29,15)	7395	2116	14965	28923	109091	(29,16)	4915	1797	7652	14656	60714
(30,15)	2823	604	4727	10526	37168	(30,16)	18805	1575	11973	33315	130879
(31,15)	0	0	0	0	0	(31,16)	3504	2067	10887	11309	46874
(32,15)	0	0	0	0	0	(32,16)	0	0	0	0	0
(33,15)	0	0	0	0	0	(33,16)	0	0	0	0	0
(34,15)	0	0	0	0	0	(34,16)	0	0	0	0	0
(35,15)	0	0	0	0	0	(35,16)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
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(GRID SPACING = 80KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,17)	4051	7375	47911	70463	363435	(1,18)	2567	1013	7630	8332	30291
(2,17)	2367	1340	11843	18160	102639	(2,18)	60	52	556	639	3374
(3,17)	67	38	531	749	4305	(3,18)	338	220	2518	3619	21502
(4,17)	231	135	1841	2275	12282	(4,18)	611	520	5482	6745	35406
(5,17)	160	127	1046	1215	6072	(5,18)	22	16	191	205	1101
(6,17)	446	298	3099	3674	19314	(6,18)	273	226	2631	3098	17623
(7,17)	484	503	2883	3553	18627	(7,18)	797	616	7418	9131	50140
(8,17)	950	730	5952	7612	37804	(8,18)	707	634	6775	7152	37938
(9,17)	477	353	2784	3755	19599	(9,18)	1742	1228	13043	18848	98148
(10,17)	1250	748	4377	8736	36444	(10,18)	673	526	5309	6553	34876
(11,17)	3092	2934	17092	20446	91805	(11,18)	862	729	4139	5097	29857
(12,17)	6615	7789	28668	30258	126373	(12,18)	1877	1530	4696	5543	32517
(13,17)	4164	3490	6281	7604	43247	(13,18)	3934	3497	4386	4990	28308
(14,17)	5026	4215	6813	8435	46016	(14,18)	3177	2704	5148	6065	33910
(15,17)	5160	4426	5196	5990	31845	(15,18)	5465	4856	9045	12485	66171
(16,17)	6812	31422	72415	99953	465844	(16,18)	2028	1933	7336	12078	63810
(17,17)	8715	9939	28189	40261	177579	(17,18)	2382	2036	3153	15308	80867
(18,17)	2412	2804	8692	13534	67599	(18,18)	1705	1292	6653	10753	54957
(19,17)	7853	6998	20287	28759	146231	(19,18)	3944	5216	14489	17853	91626
(20,17)	3800	4759	9432	10805	57509	(20,18)	4553	5516	11639	14819	76300
(21,17)	3073	2741	10351	14456	72823	(21,18)	23244	26126	45564	60573	295202
(22,17)	2314	1499	7179	9750	51357	(22,18)	5060	3835	19445	26110	142409
(23,17)	2543	2127	10357	14176	71074	(23,18)	2313	1832	9105	12377	66248
(24,17)	2119	1976	6421	8666	39914	(24,18)	2238	1439	7114	7778	36994
(25,17)	3702	3076	19177	25875	131813	(25,18)	2742	3323	8516	11621	55427
(26,17)	3840	3873	11970	16705	78667	(26,18)	1578	2076	6889	9006	42008
(27,17)	3640	2901	12214	14848	71978	(27,18)	2843	2516	11412	13729	64525
(28,17)	10828	7809	39941	55335	278648	(28,18)	7401	6886	27863	37736	192334
(29,17)	3147	1854	9449	12732	62543	(29,18)	6587	6536	28916	42416	213092
(30,17)	5910	2253	12237	23625	105178	(30,18)	6187	3992	19928	28916	140601
(31,17)	7264	1681	11911	19159	91823	(31,18)	4431	2613	13714	19879	93106
(32,17)	1052	626	3664	4502	18174	(32,18)	300	325	2223	1539	5208
(33,17)	0	0	0	0	0	(33,18)	0	0	0	0	0
(34,17)	0	0	0	0	0	(34,18)	0	0	0	0	0
(35,17)	0	0	0	0	0	(35,18)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
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(GRID SPACING = 30KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,19)	393	438	3808	2544	10032	(1,20)	393	130	1372	1498	6598
(2,19)	341	275	3107	3563	22148	(2,20)	441	201	1853	1628	6867
(3,19)	93	104	1006	851	3938	(3,20)	272	281	2408	2833	14983
(4,19)	75	79	749	326	3809	(4,20)	0	0	0	0	0
(5,19)	63	82	657	437	2324	(5,20)	78	52	572	882	4895
(6,19)	167	151	1488	1653	8781	(6,20)	98	73	821	968	5084
(7,19)	298	375	2958	2666	12750	(7,20)	175	130	1375	1772	9628
(8,19)	481	444	4499	5246	28039	(8,20)	507	447	4263	5498	29816
(9,19)	896	864	7662	9408	50927	(9,20)	500	516	4270	5136	29699
(10,19)	5870	3767	33602	51965	280552	(10,20)	1204	744	5606	8316	46947
(11,19)	1378	687	6464	9768	54984	(11,20)	983	557	4156	6148	34973
(12,19)	716	430	3243	4730	26811	(12,20)	6374	2723	21236	35429	175050
(13,19)	1832	1168	7230	10359	55202	(13,20)	1914	1005	8225	13225	73129
(14,19)	1476	1181	5565	7766	40549	(14,20)	1801	1102	8225	12146	64516
(15,19)	1297	1245	4827	7750	42228	(15,20)	2157	1203	7516	13450	71274
(16,19)	3642	3269	13901	21646	104583	(16,20)	7798	8310	26725	42935	175943
(17,19)	3468	3036	11992	17341	89454	(17,20)	4752	3809	12212	22180	108152
(18,19)	3741	2903	13047	13588	93591	(18,20)	3189	3241	10765	16087	84733
(19,19)	4798	6785	13666	19[illegible]9	95742	(19,20)	5597	6511	14942	20419	106350
(20,19)	8242	9272	23106	23924	151818	(20,20)	33354	38267	66836	98553	480870
(21,19)	3445	4250	10101	13411	87852	(21,20)	7018	8089	16831	22027	113932
(22,19)	19431	21359	64992	103945	458329	(22,20)	50691	23033	54233	91775	414457
(23,19)	2493	2080	9664	9851	50462	(23,20)	9864	7373	14277	19155	95310
(24,19)	3290	2721	13621	16602	78698	(24,20)	6685	5532	13519	14208	65113
(25,19)	1832	1312	6986	8908	40044	(25,20)	2447	2139	16050	19475	93754
(26,19)	2516	3532	11276	14131	84627	(26,20)	979	1403	4444	4813	20924
(27,19)	2656	5590	13851	18640	96632	(27,20)	2009	2634	10274	13219	64921
(28,19)	2514	3135	12887	16577	78076	(28,20)	1533	2756	6310	7545	33371
(29,19)	2231	1854	8299	10721	47573	(29,20)	4527	11988	21817	28282	142258
(30,19)	1761	1453	6205	8316	38797	(30,20)	1849	2351	8191	10850	50722
(31,19)	3[illegible]27	1115	5641	9782	45115	(31,20)	9704	18582	46130	68324	324910
(32,19)	1525	880	6569	6974	22241	(32,20)	428	337	2433	1664	5587
(33,19)	0	0	[illegible]	0	0	(33,20)	0	0	0	0	0
(34,19)	0	0	[illegible]	0	0	(34,20)	0	0	0	0	0
(35,19)	0	0	[illegible]	0	0	(35,20)	0	0	0	0	0

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AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,21)	757	174	1756	2209	10008	(1,22)	3812	342	3642	6909	36263
(2,21)	99	64	511	850	4714	(2,22)	97	50	583	807	4238
(3,21)	118	34	341	552	2793	(3,22)	1304	336	3411	7035	29876
(4,21)	53	17	298	464	2745	(4,22)	86	34	519	758	4113
(5,21)	79	31	423	615	3436	(5,22)	127	48	706	1060	6645
(6,21)	220	143	1290	2150	13231	(6,22)	198	115	1310	2152	12396
(7,21)	172	131	1055	1635	9676	(7,22)	408	294	2497	4004	24477
(8,21)	525	432	3641	5290	30325	(8,22)	517	428	3230	4911	31239
(9,21)	891	528	5258	7750	44178	(9,22)	1655	898	9008	14523	80293
(10,21)	2560	1219	8859	14711	74219	(10,22)	1010	545	4483	7281	40030
(11,21)	1724	909	7064	10529	57052	(11,22)	670	388	2943	4521	25624
(12,21)	2419	1469	9332	15096	83416	(12,22)	1688	884	7005	10501	57124
(13,21)	3600	1880	11457	18819	93776	(13,22)	1789	1215	7562	10909	60405
(14,21)	5030	2428	17164	28751	144540	(14,22)	2467	1486	8541	13733	71395
(15,21)	7801	5790	23907	36886	175842	(15,22)	1526	1511	5034	8627	46770
(16,21)	3407	3407	11896	18545	100960	(16,22)	11288	10340	25928	35077	172723
(17,21)	7237	7104	25673	35552	169278	(17,22)	15790	14120	57277	85596	338090
(18,21)	20160	24271	40897	52570	243725	(18,22)	79903	102558	234490	426174	1209026
(19,21)	3810	4336	13217	17491	89967	(19,22)	21501	23187	47636	62491	310195
(20,21)	8712	10817	22671	28960	150296	(20,22)	13277	15303	29873	41240	205116
(21,21)	8473	7329	16737	23561	125214	(21,22)	13782	10502	17207	25060	127762
(22,21)	16410	10596	24794	36527	185198	(22,22)	11831	9946	19998	28621	152082
(23,21)	42030	26186	52482	94329	413609	(23,22)	16090	15836	25310	34101	173525
(24,21)	7509	6326	11657	17001	83081	(24,22)	7337	8753	11403	16750	83772
(25,21)	6675	5595	16249	16382	77653	(25,22)	10865	12851	29159	36293	182551
(26,21)	1679	2642	9490	10460	50041	(26,22)	3351	5635	18142	23267	114139
(27,21)	943	1302	4529	5568	25662	(27,22)	1526	1918	8405	10747	51907
(28,21)	1778	2731	8902	11363	54011	(28,22)	2462	3410	12788	16388	74534
(29,21)	2946	4106	14916	21364	101154	(29,22)	20678	40766	107221	158217	803058
(30,21)	1263	1886	6284	9209	38816	(30,22)	1883	1197	6403	11205	44928
(31,21)	620	719	3566	5567	23810	(31,22)	1809	1676	7996	12583	55543
(32,21)	0	0	0	0	0	(32,22)	0	0	0	0	0
(33,21)	0	0	0	0	0	(33,22)	0	0	0	0	0
(34,21)	0	0	0	0	0	(34,22)	0	0	0	0	0
(35,21)	0	0	0	0	0	(35,22)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 30KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,23)	143	85	343	671	2840	(1,24)	362	104	1357	4795	22818
(2,23)	355	108	1570	2710	15015	(2,24)	47	20	269	423	2738
(3,23)	178	63	970	1635	10181	(3,24)	85	47	404	687	4473
(4,23)	102	55	449	604	4320	(4,24)	172	73	524	910	5178
(5,23)	73	48	491	651	5218	(5,24)	150	157	850	1475	8161
(6,23)	259	205	1446	2463	14492	(6,24)	252	212	1313	2032	12601
(7,23)	204	145	1229	2051	12403	(7,24)	401	359	2834	4437	27640
(8,23)	515	376	2947	4962	30024	(8,24)	554	406	2382	4525	29843
(9,23)	113	94	853	1037	6242	(9,24)	635	640	3954	5763	36127
(10,23)	0	0	0	0	0	(10,24)	0	0	0	0	0
(11,23)	389	458	2558	3546	20381	(11,24)	992	1276	6256	8479	45061
(12,23)	311	348	1768	2503	14231	(12,24)	1100	1415	5442	7886	41370
(13,23)	959	1342	4745	6618	37816	(13,24)	2878	2573	8055	11734	62172
(14,23)	3235	2738	7664	12148	83950	(14,24)	1056	903	2860	4541	22698
(15,23)	1398	1693	4975	7203	40353	(15,24)	4657	3624	9699	14135	71572
(16,23)	10320	6875	23046	35380	182262	(16,24)	8880	6755	13583	20070	103163
(17,23)	34343	23479	72504	141572	528921	(17,24)	7501	5650	12637	18044	95937
(18,23)	0	0	0	0	0	(18,24)	275	317	1448	1829	8726
(19,23)	9322	8770	28823	31341	152802	(19,24)	22147	20730	50762	67377	326018
(20,23)	12963	12395	36758	41721	192235	(20,24)	11380	10891	37806	44252	225093
(21,23)	30115	22773	57356	76540	377434	(21,24)	46209	43340	208652	310816	1580709
(22,23)	8852	9533	11233	17036	90747	(22,24)	16298	13742	50779	68624	390213
(23,23)	113960	98957	99951	191184	754072	(23,24)	7501	8223	9357	15356	72582
(24,23)	35262	77680	104395	148540	684340	(24,24)	6458	8034	16225	14837	69070
(25,23)	18422	37719	92747	119034	865133	(25,24)	3675	4519	17752	22261	109591
(26,23)	7006	12267	36126	48029	249077	(26,24)	2000	4171	10085	11745	57839
(27,23)	1736	2907	8066	10259	52193	(27,24)	2737	5019	11476	14870	84092
(28,23)	6003	7194	27142	36823	128676	(28,24)	4274	7056	19731	26509	145422
(29,23)	20441	33978	115780	108652	861029	(29,24)	3215	15434	44932	57439	311908
(30,23)	3660	2133	11012	13862	83811	(30,24)	43400	52285	171983	233524	1262189
(31,23)	3002	1403	5915	10321	45332	(31,24)	2487	3820	16913	16145	65662
(32,23)	0	0	0	0	0	(32,24)	0	0	0	0	0
(33,23)	0	0	0	0	0	(33,24)	0	0	0	0	0
(34,23)	0	0	0	0	0	(34,24)	0	0	0	0	0
(35,23)	0	0	0	0	0	(35,24)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,25)	150	170	1160	1191	5265	(1,26)	252	230	1698	1703	7846
(2,25)	165	148	1135	1344	7603	(2,26)	189	117	927	1194	6328
(3,25)	189	149	942	1115	7136	(3,26)	503	937	2062	2342	13858
(4,25)	133	144	581	635	4614	(4,26)	855	1255	2891	3602	20982
(5,25)	189	193	1237	1776	10299	(5,26)	749	605	3471	4401	24098
(6,25)	268	305	1429	1624	12585	(6,26)	420	454	2139	2637	15326
(7,25)	355	335	1499	1537	10327	(7,26)	547	537	2797	3679	22692
(8,25)	653	626	3586	4917	30947	(8,26)	1403	1480	5791	7139	40005
(9,25)	156	138	823	1314	7875	(9,26)	0	0	0	0	0
(10,25)	1412	1806	7069	10668	55831	(10,26)	190	161	848	1311	6514
(11,25)	203	181	1161	1638	8467	(11,26)	0	0	0	0	0
(12,25)	1300	1132	3908	5603	29124	(12,26)	1670	1036	2785	4723	22955
(13,25)	3107	2663	7681	11551	60296	(13,26)	408	359	1419	2317	10273
(14,25)	1022	920	3092	4426	24065	(14,26)	425	337	920	1351	6723
(15,25)	3826	3176	7777	10895	58715	(15,26)	2087	1700	4653	7339	35734
(16,25)	9184	7585	17438	26192	132996	(16,26)	1903	1627	4390	6195	30543
(17,25)	3635	2784	5697	8458	45275	(17,26)	524	460	1389	3141	14395
(18,25)	1264	1434	4660	4561	23264	(18,26)	1164	1239	5539	7182	33560
(19,25)	1788	2132	7438	8374	43023	(19,26)	776	733	3614	4439	20309
(20,25)	12978	11436	32933	39911	199679	(20,26)	992	1120	4995	6362	30018
(21,25)	2618	2682	11723	13397	67270	(21,26)	698	770	3544	4426	21833
(22,25)	3384	4639	16836	13047	122245	(22,26)	0	0	0	0	0
(23,25)	196	797	502	34	124	(23,26)	0	0	0	0	0
(24,25)	2670	10156	17676	14577	77944	(24,26)	2142	7698	16324	13051	93543
(25,25)	4580	10849	22656	31345	163316	(25,26)	22101	26981	50959	89424	507246
(26,25)	1539	2240	9056	11659	58982	(26,26)	1232	1560	7927	11918	69907
(27,25)	551	921	2350	2715	15099	(27,26)	2554	5081	14724	20851	115885
(28,25)	9177	16859	38201	48975	272563	(28,26)	1690	2616	9300	12307	63458
(29,25)	10346	17428	43502	57418	325344	(29,26)	3210	5425	14280	20420	110579
(30,25)	29001	42021	125252	159115	863441	(30,26)	64013	119024	280898	377582	1848270
(31,25)	7392	8382	38685	51518	241347	(31,26)	59481	96220	226437	386638	1483302
(32,25)	0	0	0	0	0	(32,26)	0	0	0	0	0
(33,25)	0	0	0	0	0	(33,26)	0	0	0	0	0
(34,25)	0	0	0	0	0	(34,26)	0	0	0	0	0
(35,25)	0	0	0	0	0	(35,26)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,27)	475	448	2627	2353	14246	(1,28)	222	199	1138	1536	6379
(2,27)	455	358	2345	3067	17493	(2,28)	137	146	550	705	4406
(3,27)	0	0	0	0	0	(3,28)	172	175	613	788	4698
(4,27)	456	389	2175	2921	17294	(4,28)	1136	925	4977	6091	33942
(5,27)	363	369	1553	1937	12181	(5,28)	310	322	1507	1788	10361
(6,27)	462	504	2689	3231	19847	(6,28)	437	472	2765	3335	20443
(7,27)	1445	1400	5497	6452	36800	(7,28)	573	634	2710	3173	19259
(8,27)	175	178	1053	1302	7830	(8,28)	0	0	0	0	0
(9,27)	0	0	0	0	0	(9,28)	0	0	0	0	0
(10,27)	0	0	0	0	0	(10,28)	0	0	0	0	0
(11,27)	0	0	0	0	0	(11,28)	0	0	0	0	0
(12,27)	0	0	0	0	0	(12,28)	3400	6306	12801	19898	94433
(13,27)	756	724	1642	3110	13516	(13,28)	0	0	0	0	0
(14,27)	1032	1154	3587	5679	25364	(14,28)	0	0	0	0	0
(15,27)	489	530	1888	2582	11399	(15,28)	572	827	2583	4380	18352
(16,27)	1320	1825	6359	7732	38083	(16,28)	0	0	0	0	0
(17,27)	951	1178	3783	4293	19954	(17,28)	258	256	730	1492	5974
(18,27)	0	0	0	0	0	(18,28)	698	1057	3654	6002	25732
(19,27)	1559	1772	6710	9223	42041	(19,28)	0	0	0	0	0
(20,27)	814	845	2441	3359	16150	(20,28)	0	0	0	0	0
(21,27)	0	0	0	0	0	(21,28)	0	0	0	0	0
(22,27)	0	0	0	0	0	(22,28)	0	0	0	0	0
(23,27)	0	0	0	0	0	(23,28)	0	0	0	0	0
(24,27)	9136	25666	50437	60742	373662	(24,28)	0	0	0	0	0
(25,27)	936	2080	6028	8934	51174	(25,28)	0	0	0	0	0
(26,27)	6875	14289	35364	59715	289512	(26,28)	0	0	0	0	0
(27,27)	5859	11858	31623	49692	255835	(27,28)	956	1875	5018	3522	41101
(28,27)	2285	3937	12448	19741	103536	(28,28)	4364	7823	21843	34809	181552
(29,27)	2463	3372	14207	22027	117891	(29,28)	5666	12846	30866	42672	215455
(30,27)	2529	3651	14768	23415	119402	(30,28)	11952	24930	55359	87287	395640
(31,27)	21790	29667	111518	138920	928233	(31,28)	8860	13164	45913	70384	331190
(32,27)	0	0	0	0	0	(32,28)	12144	21602	51781	79537	378257
(33,27)	0	0	0	0	0	(33,28)	0	0	0	0	0
(34,27)	0	0	0	0	0	(34,28)	0	0	0	0	0
(35,27)	0	0	0	0	0	(35,28)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,29)	0	0	0	0	0	(1,30)	7495	7176	18654	30612	192805
(2,29)	581	556	1447	2374	14957	(2,30)	227	217	565	927	5842
(3,29)	563	539	1401	2300	14490	(3,30)	118	113	293	482	3038
(4,29)	160	130	186	353	2655	(4,30)	206	182	372	643	4341
(5,29)	178	145	207	392	2950	(5,30)	1051	857	1223	2317	17410
(6,29)	160	130	186	353	2655	(6,30)	427	348	497	942	7082
(7,29)	338	276	393	746	5606	(7,30)	15220	12406	17706	33543	252004
(8,29)	106	87	124	235	1770	(8,30)	71	58	82	157	1180
(9,29)	163	166	863	1256	6866	(9,30)	0	0	0	0	0
(10,29)	0	0	0	0	0	(10,30)	0	0	0	0	0
(11,29)	0	0	0	0	0	(11,30)	0	0	0	0	0
(12,29)	0	0	0	0	0	(12,30)	0	0	0	0	0
(13,29)	0	0	0	0	0	(13,30)	0	0	0	0	0
(14,29)	0	0	0	0	0	(14,30)	0	0	0	0	0
(15,29)	0	0	0	0	0	(15,30)	0	0	0	0	0
(16,29)	0	0	0	0	0	(16,30)	0	0	0	0	0
(17,29)	0	0	0	0	0	(17,30)	0	0	0	0	0
(18,29)	0	0	0	0	0	(18,30)	0	0	0	0	0
(19,29)	0	0	0	0	0	(19,30)	0	0	0	0	0
(20,29)	0	0	0	0	0	(20,30)	0	0	0	0	0
(21,29)	0	0	0	0	0	(21,30)	0	0	0	0	0
(22,29)	0	0	0	0	0	(22,30)	0	0	0	0	0
(23,29)	0	0	0	0	0	(23,30)	0	0	0	0	0
(24,29)	0	0	0	0	0	(24,30)	0	0	0	0	0
(25,29)	0	0	0	0	0	(25,30)	0	0	0	0	0
(26,29)	0	0	0	0	0	(26,30)	0	0	0	0	0
(27,29)	1167	2110	6128	10863	52537	(27,30)	1225	3174	5741	8946	43669
(28,29)	53	69	309	1402	4907	(28,30)	785	1136	4129	7818	37522
(29,29)	2190	4124	11696	18107	91841	(29,30)	1489	1423	6952	9284	41172
(30,29)	1570	2355	7346	9821	44661	(30,30)	1047	1343	4952	6861	31121
(31,29)	6802	16207	29732	45617	192009	(31,30)	8457	15821	37256	50764	223250
(32,29)	36458	79226	177087	291958	1273845	(32,30)	4827	10942	21771	35496	156780
(33,29)	0	0	0	0	0	(33,30)	0	0	0	0	0
(34,29)	0	0	0	0	0	(34,30)	0	0	0	0	0
(35,29)	0	0	0	0	0	(35,30)	0	0	0	0	0

SECTION D-3

GRIDDED POINT AND AREA SOURCE EMISSIONS (TONS/YEAR) ON THE 80-KM GRID NETWORK

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 1)	0	0	0	0	0	(1, 2)	0	0	0	0	0
(2, 1)	0	0	0	0	0	(2, 2)	0	0	0	0	0
(3, 1)	0	0	0	0	0	(3, 2)	0	0	0	0	0
(4, 1)	0	0	0	0	0	(4, 2)	0	0	0	0	0
(5, 1)	0	0	0	0	0	(5, 2)	0	0	0	0	0
(6, 1)	0	0	0	0	0	(6, 2)	1	0	8	78	0
(7, 1)	379	70	819	868	4230	(7, 2)	1517	46	506	469	2270
(8, 1)	98	89	1663	2801	3706	(8, 2)	4099	1168	2565	2543	12956
(9, 1)	116	2023	1340	1251	5783	(9, 2)	2276	11809	16014	9044	28967
(10, 1)	3616	1895	5336	10675	23340	(10, 2)	384	5278	3325	3313	13712
(11, 1)	6443	4640	8568	14274	15804	(11, 2)	1190	483	16936	13737	45495
(12, 1)	1	0	81	33	0	(12, 2)	26027	2988	100895	72861	23592
(13, 1)	0	0	0	0	0	(13, 2)	4846	2324	29591	162795	60455
(14, 1)	0	0	0	0	0	(14, 2)	0	0	0	0	0
(15, 1)	0	0	0	0	0	(15, 2)	0	0	0	0	0
(16, 1)	0	0	0	0	0	(16, 2)	0	0	0	0	0
(17, 1)	0	0	0	0	0	(17, 2)	0	0	0	0	0
(18, 1)	0	0	0	0	0	(18, 2)	0	0	0	0	0
(19, 1)	2	0	17	0	1	(19, 2)	0	0	0	0	0
(20, 1)	0	0	0	0	0	(20, 2)	0	0	0	0	0
(21, 1)	0	0	0	0	0	(21, 2)	0	0	0	0	0
(22, 1)	0	0	0	0	0	(22, 2)	0	0	0	0	0
(23, 1)	0	0	0	0	0	(23, 2)	0	0	0	0	0
(24, 1)	0	0	0	0	0	(24, 2)	0	0	0	0	0
(25, 1)	0	0	0	0	0	(25, 2)	0	0	0	0	0
(26, 1)	0	0	0	0	0	(26, 2)	0	0	0	0	0
(27, 1)	0	0	0	0	0	(27, 2)	0	0	0	0	0
(28, 1)	0	0	0	0	0	(28, 2)	0	0	0	0	0
(29, 1)	0	0	0	0	0	(29, 2)	0	0	0	0	0
(30, 1)	0	0	0	0	0	(30, 2)	0	0	0	0	0
(31, 1)	0	0	0	0	0	(31, 2)	0	0	0	0	0
(32, 1)	0	0	0	0	0	(32, 2)	0	0	0	0	0
(33, 1)	0	0	0	0	0	(33, 2)	564	708	4554	5037	22728
(34, 1)	0	0	0	0	0	(34, 2)	0	0	0	0	0
(35, 1)	0	0	0	0	0	(35, 2)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 3)	0	0	0	0	0	(1, 4)	15	0	4	0	0
(2, 3)	98	130	1128	560	2482	(2, 4)	28	26	292	209	1445
(3, 3)	97	95	955	1019	4446	(3, 4)	256	1754	123	18	1
(4, 3)	0	0	0	0	0	(4, 4)	329	3552	5233	8752	9489
(5, 3)	59	79	723	300	1531	(5, 4)	68	225	20056	2848	4095
(6, 3)	4724	994	3851	12347	19810	(6, 4)	94	63	1258	2251	5543
(7, 3)	24	12	212	333	2225	(7, 4)	54	23	563	696	3610
(8, 3)	244	160	2044	2176	10485	(8, 4)	179	22	433	618	3340
(9, 3)	19476	9267	49324	61340	212415	(9, 4)	3757	121	1823	1741	8341
(10, 3)	5327	390	5811	6483	29607	(10, 4)	19321	2317	22166	34069	104947
(11, 3)	409	96	1342	1508	7739	(11, 4)	25701	48173	17196	13159	29185
(12, 3)	5643	472	13780	12323	30148	(12, 4)	492	313	4389	5018	24482
(13, 3)	6111	11161	51799	64862	143620	(13, 4)	24505	112542	188351	32044	693192
(14, 3)	8593	26543	53081	88121	267031	(14, 4)	4133	22163	41459	17335	42210
(15, 3)	0	0	0	0	0	(15, 4)	17037	118838	129256	262648	322815
(16, 3)	0	0	0	0	0	(16, 4)	196	20	2723	2060	6147
(17, 3)	0	0	0	0	0	(17, 4)	3	4	374	21	114
(18, 3)	0	0	0	0	0	(18, 4)	0	0	0	0	0
(19, 3)	0	0	0	0	0	(19, 4)	885	402	5810	6530	29243
(20, 3)	0	0	0	0	0	(20, 4)	0	0	0	0	0
(21, 3)	0	0	0	0	0	(21, 4)	41	1	516	0	38
(22, 3)	0	0	0	0	0	(22, 4)	0	0	0	0	0
(23, 3)	0	0	0	0	0	(23, 4)	0	0	0	0	0
(24, 3)	0	0	0	0	0	(24, 4)	0	0	0	0	0
(25, 3)	0	0	0	0	0	(25, 4)	0	0	0	0	0
(26, 3)	0	0	0	0	0	(26, 4)	0	0	0	0	0
(27, 3)	0	0	0	0	0	(27, 4)	0	0	0	0	0
(28, 3)	0	0	0	0	0	(28, 4)	0	0	0	0	0
(29, 3)	0	0	0	0	0	(29, 4)	0	0	0	0	0
(30, 3)	0	0	0	0	0	(30, 4)	0	0	0	0	0
(31, 3)	0	0	0	0	0	(31, 4)	4432	16185	20104	14054	66313
(32, 3)	1591	191	2371	5605	28609	(32, 4)	1211	811	1151	2172	10704
(33, 3)	0	0	0	0	0	(33, 4)	58	0	0	0	0
(34, 3)	602	3487	6845	111	243	(34, 4)	22150	71797	115523	144482	671955
(35, 3)	0	0	0	0	0	(35, 4)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 5)	3137	92	1498	1674	7430	(1, 6)	0	0	0	0	0
(2, 5)	98	82	1025	1024	4400	(2, 6)	14013	129	1235	346	65
(3, 5)	919	42945	12706	11218	15890	(3, 6)	493	57089	13627	13195	8784
(4, 5)	411	25473	25214	9287	2526	(4, 6)	1560	42376	42625	23501	34624
(5, 5)	108	130	6026	1612	2366	(5, 6)	7390	20039	17537	36857	124587
(6, 5)	2	0	437	59	0	(6, 6)	2503	1834	20249	2717	11198
(7, 5)	1386	939	9013	7335	32650	(7, 6)	860	348	5184	3488	16133
(8, 5)	545	61	1727	932	5210	(8, 6)	2505	263	3795	5837	16553
(9, 5)	464	294	3890	4135	20668	(9, 6)	1164	159	2497	3041	16144
(10, 5)	4900	1056	12648	30408	65275	(10, 6)	3461	1405	21681	21985	85353
(11, 5)	388	340	3535	4125	16308	(11, 6)	4015	2207	13993	3562	15904
(12, 5)	781	457	6153	6192	28020	(12, 6)	15312	95915	30569	7711	33764
(13, 5)	5451	375	8205	5630	27838	(13, 6)	2297	531	6276	14180	32101
(14, 5)	7112	533	5531	5390	21945	(14, 6)	3219	1634	8091	6397	30676
(15, 5)	12585	2207	25733	36884	254000	(15, 6)	1764	197	2534	6967	24202
(16, 5)	16603	128695	119215	81914	83790	(16, 6)	9596	1312	11200	15694	58110
(17, 5)	3905	1971	21956	24606	108784	(17, 6)	2651	885	31167	34887	320336
(18, 5)	30963	98435	93535	52739	334679	(18, 6)	47124	81827	72161	168282	282039
(19, 5)	175463	61253	111688	117398	110480	(19, 6)	12560	891	15025	28880	169010
(20, 5)	28070	56282	114696	93047	416394	(20, 6)	525	54	1043	2265	11057
(21, 5)	1167	3546	1890	314	187	(21, 6)	3584	74651	15366	1655	789
(22, 5)	0	0	0	0	0	(22, 6)	0	0	0	5	0
(23, 5)	0	0	0	0	0	(23, 6)	0	0	0	0	0
(24, 5)	0	0	0	0	0	(24, 6)	0	0	0	0	0
(25, 5)	0	0	0	0	0	(25, 6)	0	0	0	0	0
(26, 5)	0	0	0	0	0	(26, 6)	0	0	0	0	0
(27, 5)	0	0	0	0	0	(27, 6)	0	0	0	0	0
(28, 5)	0	0	0	0	0	(28, 6)	0	0	0	0	0
(29, 5)	61	4	8	0	1	(29, 6)	4887	19109	24503	37397	176042
(30, 5)	7741	16802	25952	18970	87817	(30, 6)	31639	257691	70743	49065	235721
(31, 5)	4616	328	2147	6287	24132	(31, 6)	26735	7116	13765	25164	111358
(32, 5)	5348	1828	3407	3658	31535	(32, 6)	4736	6832	10305	12043	54679
(33, 5)	6460	28840	30697	29121	139223	(33, 6)	3526	5444	8186	9758	43737
(34, 5)	444	150	96	119	1638	(34, 6)	0	0	0	0	0
(35, 5)	0	0	0	0	0	(35, 6)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 7)	1	0	[illegible]	34	1	(1, 8)	[illegible]	[illegible]	0	0	0
(2, 7)	5652	23390	4031	7781	15735	(2, 8)	3421	340	3311	4818	17587
(3, 7)	975	75447	9109	16077	10497	(3, 8)	26	1871	331	512	10
(4, 7)	1082	22230	11864	2841	8606	(4, 8)	1753	3903	13643	5879	28555
(5, 7)	1150	733	4276	2446	11038	(5, 8)	15356	3211	24168	42383	112252
(6, 7)	1540	599	13188	5175	13657	(6, 8)	108	55	988	1265	6095
(7, 7)	9700	1297	13537	13541	39985	(7, 8)	621	240	5980	2542	13052
(8, 7)	641	243	5271	5641	25176	(8, 8)	223	146	2247	2842	12372
(9, 7)	6747	508	7744	5716	21319	(9, 8)	33617	137	9821	3829	11399
(10, 7)	16771	1379	14206	20600	39747	(10, 8)	15639	12266	58363	95901	275317
(11, 7)	33879	36163	14246	13475	59083	(11, 8)	19736	17083	107789	115227	417276
(12, 7)	3815	504	10155	5416	11580	(12, 8)	1007	41763	8275	9567	38098
(13, 7)	9947	3146	24383	37209	76004	(13, 8)	5404	12407	36916	28540	56016
(14, 7)	2656	332	9074	3006	20838	(14, 8)	11872	3522	29198	61032	137729
(15, 7)	4655	2889	7326	5153	52090	(15, 8)	2970	886	13360	14312	67217
(16, 7)	8167	67137	41235	3474	13326	(16, 8)	4880	3470	17277	48730	86050
(17, 7)	8252	5888	8803	3713	101475	(17, 8)	926	440	6215	7658	41139
(18, 7)	2082	149	2534	5120	21119	(18, 8)	50121	18391	33088	28459	118452
(19, 7)	11142	2141	11830	12847	62348	(19, 8)	1451	1020	3372	5348	21815
(20, 7)	19631	15833	14275	13641	92562	(20, 8)	3407	14031	8922	3898	38143
(21, 7)	8220	13814	10242	13657	81649	(21, 8)	3817	7253	3886	3804	32177
(22, 7)	16903	58547	78921	33112	180875	(22, 8)	4033	12145	1872	473	685
(23, 7)	23760	132416	52997	39610	119477	(23, 8)	6343	54465	10353	20017	84226
(24, 7)	31	1	1	1	7	(24, 8)	1914	416	3215	5085	27043
(25, 7)	14475	60840	17191	10479	95546	(25, 8)	8105	2807	4637	8503	22486
(26, 7)	4770	10936	3331	2036	19653	(26, 8)	6852	4454	11368	14273	62239
(27, 7)	4	0	[illegible]	9	0	(27, 8)	10811	3845	6233	4027	17315
(28, 7)	231	33	408	572	4142	(28, 8)	1491	207	2029	3371	14808
(29, 7)	10852	50906	20708	5140	20659	(29, 8)	43908	10119	10735	14280	71546
(30, 7)	3463	473	5236	3127	43298	(30, 8)	15433	10424	9751	15138	76728
(31, 7)	12810	54779	42587	3805	152152	(31, 8)	5507	22236	31271	21500	106415
(32, 7)	2577	11688	23327	17903	87931	(32, 8)	0	0	0	0	0
(33, 7)	0	0	0	0	0	(33, 8)	0	0	0	0	0
(34, 7)	0	0	0	0	0	(34, 8)	0	0	0	0	0
(35, 7)	0	0	0	0	0	(35, 8)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 9)	192	56	977	1733	6327	(1,10)	236	64	1464	1964	8874
(2, 9)	388	23	409	563	2797	(2,10)	5	2	1477	243	20
(3, 9)	986	114	1409	1582	8568	(3,10)	3206	510	4823	6147	26482
(4, 9)	10349	604	11563	7732	37453	(4,10)	2509	210	2376	1958	11704
(5, 9)	4984	2987	10085	9523	39225	(5,10)	6733	2645	5604	10746	21278
(6, 9)	1597	93	1181	1330	5365	(6,10)	457	252	3321	3695	18615
(7, 9)	1641	130	2506	1380	6684	(7,10)	6702	585	3254	8342	25117
(8, 9)	6160	1605	11165	21432	57098	(8,10)	1465	553	8836	11981	57093
(9, 9)	627	272	4267	7181	25507	(9,10)	2609	12261	4363	22618	58918
(10, 9)	910	239	4080	4673	20666	(10,10)	5136	6102	10749	22458	90288
(11, 9)	6217	1400	12205	16221	58018	(11,10)	682	114	1559	2558	11760
(12, 9)	1108	895	12536	4308	20029	(12,10)	413	102	1422	2324	10740
(13, 9)	4734	6691	8660	12231	46938	(13,10)	2245	495	3407	5009	22900
(14, 9)	3363	2231	7112	5524	26553	(14,10)	2766	2106	4174	5403	22443
(15, 9)	43664	6272	11181	5867	43295	(15,10)	9368	2967	9126	8706	41450
(16, 9)	17581	21376	32405	15046	81066	(16,10)	1905	363	3554	3557	16456
(17, 9)	838	316	4781	5579	32519	(17,10)	7540	7030	14404	12543	56838
(18, 9)	3751	5761	10776	3710	34130	(18,10)	4095	2576	6656	8267	37751
(19, 9)	15297	5040	7315	11038	63269	(19,10)	1503	239	3815	4743	21228
(20, 9)	10066	3929	7828	11321	48856	(20,10)	5442	284	5254	6658	31277
(21, 9)	7132	13423	3600	5551	25509	(21,10)	2402	47491	22338	4915	21061
(22, 9)	3775	2151	7086	10863	48082	(22,10)	2151	903	3992	6009	28482
(23, 9)	2001	4081	3445	5241	21670	(23,10)	5837	2626	11403	18502	82882
(24, 9)	12548	6216	11564	33507	76684	(24,10)	3564	851	5973	9636	47132
(25, 9)	6767	9888	13989	18606	59725	(25,10)	11289	694	3037	4989	22154
(26, 9)	2558	882	5314	8455	41188	(26,10)	4388	7860	13480	16973	84361
(27, 9)	4160	3468	12141	15429	84792	(27,10)	3043	1009	8598	13874	70606
(28, 9)	2685	16227	10317	6553	30997	(28,10)	2935	774	5988	9025	41589
(29, 9)	25220	65839	58476	48898	219304	(29,10)	10745	35646	19674	11171	67932
(30, 9)	1445	342	2115	4132	19029	(30,10)	0	0	0	0	0
(31, 9)	0	0	0	0	0	(31,10)	0	0	0	0	0
(32, 9)	0	0	0	0	0	(32,10)	0	0	0	0	0
(33, 9)	0	0	0	0	0	(33,10)	0	0	0	0	0
(34, 9)	0	0	0	0	0	(34,10)	0	0	0	0	0
(35, 9)	0	0	0	0	0	(35,10)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,11)	594	272	2252	2784	12929	(1,12)	10922	111	1254	1578	8020
(2,11)	44	13	174	244	1157	(2,12)	0	0	0	0	0
(3,11)	0	0	0	0	0	(3,12)	82	55	1382	872	3870
(4,11)	5597	5790	29611	32062	233175	(4,12)	1555	572	2979	2637	15532
(5,11)	5266	41433	39393	54613	542090	(5,12)	2337	1212	6399	6154	18176
(6,11)	956	1461	5565	10106	121117	(6,12)	243	226	2500	1456	8301
(7,11)	374	400	1595	2462	12764	(7,12)	410	127	4740	2560	13009
(8,11)	2956	451	4727	7639	38037	(8,12)	26556	189	2281	3533	17571
(9,11)	1697	372	25969	13719	35745	(9,12)	11316	4119	12015	20700	93536
(10,11)	3587	4679	65511	98519	494699	(10,12)	1171	7666	5948	13173	65866
(11,11)	4865	1678	5117	11856	66990	(11,12)	21697	12187	41741	50340	236623
(12,11)	327	88	1138	1843	7806	(12,12)	2825	924	12150	13429	63722
(13,11)	6887	1031	8443	11216	52721	(13,12)	5230	1386	4469	6294	26308
(14,11)	2423	180	1894	2430	11332	(14,12)	8350	390	4362	6398	29626
(15,11)	28390	10825	35711	30772	138256	(15,12)	2567	680	5097	7644	38336
(16,11)	20223	680	7883	8867	44518	(16,12)	9573	1695	4490	5972	29552
(17,11)	4642	9703	19545	11635	44356	(17,12)	3415	1972	10983	13401	63249
(18,11)	3645	336	5653	7636	31818	(18,12)	8324	77121	45242	10964	32866
(19,11)	3798	445	4444	6134	27316	(19,12)	4695	371	5401	7144	33056
(20,11)	21310	934	7918	12131	47930	(20,12)	4413	1582	8958	13499	68883
(21,11)	15258	62513	33005	11430	56023	(21,12)	4910	61136	39310	11543	54296
(22,11)	59357	198941	87470	57985	317407	(22,12)	3397	1455	8732	13292	63913
(23,11)	39549	17845	8439	13312	65089	(23,12)	49445	8566	15332	22936	186475
(24,11)	4557	5549	11127	15752	73562	(24,12)	7222	116451	34877	14861	85432
(25,11)	4202	2464	10113	16523	77990	(25,12)	10431	7936	45219	76997	375330
(26,11)	5769	19087	16619	15741	82879	(26,12)	11464	65036	36648	15773	79509
(27,11)	2513	664	4406	7454	35498	(27,12)	8282	1996	7747	12370	59843
(28,11)	9993	12061	7152	9563	54186	(28,12)	3348	1743	7551	12181	60266
(29,11)	3919	1475	5598	11000	51752	(29,12)	12186	37772	30979	22748	138678
(30,11)	0	0	0	0	0	(30,12)	33	31	5	0	0
(31,11)	0	0	0	0	0	(31,12)	0	0	0	0	0
(32,11)	0	0	0	0	0	(32,12)	0	0	0	0	0
(33,11)	0	0	0	0	0	(33,12)	0	0	0	0	0
(34,11)	0	0	0	0	0	(34,12)	0	0	0	0	0
(35,11)	0	0	0	0	0	(35,12)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,13)	62	21	219	340	1684	(1,14)	938	18692	20408	1434	6876
(2,13)	2808	336	1241	1410	7265	(2,14)	5183	3806	9735	14031	268854
(3,13)	0	0	0	0	0	(3,14)	116	28	424	739	3989
(4,13)	1521	54	839	1189	5760	(4,14)	1680	96	1446	1932	10099
(5,13)	1269	205	3469	2640	10545	(5,14)	12835	395	6703	14431	130072
(6,13)	1588	80	1398	1850	9097	(6,14)	6274	826	5263	4403	22668
(7,13)	1225	116	1595	1981	10066	(7,14)	2110	124	1779	1647	7595
(8,13)	2654	257	3274	4876	23994	(8,14)	3998	248	3073	4460	19641
(9,13)	217	52028	850	2677	5513	(9,14)	13051	6640	26576	41175	138336
(10,13)	3358	7488	8676	24988	153907	(10,14)	6850	15784	16183	38794	42167
(11,13)	2371	574	18064	8997	44712	(11,14)	10497	8377	10656	13004	43443
(12,13)	29525	3165	8995	9193	44013	(12,14)	23764	63397	24920	18391	86472
(13,13)	9241	1260	10748	14570	73324	(13,14)	6407	1692	10701	15105	73245
(14,13)	3690	162	2360	5063	23965	(14,14)	5204	2360	3752	7476	16260
(15,13)	3017	320	3323	6504	32232	(15,14)	12173	1704	3456	7940	23015
(16,13)	3708	572	5116	10630	39905	(16,14)	4060	414	2413	3956	16944
(17,13)	6564	539	5516	6211	31116	(17,14)	3023	1559	7090	9028	46449
(18,13)	15606	12149	48150	66123	317384	(18,14)	6986	73580	22916	13041	61068
(19,13)	2918	1358	11447	14187	61082	(19,14)	6202	2346	13571	17082	78081
(20,13)	10766	225853	15450	18183	83102	(20,14)	98205	258022	38461	6426	55886
(21,13)	17016	39625	21736	46113	97416	(21,14)	12296	14984	14973	16231	82411
(22,13)	9245	4666	19567	25894	128506	(22,14)	204072	214564	7850	9611	46495
(23,13)	11100	120761	30049	19569	92854	(23,14)	28461	13941	29445	43441	206490
(24,13)	32231	192152	58469	23364	100026	(24,14)	4488	32514	6726	9575	42185
(25,13)	8669	6615	35175	56244	288509	(25,14)	5896	2353	13539	22550	99511
(26,13)	3244	800	5998	10449	47221	(26,14)	5276	3073	11715	22570	82069
(27,13)	14545	39143	27071	20082	105272	(27,14)	10040	5255	16877	28527	115479
(28,13)	9229	13709	11618	6033	23555	(28,14)	14008	50849	44147	38096	138099
(29,13)	5986	16182	15237	10611	27222	(29,14)	36170	9795	10759	17793	61775
(30,13)	10856	20784	16918	27239	112165	(30,14)	19743	86207	35493	35443	113341
(31,13)	0	0	0	0	0	(31,14)	0	0	0	0	0
(32,13)	0	0	0	0	0	(32,14)	0	0	0	0	0
(33,13)	0	0	0	0	0	(33,14)	0	0	0	0	0
(34,13)	0	0	0	0	0	(34,14)	0	0	0	0	0
(35,13)	0	0	0	0	0	(35,14)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 90KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,15)	1817	10742	11852	2774	13418	(1,16)	6892	6890	23378	23312	120083
(2,15)	4402	1772	13599	22479	100067	(2,16)	2103	1167	9936	14303	81405
(3,15)	200	52	352	1432	6984	(3,16)	70	35	607	948	5691
(4,15)	1736	62	50	731	4077	(4,16)	1813	76	1265	1464	7100
(5,15)	6338	234	2297	2378	18109	(5,16)	2209	60	2146	1405	7136
(6,15)	996	46	642	734	3986	(6,16)	2797	196	3413	3531	18031
(7,15)	2163	114	1937	2134	9921	(7,16)	3390	409	4731	5876	26702
(8,15)	7360	2414	16368	11303	47840	(8,16)	892	217	2157	7298	15468
(9,15)	4845	2415	8213	10335	33172	(9,16)	4256	1352	12824	15749	62777
(10,15)	6130	727	5176	12032	47010	(10,16)	2210	235	1956	4452	18272
(11,15)	4390	3974	3955	5332	22311	(11,16)	29103	15099	58551	58082	161744
(12,15)	27325	2313	33946	20117	27553	(12,16)	9446	4925	39398	50730	259977
(13,15)	1322	591	2533	3456	17854	(13,16)	11294	132961	55241	7978	42588
(14,15)	3937	1367	4158	5437	27093	(14,16)	9544	4107	6662	12502	49203
(15,15)	17051	1903	3325	1072	7341	(15,16)	10190	2356	5250	10713	37855
(16,15)	73400	68928	13579	9337	19018	(16,16)	21713	118557	13037	20181	92525
(17,15)	6617	2204	6150	7532	33308	(17,16)	12313	481706	140714	15454	73722
(18,15)	67183	432893	113605	11034	85866	(18,16)	15893	10781	9823	10131	47743
(19,15)	71284	10079	8748	18437	41844	(19,16)	15843	47317	8303	11309	57803
(20,15)	7803	268872	39172	10573	46179	(20,16)	54910	481781	186434	14524	62496
(21,15)	33294	231133	61766	86503	241232	(21,16)	12892	3203	8843	14801	64509
(22,15)	4649	1970	8436	12226	54292	(22,16)	6100	846	3375	7361	23819
(23,15)	55238	191224	72396	15233	70074	(23,16)	5177	4082	6111	10238	34417
(24,15)	5816	7897	11945	13525	87359	(24,16)	12503	11406	29821	39366	186646
(25,15)	11042	13022	12831	9664	62904	(25,16)	17118	8806	13584	13344	85753
(26,15)	23912	34467	47700	64536	234509	(26,16)	12340	29865	33908	25571	110754
(27,15)	8200	5243	11700	22434	73898	(27,16)	140933	205075	132217	64447	312307
(28,15)	16462	12042	10274	15731	72641	(28,16)	12942	8277	15378	22829	95951
(29,15)	37331	15577	24351	33280	122161	(29,16)	20446	2283	8103	15045	60807
(30,15)	3918	8727	11014	11434	39969	(30,16)	22000	8303	15781	33541	134598
(31,15)	0	0	0	0	0	(31,16)	40123	48700	25054	13737	75757
(32,15)	0	0	0	0	0	(32,16)	0	0	0	0	0
(33,15)	0	0	0	0	0	(33,16)	0	0	0	0	0
(34,15)	0	0	0	0	0	(34,16)	0	0	0	0	0
(35,15)	0	0	0	0	0	(35,16)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,17)	16981	15941	57529	73995	382614	(1,18)	4099	8024	8786	8334	30297
(2,17)	3406	24590	35731	18602	104055	(2,18)	317	56	562	640	3375
(3,17)	67	38	531	749	4305	(3,18)	771	244	2582	3630	21503
(4,17)	2797	699	5329	2207	12373	(4,18)	9492	532	5777	6748	35423
(5,17)	1246	127	1051	1219	6072	(5,18)	517	16	191	205	1101
(6,17)	4554	411	3223	3035	19364	(6,18)	44136	822	4586	3114	17688
(7,17)	3622	1177	4709	19432	16887	(7,18)	20912	976	8519	30654	50183
(8,17)	10053	3384	6324	7665	37827	(8,18)	7299	656	7630	14874	37974
(9,17)	4882	516	3108	3756	19609	(9,18)	9698	15706	21629	19094	98727
(10,17)	5328	764	5183	8006	36569	(10,18)	5046	595	6058	6667	35051
(11,17)	10515	3732	18272	20895	91978	(11,18)	2636	1719	4752	5105	29871
(12,17)	48304	143816	79163	60677	186274	(12,18)	7936	1596	4740	5851	32520
(13,17)	6400	4513	6484	7665	43273	(13,18)	7702	5344	4719	5224	28407
(14,17)	15168	105061	20901	9770	47453	(14,18)	6289	2712	5164	6085	33916
(15,17)	9280	11799	6466	7737	32017	(15,18)	29516	53314	33254	23364	71334
(16,17)	123106	719451	209109	174136	659952	(16,18)	10759	56780	21084	12229	64300
(17,17)	15179	30437	32003	42388	179965	(17,18)	25330	318701	125154	15947	82998
(18,17)	3793	6326	9612	13558	68055	(18,18)	4331	1292	6655	10753	54957
(19,17)	27904	201793	59179	40115	167317	(19,18)	79711	229614	72490	21769	94189
(20,17)	27983	243015	50597	17475	68437	(20,18)	9653	9986	12943	18537	76514
(21,17)	10404	10200	10951	32599	72931	(21,18)	179207	448199	141375	123562	326351
(22,17)	10108	1561	12457	10891	51394	(22,18)	33254	82879	35543	38909	143718
(23,17)	29868	35865	17996	15136	71549	(23,18)	11234	10227	13959	13940	66562
(24,17)	172692	4290	7279	11581	44609	(24,18)	35086	1700	7245	8302	37540
(25,17)	69566	110224	77483	40309	144467	(25,18)	89989	29070	26083	14622	58201
(26,17)	6461	5209	12459	18881	79070	(26,18)	8640	2562	7180	9600	42087
(27,17)	6278	5079	13300	16529	72309	(27,18)	13435	62476	40133	19124	68024
(28,17)	32237	34425	52434	101267	295549	(28,18)	25446	36936	44145	39737	193829
(29,17)	25382	24854	17167	13960	64852	(29,18)	12658	79655	55842	45321	214590
(30,17)	7795	5395	13474	24168	105268	(30,18)	8995	25404	29815	30567	142770
(31,17)	8035	2582	12342	19265	91940	(31,18)	8317	17811	17072	20669	103285
(32,17)	1106	993	3738	4588	18186	(32,18)	384	325	2229	1538	5208
(33,17)	0	0	0	0	0	(33,18)	0	0	0	0	0
(34,17)	0	0	0	0	0	(34,18)	0	0	0	0	0
(35,17)	0	0	0	0	0	(35,18)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,19)	393	438	3806	2544	10032	(1,20)	393	130	1372	1498	6598
(2,19)	2918	682	4802	4104	26839	(2,20)	441	201	1853	1628	6867
(3,19)	1188	168	1287	870	3975	(3,20)	1158	290	2529	2854	15017
(4,19)	196	79	749	826	3809	(4,20)	0	0	0	0	0
(5,19)	78	82	657	497	2324	(5,20)	181	92	572	882	4895
(6,19)	1578	154	1489	1053	8783	(6,20)	200	73	921	968	5084
(7,19)	3372	375	2958	2606	12750	(7,20)	1022	133	1388	1772	9630
(8,19)	5226	448	4529	5307	28042	(8,20)	3141	471	4429	5563	29990
(9,19)	27696	1208	9210	9625	51427	(9,20)	18084	16824	15514	5354	30278
(10,19)	41747	20120	53601	65087	271818	(10,20)	5493	706	5770	8345	46955
(11,19)	1743	720	6506	3769	54987	(11,20)	4135	586	4213	6150	34976
(12,19)	1447	1206	3344	4796	26824	(12,20)	31965	35500	32428	36141	176029
(13,19)	2813	2205	7450	10374	55835	(13,20)	10078	15718	14241	49928	75593
(14,19)	2212	1236	6907	7794	40617	(14,20)	4362	1111	6267	12149	65484
(15,19)	29579	35048	11557	9445	42897	(15,20)	22890	25994	19257	15052	72041
(16,19)	42202	70892	32231	21955	105112	(16,20)	90666	580857	209677	123757	183388
(17,19)	36944	60003	27361	18070	92171	(17,20)	53198	6220	16253	22621	108771
(18,19)	19739	11514	14730	20376	93758	(18,20)	16134	29924	15643	16563	84999
(19,19)	33584	217279	59126	23431	99396	(19,20)	14129	28230	43788	22615	107216
(20,19)	16153	45617	32709	38113	153095	(20,20)	60093	192030	93831	113382	540850
(21,19)	158093	466011	122390	26306	71580	(21,20)	10604	19570	20443	26889	123373
(22,19)	128634	203125	174995	168520	468572	(22,20)	94053	80570	97168	113088	426503
(23,19)	10734	164912	51916	10326	62075	(23,20)	38283	66131	22118	19157	95310
(24,19)	62013	94427	49554	46615	107313	(24,20)	57326	402097	132032	15007	77612
(25,19)	5826	27032	20170	9177	48162	(25,20)	40371	139378	81788	20751	98082
(26,19)	83160	26515	22616	22129	65312	(26,20)	2959	1841	4625	4936	21255
(27,19)	44153	12857	22409	22547	98262	(27,20)	7867	14653	17078	13764	66926
(28,19)	9013	6980	13393	18035	90250	(28,20)	10869	13566	10660	14693	50528
(29,19)	7626	2770	8805	10832	48445	(29,20)	21418	25741	29220	37092	143282
(30,19)	14431	9257	9422	10512	57160	(30,20)	16150	149094	61712	37780	67597
(31,19)	13157	12348	10727	20523	65121	(31,20)	25223	91860	68618	112245	377135
(32,19)	1697	882	6579	6977	22256	(32,20)	438	434	2551	1669	5598
(33,19)	0	0	0	0	0	(33,20)	0	0	0	0	0
(34,19)	0	0	0	0	0	(34,20)	0	0	0	0	0
(35,19)	0	0	0	0	0	(35,20)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,21)	757	174	1756	2209	10008	(1,22)	3812	342	3642	6909	36263
(2,21)	736	413	684	317	4892	(2,22)	2016	584	1258	1278	9292
(3,21)	118	34	341	552	2793	(3,22)	11075	4774	5040	7581	29963
(4,21)	173	17	298	464	2745	(4,22)	86	34	519	758	4114
(5,21)	79	31	423	615	3436	(5,22)	127	48	706	1060	6645
(6,21)	828	144	1291	2151	13232	(6,22)	334	115	1310	2152	12396
(7,21)	467	131	1055	1035	9676	(7,22)	610	441	2669	4014	24500
(8,21)	3119	456	3872	5586	30397	(8,22)	1495	428	3230	4911	31239
(9,21)	7079	1555	7704	7797	44275	(9,22)	7147	3377	11252	16336	80408
(10,21)	4888	1260	9392	14723	74285	(10,22)	6508	5470	5857	7332	40086
(11,21)	12537	3206	9407	20422	57168	(11,22)	39312	481	3493	6366	31533
(12,21)	11885	10542	11810	15136	83863	(12,22)	13857	15365	8664	10563	57147
(13,21)	22318	15256	18575	19137	112778	(13,22)	2184	1309	7902	10935	65659
(14,21)	19265	28300	29627	29074	146528	(14,22)	6042	59586	28389	14092	75917
(15,21)	32905	111258	75388	60101	184574	(15,22)	4276	6543	5854	8642	47594
(16,21)	12512	16988	15855	20481	111861	(16,22)	20639	56571	43372	104139	205838
(17,21)	119183	211757	94714	94212	249270	(17,22)	90040	59520	79783	145547	345830
(18,21)	55414	37567	44290	58850	270608	(18,22)	215658	631124	664929	526028	2349681
(19,21)	12560	11450	14078	18342	90293	(19,22)	23562	28514	49567	73353	315657
(20,21)	21385	26954	26266	41461	160229	(20,22)	17991	17909	31020	58911	213740
(21,21)	13594	14905	741594	27106	128607	(21,22)	29274	36252	22466	29922	130801
(22,21)	30500	21671	27056	36888	186486	(22,22)	62198	22224	21170	29832	154602
(23,21)	59795	59801	58137	95426	419049	(23,22)	23229	21142	26418	35723	181786
(24,21)	127914	557484	116819	18160	52382	(24,22)	46504	230204	49645	17420	93593
(25,21)	10661	82004	21713	17564	78061	(25,22)	201115	627194	143506	43211	216691
(26,21)	6796	225298	132773	11212	62752	(26,22)	17003	204064	82890	24878	117691
(27,21)	3568	1606	4587	5687	25674	(27,22)	16669	186268	61560	12514	56540
(28,21)	21067	4708	9627	12293	54139	(28,22)	83353	64770	33272	17652	76911
(29,21)	7806	8782	15710	25049	101386	(29,22)	37405	181862	158020	169873	815562
(30,21)	4808	7308	8394	9907	52675	(30,22)	6531	71655	26527	11568	45891
(31,21)	7200	72402	16348	9864	81671	(31,22)	1896	2373	8235	12627	55558
(32,21)	0	0	0	0	0	(32,22)	0	0	0	0	0
(33,21)	0	0	0	0	0	(33,22)	0	0	0	0	0
(34,21)	0	0	0	0	0	(34,22)	0	0	0	0	0
(35,21)	0	0	0	0	0	(35,22)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 31 US-CANADIAN GRID
(GRID SPACING = 80 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,23)	145	85	843	671	2640	(1,24)	3672	104	1357	4795	22318
(2,23)	1611	108	1588	2018	17399	(2,24)	5727	20	269	423	2738
(3,23)	173	63	971	1035	10181	(3,24)	85	47	404	807	4473
(4,23)	323	55	440	604	4320	(4,24)	172	73	524	910	5178
(5,23)	334	48	491	951	5218	(5,24)	681	535	1013	1488	8186
(6,23)	343	205	1448	2450	14492	(6,24)	372	212	1319	2032	12601
(7,23)	1334	100	1283	2051	12403	(7,24)	4953	414	2927	4032	27653
(8,23)	1061	376	2947	4602	30024	(8,24)	1665	493	2986	5810	29936
(9,23)	2081	852	747	1145	6302	(9,24)	7235	2725	4986	5760	36187
(10,23)	2127	0	0	0	0	(10,24)	7636	1590	865	22	78
(11,23)	5496	2458	4098	5341	20944	(11,24)	6454	1018	6698	8875	45174
(12,23)	1306	2794	3515	2731	14362	(12,24)	8617	3043	9351	9391	94168
(13,23)	3793	6838	8622	8305	38921	(13,24)	38631	38859	13684	11099	62576
(14,23)	17383	82134	18513	12211	84680	(14,24)	3423	903	2672	4556	23058
(15,23)	2465	2282	5108	7203	42230	(15,24)	9572	35043	10916	14517	78483
(16,23)	14902	21231	28183	35703	184468	(16,24)	11637	12291	15218	20476	115315
(17,23)	116721	222975	121707	153331	613883	(17,24)	32657	100581	51415	39531	100755
(18,23)	0	0	0	0	0	(18,24)	2347	93425	16744	4093	21715
(19,23)	12553	21221	34504	3645	154609	(19,24)	44735	131724	73893	84111	327816
(20,23)	13770	15907	40412	51817	197635	(20,24)	14314	77276	49557	81810	284315
(21,23)	57555	376747	127317	91570	381732	(21,24)	38194	173760	287260	108364	169455
(22,23)	33583	159013	36487	33374	114135	(22,24)	36330	45339	69725	85164	409596
(23,23)	223952	413610	163794	216375	874957	(23,24)	18755	223763	43161	18692	74407
(24,23)	229514	316702	143193	228012	816232	(24,24)	31952	93710	23336	27778	70092
(25,23)	171971	557360	236783	132322	732863	(25,24)	13215	29134	23025	22629	110104
(26,23)	117973	1177986	270344	53310	232619	(26,24)	20403	82216	26035	12316	58820
(27,23)	19535	6126	8303	10320	52265	(27,24)	57708	28443	18605	15108	88560
(28,23)	46855	77155	37108	36387	194473	(28,24)	44304	33876	29177	28741	145700
(29,23)	45321	96227	181277	298546	866249	(29,24)	56501	545623	108579	61931	336383
(30,23)	4591	15097	15021	19350	84067	(30,24)	35244	443795	289211	412857	1484371
(31,23)	5928	27478	13403	19577	49754	(31,24)	7920	36705	23727	16268	68786
(32,23)	2	0	0	0	0	(32,24)	0	0	0	0	0
(33,23)	0	0	0	0	0	(33,24)	0	0	0	0	0
(34,23)	0	0	0	0	0	(34,24)	0	0	0	0	0
(35,23)	0	0	0	0	0	(35,24)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,25)	150	170	1166	1181	5265	(1,26)	252	230	1698	1703	7846
(2,25)	203	148	1187	1345	7890	(2,26)	267	117	927	1194	6328
(3,25)	2113	150	943	1116	7137	(3,26)	1602	1321	2441	2367	13902
(4,25)	636	144	581	695	4614	(4,26)	1613	20675	15783	3852	21775
(5,25)	284	193	1237	1378	10299	(5,26)	2676	6193	6187	5262	24187
(6,25)	517	305	1429	1824	12585	(6,26)	1366	624	2245	2644	15340
(7,25)	872	335	1499	1597	10327	(7,26)	1382	539	2801	3679	22693
(8,25)	2793	750	3629	4967	31085	(8,26)	5975	1861	6155	7157	40048
(9,25)	424	138	823	1314	7875	(9,26)	2250	7926	4562	110	376
(10,25)	6487	2689	8008	12006	57021	(10,26)	426	222	875	1313	6518
(11,25)	373	1770	1474	1606	8490	(11,26)	11	0	0	0	0
(12,25)	3160	70938	44263	6015	29894	(12,26)	2544	4675	3700	4798	23045
(13,25)	5576	4812	8522	11331	60872	(13,26)	408	359	1419	2317	10273
(14,25)	5102	5020	6823	4530	25135	(14,26)	1871	5646	3734	1435	6901
(15,25)	32698	33479	53627	14635	75204	(15,26)	6173	2761	5297	7399	35828
(16,25)	25465	127782	54987	20833	142353	(16,26)	11834	7999	6180	6514	30966
(17,25)	31245	12458	7864	3619	45594	(17,26)	645	470	1397	3205	14663
(18,25)	2975	7816	6646	5546	27468	(18,26)	1815	2326	5981	7306	33617
(19,25)	1946	2492	7918	9124	43055	(19,26)	912	909	3801	4509	20371
(20,25)	61497	173812	81309	47583	275671	(20,26)	3201	18031	5090	7495	30022
(21,25)	2836	3161	12339	14179	72966	(21,26)	3783	24044	10458	13173	22529
(22,25)	43435	638613	151338	50734	126867	(22,26)	0	0	0	0	0
(23,25)	324	1416	919	112	160	(23,26)	104	1336	390	26	9
(24,25)	10317	57562	19742	16451	79185	(24,26)	21013	155720	67194	31444	115051
(25,25)	22020	31506	42797	34165	185996	(25,26)	65673	650200	96937	100324	607988
(26,25)	8327	15351	12763	12010	59369	(26,26)	2029	1580	8648	12443	69991
(27,25)	4746	15450	5615	2935	15607	(27,26)	22303	16721	23673	21922	118640
(28,25)	42887	184781	61563	49457	277775	(28,26)	3292	2632	9835	15572	63488
(29,25)	80422	100426	62876	69636	397807	(29,26)	16666	53844	28924	20730	113392
(30,25)	72354	148311	202736	174137	913995	(30,26)	129259	355696	459422	522409	1951148
(31,25)	9647	9820	40887	51583	241386	(31,26)	25681	183674	379111	406337	1526778
(32,25)	0	0	0	0	0	(32,26)	0	0	0	0	0
(33,25)	0	0	0	0	0	(33,26)	0	0	0	0	0
(34,25)	0	0	0	0	0	(34,26)	0	0	0	0	0
(35,25)	0	0	0	0	0	(35,26)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,27)	478	448	2653	2585	14247	(1,28)	222	199	1138	1536	6379
(2,27)	7000	16544	5074	3329	17698	(2,28)	360	146	550	705	4406
(3,27)	108	0	0	1	0	(3,28)	668	5708	772	799	4704
(4,27)	5064	1208	4015	2952	17399	(4,28)	1859	960	5011	6093	33946
(5,27)	769	369	1558	1507	12181	(5,28)	779	433	1637	1792	10369
(6,27)	3556	517	2696	3231	19848	(6,28)	1432	472	2782	3395	20444
(7,27)	2268	1453	5508	6453	36801	(7,28)	2861	1202	2843	3204	19337
(8,27)	6443	2646	2959	1361	8035	(8,28)	2173	0	348	29	76
(9,27)	0	0	0	0	0	(9,28)	0	0	0	0	0
(10,27)	0	0	0	0	0	(10,28)	3269	845	1603	71	4073
(11,27)	9435	32352	16085	283	947	(11,28)	11482	1393	3217	59	347
(12,27)	5667	5380	343	1434	734	(12,28)	91491	18230	20045	20071	114669
(13,27)	2040	7551	3678	3165	13645	(13,28)	0	0	0	0	0
(14,27)	6459	84661	5385	6126	25654	(14,28)	0	0	0	0	0
(15,27)	489	590	1888	2582	11399	(15,28)	601	2077	3269	4409	19080
(16,27)	32753	19187	11460	8370	38773	(16,28)	515	13712	4543	76	252
(17,27)	2690	4185	6981	4563	20244	(17,28)	279	287	813	1509	5992
(18,27)	113	2438	904	0	0	(18,28)	1099	1081	3687	6034	25826
(19,27)	3355	6954	9381	3583	42373	(19,28)	0	0	0	0	0
(20,27)	29396	27990	7444	4103	16254	(20,28)	52	749	192	7	0
(21,27)	5	35	46	6	0	(21,28)	258	3537	1145	79	7
(22,27)	234	2097	1075	3451	4412	(22,28)	367	2244	801	39	2
(23,27)	0	0	0	0	0	(23,28)	0	0	0	0	0
(24,27)	22343	226470	104526	87270	378709	(24,28)	0	0	0	0	0
(25,27)	2685	2348	6942	10370	52173	(25,28)	0	0	0	0	0
(26,27)	25242	61948	97284	93175	293007	(26,28)	0	0	0	0	0
(27,27)	45330	61419	64345	51165	257309	(27,28)	13635	40837	64592	13300	45532
(28,27)	12380	16207	22306	21400	104449	(28,28)	8180	9302	23601	35820	181754
(29,27)	3215	3421	14493	23033	117929	(29,28)	18552	32474	47216	47827	216288
(30,27)	12073	22179	68747	28133	121407	(30,28)	16023	62234	59686	90156	399397
(31,27)	32838	104889	147672	210443	930127	(31,28)	38248	96155	79251	90693	341543
(32,27)	44	2	93	56	9	(32,28)	16795	48714	59383	91842	380297
(33,27)	6	0	0	42	0	(33,28)	14	139	27	9	22
(34,27)	0	0	0	13	0	(34,28)	0	0	0	0	0
(35,27)	0	0	0	0	0	(35,28)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 35 BY 30 US-CANADIAN GRID
(GRID SPACING = 80KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,29)	0	0	0	0	0	(1,30)	11406	7271	19403	31519	196630
(2,29)	581	556	1447	2374	14957	(2,30)	227	217	565	927	5842
(3,29)	56952	30449	23614	2693	15732	(3,30)	118	113	293	482	3038
(4,29)	160	130	186	353	2655	(4,30)	206	182	372	643	4341
(5,29)	178	145	207	332	2950	(5,30)	3793	2248	3409	2328	17445
(6,29)	196	130	186	353	2655	(6,30)	427	348	497	942	7082
(7,29)	395	276	393	740	5606	(7,30)	24274	13830	18140	33631	255870
(8,29)	871	87	124	235	1770	(8,30)	71	56	82	157	1180
(9,29)	392	172	876	1315	6915	(9,30)	0	0	0	0	0
(10,29)	0	0	0	0	0	(10,30)	0	0	0	0	0
(11,29)	0	0	0	0	0	(11,30)	0	0	0	0	0
(12,29)	0	0	0	0	0	(12,30)	0	0	0	0	0
(13,29)	0	0	0	0	0	(13,30)	0	0	0	0	0
(14,29)	0	0	0	0	0	(14,30)	17850	17850	4465	0	0
(15,29)	0	0	0	0	0	(15,30)	0	0	0	0	0
(16,29)	0	0	0	0	0	(16,30)	0	0	0	0	0
(17,29)	0	0	0	0	0	(17,30)	0	0	0	0	0
(18,29)	0	0	0	0	0	(18,30)	2670	260000	17850	0	0
(19,29)	125000	53600	44600	0	0	(19,30)	0	0	0	0	0
(20,29)	1	0	0	0	0	(20,30)	0	0	0	0	0
(21,29)	0	0	0	0	0	(21,30)	17850	1205000	4465	0	0
(22,29)	0	0	0	0	0	(22,30)	0	0	0	0	0
(23,29)	0	0	0	0	0	(23,30)	0	0	0	0	0
(24,29)	0	0	0	0	0	(24,30)	0	0	0	0	0
(25,29)	0	0	0	0	0	(25,30)	0	0	0	0	0
(26,29)	0	0	0	0	0	(26,30)	0	0	0	0	0
(27,29)	73482	2478	8132	11523	52749	(27,30)	7130	4090	6705	9111	43898
(28,29)	69	69	311	1413	4907	(28,30)	1031	2464	4559	8337	37596
(29,29)	4176	4229	14541	39136	92115	(29,30)	3190	4284	8353	11323	41343
(30,29)	2533	5458	8275	12143	47323	(30,30)	1056	1371	4996	7138	31125
(31,29)	21858	37556	38195	55482	206943	(31,30)	9657	22448	39326	52017	225153
(32,29)	53203	252911	267332	351294	1297541	(32,30)	5888	24282	32446	38601	158197
(33,29)	1505	31296	8745	815	2089	(33,30)	0	0	0	0	0
(34,29)	0	0	0	0	0	(34,30)	0	0	0	0	0
(35,29)	0	0	0	0	0	(35,30)	0	0	0	0	0

APPENDIX E

ANNUAL EMISSION GRIDS FOR REGIONAL AIR QUALITY SIMULATION STUDIES IN THE NORTHEAST

Annual emissions expressed in tons of particulates, sulfur dioxide, nitrogen oxides, hydrocarbons, and carbon monoxide from point and area sources were apportioned to 20-km grid squares on a 40 by 40 grid network emcompassing roughly the area from Columbus, Ohio to Portland, Maine and Richmond, Virginia to Ottawa, Ontario. Section E-1 contains the gridded point source emissions, Section E-2 the gridded area source emissions, while Section E-3 the gridded point and area source emissions of the five pollutants.

The first grid square listed in each section (1,1) refers to the grid square in the lower-left corner of the grid network depicted in Figures 12-21 of the text. Figure E-1 identifies the X and Y coordinates of the center of each of the 1600 grid squares. Each page of data in the appendix contains the annual emissions from sources within the grid squares in two adjacent rows (X varies from 1 to 40).

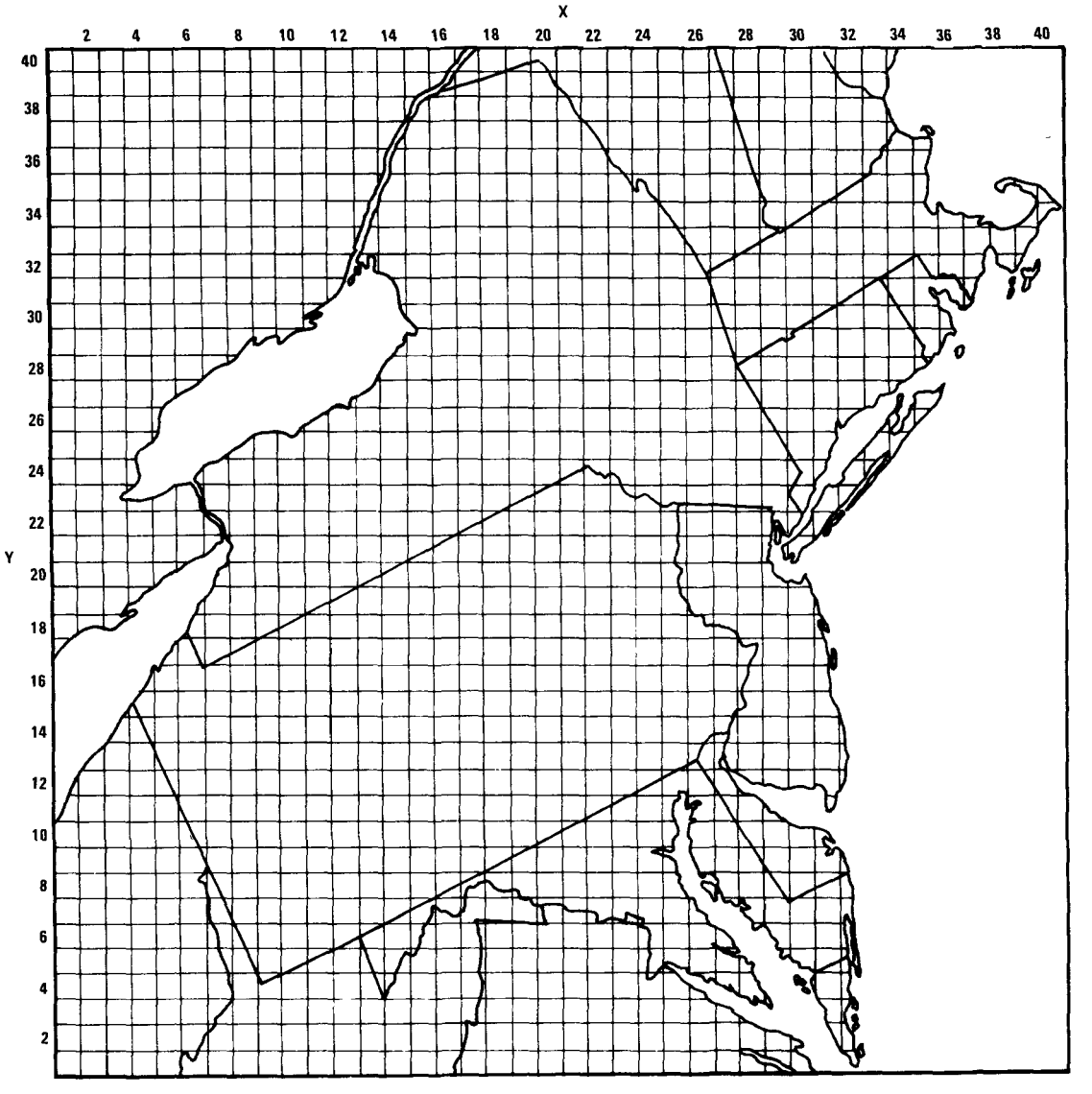

Figure E-1. The grid coordinates of the 40 by 40 grid network with a 20-km grid spacing.

SECTION E-1

GRIDDED POINT SOURCE EMISSIONS (TONS/YEAR) ON THE 20-KM GRID NETWORK

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 1)	602	707	247	77	26	(1, 2)	0	0	0	0	0
(2, 1)	0	0	0	0	0	(2, 2)	1986	1980	0	0	0
(3, 1)	0	0	0	0	0	(3, 2)	0	0	0	0	0
(4, 1)	0	0	0	0	0	(4, 2)	92	0	4	44	528
(5, 1)	10	0	0	0	0	(5, 2)	75475	391312	87522	631	2103
(6, 1)	2342	53069	745	1065	45	(6, 2)	0	0	0	0	0
(7, 1)	333	2042	290	11	26	(7, 2)	77	1153	266	9	13
(8, 1)	0	0	0	0	0	(8, 2)	194	21041	3950	65	218
(9, 1)	0	0	0	0	0	(9, 2)	1	0	0	0	0
(10, 1)	2	0	0	0	0	(10, 2)	1548	1305	20	1	169
(11, 1)	44	1	7	3	7	(11, 2)	0	0	0	0	0
(12, 1)	0	0	1	0	0	(12, 2)	237	0	0	24	76
(13, 1)	92	0	0	0	0	(13, 2)	499	0	40	51	10161
(14, 1)	0	0	0	0	0	(14, 2)	0	0	0	0	0
(15, 1)	0	0	0	0	0	(15, 2)	442	0	0	0	0
(16, 1)	0	0	0	0	0	(16, 2)	0	0	0	0	0
(17, 1)	10	21	13	117	9	(17, 2)	1735	0	0	0	0
(18, 1)	371	223	91	6	12	(18, 2)	967	1	2	1	0
(19, 1)	464	1029	362	39	86	(19, 2)	0	0	0	0	0
(20, 1)	0	0	0	0	0	(20, 2)	16748	207	109	135	31
(21, 1)	2	5	8	130	1	(21, 2)	0	0	0	0	0
(22, 1)	563	0	0	0	0	(22, 2)	0	0	0	0	0
(23, 1)	0	0	0	0	0	(23, 2)	2	0	0	2	29
(24, 1)	616	356	131	25	11	(24, 2)	270	0	1	0	0
(25, 1)	4	0	1	7	82	(25, 2)	3	0	1	5	65
(26, 1)	0	0	0	27	0	(26, 2)	0	0	0	0	0
(27, 1)	0	0	0	0	0	(27, 2)	37	0	0	5	55
(28, 1)	2819	3403	1286	555	13392	(28, 2)	0	0	0	0	0
(29, 1)	0	0	0	0	0	(29, 2)	0	0	0	0	0
(30, 1)	0	0	0	0	0	(30, 2)	0	0	0	0	0
(31, 1)	0	0	0	0	0	(31, 2)	0	0	0	0	0
(32, 1)	0	0	0	0	0	(32, 2)	0	0	0	0	0
(33, 1)	0	0	0	0	0	(33, 2)	0	0	0	0	0
(34, 1)	0	0	0	0	0	(34, 2)	0	0	0	0	0
(35, 1)	0	0	0	0	0	(35, 2)	0	0	0	0	0
(36, 1)	0	0	0	0	0	(36, 2)	0	0	0	0	0
(37, 1)	0	0	0	0	0	(37, 2)	0	0	0	0	0
(38, 1)	0	0	0	0	0	(38, 2)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 3)	1845	1848	232	69	30	(1, 4)	0	0	0	0	0
(2, 3)	54	453	311	0	0	(2, 4)	11	0	0	0	0
(3, 3)	77336	93368	26044	215	5921	(3, 4)	23582	280945	37118	330	1360
(4, 3)	0	0	0	0	0	(4, 4)	1303	1046	203	14	32
(5, 3)	33	0	0	0	0	(5, 4)	0	0	0	0	0
(6, 3)	774	96	181	0	0	(6, 4)	0	0	0	0	0
(7, 3)	30	0	0	0	0	(7, 4)	51663	371724	77158	886	3122
(8, 3)	2	0	0	0	60	(8, 4)	0	0	0	0	0
(9, 3)	0	0	0	0	0	(9, 4)	0	0	0	0	0
(10, 3)	2052	221344	122216	672	2298	(10, 4)	626	0	0	0	0
(11, 3)	0	0	0	0	0	(11, 4)	50	3725	1345	80	57
(12, 3)	0	0	0	0	0	(12, 4)	1164	0	0	0	0
(13, 3)	43	0	0	0	0	(13, 4)	0	0	0	0	0
(14, 3)	30	0	0	0	5	(14, 4)	1525	107000	27165	452	1508
(15, 3)	11	0	0	0	0	(15, 4)	133	0		0	0
(16, 3)	0	0	0	0	0	(16, 4)	32	0	0	1	1
(17, 3)	0	0	0	0	0	(17, 4)	0	0	0	0	0
(18, 3)	34	2	3	0	0	(18, 4)	12	0	48	12	3
(19, 3)	14	235	38	2	2	(19, 4)	0	0	0	0	0
(20, 3)	0	0	0	0	0	(20, 4)	0	0	0	0	0
(21, 3)	16	0	0	0	0	(21, 4)	1352	0	0	0	0
(22, 3)	0	0	0	0	0	(22, 4)	0	0	0	0	0
(23, 3)	348	4317	800	7084	44	(23, 4)	403	44444	12473	1882	382
(24, 3)	13	0	0	0	0	(24, 4)	0	0	0	0	0
(25, 3)	0	0	0	0	0	(25, 4)	5783	81134	21380	457	758
(26, 3)	44	0	0	0	0	(26, 4)	0	0	0	0	0
(27, 3)	371	67	245	31	170	(27, 4)	0	0	0	0	0
(28, 3)	0	0	0	0	0	(28, 4)	0	0	0	0	0
(29, 3)	75	190	67	8	4	(29, 4)	0	0	0	0	0
(30, 3)	0	0	0	0	0	(30, 4)	0	0	0	0	0
(31, 3)	0	0	0	0	0	(31, 4)	0	0	0	0	0
(32, 3)	0	0	0	0	0	(32, 4)	0	0	0	0	0
(33, 3)	0	0	0	0	0	(33, 4)	0	0	0	0	0
(34, 3)	0	0	0	0	0	(34, 4)	0	0	0	0	0
(35, 3)	0	0	0	0	0	(35, 4)	0	0	0	0	0
(36, 3)	0	0	0	0	0	(36, 4)	0	0	0	0	0
(37, 3)	0	0	0	0	0	(37, 4)	0	0	0	0	0
(38, 3)	0	0	0	0	0	(38, 4)	0	0	0	0	0
(39, 3)	0	0	0	0	0	(39, 4)	0	0	0	0	0
(40, 3)	0	0	0	0	0	(40, 4)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 5)	0	0	0	0	0	(1, 6)	0	0	0	0	0
(2, 5)	2170	1710	226	150	8338	(2, 6)	0	0	0	0	0
(3, 5)	10	0	0	0	0	(3, 6)	6370	5330	593	39	79
(4, 5)	0	0	0	0	0	(4, 6)	398	995	0	0	0
(5, 5)	0	0	0	0	0	(5, 6)	0	0	0	0	0
(6, 5)	0	0	0	0	0	(6, 6)	0	0	0	0	0
(7, 5)	3343	35399	13372	21	793	(7, 6)	9736	11716	1957	88	193
(8, 5)	0	0	0	0	0	(8, 6)	36	1870	113	8	18
(9, 5)	0	0	0	0	0	(9, 6)	0	0	0	0	0
(10, 5)	0	0	0	0	0	(10, 6)	3602	18475	23171	436	1621
(11, 5)	4309	143868	26197	441	1463	(11, 6)	284	0	0	0	0
(12, 5)	954	25967	5854	129	324	(12, 6)	221	149	44	2	6
(13, 5)	4	0	0	0	0	(13, 6)	0	0	0	0	0
(14, 5)	0	0	0	0	0	(14, 6)	4	0	0	0	0
(15, 5)	1	0	0	0	0	(15, 6)	9331	75580	25378	1277	3065
(16, 5)	70	0	0	0	0	(16, 6)	3	0	0	0	0
(17, 5)	0	0	0	0	0	(17, 6)	0	0	0	0	0
(18, 5)	9363	0	0	201	1436	(18, 6)	313	0	0	3	1
(19, 5)	14006	17787	5636	135	274	(19, 6)	12735	205	105	583	18
(20, 5)	0	0	0	0	0	(20, 6)	752	0	0	0	0
(21, 5)	0	0	0	0	0	(21, 6)	0	0	0	0	0
(22, 5)	1367	193	45	78	3	(22, 6)	0	2	43	171	3
(23, 5)	842	471	87	37	225	(23, 6)	2014	9726	457	3824	1353
(24, 5)	236	1432	733	37	49	(24, 6)	2344	16444	8942	179	714
(25, 5)	0	0	0	0	0	(25, 6)	0	1	1	0	0
(26, 5)	0	0	0	0	0	(26, 6)	4143	62315	13755	232	764
(27, 5)	91	498	291	13	16	(27, 6)	0	0	0	0	0
(28, 5)	0	0	0	0	0	(28, 6)	0	0	0	0	0
(29, 5)	0	0	0	0	0	(29, 6)	0	0	0	0	0
(30, 5)	0	0	0	0	0	(30, 6)	0	0	0	0	0
(31, 5)	0	0	0	0	0	(31, 6)	0	0	0	0	0
(32, 5)	26	358	71	8	5	(32, 6)	3	47	3	0	1
(33, 5)	0	0	0	0	0	(33, 6)	0	0	0	0	0
(34, 5)	0	0	0	0	0	(34, 6)	0	0	0	0	0
(35, 5)	0	0	0	0	0	(35, 6)	0	0	0	0	0
(36, 5)	0	0	0	0	0	(36, 6)	0	0	0	0	0
(37, 5)	0	0	0	0	0	(37, 6)	0	0	0	0	0
(38, 5)	0	0	0	0	0	(38, 6)	0	0	0	0	0
(39, 5)	0	0	0	0	0	(39, 6)	0	0	0	0	0
(40, 5)	0	0	0	0	0	(40, 6)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 7)	57	0	0	0	0	(1, 8)	226	4138	0	0	0
(2, 7)	513	202	98	2	12	(2, 8)	974	4664	0	0	0
(3, 7)	1554	2931	0	75	0	(3, 8)	21442	16336	3229	5474	4650
(4, 7)	160	400	0	0	0	(4, 8)	15	0	0	0	0
(5, 7)	0	0	0	0	0	(5, 8)	39	0	248	3	32
(6, 7)	0	0	0	0	0	(6, 8)	15472	437203	79700	1084	3191
(7, 7)	21438	133835	13917	5021	24189	(7, 8)	22409	74984	69506	892	33738
(8, 7)	2971	4840	2499	18	4392	(8, 8)	0	0	0	0	0
(9, 7)	495	309	339	613	1432	(9, 8)	814	1241	540	3111	14351
(10, 7)	1621	411	1429	282	39	(10, 8)	16255	161937	22155	325	1034
(11, 7)	221	230	117	210	43	(11, 8)	477	0	0	0	0
(12, 7)	0	0	0	0	0	(12, 8)	0	0	0	0	0
(13, 7)	0	0	0	0	0	(13, 8)	3212	0	0	0	159
(14, 7)	1008	0	0	0	0	(14, 8)	0	0	0	0	0
(15, 7)	101	304	432	22	29	(15, 8)	0	0	0	0	0
(16, 7)	2367	856	232	16	31	(16, 8)	0	0	0	0	0
(17, 7)	0	0	0	0	0	(17, 8)	0	0	0	0	0
(18, 7)	0	0	0	0	0	(18, 8)	0	0	0	0	0
(19, 7)	375	4114	1852	3	5	(19, 8)	800	5171	2245	66	162
(20, 7)	411	1174	226	12	14	(20, 8)	0	0	0	0	0
(21, 7)	21552	38066	12617	214	676	(21, 8)	1885	18072	2195	9	436
(22, 7)	19	0	0	0	0	(22, 8)	0	0	0	0	0
(23, 7)	1478	5963	3074	547	5546	(23, 8)	157	0	0	0	0
(24, 7)	1593	16162	3576	562	3471	(24, 8)	3849	614	563	29	39
(25, 7)	1	0	0	0	0	(25, 8)	0	0	0	0	0
(26, 7)	0	0	0	0	0	(26, 8)	0	0	0	0	0
(27, 7)	0	0	0	0	0	(27, 8)	14	46	191	18	49
(28, 7)	35	120	189	3	6	(28, 8)	1	0	0	0	0
(29, 7)	373	7020	5888	115	177	(29, 8)	280	6221	1132	540	75
(30, 7)	51	275	151	30	9	(30, 8)	94	0	0	0	0
(31, 7)	6	16	8	0	1	(31, 8)	0	0	0	0	0
(32, 7)	0	0	0	0	0	(32, 8)	0	0	0	0	0
(33, 7)	0	0	0	0	0	(33, 8)	0	0	0	0	0
(34, 7)	0	0	0	0	0	(34, 8)	0	0	0	0	0
(35, 7)	0	0	0	0	0	(35, 8)	0	0	0	0	0
(36, 7)	0	0	0	0	0	(36, 8)	0	0	0	0	0
(37, 7)	0	0	0	0	0	(37, 8)	0	0	0	0	0
(38, 7)	0	0	0	0	0	(38, 8)	0	0	0	0	0
(39, 7)	0	0	0	0	0	(39, 8)	0	0	0	0	0
(40, 7)	0	0	0	0	0	(40, 8)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 9)	282	750	13	81	0	(1,10)	611	1437	934	264	69
(2, 9)	13552	117673	12184	7807	181	(2,10)	365	404	0	1965	0
(3, 9)	40153	7005	776	639	33	(3,10)	323	0	0	0	1450
(4, 9)	2158	3096	341	92	97	(4,10)	4	0	0	200	0
(5, 9)	1160	0	0	0	7543	(5,10)	1241	193	33	287	39
(6, 9)	13	0	0	37	22	(6,10)	30623	107260	24698	251	835
(7, 9)	1372	33436	6953	4837	1061	(7,10)	207	2709	999	50	76
(8, 9)	40671	51462	12923	3061	7938	(8,10)	220	113	314	5	17
(9, 9)	39316	51449	21775	653	6251	(9,10)	3171	1379	272	233	36
(10, 9)	4706	5648	2002	600	5999	(10,10)	11530	5030	10153	186	3982
(11, 9)	19023	211839	38356	3127	21663	(11,10)	191	0	0	0	1268
(12, 9)	0	0	0	0	0	(12,10)	5346	186015	32443	606	1897
(13, 9)	0	0	0	0	0	(13,10)	605	0	0	0	0
(14, 9)	0	0	0	0	0	(14,10)	0	0	0	0	0
(15, 9)	0	0	0	0	0	(15,10)	0	0	0	0	0
(16, 9)	4487	0	0	0	0	(16,10)	0	0	0	0	0
(17, 9)	2131	0	0	0	0	(17,10)	0	0	0	0	0
(18, 9)	14	169	24	2	3	(18,10)	2043	0	0	0	0
(19, 9)	217	634	182	10	84	(19,10)	1887	5162	856	17	5658
(20, 9)	8	0	0	0	0	(20,10)	527	229	33	3	9
(21, 9)	103	0	0	0	0	(21,10)	31402	40460	4420	0	0
(22, 9)	25	136	65	4	4	(22,10)	24	75	90	19	0
(23, 9)	86	11	225	2	9	(23,10)	13996	27215	24438	11193	100705
(24, 9)	4856	16936	19435	31330	2565	(24,10)	63	341	967	34	964
(25, 9)	1093	15952	18192	86389	702	(25,10)	450	490	486	17	28
(26, 9)	0	0	0	0	0	(26,10)	1	0	0	0	0
(27, 9)	0	0	0	0	0	(27,10)	0	0	0	0	0
(28, 9)	0	0	0	0	0	(28,10)	16	79	27	7	2
(29, 9)	168	11	13	0	0	(29,10)	20	43	262	54	52
(30, 9)	1446	86	25	123	2	(30,10)	36	558	93	5	6
(31, 9)	1230	25309	7364	124	410	(31,10)	0	0	0	0	0
(32, 9)	0	0	0	0	0	(32,10)	0	0	0	0	0
(33, 9)	0	0	0	0	0	(33,10)	0	0	0	0	0
(34, 9)	0	0	0	0	0	(34,10)	0	0	0	0	0
(35, 9)	0	0	0	0	0	(35,10)	0	0	0	0	0
(36, 9)	0	0	0	0	0	(36,10)	0	0	0	0	0
(37, 9)	0	0	0	0	0	(37,10)	2	0	0	0	0
(38, 9)	0	0	0	0	0	(38,10)	0	0	0	0	0
(39, 9)	0	0	0	0	0	(39,10)	0	0	0	0	0
(40, 9)	0	0	0	0	0	(40,10)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,11)	[illegible]	117412	30144	14541	45441	(1,12)	8512	175243	27187	1124	1454
(2,11)	242	1212	184	10	22	(2,12)	83	733	28	1	4
(3,11)	241	0	0	0	0	(3,12)	0	0	0	0	0
(4,11)	11325	7555	543	2171	10132	(4,12)	0	0	0	0	0
(5,11)	41022	30968	21285	3414	55843	(5,12)	574	763	218	77	28
(6,11)	1181	291	879	37	178	(6,12)	154	0	0	0	0
(7,11)	0	0	0	0	0	(7,12)	13[illegible]	0	0	0	0
(8,11)	145	115	138	7	32	(8,12)	0	0	1	0	0
(9,11)	356	0	0	0	0	(9,12)	4100	3314	1517	53	128
(10,11)	13077	58199	25431	[illegible]73	1711	(10,12)	0	0	0	0	0
(11,11)	3294	221628	49827	[illegible]	2768	(11,12)	0	0	0	0	0
(12,11)	[illegible]	276473	54137	13	3181	(12,12)	0	0	0	0	0
(13,11)	183	0	0	0	0	(13,12)	0	0	0	0	0
(14,11)	313	0	0	0	0	(14,12)	0	0	0	0	0
(15,11)	2277	1129	297	29	46	(15,12)	74232	111950	3150	34	200
(16,11)	7[illegible]3	2035	506	11	33	(16,12)	180	100	28	1	3
(17,11)	372	0	0	0	0	(17,12)	150	0	3	0	0
(18,11)	156	0	0	0	0	(18,12)	0	0	0	0	0
(19,11)	1130	125	99	7	13	(19,12)	0	0	0	0	0
(20,11)	0	0	0	0	0	(20,12)	8	1[illegible]	18	1	1
(21,11)	552	10	3	0	1423	(21,12)	0	0	0	0	0
(22,11)	0	0	0	0	0	(22,12)	4204	12780	2845	390	857
(23,11)	0	0	0	0	0	(23,12)	0	0	0	0	0
(24,11)	0	0	0	0	0	(24,12)	8310	8415	2703	47	153
(25,11)	323	480	1034	73	205	(25,12)	385	375	164	21	22
(26,11)	0	0	0	0	0	(26,12)	21	0	0	0	0
(27,11)	0	0	0	0	0	(27,12)	0	0	2	0	0
(28,11)	309	6565	2393	49	77	(28,12)	0	0	0	0	0
(29,11)	35	0	0	0	0	(29,12)	148	0	0	0	0
(30,11)	0	0	0	0	0	(30,12)	0	0	0	0	0
(31,11)	112	121	72	4	5	(31,12)	242	168	50	4	6
(32,11)	0	0	0	0	0	(32,12)	0	0	0	0	0
(33,11)	0	0	0	0	0	(33,12)	0	0	0	0	0
(34,11)	0	0	0	0	0	(34,12)	0	0	0	0	0
(35,11)	0	0	0	0	0	(35,12)	0	0	0	0	0
(36,11)	0	0	0	0	0	(36,12)	0	0	0	0	0
(37,11)	0	0	0	0	0	(37,12)	0	0	0	0	0
(38,11)	0	0	0	0	0	(38,12)	0	0	0	0	0
(39,11)	0	0	0	0	0	(39,12)	0	0	0	0	0
(40,11)	0	0	0	0	0	(40,12)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,13)	4702	40297	8637	212	371	(1,14)	0	0	0	0	0
(2,13)	3216	7333	1070	12713	225	(2,14)	0	0	0	0	0
(3,13)	0	0	0	0	0	(3,14)	21331	78276	11797	255	765
(4,13)	270	0	0	0	0	(4,14)	0	0	0	95	0
(5,13)	0	0	0	0	0	(5,14)	0	0	0	0	0
(6,13)	0	0	0	0	0	(6,14)	4778	7792	3137	60	214
(7,13)	46	4	3	23	31	(7,14)	0	0	0	0	0
(8,13)	0	0	0	0	0	(8,14)	280	8115	569	182	75
(9,13)	605	42	0	0	0	(9,14)	0	0	0	0	0
(10,13)	66	0	0	0	0	(10,14)	0	0	0	0	0
(11,13)	325	6	1056	818	148	(11,14)	0	0	0	0	0
(12,13)	0	0	0	0	0	(12,14)	0	0	0	0	0
(13,13)	0	0	0	0	0	(13,14)	18013	78040	14914	253	833
(14,13)	0	0	0	0	0	(14,14)	22	25	8	1	1
(15,13)	12712	5326	1134	32	185	(15,14)	0	0	0	0	0
(16,13)	0	0	0	0	0	(16,14)	2539	2536	1556	36	221
(17,13)	0	0	0	0	0	(17,14)	1689	958	533	13	1810
(18,13)	0	0	0	0	0	(18,14)	0	0	0	0	0
(19,13)	0	0	0	0	0	(19,14)	1800	0	0	0	0
(20,13)	11340	1212	239	43	19	(20,14)	0	0	0	0	0
(21,13)	9993	21095	8516	178	281	(21,14)	16301	3810	674	12	37
(22,13)	12586	381261	33186	1490	6329	(22,14)	9152	572	2	368	53
(23,13)	2351	77	32	2	3	(23,14)	354	3466	607	1471	1997
(24,13)	138	0	0	0	812	(24,14)	1593	23055	11523	388	4988
(25,13)	0	0	0	0	0	(25,14)	3607	2445	3453	77	7421
(26,13)	239	1193	525	3563	47	(26,14)	640	1898	450	32	35
(27,13)	17641	167477	22406	12771	3821	(27,14)	6163	47742	25027	14535	15371
(28,13)	0	0	0	0	0	(28,14)	7574	120465	24703	490	1363
(29,13)	3573	5993	2077	113	2376	(29,14)	283	185	23	1	2
(30,13)	572	0	0	2	2771	(30,14)	27	38	03	2	4
(31,13)	4567	34635	6665	114	341	(31,14)	25	40	32	2	2
(32,13)	0	0	0	0	0	(32,14)	0	3	0	0	0
(33,13)	0	0	0	0	0	(33,14)	0	0	0	0	0
(34,13)	0	0	0	0	0	(34,14)	0	0	0	0	0
(35,13)	0	0	0	0	0	(35,14)	0	0	0	0	0
(36,13)	0	0	0	0	0	(36,14)	0	0	0	0	0
(37,13)	0	0	0	0	0	(37,14)	0	0	0	0	0
(38,13)	0	0	0	0	0	(38,14)	0	0	0	0	0
(39,13)	0	0	0	0	0	(39,14)	0	0	0	0	0
(40,13)	0	0	0	0	0	(40,14)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,15)	0	0	0	0	0	(1,16)	0	0	0	0	0
(2,15)	0	0	0	0	0	(2,16)	0	0	0	0	0
(3,15)	0	0	0	0	0	(3,16)	0	0	0	0	0
(4,15)	0	15	0	0	0	(4,16)	3	1	30	2	4
(5,15)	0	0	0	0	0	(5,16)	755	1158	135	644	195
(6,15)	0	0	0	0	0	(6,16)	0	0	0	0	0
(7,15)	43	8	7	43	68	(7,16)	0	0	0	0	0
(8,15)	0	0	0	0	0	(8,16)	9344	0	0	0	0
(9,15)	0	0	0	0	0	(9,16)	0	0	0	0	0
(10,15)	0	0	0	0	0	(10,16)	0	0	0	0	0
(11,15)	0	0	0	0	0	(11,16)	348	9770	1735	106	216
(12,15)	0	0	0	0	0	(12,16)	0	0	0	0	0
(13,15)	0	0	0	0	0	(13,16)	0	0	0	0	0
(14,15)	0	0	0	0	0	(14,16)	0	0	0	0	0
(15,15)	0	0	0	0	0	(15,16)	0	0	0	0	0
(16,15)	13541	3190	816	21	48	(16,16)	2723	14425	3257	266	495
(17,15)	0	0	0	0	0	(17,16)	0	0	0	0	0
(18,15)	0	0	0	0	0	(18,16)	0	0	0	0	0
(19,15)	0	0	0	0	0	(19,16)	18874	138934	13551	260	800
(20,15)	0	0	0	0	0	(20,16)	0	0	0	0	0
(21,15)	0	0	0	0	0	(21,16)	0	0	0	0	0
(22,15)	854	0	0	0	688	(22,16)	91	774	213	257	76
(23,15)	487	0	0	0	0	(23,16)	230	0	0	87	2036
(24,15)	2986	94616	12839	219	616	(24,16)	15302	17213	2857	491	957
(25,15)	8	2611	416	21	28	(25,16)	276	4810	1116	61	1168
(26,15)	1181	1213	580	23	45	(26,16)	17363	1676	523	70	110
(27,15)	10071	28799	24836	26736	104653	(27,16)	6303	5240	2413	2769	18440
(28,15)	3487	13484	16564	120768	94490	(28,16)	3101	21734	16139	4870	10220
(29,15)	710	63	19	17	1	(29,16)	212	513	641	120	41
(30,15)	0	1	1	0	0	(30,16)	0	0	0	0	0
(31,15)	0	0	0	0	0	(31,16)	0	0	0	0	0
(32,15)	0	0	0	0	0	(32,16)	0	16	0	1	0
(33,15)	0	0	0	0	0	(33,16)	0	0	0	0	0
(34,15)	0	0	0	0	0	(34,16)	0	0	0	0	0
(35,15)	0	0	0	0	0	(35,16)	0	0	0	0	0
(36,15)	0	0	0	0	0	(36,16)	0	0	0	0	0
(37,15)	0	0	0	0	0	(37,16)	0	0	0	0	0
(38,15)	0	0	0	0	0	(38,16)	0	0	0	0	0
(39,15)	0	0	0	0	0	(39,16)	0	0	0	0	0
(40,15)	0	0	0	0	0	(40,16)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,17)	0	0	0	0	0	(1,18)	0	0	0	0	0
(2,17)	0	0	0	0	0	(2,18)	0	0	0	0	0
(3,17)	0	0	0	0	0	(3,18)	0	0	0	0	0
(4,17)	0	0	0	0	0	(4,18)	262	263	66	452	9
(5,17)	6627	45987	6336	776	1033	(5,18)	0	0	0	0	0
(6,17)	1	172	50	2	5	(6,18)	3	0	19	9	2
(7,17)	2	0	0	7	0	(7,18)	1232	5502	1058	132	71
(8,17)	3	0	23	1	2	(8,18)	1182	2	1043	1597	124
(9,17)	3939	14805	2764	47	21608	(9,18)	39	0	5	9	5
(10,17)	0	0	0	0	0	(10,18)	6080	3379	1544	52	121
(11,17)	0	0	0	0	0	(11,18)	10	0	1	2	29
(12,17)	0	0	0	0	0	(12,18)	6	0	0	0	0
(13,17)	0	0	0	0	0	(13,18)	0	0	0	0	0
(14,17)	0	0	0	0	0	(14,18)	0	0	0	0	0
(15,17)	0	0	0	0	0	(15,18)	0	0	0	0	0
(16,17)	0	0	0	0	0	(16,18)	1447	0	0	0	0
(17,17)	25	100	8	4	13	(17,18)	0	0	0	0	0
(18,17)	0	0	0	0	0	(18,18)	180	429	450	25	914
(19,17)	5718	22974	5845	37	320	(19,18)	85	2	3	3	700
(20,17)	3395	1798	642	72	193	(20,13)	227	118	26	2	1395
(21,17)	0	0	0	0	0	(21,18)	81	102	349	17	423
(22,17)	903	942	868	15	716	(22,18)	451	46	14	3495	1336
(23,17)	0	0	0	0	0	(23,18)	0	0	0	0	0
(24,17)	8459	381	91	75	6528	(24,18)	1487	3248	883	170	311
(25,17)	195	0	0	0	313	(25,18)	17573	24097	4663	7478	47450
(26,17)	0	0	0	0	0	(26,18)	3473	11886	3723	760	170
(27,17)	107	1133	292	14	20	(27,13)	22	178	34	2	2
(28,17)	111447	110071	33891	2003	17655	(28,18)	3079	8817	5902	1779	1913
(29,17)	386	441	783	44	54	(29,13)	6	0	0	0	0
(30,17)	980	635	1629	0	1	(30,18)	585	0	0	0	0
(31,17)	186	645	447	13	28	(31,18)	8	0	0	0	0
(32,17)	0	0	0	0	0	(32,18)	0	0	0	0	0
(33,17)	0	0	0	0	0	(33,18)	0	0	0	0	0
(34,17)	0	0	0	0	0	(34,18)	0	0	0	0	0
(35,17)	0	0	0	0	0	(35,18)	0	0	0	0	0
(36,17)	0	0	0	0	0	(36,18)	0	0	0	0	0
(37,17)	0	0	0	0	0	(37,18)	0	0	0	0	0
(38,17)	0	0	0	0	0	(38,18)	0	0	0	0	0
(39,17)	0	0	0	0	0	(39,13)	0	0	0	0	0
(40,17)	0	0	0	0	0	(40,18)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,19)	0	0	0	0	0	(1,20)	0	0	0	0	0
(2,19)	0	0	0	0	0	(2,20)	0	0	0	0	0
(3,19)	0	0	0	0	0	(3,20)	0	0	0	0	0
(4,19)	0	0	0	0	0	(4,20)	766	107262	19884	328	1091
(5,19)	0	0	0	0	0	(5,20)	0	0	0	0	0
(6,19)	126	10	0	0	0	(6,20)	0	0	0	0	0
(7,19)	1442	180	14359	279	845	(7,20)	20	0	0	14	0
(8,19)	27	0	58	3	4	(8,20)	588	0	1083	42	19
(9,19)	91	0	170	143	14	(9,20)	85	0	71	32	52
(10,19)	30	1	11	127	12	(10,20)	1	0	0	0	0
(11,19)	243	25	417	64	8	(11,20)	32	1	20	91	7
(12,19)	0	0	0	0	0	(12,20)	25	0	0	29	1
(13,19)	0	0	0	0	0	(13,20)	0	0	0	0	0
(14,19)	0	0	0	0	0	(14,20)	0	0	0	0	0
(15,19)	0	0	0	0	0	(15,20)	140	94	0	139	0
(16,19)	0	0	0	0	0	(16,20)	27	250	72	5	10
(17,19)	0	0	0	0	0	(17,20)	0	0	0	0	0
(18,19)	0	0	0	0	0	(18,20)	0	0	0	0	0
(19,19)	0	0	0	0	0	(19,20)	0	0	0	0	0
(20,19)	35	0	0	0	302	(20,20)	0	0	0	0	0
(21,19)	5114	3804	2497	7	164	(21,20)	0	0	0	0	0
(22,19)	0	0	0	0	0	(22,20)	16	0	207	4	0
(23,19)	456	0	0	0	3837	(23,20)	0	0	0	0	0
(24,19)	1440	0	0	0	0	(24,20)	0	0	0	0	0
(25,19)	12717	31837	8669	150	7733	(25,20)	6737	33775	8024	136	533
(26,19)	13	0	0	0	0	(26,20)	32	116	54	3	4
(27,19)	71	0	0	540	0	(27,20)	30	0	0	0	0
(28,19)	2980	1902	2759	188	111	(28,20)	447	894	798	257	138
(29,19)	17110	11857	24729	2765	3637	(29,20)	29492	85574	60359	81681	72045
(30,19)	495	139	133	45	10	(30,20)	79	141	187	35	54
(31,19)	0	0	0	0	0	(31,20)	0	0	0	0	0
(32,19)	0	0	0	0	0	(32,20)	0	0	0	0	0
(33,19)	0	0	0	0	0	(33,20)	0	0	0	0	0
(34,19)	0	0	0	0	0	(34,20)	0	0	0	0	0
(35,19)	0	0	0	0	0	(35,20)	0	0	0	0	0
(36,19)	0	0	0	0	0	(36,20)	0	0	0	0	0
(37,19)	0	0	0	0	0	(37,20)	0	0	0	0	0
(38,19)	0	0	0	0	0	(38,20)	0	0	0	0	0
(39,19)	0	0	0	0	0	(39,20)	0	0	0	0	0
(40,19)	0	0	0	0	0	(40,20)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,21)	0	0	0	0	0	(1,22)	83	1132	264	24	9
(2,21)	1	0	0	0	0	(2,22)	1	4	3	0	0
(3,21)	323	657	239	12	2	(3,22)	16544	33484	29535	11979	20291
(4,21)	0	0	0	0	0	(4,22)	18	56	45	766	0
(5,21)	0	0	0	0	0	(5,22)	0	0	0	0	0
(6,21)	0	0	0	0	0	(6,22)	7355	1838	709	457	7
(7,21)	2	0	0	0	0	(7,22)	5165	3720	25443	4329	58234
(8,21)	10	0	23	20	0	(8,22)	8486	28715	6503	2843	19291
(9,21)	129	0	0	5	0	(9,22)	3	0	0	0	11
(10,21)	178	9	0	173	0	(10,22)	23	0	0	1	0
(11,21)	1	0	0	0	0	(11,22)	41	0	443	7	15
(12,21)	0	0	0	0	0	(12,22)	3	0	0	35	0
(13,21)	110	0	0	5	0	(13,22)	66	10	64	20	5
(14,21)	0	0	0	0	0	(14,22)	17629	11047	6251	93	223
(15,21)	21	4	2	54	0	(15,22)	470	156	823	233	8
(16,21)	0	0	0	0	0	(16,22)	654	34	631	363	2391
(17,21)	0	0	0	0	0	(17,22)	3	0	0	4	0
(18,21)	0	0	0	2400	0	(18,22)	38	0	0	0	0
(19,21)	0	0	0	0	0	(19,22)	0	0	0	0	0
(20,21)	0	0	0	0	0	(20,22)	0	0	0	0	0
(21,21)	1254	0	0	0	0	(21,22)	0	0	0	0	0
(22,21)	6625	14443	6350	65	2271	(22,22)	0	0	0	0	0
(23,21)	0	0	0	0	0	(23,22)	0	0	0	0	0
(24,21)	0	0	0	0	0	(24,22)	0	0	0	0	0
(25,21)	0	0	0	0	0	(25,22)	4	0	0	0	0
(26,21)	80	1	0	0	0	(26,22)	112	11	0	0	0
(27,21)	347	1601	3511	32	115	(27,22)	0	0	0	0	0
(28,21)	2675	21995	2259	202	270	(28,22)	4124	1401	1423	2608	90
(29,21)	14716	60756	47822	27343	23171	(29,22)	5713	27890	24236	1844	5829
(30,21)	6038	54968	53746	3339	15584	(30,22)	11444	26722	43343	2302	12012
(31,21)	2334	3491	16080	2069	1618	(31,22)	3432	1557	4025	8514	10273
(32,21)	0	0	0	0	0	(32,22)	50	74	26	54	6
(33,21)	0	0	0	0	0	(33,22)	0	0	0	0	0
(34,21)	0	0	0	0	0	(34,22)	0	0	0	0	0
(35,21)	0	0	0	0	0	(35,22)	0	0	0	0	0
(36,21)	0	0	0	0	0	(36,22)	0	0	0	0	0
(37,21)	0	0	0	0	0	(37,22)	0	0	0	0	0
(38,21)	0	0	0	0	0	(38,22)	0	0	0	0	0
(39,21)	0	0	0	0	0	(39,22)	0	0	0	0	0
(40,21)	0	0	0	0	0	(40,22)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,23)	0	0	0	0	0	(1,24)	0	0	0	0	0
(2,23)	0	0	0	0	0	(2,24)	0	0	0	0	0
(3,23)	394	6184	1075	5067	102	(3,24)	1256	2655	1027	4194	18
(4,23)	0	0	0	0	0	(4,24)	3700	175194	35185	2163	2035
(5,23)	321	365	298	240	21	(5,24)	0	0	0	0	0
(6,23)	20390	2871	4312	2168	22967	(6,24)	1	0	0	0	0
(7,23)	813	617	444	736	140	(7,24)	593	77	424	1137	956
(8,23)	330	49	177	36	15	(8,24)	111	20	2	89	0
(9,23)	220	256	153	46	15	(9,24)	711	173	444	48	37
(10,23)	4	0	0	50	0	(10,24)	736	4	53	50	4
(11,23)	187	0	121	6	13	(11,24)	363	17	22	174	1
(12,23)	37	0	5	20	0	(12,24)	37	0	2	133	0
(13,23)	84	0	62	115	43	(13,24)	5	0	13	1	1
(14,23)	27	0	29	102	2	(14,24)	23182	14447	11474	242	477
(15,23)	435	0	1082	46	69	(15,24)	2	0	0	0	0
(16,23)	123	66	59	31	52	(16,24)	83	10	1	30	1
(17,23)	1	0	0	0	0	(17,24)	78	1	348	31	23
(18,23)	103	13	227	234	16	(18,24)	46	0	0	0	0
(19,23)	207	1	243	551	14	(19,24)	2506	427	2305	1178	423
(20,23)	0	0	0	0	0	(20,24)	6730	11594	5398	63	180
(21,23)	0	0	0	0	0	(21,24)	182	4	70	124	53
(22,23)	0	0	0	0	0	(22,24)	73	1	0	0	0
(23,23)	4	39	9	0	1	(23,24)	42	0	0	0	0
(24,23)	1	0	1	0	1	(24,24)	4	0	8	0	1
(25,23)	73	156	53	85	1	(25,24)	418	3	38	17	11
(26,23)	3711	34964	11079	310	357	(26,24)	433	1295	136	218	22
(27,23)	43	0	56	126	4	(27,24)	583	268	383	233	27
(28,23)	2747	1254	24247	23512	760	(28,24)	628	10571	12971	710	398
(29,23)	977	61	2146	6941	98	(29,24)	101	34	126	22	18
(30,23)	294	72	744	1186	80	(30,24)	4913	24414	5539	1868	356
(31,23)	2474	246	33699	1736	3693	(31,24)	4	0	15	1	2
(32,23)	361	169	656	374	46	(32,24)	304	33	10123	2151	337
(33,23)	96	13	57	69	110	(33,24)	173	464	331	60	24
(34,23)	0	0	0	0	0	(34,24)	14	0	44	2	3
(35,23)	0	0	0	0	0	(35,24)	0	0	0	0	0
(36,23)	0	0	0	0	0	(36,24)	0	0	0	0	0
(37,23)	0	0	0	0	0	(37,24)	0	0	0	0	0
(38,23)	0	0	0	0	0	(38,24)	0	0	0	0	0
(39,23)	0	0	0	0	0	(39,24)	0	0	0	0	0
(40,23)	0	0	0	0	0	(40,24)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,25)	0	0	0	0	0	(1,26)	0	0	0	0	0
(2,25)	0	0	0	0	0	(2,26)	0	0	0	0	0
(3,25)	1091	1338	2100	5306	346	(3,26)	0	0	0	0	0
(4,25)	7350	23152	14991	14827	2535	(4,26)	304	517	749	377	114
(5,25)	0	0	0	0	0	(5,26)	7	34	39	1	0
(6,25)	0	0	0	0	0	(6,26)	0	0	0	0	0
(7,25)	1	0	0	0	1	(7,26)	0	0	0	0	0
(8,25)	17	0	2	0	0	(8,26)	138	78	5	8	0
(9,25)	117	0	37	33	5	(9,26)	0	0	0	0	0
(10,25)	732	787	116	147	10	(10,26)	23	14	46	2	3
(11,25)	7259	20391	28763	9002	1020	(11,26)	7919	26190	32089	16632	2385
(12,25)	243	9	64	500	4	(12,26)	369	35	538	4726	42
(13,25)	529	150	70	1265	7	(13,26)	65	51	60	164	12
(14,25)	162	135	29	71	29	(14,26)	473	91	88	117	7
(15,25)	41	0	80	4	6	(15,26)	386	2471	1050	197	8
(16,25)	14363	30703	19502	244	814	(16,26)	104	0	0	0	0
(17,25)	82	0	11	232	3	(17,26)	54	2	3	140	0
(18,25)	0	0	2	0	0	(18,26)	14	0	0	0	0
(19,25)	17	7	8	21	1	(19,26)	77	1	141	16	13
(20,25)	238	11	1507	100	198	(20,26)	51	172	44	46	3
(21,25)	0	0	0	0	0	(21,26)	25	0	10	78	0
(22,25)	76	1	50	20	4	(22,26)	64	0	56	5	4
(23,25)	0	0	0	0	0	(23,26)	3	12	6	0	0
(24,25)	13	3	30	3	2	(24,26)	0	0	0	0	0
(25,25)	43	25	82	19	14	(25,26)	3	0	6	0	0
(26,25)	89	0	29	26	7	(26,26)	214	1427	48	7	4
(27,25)	825	21	37351	1360	1086	(27,26)	366	51	2089	609	366
(28,25)	105	3	145	539	12	(28,26)	389	14	210	12	21
(29,25)	32	9	32	118	3	(29,26)	238	217	161	244	11
(30,25)	2	8	6	135	0	(30,26)	32	175	72	4	5
(31,25)	2586	39775	16121	1383	916	(31,26)	683	2343	1498	2399	60
(32,25)	0	1	0	0	0	(32,26)	413	4814	1170	1083	118
(33,25)	106	59	82	325	8	(33,26)	0	0	0	0	0
(34,25)	15	0	24	3	4	(34,26)	8	1	8	26	1
(35,25)	1	0	3	24	0	(35,26)	6	1	13	1	1
(36,25)	0	0	0	0	0	(36,26)	0	0	1	0	0
(37,25)	0	0	0	0	0	(37,26)	0	0	0	0	0
(38,25)	0	0	0	0	0	(38,26)	0	0	0	0	0
(39,25)	0	0	0	0	0	(39,26)	0	0	0	0	0
(40,25)	0	0	0	0	0	(40,26)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,27)	0	0	0	0	0	(1,28)	0	0	0	0	0
(2,27)	0	0	0	0	0	(2,28)	0	0	0	0	0
(3,27)	0	0	0	0	0	(3,28)	0	0	0	0	0
(4,27)	0	0	0	0	0	(4,28)	0	0	0	0	0
(5,27)	0	0	0	0	0	(5,28)	0	0	0	0	0
(6,27)	0	0	0	0	0	(6,28)	0	0	0	0	0
(7,27)	0	0	0	0	0	(7,28)	0	0	0	0	0
(8,27)	0	0	0	0	0	(8,28)	0	0	0	0	0
(9,27)	0	0	0	0	0	(9,28)	0	0	0	0	0
(10,27)	0	0	0	0	0	(10,28)	0	0	0	0	0
(11,27)	0	0	0	0	0	(11,28)	0	0	0	0	0
(12,27)	33	0	55	3	4	(12,28)	0	0	0	0	0
(13,27)	40	4	28	1	2	(13,28)	0	0	0	0	0
(14,27)	15	0	39	2	3	(14,28)	63	0	92	5	8
(15,27)	69	13	43	36	3	(15,28)	982	1673	2577	1128	125
(16,27)	183	1846	28	59	72	(16,28)	6714	21763	7219	2533	2779
(17,27)	133	41	31	19	30	(17,28)	54	1	13	27	1
(18,27)	5	0	1	2	3	(18,28)	187	54	0	26	0
(19,27)	67	0	9	66	1	(19,28)	80	50	32	4	4
(20,27)	1	0	2	0	0	(20,28)	11	0	25	1	2
(21,27)	134	54	323	26	23	(21,28)	11	0	24	4	2
(22,27)	2	0	8	0	1	(22,28)	0	0	2	0	0
(23,27)	6	1	7	1	0	(23,28)	11	0	2	11	0
(24,27)	0	4	1	0	0	(24,28)	3	0	10	1	1
(25,27)	0	0	1	0	0	(25,28)	1	0	4	0	0
(26,27)	3461	4616	145	158	11	(26,28)	2895	28780	1759	14	2
(27,27)	1	0	1	0	0	(27,28)	43	0	33	1	2
(28,27)	1574	1	153	402	24	(28,28)	4	0	12	1795	1
(29,27)	0	0	0	0	0	(29,28)	18	80	142	7	18
(30,27)	133	442	513	139	33	(30,28)	12	16	92	14	39
(31,27)	944	2641	577	1571	36	(31,28)	129	405	245	9	16
(32,27)	127	0	5	425	0	(32,28)	565	14173	7045	358	291
(33,27)	3	0	0	0	0	(33,28)	0	0	0	0	0
(34,27)	0	0	0	0	0	(34,28)	3707	22173	4995	465	523
(35,27)	0	0	0	0	0	(35,28)	0	0	0	0	0
(36,27)	0	0	0	0	0	(36,28)	0	0	0	0	0
(37,27)	0	0	0	0	0	(37,28)	0	0	0	0	0
(38,27)	0	0	0	42	0	(38,28)	0	0	0	0	0
(39,27)	0	0	0	0	0	(39,28)	0	0	0	0	0
(40,27)	0	0	0	0	0	(40,28)	10	175	25	1	2

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,29)	0	0	0	0	0	(1,30)	0	0	0	0	0
(2,29)	0	0	0	0	0	(2,30)	0	0	0	0	0
(3,29)	0	0	0	0	0	(3,30)	0	0	0	0	0
(4,29)	0	0	0	0	0	(4,30)	0	0	0	0	0
(5,29)	0	0	0	0	0	(5,30)	0	0	0	0	0
(6,29)	0	0	0	0	0	(6,30)	0	0	0	0	0
(7,29)	0	0	0	0	0	(7,30)	0	0	0	0	0
(8,29)	0	0	0	0	0	(8,30)	0	0	0	0	0
(9,29)	0	0	0	0	0	(9,30)	0	0	0	0	0
(10,29)	0	0	0	0	0	(10,30)	0	0	0	0	0
(11,29)	0	0	0	0	0	(11,30)	0	0	0	0	0
(12,29)	0	0	0	0	0	(12,30)	0	0	0	0	0
(13,29)	0	0	0	0	0	(13,30)	0	0	0	0	0
(14,29)	1385	5721	49147	1904	1424	(14,30)	0	0	0	0	0
(15,29)	3441	0	396	8	23	(15,30)	32	1	4	10	0
(16,29)	5	0	0	0	1	(16,30)	0	0	0	0	0
(17,29)	34	0	65	57	65	(17,30)	35	0	7	2	0
(18,29)	461	4	126	212	35	(18,30)	348	1117	565	249	45
(19,29)	1955	42	489	224	42	(19,30)	417	10	156	25	19
(20,29)	97	1	14	91	0	(20,30)	207	15	162	79	38
(21,29)	17	14	18	1	2	(21,30)	52	1	135	11	9
(22,29)	1	0	14	0	0	(22,30)	117	0	92	110	6
(23,29)	233	575	132	5	7	(23,30)	0	0	0	0	0
(24,29)	4	0	7	3	0	(24,30)	234	0	168	13	14
(25,29)	3	0	24	1	2	(25,30)	10503	18693	14034	1260	660
(26,29)	65	81	94	258	2124	(26,30)	4	0	6	0	0
(27,29)	180	2355	455	33	59	(27,30)	25	127	26	28	70
(28,29)	23	1	8	42	120	(28,30)	272	1766	353	100	257
(29,29)	3	0	1	6	18	(29,30)	68	542	94	66	207
(30,29)	0	0	0	0	0	(30,30)	17549	27244	13623	1966	3636
(31,29)	854	3879	4002	1235	526	(31,30)	41	392	191	59	23
(32,29)	0	0	0	0	0	(32,30)	4202	736	393	5839	31
(33,29)	54	352	142	7	9	(33,30)	0	0	0	0	0
(34,29)	102	582	821	62	36	(34,30)	0	0	0	0	0
(35,29)	44	289	114	724	8	(35,30)	0	0	0	0	0
(36,29)	0	0	0	0	0	(36,30)	128	903	433	666	25
(37,29)	0	0	0	0	0	(37,30)	0	0	0	0	0
(38,29)	0	0	0	0	0	(38,30)	0	0	0	0	0
(39,29)	0	0	0	0	0	(39,30)	0	0	0	0	0
(40,29)	0	0	0	0	0	(40,30)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,31)	0	0	0	0	0	(1,32)	0	0	0	0	0
(2,31)	0	0	0	0	0	(2,32)	0	0	0	0	0
(3,31)	0	0	0	0	0	(3,32)	0	0	0	0	0
(4,31)	0	0	0	0	0	(4,32)	0	0	0	0	0
(5,31)	0	0	0	0	0	(5,32)	0	0	0	0	0
(6,31)	0	0	0	0	0	(6,32)	0	0	0	0	0
(7,31)	0	0	0	0	0	(7,32)	0	0	0	0	0
(8,31)	0	0	0	0	0	(8,32)	0	0	0	0	0
(9,31)	0	0	0	0	0	(9,32)	0	0	0	0	0
(10,31)	0	0	0	0	0	(10,32)	0	0	0	0	0
(11,31)	0	0	0	0	0	(11,32)	0	0	0	0	0
(12,31)	0	0	0	0	0	(12,32)	0	0	0	0	0
(13,31)	0	0	0	0	0	(13,32)	0	0	0	0	0
(14,31)	3	2	1	0	0	(14,32)	10	10	50	3	4
(15,31)	21	0	54	3	4	(15,32)	190	151	95	259	91
(16,31)	0	0	0	0	0	(16,32)	61	0	71	528	5
(17,31)	0	0	0	0	0	(17,32)	174	172	329	16	22
(18,31)	55	170	5	30	1	(18,32)	0	0	0	0	0
(19,31)	6	0	11	1	1	(19,32)	0	0	0	0	0
(20,31)	0	0	0	0	0	(20,32)	0	0	0	0	0
(21,31)	0	0	0	0	0	(21,32)	0	0	0	0	0
(22,31)	130	38	194	39	18	(22,32)	0	0	2	0	0
(23,31)	127	57	174	75	11	(23,32)	293	0	6	0	0
(24,31)	564	178	430	385	33	(24,32)	203	10	471	821	32
(25,31)	898	298	1072	2748	78	(25,32)	67	0	164	89	11
(26,31)	70	0	37	35	37	(26,32)	118	139	177	913	12
(27,31)	336	3658	627	238	629	(27,32)	420	2356	541	501	1385
(28,31)	21	1	6	38	109	(28,32)	31	2	12	58	164
(29,31)	44	424	73	207	102	(29,32)	131	8	49	325	697
(30,31)	5351	29777	7222	9738	2831	(30,32)	4807	3825	1169	179	513
(31,31)	157	902	199	222	564	(31,32)	206	1096	245	1454	867
(32,31)	373	53	144	606	1973	(32,32)	3322	1472	797	501	1419
(33,31)	82	53	40	105	413	(33,32)	1197	1459	634	738	2198
(34,31)	0	0	0	0	0	(34,32)	558	485	266	457	2227
(35,31)	355	2032	725	9409	1135	(35,32)	3347	9618	5982	7294	2371
(36,31)	184	1070	500	468	33	(36,32)	1955	91786	30726	6054	1668
(37,31)	51	3	19	110	273	(37,32)	894	8225	3422	4405	3859
(38,31)	1	0	0	2	6	(38,32)	0	0	0	0	0
(39,31)	3	0	1	5	15	(39,32)	35	2	13	66	187
(40,31)	0	0	0	0	0	(40,32)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,33)	0	0	0	0	0	(1,34)	0	0	0	0	0
(2,33)	0	0	0	0	0	(2,34)	0	0	0	0	0
(3,33)	0	0	0	0	0	(3,34)	0	0	0	0	0
(4,33)	0	0	0	0	0	(4,34)	0	0	0	0	0
(5,33)	0	0	0	0	0	(5,34)	0	0	0	0	0
(6,33)	0	0	0	0	0	(6,34)	0	0	0	0	0
(7,33)	0	0	0	0	0	(7,34)	0	0	0	0	0
(8,33)	0	0	0	0	0	(8,34)	0	0	0	0	0
(9,33)	0	0	0	0	0	(9,34)	0	0	0	0	0
(10,33)	0	0	0	0	0	(10,34)	0	0	0	0	0
(11,33)	0	0	0	0	0	(11,34)	0	0	0	0	0
(12,33)	0	0	0	0	0	(12,34)	0	0	0	0	0
(13,33)	0	0	0	0	0	(13,34)	0	0	0	0	0
(14,33)	4	8	5	0	1	(14,34)	3	2	2	0	0
(15,33)	277	22	721	13	41	(15,34)	9	2	26	1	2
(16,33)	71285	0	115	8	8	(16,34)	49	0	4	0	0
(17,33)	0	0	0	0	0	(17,34)	0	0	0	0	0
(18,33)	1	0	0	0	0	(18,34)	0	0	0	0	0
(19,33)	0	0	0	0	0	(19,34)	0	0	0	0	0
(20,33)	0	0	0	0	0	(20,34)	1	0	2	0	0
(21,33)	0	0	0	0	0	(21,34)	3	0	0	11	0
(22,33)	0	0	0	0	0	(22,34)	0	0	0	0	0
(23,33)	361	0	759	38	52	(23,34)	8	10	9	0	1
(24,33)	241	32	484	1745	50	(24,34)	542	48	623	98	41
(25,33)	55	0	104	3529	7	(25,34)	1	0	2	0	0
(26,33)	36	3	12	188	9	(26,34)	0	0	0	0	0
(27,33)	0	0	0	0	0	(27,34)	0	0	0	1	0
(28,33)	7	0	3	13	36	(28,34)	47	210	58	317	78
(29,33)	163	471	107	129	355	(29,34)	269	744	201	366	824
(30,33)	11	1	4	26	60	(30,34)	104	96	53	452	519
(31,33)	241	159	135	413	1167	(31,34)	415	2804	983	1328	564
(32,33)	406	2146	584	215	1789	(32,34)	1356	4511	2376	487	1677
(33,33)	1413	1892	588	570	1826	(33,34)	12	25	20	343	350
(34,33)	370	466	143	2548	2430	(34,34)	1927	3723	1615	23428	3346
(35,33)	386	1343	570	2034	152	(35,34)	1409	11358	6483	4493	1220
(36,33)	100	741	148	279	293	(36,34)	19	1	7	183	102
(37,33)	73	5	27	340	387	(37,34)	34	2	13	63	177
(38,33)	1188	31276	8626	221	404	(38,34)	0	0	0	0	0
(39,33)	0	0	0	0	0	(39,34)	42	3	16	80	226
(40,33)	0	0	0	0	0	(40,34)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,35)	0	0	0	0	0	(1,36)	0	0	0	0	0
(2,35)	0	0	0	0	0	(2,36)	0	0	0	0	0
(3,35)	0	0	0	0	0	(3,36)	0	0	0	0	0
(4,35)	0	0	0	0	0	(4,36)	0	0	0	0	0
(5,35)	0	0	0	0	0	(5,36)	0	0	0	0	0
(6,35)	0	0	0	0	0	(6,36)	0	0	0	0	0
(7,35)	0	0	0	0	0	(7,36)	0	0	0	0	0
(8,35)	0	0	0	0	0	(8,36)	0	0	0	0	0
(9,35)	0	0	0	0	0	(9,36)	0	0	0	0	0
(10,35)	0	0	0	0	0	(10,36)	0	0	0	0	0
(11,35)	0	0	0	0	0	(11,36)	0	0	0	0	0
(12,35)	0	0	0	0	0	(12,36)	0	0	0	0	0
(13,35)	0	0	0	0	0	(13,36)	0	0	0	0	0
(14,35)	0	0	0	1	0	(14,36)	1049	7	117	54	127
(15,35)	58	0	96	5	6	(15,36)	140	5	84	15	5
(16,35)	3	1	0	0	0	(16,36)	33	2	132	3	6
(17,35)	100	0	492	25	33	(17,36)	0	0	0	0	0
(18,35)	0	0	0	0	0	(18,36)	0	0	0	0	0
(19,35)	0	0	0	0	0	(19,36)	53	15	102	27	53
(20,35)	0	0	0	0	0	(20,36)	57	235	47	1	3
(21,35)	11	0	0	0	0	(21,36)	0	0	0	0	0
(22,35)	4	4	0	0	0	(22,36)	13	75	0	0	0
(23,35)	0	0	1	0	0	(23,36)	310	2054	335	60	62
(24,35)	39	0	120	0	8	(24,36)	5	0	0	0	3
(25,35)	160	0	91	75	71	(25,36)	394	85	67	217	29
(26,35)	0	0	0	0	0	(26,36)	0	0	0	0	0
(27,35)	32	0	0	0	0	(27,36)	13	142	47	48	4
(28,35)	64	18	19	57	154	(28,36)	165	460	114	139	387
(29,35)	83	96	46	537	139	(29,36)	0	0	0	0	0
(30,35)	52	1	9	45	127	(30,36)	73	415	93	84	232
(31,35)	133	93	59	214	495	(31,36)	240	1476	453	512	566
(32,35)	225	659	213	422	579	(32,36)	310	1767	537	6532	1886
(33,35)	1452	1864	779	3245	1885	(33,36)	357	5280	1677	827	315
(34,35)	2123	13102	13942	5514	2219	(34,36)	311	3577	637	170	151
(35,35)	3540	26330	27862	2136	3244	(35,36)	634	3755	5956	1139	648
(36,35)	0	0	0	0	0	(36,36)	0	0	0	0	0
(37,35)	0	0	0	0	0	(37,36)	0	0	0	0	0
(38,35)	75	5	23	142	403	(38,36)	0	0	0	0	0
(39,35)	77	5	29	145	413	(39,36)	0	0	0	0	0
(40,35)	0	0	0	0	0	(40,36)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,37)	0	0	0	0	0	(1,38)	0	0	0	0	0
(2,37)	0	0	0	0	0	(2,38)	0	0	0	0	0
(3,37)	0	0	0	0	0	(3,38)	0	0	0	0	0
(4,37)	0	0	0	0	0	(4,38)	0	0	0	0	0
(5,37)	0	0	0	0	0	(5,38)	0	0	0	0	0
(6,37)	0	0	0	0	0	(6,38)	0	0	0	0	0
(7,37)	0	0	0	0	0	(7,38)	0	0	0	0	0
(8,37)	0	0	0	0	0	(8,38)	0	0	0	0	0
(9,37)	0	0	0	0	0	(9,38)	0	0	0	0	0
(10,37)	0	0	0	0	0	(10,38)	0	0	0	0	0
(11,37)	0	0	0	0	0	(11,38)	0	0	0	0	0
(12,37)	0	0	0	0	0	(12,38)	0	0	0	0	0
(13,37)	0	0	0	0	0	(13,38)	0	0	0	0	0
(14,37)	0	0	0	0	0	(14,38)	14	4	0	0	0
(15,37)	43	2	0	0	0	(15,38)	1173	402	355	54	24
(16,37)	157	0	156	31	59	(16,38)	100	0	0	2	0
(17,37)	0	0	0	0	0	(17,38)	1	0	4	0	0
(18,37)	0	0	0	0	0	(18,38)	1	0	0	0	0
(19,37)	27	0	1	0	0	(19,38)	0	0	0	0	0
(20,37)	13	0	53	3	4	(20,38)	0	0	0	0	0
(21,37)	0	0	0	0	0	(21,38)	3	0	5	0	0
(22,37)	1	28	3	0	0	(22,38)	1	0	0	0	0
(23,37)	7	6	12	4	1	(23,38)	65	53	182	94	59
(24,37)	0	0	7	0	0	(24,38)	0	0	0	0	0
(25,37)	0	0	0	0	0	(25,38)	151	6	45	160	8
(26,37)	1	7	3	4	0	(26,38)	0	0	0	0	0
(27,37)	147	6	16	253	96	(27,38)	103	246	86	187	1
(28,37)	51	130	40	78	218	(28,38)	21	1	8	39	0
(29,37)	20	1	7	37	0	(29,38)	15	95	21	16	0
(30,37)	69	693	190	303	0	(30,38)	132	142	73	5894	0
(31,37)	599	49579	27367	534	0	(31,38)	21	40	16	34	0
(32,37)	57	87	37	33	0	(32,38)	236	15	83	443	0
(33,37)	143	50	44	173	0	(33,38)	765	39601	7773	3553	277
(34,37)	144	29	65	728	618	(34,38)	75	40	34	136	0
(35,37)	0	0	0	1531	0	(35,38)	0	0	0	0	0
(36,37)	0	0	0	0	0	(36,38)	0	0	0	0	0
(37,37)	0	0	0	0	0	(37,38)	0	0	0	0	0
(38,37)	0	0	0	0	0	(38,38)	0	0	0	0	0
(39,37)	0	0	0	0	0	(39,38)	0	0	0	0	0
(40,37)	0	0	0	0	0	(40,38)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

POINT SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,39)	0	0	0	0	0	(1,40)	0	0	0	0	0
(2,39)	0	0	0	0	0	(2,40)	0	0	0	0	0
(3,39)	0	0	0	0	0	(3,40)	0	0	0	0	0
(4,39)	0	0	0	0	0	(4,40)	0	0	0	0	0
(5,39)	0	0	0	0	0	(5,40)	0	0	0	0	0
(6,39)	0	0	0	0	0	(6,40)	0	0	0	0	0
(7,39)	0	0	0	0	0	(7,40)	0	0	0	0	0
(8,39)	0	0	0	0	0	(8,40)	0	0	0	0	0
(9,39)	0	0	0	0	0	(9,40)	0	0	0	0	0
(10,39)	0	0	0	0	0	(10,40)	0	0	0	0	0
(11,39)	0	0	0	0	0	(11,40)	0	0	0	0	0
(12,39)	0	0	0	0	0	(12,40)	0	0	0	0	0
(13,39)	0	0	0	0	0	(13,40)	0	0	0	0	0
(14,39)	0	0	0	0	0	(14,40)	0	0	0	0	0
(15,39)	39	0	0	0	0	(15,40)	0	0	0	0	0
(16,39)	3132	494	91	5	6	(16,40)	0	0	0	0	0
(17,39)	6	0	26	1	2	(17,40)	0	0	0	0	0
(18,39)	5	0	20	1	1	(18,40)	15	3	39	2	3
(19,39)	0	0	0	0	0	(19,40)	0	0	1	0	0
(20,39)	72	1040	188	486	13	(20,40)	4082	72	667	128	44
(21,39)	5	40	14	1	1	(21,40)	10	2	20	3	1
(22,39)	147	9	197	1493	8	(22,40)	28	55	75	106	6
(23,39)	0	0	0	0	0	(23,40)	0	0	0	0	0
(24,39)	0	0	0	16	0	(24,40)	7	14	67	5	15
(25,39)	1	3	4	4	0	(25,40)	14	0	0	2	0
(26,39)	0	0	0	0	0	(26,40)	0	0	0	0	0
(27,39)	0	0	0	0	0	(27,40)	205	2	10	49	0
(28,39)	31	2	12	58	0	(28,40)	158	6	42	8	0
(29,39)	64	396	90	68	0	(29,40)	10	1	4	19	0
(30,39)	113	189	54	358	0	(30,40)	36	2	14	68	0
(31,39)	0	0	0	0	0	(31,40)	8	1	3	16	0
(32,39)	127	592	136	379	60	(32,40)	49	496	92	518	106
(33,39)	317	989	282	862	1056	(33,40)	727	314	77	158	369
(34,39)	1	1	0	0	0	(34,40)	0	0	0	0	0
(35,39)	0	0	0	0	0	(35,40)	0	0	0	0	0
(36,39)	0	0	0	0	0	(36,40)	0	0	0	0	0
(37,39)	0	0	0	0	0	(37,40)	0	0	0	0	0
(38,39)	0	0	0	0	0	(38,40)	0	0	0	0	0
(39,39)	0	0	0	0	0	(39,40)	0	0	0	0	0
(40,39)	0	0	0	0	0	(40,40)	0	0	0	0	0

SECTION E-2

GRIDDED AREA SOURCE EMISSION (TONS/YEAR) ON THE 20-KM GRID NETWORK

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 1)	4347	2587	4570	8831	73575	(1, 2)	770	694	1221	1807	8912
(2, 1)	1436	1359	1868	2726	13292	(2, 2)	307	317	702	1030	5046
(3, 1)	1573	1161	2706	3125	19152	(3, 2)	1265	1020	1977	2811	14342
(4, 1)	348	275	482	632	3037	(4, 2)	385	376	413	572	2707
(5, 1)	1254	999	1728	1711	8106	(5, 2)	725	596	1035	1106	5219
(6, 1)	1661	1401	6181	6710	33332	(6, 2)	553	446	772	775	3670
(7, 1)	56	41	428	361	1603	(7, 2)	371	292	831	759	3357
(8, 1)	47	33	333	313	1336	(8, 2)	38	27	261	246	1058
(9, 1)	53	37	347	330	1663	(9, 2)	70	55	440	485	2122
(10, 1)	131	167	349	[illegible]	4383	(10, 2)	300	553	2430	2667	13101
(11, 1)	150	207	811	546	4469	(11, 2)	37	63	203	228	1088
(12, 1)	42	65	219	255	1197	(12, 2)	113	215	471	544	2487
(13, 1)	66	127	318	347	1819	(13, 2)	101	396	920	1005	4683
(14, 1)	0	0	0	0	0	(14, 2)	24	46	116	127	591
(15, 1)	59	29	183	211	937	(15, 2)	32	16	113	137	542
(16, 1)	0	0	0	0	0	(16, 2)	23	14	38	101	403
(17, 1)	134	203	677	637	3808	(17, 2)	74	111	371	459	2142
(18, 1)	362	547	1822	2254	10516	(18, 2)	140	497	1677	2078	9652
(19, 1)	145	202	695	638	3974	(19, 2)	113	126	503	713	3392
(20, 1)	440	513	2302	3626	14703	(20, 2)	91	92	350	470	1871
(21, 1)	146	143	639	644	3735	(21, 2)	49	59	212	275	1219
(22, 1)	103	78	388	510	2106	(22, 2)	54	65	243	320	1501
(23, 1)	46	31	161	211	833	(23, 2)	94	176	445	505	2842
(24, 1)	16	16	68	35	334	(24, 2)	78	74	303	446	1569
(25, 1)	75	72	302	433	1654	(25, 2)	33	38	180	231	811
(26, 1)	33	31	139	183	826	(26, 2)	85	88	304	450	1817
(27, 1)	38	39	159	228	935	(27, 2)	55	90	243	368	1483
(28, 1)	86	99	362	545	2351	(28, 2)	137	257	712	1014	4295
(29, 1)	68	64	389	507	2468	(29, 2)	53	59	274	400	1675
(30, 1)	38	36	210	314	1356	(30, 2)	8	0	45	67	290
(31, 1)	6	9	32	10	257	(31, 2)	68	123	452	947	3575
(32, 1)	33	46	168	353	1332	(32, 2)	13	27	37	204	771
(33, 1)	0	0	0	0	0	(33, 2)	0	0	0	0	0
(34, 1)	0	0	0	0	0	(34, 2)	0	0	0	0	0
(35, 1)	0	0	0	0	0	(35, 2)	0	0	0	0	0
(36, 1)	0	0	0	0	0	(36, 2)	0	0	0	0	0
(37, 1)	0	0	0	0	0	(37, 2)	0	0	0	0	0
(38, 1)	0	0	0	0	0	(38, 2)	0	0	0	0	0
(39, 1)	0	0	0	0	0	(39, 2)	0	0	0	0	0
(40, 1)	0	0	0	0	0	(40, 2)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 3)	2671	3333	5327	8071	38945	(1, 4)	669	919	1255	1775	9038
(2, 3)	31628	17828	36757	71182	297870	(2, 4)	289	289	460	664	3336
(3, 3)	1990	1607	2952	4296	21315	(3, 4)	168	189	277	397	2005
(4, 3)	34	33	68	105	502	(4, 4)	1098	1278	1696	2407	11687
(5, 3)	177	219	520	844	3901	(5, 4)	151	159	239	345	1672
(6, 3)	594	563	878	732	3331	(6, 4)	408	479	673	744	3543
(7, 3)	576	523	1365	1209	5981	(7, 4)	414	440	769	751	3530
(8, 3)	76	74	91[illegible]	526	2463	(8, 4)	30	33	211	212	1012
(9, 3)	33	36	216	237	1143	(9, 4)	42	41	275	311	1518
(10, 3)	192	257	1219	1333	6551	(10, 4)	284	204	1894	2166	10665
(11, 3)	190	270	1062	1234	5938	(11, 4)	266	196	1765	2017	9926
(12, 3)	33	63	153	178	818	(12, 4)	135	280	540	632	2816
(13, 3)	65	125	357	322	1383	(13, 4)	61	119	262	309	1406
(14, 3)	31	61	173	157	671	(14, 4)	31	43	170	103	891
(15, 3)	44	61	219	231	993	(15, 4)	26	37	132	139	597
(16, 3)	32	41	141	144	610	(16, 4)	68	82	278	280	1164
(17, 3)	65	71	254	298	1250	(17, 4)	13	22	75	75	312
(18, 3)	46	63	55[illegible]	696	2940	(18, 4)	30	41	614	777	3282
(19, 3)	95	107	476	602	2867	(19, 4)	41	76	185	228	1157
(20, 3)	55	58	227	312	1308	(20, 4)	66	50	244	336	1338
(21, 3)	135	188	662	945	3969	(21, 4)	1062	187	843	900	5018
(22, 3)	20	24	107	137	614	(22, 4)	47	54	259	341	1515
(23, 3)	411	585	2058	2777	12563	(23, 4)	173	193	1127	1814	7160
(24, 3)	125	147	663	945	3825	(24, 4)	6	7	36	52	209
(25, 3)	78	86	360	523	1956	(25, 4)	143	129	703	1034	4280
(26, 3)	81	103	357	518	2134	(26, 4)	98	52	275	478	1743
(27, 3)	134	214	577	653	3494	(27, 4)	111	75	366	593	2276
(28, 3)	46	53	232	369	1533	(28, 4)	64	31	171	304	1089
(29, 3)	80	101	403	618	2589	(29, 4)	15	18	82	133	532
(30, 3)	0	0	0	0	0	(30, 4)	0	0	0	0	0
(31, 3)	64	77	351	571	2286	(31, 4)	38	46	209	340	1359
(32, 3)	51	62	276	467	1851	(32, 4)	7	8	38	61	244
(33, 3)	0	0	0	0	0	(33, 4)	0	0	0	0	0
(34, 3)	0	0	0	0	0	(34, 4)	0	0	0	0	0
(35, 3)	0	0	0	0	0	(35, 4)	0	0	0	0	0
(36, 3)	0	0	0	0	0	(36, 4)	0	0	0	0	0
(37, 3)	0	0	0	0	0	(37, 4)	0	0	0	0	0
(38, 3)	0	0	0	0	0	(38, 4)	0	0	0	0	0
(39, 3)	0	0	0	0	0	(39, 4)	0	0	0	0	0
(40, 3)	0	0	0	0	0	(40, 4)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 5)	967	1350	1805	2524	12972	(1, 6)	156	224	393	565	2893
(2, 5)	590	1046	1194	1676	8784	(2, 6)	255	366	640	921	4716
(3, 5)	435	736	841	1187	6196	(3, 6)	633	747	901	1329	6709
(4, 5)	62	66	85	123	607	(4, 6)	1323	1354	1586	2356	11834
(5, 5)	173	220	325	471	2257	(5, 6)	123	143	279	458	2130
(6, 5)	605	836	1102	1457	7084	(6, 6)	706	810	1229	1756	8345
(7, 5)	1000	1315	3373	3538	17224	(7, 6)	1596	1918	4535	5445	27086
(8, 5)	56	66	434	339	1864	(8, 6)	66	107	403	520	2706
(9, 5)	42	63	260	309	1758	(9, 6)	115	177	747	985	4776
(10, 5)	72	92	463	536	2867	(10, 6)	163	271	1053	1392	6779
(11, 5)	365	394	2209	2765	13524	(11, 6)	508	1061	2501	3416	17060
(12, 5)	114	238	454	531	2363	(12, 6)	53	110	245	324	1584
(13, 5)	77	132	402	483	2279	(13, 6)	42	66	240	300	1490
(14, 5)	59	87	352	438	2113	(14, 6)	40	56	251	306	1487
(15, 5)	31	56	148	204	945	(15, 6)	194	295	1065	1479	7224
(16, 5)	52	50	214	216	892	(16, 6)	92	96	384	406	1693
(17, 5)	36	39	150	151	625	(17, 6)	30	29	123	125	510
(18, 5)	70	99	358	454	1949	(18, 6)	101	191	536	688	3322
(19, 5)	188	335	862	1069	5316	(19, 6)	502	916	2717	3483	16520
(20, 5)	52	60	285	370	1615	(20, 6)	99	100	493	724	3024
(21, 5)	90	105	499	653	2879	(21, 6)	113	115	578	883	3688
(22, 5)	331	444	2159	3178	15670	(22, 6)	499	831	2983	4840	22570
(23, 5)	424	574	2750	4078	20081	(23, 6)	3983	8333	25953	40148	206573
(24, 5)	360	219	1550	2366	10119	(24, 6)	2459	3751	14064	22581	118940
(25, 5)	185	108	781	1193	5047	(25, 6)	155	102	718	1184	5634
(26, 5)	235	115	639	1139	4118	(26, 6)	83	46	344	599	2497
(27, 5)	528	258	1445	2573	9317	(27, 6)	15	12	65	118	510
(28, 5)	23	11	61	109	390	(28, 6)	19	17	80	147	659
(29, 5)	37	30	118	237	981	(29, 6)	33	33	172	270	1254
(30, 5)	142	115	453	509	3765	(30, 6)	82	67	270	525	2204
(31, 5)	92	110	501	813	3256	(31, 6)	34	31	146	223	1012
(32, 5)	56	67	307	438	1995	(32, 6)	57	67	306	496	1997
(33, 5)	0	0	0	0	0	(33, 6)	0	0	0	0	0
(34, 5)	0	0	0	0	0	(34, 6)	0	0	0	0	0
(35, 5)	0	0	0	0	0	(35, 6)	0	0	0	0	0
(36, 5)	0	0	0	0	0	(36, 6)	0	0	0	0	0
(37, 5)	0	0	0	0	0	(37, 6)	0	0	0	0	0
(38, 5)	0	0	0	0	0	(38, 6)	0	0	0	0	0
(39, 5)	0	0	0	0	0	(39, 6)	0	0	0	0	0
(40, 5)	0	0	0	0	0	(40, 6)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 7)	1563	1759	2109	2380	15233	(1, 8)	1282	1366	1977	2837	14373
(2, 7)	963	1077	1317	1888	9580	(2, 8)	9145	9273	12264	15982	77507
(3, 7)	1907	1940	2249	3351	16773	(3, 8)	14134	14174	15418	23380	114557
(4, 7)	237	285	450	676	3397	(4, 8)	1018	1117	1763	2253	11076
(5, 7)	240	339	684	1073	5222	(5, 8)	134	198	482	597	2971
(6, 7)	833	714	1018	1273	6111	(6, 8)	1262	1413	4809	3159	15137
(7, 7)	3288	3052	5068	6138	29829	(7, 8)	703	875	2052	2325	11824
(8, 7)	184	312	1055	1406	7393	(8, 8)	406	734	2206	2937	15975
(9, 7)	648	1096	3709	4946	25998	(9, 8)	3141	5851	15647	20803	117365
(10, 7)	915	1675	4907	6579	34376	(10, 8)	1420	2657	7404	9844	54609
(11, 7)	690	1449	3375	4613	23064	(11, 8)	506	936	2584	3447	18429
(12, 7)	66	139	324	443	2216	(12, 8)	77	151	385	519	2695
(13, 7)	37	64	162	206	1157	(13, 8)	280	487	1221	1554	8726
(14, 7)	116	198	518	655	3636	(14, 8)	71	123	309	393	2206
(15, 7)	532	624	3377	4739	24255	(15, 8)	59	100	295	381	1672
(16, 7)	23	26	148	208	1073	(16, 8)	14	24	70	91	395
(17, 7)	43	48	203	239	1048	(17, 8)	144	123	567	795	3655
(18, 7)	36	44	169	183	901	(18, 8)	78	92	374	450	2159
(19, 7)	213	292	1210	1321	6161	(19, 8)	441	496	2064	2522	12059
(20, 7)	120	136	634	819	3544	(20, 8)	315	263	1393	2089	10078
(21, 7)	171	167	875	1358	6060	(21, 8)	367	390	2116	3026	14929
(22, 7)	264	304	1655	2700	14020	(22, 8)	264	272	1763	2899	15878
(23, 7)	7047	15423	37788	54074	282965	(23, 8)	654	601	4024	6433	34523
(24, 7)	6011	11898	26969	38913	199372	(24, 8)	1319	1182	6945	11243	57223
(25, 7)	308	253	5850	2489	11911	(25, 8)	948	1020	4947	7519	36180
(26, 7)	135	115	645	1046	4691	(26, 8)	56	44	256	410	1811
(27, 7)	37	39	192	318	1469	(27, 8)	173	214	1045	1625	7648
(28, 7)	280	243	1158	2122	9505	(28, 8)	148	132	710	1077	4965
(29, 7)	47	40	200	332	1523	(29, 8)	601	326	1498	2476	11691
(30, 7)	607	516	2737	3369	18832	(30, 8)	473	228	976	1681	8028
(31, 7)	101	90	419	643	2912	(31, 8)	225	150	684	1091	5067
(32, 7)	45	41	183	285	1274	(32, 8)	176	160	720	1123	5012
(33, 7)	0	0	0	0	0	(33, 8)	0	0	0	0	0
(34, 7)	0	0	0	0	0	(34, 8)	0	0	0	0	0
(35, 7)	0	0	0	0	0	(35, 8)	0	0	0	0	0
(36, 7)	0	0	0	0	0	(36, 8)	0	0	0	0	0
(37, 7)	0	0	0	0	0	(37, 8)	0	0	0	0	0
(38, 7)	0	0	0	0	0	(38, 8)	0	0	0	0	0
(39, 7)	0	0	0	0	0	(39, 8)	0	0	0	0	0
(40, 7)	0	0	0	0	0	(40, 8)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 3)	2563	2369	4279	6545	31586	(1,14)	12913	11386	11012	21702	83232
(2, 3)	21347	13527	19191	34185	145324	(2,14)	6813	6132	7069	12230	53409
(3, 3)	1925	1895	2281	3575	17027	(3,14)	1453	1479	2433	3959	18350
(4, 3)	2945	2017	3481	4624	22844	(4,14)	688	396	532	933	4403
(5, 3)	1236	1356	4963	2041	13341	(5,14)	6930	3917	7428	5055	43126
(6, 3)	1033	1162	4267	2504	11833	(6,14)	1136	992	2678	2321	11294
(7, 3)	1256	3118	5653	4045	28466	(7,14)	926	2433	3394	4560	24552
(8, 3)	1545	3811	6898	8349	46507	(8,14)	334	812	1853	2321	12023
(9, 3)	6839	13245	34970	46437	203369	(9,14)	795	1485	4033	5314	29228
(10, 3)	1930	3452	9378	12457	69506	(10,14)	624	1114	3039	4446	23243
(11, 3)	1013	1827	5242	6557	37704	(11,14)	150	275	801	1037	5273
(12, 3)	130	322	924	1220	6646	(12,14)	147	271	781	1012	5168
(13, 3)	200	348	874	1113	6244	(13,14)	1077	1763	5014	6350	35496
(14, 3)	121	209	532	679	3730	(14,14)	315	525	1432	1821	10022
(15, 3)	131	222	659	852	3700	(15,14)	190	132	542	701	3044
(16, 3)	108	183	545	705	3060	(16,14)	86	142	433	559	2444
(17, 3)	44	48	212	275	1303	(17,14)	70	77	339	440	2087
(18, 3)	124	131	511	714	3556	(18,14)	183	242	843	1072	5577
(19, 3)	1487	931	4611	7448	34877	(19,14)	501	714	2499	3168	18479
(20, 3)	112	93	493	741	3569	(20,14)	257	273	1197	1659	8180
(21, 3)	201	213	1153	1645	8102	(21,14)	224	190	1234	1468	6881
(22, 3)	131	151	1046	1255	5913	(22,14)	453	359	2455	2855	13173
(23, 3)	1294	1439	7387	10479	53284	(23,14)	543	840	3160	4816	25040
(24, 3)	6137	14953	33277	48230	229653	(24,14)	5658	7776	19805	28522	145439
(25, 3)	933	1132	5108	7813	39035	(25,14)	412	494	2368	3508	18102
(26, 3)	110	80	498	641	3709	(26,14)	101	125	803	1326	6092
(27, 3)	106	82	485	753	3337	(27,14)	87	58	359	571	2466
(28, 3)	106	78	456	640	2954	(28,14)	257	123	602	1062	4721
(29, 3)	362	169	724	1289	6087	(29,14)	695	324	1478	2643	12008
(30, 3)	475	222	935	1632	7799	(30,14)	286	133	563	982	4693
(31, 3)	294	137	578	1009	4824	(31,14)	287	134	565	987	4716
(32, 3)	39	21	91	154	722	(32,14)	0	0	0	0	0
(33, 3)	0	0	0	0	0	(33,14)	0	0	0	0	0
(34, 3)	0	0	0	0	0	(34,14)	0	0	0	0	0
(35, 3)	0	0	0	0	0	(35,14)	0	0	0	0	0
(36, 3)	0	0	0	0	0	(36,14)	0	0	0	0	0
(37, 3)	0	0	0	0	0	(37,14)	0	0	0	0	0
(38, 3)	0	0	0	0	0	(38,14)	0	0	0	0	0
(39, 3)	0	0	0	0	0	(39,14)	0	0	0	0	0
(40, 3)	0	0	0	0	0	(40,14)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,11)	75209	66121	62333	125579	471610	(1,12)	12369	11722	11922	22114	91174
(2,11)	1794	1639	2316	3683	16046	(2,12)	1224	1214	2252	3254	14896
(3,11)	676	654	1179	1853	8585	(3,12)	694	606	1045	1503	6925
(4,11)	7836	5176	6369	9826	46173	(4,12)	1105	730	898	1386	6507
(5,11)	17401	10014	14358	22136	105100	(5,12)	1353	1117	2660	3536	17718
(6,11)	841	1289	3478	4379	22856	(6,12)	190	250	1027	1267	6573
(7,11)	207	392	1109	1384	7255	(7,12)	233	320	1277	1585	8196
(8,11)	550	879	3244	4118	21291	(8,12)	47	76	278	354	1820
(9,11)	153	251	915	1167	5858	(9,12)	138	223	874	1034	5276
(10,11)	325	560	1984	2544	12127	(10,12)	80	134	498	628	2992
(11,11)	194	357	1088	1336	6681	(11,12)	32	149	472	597	2873
(12,11)	351	663	1916	2435	11786	(12,12)	109	267	588	746	3611
(13,11)	257	421	1208	1531	8494	(13,12)	234	397	1093	1381	7613
(14,11)	283	461	1314	1688	9356	(14,12)	343	619	1495	2003	11561
(15,11)	346	633	1496	2022	11630	(15,12)	726	1333	3125	4230	24543
(16,11)	91	171	403	497	2450	(16,12)	211	417	875	1044	5563
(17,11)	70	139	292	348	1856	(17,12)	137	258	567	685	3652
(18,11)	65	121	421	535	2784	(18,12)	33	50	174	220	1176
(19,11)	272	417	1388	1793	9731	(19,12)	103	174	543	716	4116
(20,11)	277	418	1683	2009	10077	(20,12)	212	359	1105	1424	8000
(21,11)	484	790	2596	3164	16610	(21,12)	298	505	1484	1833	9888
(22,11)	214	294	1079	1306	6710	(22,12)	1390	2391	6725	3354	45567
(23,11)	111	159	620	916	4828	(23,12)	156	269	757	940	5129
(24,11)	359	320	1966	2592	12839	(24,12)	57	82	282	363	1903
(25,11)	565	497	3173	4124	20298	(25,12)	428	433	2569	3325	15639
(26,11)	53	51	306	511	2328	(26,12)	245	242	1224	1674	7670
(27,11)	80	51	289	515	2324	(27,12)	64	40	144	217	1017
(28,11)	1419	659	3140	5832	25167	(28,12)	83	85	300	317	1276
(29,11)	406	188	898	1025	7199	(29,12)	91	91	305	322	1297
(30,11)	0	0	0	0	0	(30,12)	74	74	248	263	1058
(31,11)	220	297	1886	1395	4502	(31,12)	339	457	2301	2008	6925
(32,11)	0	0	0	0	0	(32,12)	0	0	0	0	0
(33,11)	0	0	0	0	0	(33,12)	0	0	0	0	0
(34,11)	0	0	0	0	0	(34,12)	0	0	0	0	0
(35,11)	0	0	0	0	0	(35,12)	0	0	0	0	0
(36,11)	0	0	0	0	0	(36,12)	0	0	0	0	0
(37,11)	0	0	0	0	0	(37,12)	0	0	0	0	0
(38,11)	0	0	0	0	0	(38,12)	0	0	0	0	0
(39,11)	0	0	0	0	0	(39,12)	0	0	0	0	0
(40,11)	0	0	0	0	0	(40,12)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,13)	936	1015	1154	1833	8948	(1,14)	0	0	0	0	0
(2,13)	2251	2436	2845	4611	21777	(2,14)	309	410	483	731	3511
(3,13)	523	590	707	1025	4963	(3,14)	2279	2571	3085	4471	21640
(4,13)	260	294	353	511	2473	(4,14)	235	281	426	596	2858
(5,13)	268	330	1110	1407	7107	(5,14)	117	207	667	864	4056
(6,13)	100	139	548	651	3479	(6,14)	383	676	2178	2820	13238
(7,13)	212	380	1234	1587	7969	(7,14)	123	232	726	940	4686
(8,13)	70	131	416	536	2670	(8,14)	168	316	989	1282	6398
(9,13)	172	266	1153	1384	6537	(9,14)	49	80	333	390	1826
(10,13)	95	150	614	734	3511	(10,14)	38	65	235	269	1295
(11,13)	132	223	783	896	4377	(11,14)	145	245	861	986	4814
(12,13)	89	160	519	595	2900	(12,14)	283	585	1250	1522	7383
(13,13)	77	180	345	428	2072	(13,14)	288	674	1295	1604	7767
(14,13)	129	297	582	722	3526	(14,14)	218	500	987	1221	6021
(15,13)	216	404	928	1222	6983	(15,14)	65	120	317	387	2202
(16,13)	63	125	262	313	1669	(16,14)	544	1015	2656	3242	18429
(17,13)	133	227	527	654	3611	(17,14)	442	753	1751	2172	11999
(18,13)	40	59	204	245	1191	(18,14)	137	219	634	789	3957
(19,13)	103	151	553	630	3500	(19,14)	152	205	805	960	4646
(20,13)	870	1497	4506	5965	34037	(20,14)	253	446	1173	1551	8153
(21,13)	1442	2679	6359	8023	47538	(21,14)	1047	2037	4283	5830	32259
(22,13)	447	777	2009	2680	14474	(22,14)	309	587	1327	1675	9320
(23,13)	1280	2238	5758	7570	41117	(23,14)	1053	1853	4742	6256	33973
(24,13)	180	316	808	1066	5787	(24,14)	400	695	1806	2379	12916
(25,13)	219	347	1159	1462	7978	(25,14)	550	865	3014	3823	20676
(26,13)	4369	2520	8462	12995	61850	(26,14)	1197	1230	4165	5866	29683
(27,13)	2609	1659	6654	8562	38764	(27,14)	5331	3863	13095	18876	94375
(28,13)	272	264	1230	1180	4737	(28,14)	582	613	3209	3702	17138
(29,13)	1555	1558	5284	5585	22407	(29,14)	764	919	3475	3874	17018
(30,13)	140	149	563	551	2179	(30,14)	119	194	699	807	3513
(31,13)	274	374	2319	1638	5727	(31,14)	855	1064	3897	4425	19148
(32,13)	0	0	0	0	0	(32,14)	601	981	3528	4077	17736
(33,13)	0	0	0	0	0	(33,14)	0	0	0	0	0
(34,13)	0	0	0	0	0	(34,14)	0	0	0	0	0
(35,13)	0	0	0	0	0	(35,14)	0	0	0	0	0
(36,13)	0	0	0	0	0	(36,14)	0	0	0	0	0
(37,13)	0	0	0	0	0	(37,14)	0	0	0	0	0
(38,13)	0	0	0	0	0	(38,14)	0	0	0	0	0
(39,13)	0	0	0	0	0	(39,14)	0	0	0	0	0
(40,13)	0	0	0	0	0	(40,14)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,15)	0	0	0	0	0	(1,16)	0	0	0	0	0
(2,15)	0	0	0	0	0	(2,16)	0	0	0	0	0
(3,15)	632	713	855	1239	5997	(3,16)	0	0	0	0	0
(4,15)	206	548	679	816	4277	(4,16)	92	350	437	503	2689
(5,15)	145	475	725	865	4441	(5,16)	1257	4781	5967	6862	36691
(6,15)	89	157	507	656	3081	(6,16)	145	553	690	793	4243
(7,15)	155	274	880	1140	5357	(7,16)	159	513	803	936	4832
(8,15)	27	53	177	205	954	(8,16)	66	100	406	462	2226
(9,15)	25	59	193	192	776	(9,16)	18	27	111	126	606
(10,15)	24	55	177	178	735	(10,16)	50	80	307	349	1677
(11,15)	123	242	698	764	3854	(11,16)	114	224	593	635	3259
(12,15)	106	216	543	595	3021	(12,16)	206	406	1077	1153	5916
(13,15)	0	0	0	0	0	(13,16)	12	19	59	60	295
(14,15)	43	100	192	238	1152	(14,16)	14	21	71	68	334
(15,15)	57	106	279	340	1937	(15,16)	13	23	59	69	390
(16,15)	226	421	1107	1353	7699	(16,16)	275	464	1187	1377	7673
(17,15)	55	101	261	320	1813	(17,16)	105	179	460	537	2996
(18,15)	75	129	352	417	2157	(18,16)	105	202	522	583	3231
(19,15)	100	165	483	575	2922	(19,16)	554	1011	2412	2939	15884
(20,15)	203	391	819	1144	6253	(20,16)	391	738	1487	2004	11138
(21,15)	85	163	354	466	2591	(21,16)	171	283	740	1000	5586
(22,15)	961	1908	4029	4911	27843	(22,16)	255	425	1104	1490	8330
(23,15)	546	988	2325	3023	16847	(23,16)	266	471	1106	1464	8242
(24,15)	751	1329	3144	4157	23301	(24,16)	1744	3091	7224	9554	53813
(25,15)	351	552	1872	2380	12901	(25,16)	932	1604	4188	5315	30275
(26,15)	1200	1880	6369	8174	44795	(26,16)	1942	3410	8397	10529	61329
(27,15)	10266	16842	49116	67861	395197	(27,16)	8082	13659	37718	50732	293746
(28,15)	5390	7867	25961	34289	180986	(28,16)	5868	9094	30587	40608	223073
(29,15)	378	535	1881	2459	12714	(29,16)	461	543	2982	3698	18396
(30,15)	176	283	1035	1159	5251	(30,16)	73	86	470	583	2901
(31,15)	81	112	495	563	2419	(31,16)	46	59	290	343	1322
(32,15)	25	39	147	183	757	(32,16)	40	50	247	292	1125
(33,15)	0	0	0	0	0	(33,16)	0	0	0	0	0
(34,15)	0	0	0	0	0	(34,16)	0	0	0	0	0
(35,15)	0	0	0	0	0	(35,16)	0	0	0	0	0
(36,15)	0	0	0	0	0	(36,16)	0	0	0	0	0
(37,15)	0	0	0	0	0	(37,16)	0	0	0	0	0
(38,15)	0	0	0	0	0	(38,16)	0	0	0	0	0
(39,15)	0	0	0	0	0	(39,16)	0	0	0	0	0
(40,15)	0	0	0	0	0	(40,16)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 46 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,17)	0	0	0	0	0	(1,18)	0	0	0	0	0
(2,17)	0	0	0	0	0	(2,18)	0	0	0	0	0
(3,17)	0	0	0	0	0	(3,18)	0	0	0	0	0
(4,17)	0	0	0	0	0	(4,18)	0	0	0	0	0
(5,17)	721	2782	3473	3034	21754	(5,18)	0	0	0	0	0
(6,17)	110	381	537	645	3454	(6,18)	73	134	390	583	3196
(7,17)	51	92	275	413	2187	(7,18)	68	125	383	551	2369
(8,17)	77	124	458	502	2813	(8,18)	559	1024	2972	4516	24340
(9,17)	269	439	1777	2022	9739	(9,18)	38	51	201	202	1562
(10,17)	20	28	122	147	707	(10,18)	280	385	1712	2058	9996
(11,17)	17	23	103	123	595	(11,18)	95	132	583	701	3381
(12,17)	9	12	52	63	302	(12,18)	70	103	499	533	2834
(13,17)	103	146	513	429	2405	(13,18)	43	36	293	348	1803
(14,17)	6	9	30	35	182	(14,18)	4	3	26	31	142
(15,17)	62	104	266	307	1706	(15,18)	2	4	7	9	51
(16,17)	40	67	176	136	1031	(16,18)	14	26	53	68	379
(17,17)	257	466	1025	1201	7015	(17,18)	111	210	423	546	3037
(18,17)	70	133	308	369	2049	(18,18)	1115	1913	3903	4976	27704
(19,17)	485	909	2070	2563	14135	(19,18)	229	422	899	1126	6229
(20,17)	442	770	1846	2131	11945	(20,18)	558	1071	2167	2513	14180
(21,17)	571	1037	2276	2997	16728	(21,18)	253	492	1045	1276	7176
(22,17)	670	1437	3773	5141	28498	(22,18)	657	1125	2383	3905	21789
(23,17)	127	219	535	712	3999	(23,18)	658	1394	2046	2916	16233
(24,17)	395	691	1637	2161	12057	(24,18)	799	1376	3198	4193	23331
(25,17)	1115	2090	4685	5945	33965	(25,18)	2245	3716	9414	12290	70114
(26,17)	667	1433	2983	3854	21317	(26,18)	198	372	979	1115	5713
(27,17)	1043	2383	4727	5786	33524	(27,18)	250	394	1387	1492	6742
(28,17)	5186	7524	17164	22141	117403	(28,18)	2463	2371	6286	8734	42175
(29,17)	753	886	4767	5904	29014	(29,18)	902	944	2819	3851	19209
(30,17)	122	154	764	903	3596	(30,18)	832	975	4601	5306	26351
(31,17)	472	601	2349	3479	13423	(31,18)	1001	1234	5981	7281	29675
(32,17)	129	288	638	1[illegible]1	4855	(32,18)	53	132	284	452	2117
(33,17)	0	0	0	0	0	(33,18)	0	0	0	0	0
(34,17)	0	0	0	0	0	(34,18)	0	0	0	0	0
(35,17)	0	0	0	0	0	(35,18)	0	0	0	0	0
(36,17)	0	0	0	0	0	(36,18)	0	0	0	0	0
(37,17)	0	0	0	0	0	(37,18)	0	0	0	0	0
(38,17)	0	0	0	0	0	(38,18)	0	0	0	0	0
(39,17)	0	0	0	0	0	(39,18)	0	0	0	0	0
(40,17)	0	0	0	0	0	(40,18)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,19)	0	0	0	0	0	(1,20)	0	0	0	0	0
(2,19)	0	0	0	0	0	(2,20)	0	0	0	0	0
(3,19)	30	93	158	224	987	(3,20)	0	0	0	0	0
(4,19)	5	13	27	41	168	(4,20)	0	0	0	0	0
(5,19)	0	0	0	0	0	(5,20)	0	0	0	0	0
(6,19)	26	48	139	211	1146	(6,20)	0	0	0	0	0
(7,19)	336	616	1786	2715	14630	(7,20)	123	256	659	1002	5016
(8,19)	39	67	217	318	1702	(8,20)	132	288	731	1084	5084
(9,19)	54	98	302	433	2310	(9,20)	50	82	282	404	2155
(10,19)	111	181	623	894	4770	(10,20)	44	73	250	358	1914
(11,19)	332	532	1890	2686	14293	(11,20)	90	109	558	818	4524
(12,19)	60	64	394	508	2573	(12,20)	129	137	824	1217	6800
(13,19)	19	17	131	152	701	(13,20)	61	70	392	546	2964
(14,19)	23	25	193	225	1036	(14,20)	63	87	410	499	2594
(15,19)	29	34	197	230	1192	(15,20)	61	71	413	494	2494
(16,19)	35	41	238	284	1435	(16,20)	125	146	841	1007	5082
(17,19)	20	35	83	104	569	(17,20)	82	123	464	580	2916
(18,19)	25	46	96	122	671	(18,20)	23	39	110	142	700
(19,19)	44	81	180	232	1218	(19,20)	43	74	191	249	1221
(20,19)	43	78	181	232	1297	(20,20)	33	58	151	201	1059
(21,19)	318	549	1415	1316	10685	(21,20)	590	1021	2644	3574	19791
(22,19)	234	405	1037	1405	7836	(22,20)	1330	2297	5916	8012	44691
(23,19)	97	209	293	419	2332	(23,20)	46	83	212	287	1453
(24,19)	216	366	904	1335	6867	(24,20)	114	202	587	778	3777
(25,19)	1370	2057	6166	7861	43822	(25,20)	378	616	1912	2537	12306
(26,19)	516	698	2657	2545	13847	(26,20)	399	545	2090	2702	12826
(27,19)	428	547	2204	2553	11413	(27,20)	498	751	2719	3833	19155
(28,19)	2166	2709	9696	13273	68680	(28,20)	3281	5146	15273	20961	111272
(29,19)	3092	4091	15051	19171	108938	(29,20)	6249	11488	28983	39552	214586
(30,19)	1513	1640	7369	10326	51653	(30,20)	1181	1610	5668	8048	40297
(31,19)	1744	1891	8494	11303	59543	(31,20)	70	108	339	501	2438
(32,19)	68	152	330	529	2475	(32,20)	0	0	0	0	0
(33,19)	0	0	0	0	0	(33,20)	0	0	0	0	0
(34,19)	0	0	0	0	0	(34,20)	0	0	0	0	0
(35,19)	0	0	0	0	0	(35,20)	0	0	0	0	0
(36,19)	0	0	0	0	0	(36,20)	0	0	0	0	0
(37,19)	0	0	0	0	0	(37,20)	0	0	0	0	0
(38,19)	0	0	0	0	0	(38,20)	0	0	0	0	0
(39,19)	0	0	0	0	0	(39,20)	0	0	0	0	0
(40,19)	0	0	0	0	0	(40,20)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 45 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,21)	0	0	0	0	0	(1,22)	0	0	0	0	0
(2,21)	0	0	0	0	0	(2,22)	0	0	0	0	0
(3,21)	0	0	0	0	0	(3,22)	1438	4574	12062	9031	63822
(4,21)	0	0	0	0	0	(4,22)	58	205	240	137	825
(5,21)	0	0	0	0	0	(5,22)	14	13	188	232	1172
(6,21)	47	233	167	160	595	(6,22)	205	1066	1052	1037	6987
(7,21)	75	203	413	630	2587	(7,22)	3353	9022	18453	28071	115469
(8,21)	458	1235	2516	3831	15730	(8,22)	2700	7291	14812	22610	92840
(9,21)	125	335	689	1050	4343	(9,22)	39	242	564	857	3858
(10,21)	62	88	388	570	3270	(10,22)	57	73	381	570	3440
(11,21)	65	69	417	616	3440	(11,22)	83	109	539	813	4870
(12,21)	28	30	182	269	1500	(12,22)	50	83	301	435	2560
(13,21)	125	274	720	382	5931	(13,22)	234	556	1318	1769	10856
(14,21)	43	102	243	320	2000	(14,22)	183	434	1029	1381	8480
(15,21)	108	211	653	839	4814	(15,22)	261	615	1470	1988	12115
(16,21)	59	96	356	446	2398	(16,22)	760	1452	4194	6725	35080
(17,21)	36	156	507	648	3238	(17,22)	119	189	654	912	4731
(18,21)	143	233	755	986	4825	(18,22)	156	244	342	1120	5778
(19,21)	47	77	250	319	1595	(19,22)	49	80	259	330	1642
(20,21)	69	124	375	480	2193	(20,22)	67	106	369	432	2079
(21,21)	205	365	1016	1345	6652	(21,22)	99	166	504	634	3154
(22,21)	1826	3110	7503	10062	61940	(22,22)	378	640	1573	2237	12794
(23,21)	80	135	375	544	2820	(23,22)	124	203	631	951	4496
(24,21)	54	89	308	445	2043	(24,22)	17	72	134	230	951
(25,21)	30	51	160	197	932	(25,22)	32	51	225	330	1385
(26,21)	213	409	1315	1458	6346	(26,22)	159	313	996	1105	4782
(27,21)	1229	2144	7211	10024	51951	(27,22)	290	562	1628	2198	11684
(28,21)	3535	7445	17918	24174	126073	(28,22)	4017	7539	20626	23533	153944
(29,21)	18976	39560	75583	92638	436617	(29,22)	23253	41388	84582	120368	496469
(30,21)	23644	41670	84917	143333	497216	(30,22)	21223	35506	80592	118709	463180
(31,21)	1556	2160	6853	12464	54433	(31,22)	8366	9702	39724	80966	364803
(32,21)	0	0	0	0	0	(32,22)	0	0	0	0	0
(33,21)	0	0	0	0	0	(33,22)	0	0	0	0	0
(34,21)	0	0	0	0	0	(34,22)	0	0	0	0	0
(35,21)	0	0	0	0	0	(35,22)	0	0	0	0	0
(36,21)	0	0	0	0	0	(36,22)	0	0	0	0	0
(37,21)	0	0	0	0	0	(37,22)	0	0	0	0	0
(38,21)	0	0	0	0	0	(38,22)	0	0	0	0	0
(39,21)	0	0	0	0	0	(39,22)	0	0	0	0	0
(40,21)	0	0	0	0	0	(40,22)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,23)	0	0	0	0	0	(1,24)	0	0	0	0	0
(2,23)	0	0	0	0	0	(2,24)	0	0	0	0	0
(3,23)	361	2260	1232	31	110	(3,24)	440	878	2332	4128	17076
(4,23)	0	0	0	0	0	(4,24)	340	1050	1815	1732	10829
(5,23)	273	667	2602	3580	27614	(5,24)	0	0	0	0	0
(6,23)	13966	4401	13527	20330	226523	(6,24)	124	342	568	804	4029
(7,23)	2027	5522	10307	15280	67994	(7,24)	303	835	1388	1964	9848
(8,23)	801	2166	4371	6658	27503	(8,24)	370	897	1857	2780	14591
(9,23)	228	494	1371	1973	10717	(9,24)	288	673	1714	2351	13460
(10,23)	104	177	665	963	5708	(10,24)	130	303	773	1061	6072
(11,23)	162	222	1039	1578	9459	(11,24)	188	295	1133	1775	10213
(12,23)	159	247	987	1549	9112	(12,24)	125	184	785	1217	7039
(13,23)	101	204	599	899	5218	(13,24)	114	139	742	1396	7612
(14,23)	91	212	511	690	4200	(14,24)	130	164	836	1353	7760
(15,23)	105	185	598	917	4752	(15,24)	54	78	336	537	2967
(16,23)	98	173	554	874	4501	(16,24)	247	323	1498	2353	12557
(17,23)	73	109	427	672	3722	(17,24)	237	305	1443	2267	12121
(18,23)	174	217	1050	1624	9340	(18,24)	80	109	470	740	4153
(19,23)	425	668	2354	3803	20187	(19,24)	1109	1844	5989	9931	51590
(20,23)	144	227	788	945	4583	(20,24)	182	302	982	1629	8463
(21,23)	56	88	308	360	1731	(21,24)	95	148	518	694	3497
(22,23)	74	120	378	510	2455	(22,24)	28	37	151	233	1279
(23,23)	117	195	576	857	4112	(23,24)	83	119	526	790	4180
(24,23)	33	42	231	376	1742	(24,24)	92	115	569	857	4617
(25,23)	162	264	985	1531	8520	(25,24)	135	169	835	1258	6782
(26,23)	105	183	607	971	5471	(26,24)	463	786	2684	4294	24170
(27,23)	205	359	1182	1882	10591	(27,24)	485	840	2798	4498	25397
(28,23)	1391	1554	7050	12173	59275	(28,24)	780	1000	4241	6513	33888
(29,23)	3080	3673	15999	24311	123815	(29,24)	869	1042	4556	6744	34603
(30,23)	2229	2785	11354	18235	89748	(30,24)	2029	3276	10147	16477	78040
(31,23)	2283	2484	11075	22571	98911	(31,24)	102	145	509	899	4114
(32,23)	3390	3499	16744	34256	148032	(32,24)	1010	1043	4990	10208	44112
(33,23)	0	0	0	0	0	(33,24)	541	558	2671	5464	23614
(34,23)	0	0	0	0	0	(34,24)	0	0	0	0	0
(35,23)	0	0	0	0	0	(35,24)	0	0	0	0	0
(36,23)	0	0	0	0	0	(36,24)	0	0	0	0	0
(37,23)	0	0	0	0	0	(37,24)	0	0	0	0	0
(38,23)	0	0	0	0	0	(38,24)	0	0	0	0	0
(39,23)	0	0	0	0	0	(39,24)	0	0	0	0	0
(40,23)	0	0	0	0	0	(40,24)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,25)	0	0	0	0	0	(1,26)	0	0	0	0	0
(2,25)	0	0	0	0	0	(2,26)	0	0	0	0	0
(3,25)	1837	4302	11528	16922	91861	(3,26)	0	0	0	0	0
(4,25)	6034	18675	31557	33522	227387	(4,26)	424	799	3204	4037	26534
(5,25)	0	0	0	0	0	(5,26)	0	0	0	0	0
(6,25)	0	0	0	0	0	(6,26)	0	0	0	0	0
(7,25)	166	457	759	1175	5388	(7,26)	0	0	0	0	0
(8,25)	118	238	652	1035	5037	(8,26)	0	0	0	0	0
(9,25)	288	297	1242	2083	11759	(9,26)	20	75	123	207	1188
(10,25)	302	631	1538	2641	12571	(10,26)	180	351	784	1375	6410
(11,25)	1330	4372	9728	17145	79933	(11,26)	2563	5831	12523	22081	102344
(12,25)	410	755	2266	4018	20234	(12,26)	287	516	1453	2305	11744
(13,25)	363	569	2402	3365	21582	(13,26)	330	551	1983	2892	15935
(14,25)	203	327	1248	1677	10270	(14,26)	87	111	404	505	3276
(15,25)	21	30	131	224	1210	(15,26)	405	567	2476	4214	22782
(16,25)	71	94	432	702	3771	(16,26)	84	114	381	538	3091
(17,25)	256	404	1454	2367	12926	(17,26)	141	237	739	1240	7003
(18,25)	42	71	235	372	2094	(18,26)	24	41	133	199	1120
(19,25)	130	237	721	1059	5848	(19,26)	74	142	414	581	3053
(20,25)	116	217	646	916	4930	(20,26)	134	367	1089	1484	8091
(21,25)	31	42	177	231	1564	(21,26)	114	140	653	1018	5792
(22,25)	42	51	241	376	2158	(22,26)	108	136	615	984	5496
(23,25)	42	52	253	304	2093	(23,26)	21	25	113	136	1061
(24,25)	121	150	744	1120	6837	(24,26)	7	9	38	59	325
(25,25)	191	267	1109	1712	9135	(25,26)	50	56	222	347	1910
(26,25)	153	235	866	1365	7272	(26,26)	342	504	1924	3011	15714
(27,25)	313	1351	4688	7477	40437	(27,26)	1502	1552	5738	9084	48392
(28,25)	348	496	2029	3218	18317	(28,26)	227	353	1302	2064	10518
(29,25)	739	989	4078	6501	32099	(29,26)	306	575	1887	2886	13865
(30,25)	610	989	3066	5001	23729	(30,26)	366	590	1882	3050	14792
(31,25)	2835	4549	14343	23331	111587	(31,26)	2693	4103	14547	23732	120090
(32,25)	10	11	50	163	444	(32,26)	1114	1986	6053	9016	50329
(33,25)	73	76	362	749	3197	(33,26)	0	0	0	0	0
(34,25)	214	221	1058	2165	9355	(34,26)	188	171	820	1678	7252
(35,25)	0	0	0	0	0	(35,26)	0	0	0	0	0
(36,25)	0	0	0	0	0	(36,26)	0	0	0	0	0
(37,25)	0	0	0	0	0	(37,26)	0	0	0	0	0
(38,25)	0	0	0	0	0	(38,26)	0	0	0	0	0
(39,25)	0	0	0	0	0	(39,26)	0	0	0	0	0
(40,25)	0	0	0	0	0	(40,26)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,27)	0	0	0	0	0	(1,28)	0	0	0	0	0
(2,27)	0	0	0	0	0	(2,28)	0	0	0	0	0
(3,27)	0	0	0	0	0	(3,28)	0	0	0	0	0
(4,27)	0	0	0	0	0	(4,28)	0	0	0	0	0
(5,27)	0	0	0	0	0	(5,28)	0	0	0	0	0
(6,27)	0	0	0	0	0	(6,28)	0	0	0	0	0
(7,27)	0	0	0	0	0	(7,28)	0	0	0	0	0
(8,27)	0	0	0	0	0	(8,28)	0	0	0	0	0
(9,27)	0	0	0	0	0	(9,28)	0	0	0	0	0
(10,27)	0	0	0	0	0	(10,28)	0	0	0	0	0
(11,27)	0	0	0	0	0	(11,28)	0	0	0	0	0
(12,27)	42	72	255	369	2034	(12,28)	0	0	0	0	0
(13,27)	184	309	1102	1533	8789	(13,28)	11	16	63	92	505
(14,27)	91	145	549	836	4580	(14,28)	78	134	438	744	3788
(15,27)	210	418	1147	1623	9399	(15,28)	326	717	1665	2642	12868
(16,27)	1157	2768	5786	8024	42393	(16,28)	1928	4607	9630	14378	70669
(17,27)	104	249	520	776	3815	(17,28)	417	788	2241	3429	18336
(18,27)	52	74	304	464	2660	(18,28)	104	132	601	948	5465
(19,27)	51	84	296	416	2332	(19,28)	122	177	668	1056	5908
(20,27)	86	144	488	633	3828	(20,28)	38	55	210	319	1765
(21,27)	286	380	1643	2484	13973	(21,28)	87	116	501	757	4260
(22,27)	41	50	235	369	2102	(22,28)	66	85	388	584	3375
(23,27)	51	61	291	455	2594	(23,28)	18	22	108	166	972
(24,27)	28	38	164	251	1360	(24,28)	35	54	215	316	1606
(25,27)	104	155	594	922	4793	(25,28)	87	140	522	771	3890
(26,27)	573	852	3231	5070	26330	(26,28)	259	380	1532	2241	11712
(27,27)	124	210	695	1103	5548	(27,28)	101	143	577	841	4524
(28,27)	157	246	989	1387	7013	(28,28)	92	149	481	668	3170
(29,27)	83	145	452	603	2793	(29,28)	329	533	1666	2221	10290
(30,27)	1388	2131	7454	11775	58951	(30,28)	713	1108	3531	5493	25337
(31,27)	1646	2495	8863	14471	72870	(31,28)	2321	3549	11516	18330	85421
(32,27)	319	467	1777	2814	14112	(32,28)	590	895	3429	5053	24445
(33,27)	402	552	2339	3486	17058	(33,28)	120	187	647	966	4486
(34,27)	26	35	131	227	1007	(34,28)	840	1361	4360	6558	29908
(35,27)	21	22	106	216	934	(35,28)	80	120	393	613	2779
(36,27)	0	0	0	0	0	(36,28)	9	6	29	51	229
(37,27)	0	0	0	0	0	(37,28)	0	0	0	0	0
(38,27)	0	0	0	0	0	(38,28)	0	0	0	0	0
(39,27)	0	0	0	0	0	(39,28)	0	0	0	0	0
(40,27)	0	0	0	0	0	(40,28)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,29)	0	0	0	0	0	(1,30)	0	0	0	0	0
(2,29)	0	0	0	0	0	(2,30)	0	0	0	0	0
(3,29)	0	0	0	0	0	(3,30)	0	0	0	0	0
(4,29)	0	0	0	0	0	(4,30)	0	0	0	0	0
(5,29)	0	0	0	0	0	(5,30)	0	0	0	0	0
(6,29)	0	0	0	0	0	(6,30)	0	0	0	0	0
(7,29)	0	0	0	0	0	(7,30)	0	0	0	0	0
(8,29)	0	0	0	0	0	(8,30)	0	0	0	0	0
(9,29)	0	0	0	0	0	(9,30)	0	0	0	0	0
(10,29)	0	0	0	0	0	(10,30)	0	0	0	0	0
(11,29)	0	0	0	0	0	(11,30)	0	0	0	0	0
(12,29)	0	0	0	0	0	(12,30)	0	0	0	0	0
(13,29)	0	0	0	0	0	(13,30)	0	0	0	0	0
(14,29)	349	685	1833	3113	15015	(14,30)	0	0	0	0	0
(15,29)	190	373	997	1634	8169	(15,30)	115	225	603	1023	4936
(16,29)	85	167	448	758	3653	(16,30)	16	19	52	88	425
(17,29)	83	148	416	669	3473	(17,30)	107	214	495	788	3934
(18,29)	367	675	1958	3107	16492	(18,30)	621	1247	2882	4589	22896
(19,29)	1090	2188	5068	8070	40307	(19,30)	432	862	2019	3220	16146
(20,29)	174	309	896	1457	7742	(20,30)	295	531	1510	2407	13066
(21,29)	33	58	206	321	1763	(21,30)	143	264	744	1179	6380
(22,29)	94	116	606	878	5500	(22,30)	103	198	535	817	4473
(23,29)	155	191	1003	1453	9128	(23,30)	76	132	413	646	3605
(24,29)	30	67	177	226	1207	(24,30)	271	691	1463	1855	8824
(25,29)	66	101	406	536	3028	(25,30)	1938	5074	10608	12895	61082
(26,29)	351	496	2023	2319	15651	(26,30)	109	284	913	1391	7535
(27,29)	101	166	540	800	4082	(27,30)	547	1108	2631	4121	18729
(28,29)	145	295	694	1063	4887	(28,30)	61	128	292	461	2066
(29,29)	102	158	516	711	3287	(29,30)	10	21	43	70	305
(30,29)	263	407	1301	2041	9485	(30,30)	2588	5854	11209	18350	77915
(31,29)	2433	3713	12067	19221	89475	(31,30)	1277	2461	6001	9620	42774
(32,29)	335	446	1910	2887	13714	(32,30)	382	361	1893	2737	13187
(33,29)	310	476	1652	2234	10650	(33,30)	179	271	959	1223	5892
(34,29)	391	633	2028	3051	13912	(34,30)	213	336	1104	1428	6899
(35,29)	495	542	1867	3210	14416	(35,30)	151	179	554	948	4393
(36,29)	60	59	208	372	1664	(36,30)	785	942	3252	5835	26888
(37,29)	0	0	0	0	0	(37,30)	0	0	0	0	0
(38,29)	0	0	0	0	0	(38,30)	0	0	0	0	0
(39,29)	0	0	0	0	0	(39,30)	0	0	0	0	0
(40,29)	0	0	0	0	0	(40,30)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,31)	0	0	0	0	0	(1,32)	0	0	0	0	0
(2,31)	0	0	0	0	0	(2,32)	0	0	0	0	0
(3,31)	0	0	0	0	0	(3,32)	0	0	0	0	0
(4,31)	0	0	0	0	0	(4,32)	0	0	0	0	0
(5,31)	0	0	0	0	0	(5,32)	0	0	0	0	0
(6,31)	0	0	0	0	0	(6,32)	0	0	0	0	0
(7,31)	0	0	0	0	0	(7,32)	0	0	0	0	0
(8,31)	0	0	0	0	0	(8,32)	0	0	0	0	0
(9,31)	0	0	0	0	0	(9,32)	0	0	0	0	0
(10,31)	0	0	0	0	0	(10,32)	0	0	0	0	0
(11,31)	0	0	0	0	0	(11,32)	0	0	0	0	0
(12,31)	0	0	0	0	0	(12,32)	0	0	0	0	0
(13,31)	0	0	0	0	0	(13,32)	0	0	0	0	0
(14,31)	0	0	0	0	0	(14,32)	99	168	530	978	4794
(15,31)	104	178	559	1028	5039	(15,32)	390	667	2090	3837	18818
(16,31)	14	30	71	105	521	(16,32)	68	144	325	457	2239
(17,31)	19	41	93	134	675	(17,32)	29	62	140	192	968
(18,31)	63	126	291	464	2315	(18,32)	3	6	14	22	111
(19,31)	20	40	93	148	740	(19,32)	0	0	0	0	0
(20,31)	16	29	83	135	714	(20,32)	1	2	7	34	118
(21,31)	8	14	45	77	414	(21,32)	4	6	26	116	406
(22,31)	347	588	1885	3211	17250	(22,32)	41	67	223	430	2149
(23,31)	376	715	1960	3046	16549	(23,32)	90	155	494	785	4021
(24,31)	1405	2704	7093	11582	59365	(24,32)	380	630	2109	3315	17030
(25,31)	1596	3606	8578	11844	60001	(25,32)	159	280	862	1352	7112
(26,31)	650	837	3129	6126	28532	(26,32)	190	266	958	1392	6966
(27,31)	573	1176	2743	4315	19471	(27,32)	504	1001	2416	3759	16944
(28,31)	72	153	336	535	2369	(28,32)	46	110	205	315	1336
(29,31)	220	502	953	1561	6617	(29,32)	356	849	1557	2389	10053
(30,31)	2268	5161	9805	16059	68063	(30,32)	395	901	1709	2792	11828
(31,31)	693	1577	2996	4907	20797	(31,32)	80	212	389	598	2513
(32,31)	266	623	1165	1781	7534	(32,32)	592	1412	2590	3973	16724
(33,31)	332	575	1686	2207	10336	(33,32)	837	1993	3657	5611	23617
(34,31)	285	557	1183	1744	8185	(34,32)	1208	2457	5021	7555	34814
(35,31)	3839	7363	15997	23921	116723	(35,32)	3881	7695	16461	25418	116964
(36,31)	1061	1710	5011	8736	41799	(36,32)	1083	2119	5448	9662	38819
(37,31)	72	131	362	644	2850	(37,32)	1497	2928	7528	13352	40983
(38,31)	0	0	0	0	0	(38,32)	146	348	641	1015	4157
(39,31)	0	0	0	0	0	(39,32)	38	89	164	259	1060
(40,31)	0	0	0	0	0	(40,32)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,33)	0	0	0	0	0	(1,34)	0	0	0	0	0
(2,33)	0	0	0	0	0	(2,34)	0	0	0	0	0
(3,33)	0	0	0	0	0	(3,34)	0	0	0	0	0
(4,33)	0	0	0	0	0	(4,34)	0	0	0	0	0
(5,33)	0	0	0	0	0	(5,34)	0	0	0	0	0
(6,33)	0	0	0	0	0	(6,34)	0	0	0	0	0
(7,33)	0	0	0	0	0	(7,34)	0	0	0	0	0
(8,33)	0	0	0	0	0	(8,34)	0	0	0	0	0
(9,33)	0	0	0	0	0	(9,34)	0	0	0	0	0
(10,33)	0	0	0	0	0	(10,34)	0	0	0	0	0
(11,33)	0	0	0	0	0	(11,34)	0	0	0	0	0
(12,33)	0	0	0	0	0	(12,34)	0	0	0	0	0
(13,33)	56	95	301	554	2718	(13,34)	0	0	0	0	0
(14,33)	54	91	288	530	2600	(14,34)	33	67	211	389	1905
(15,33)	122	227	631	1059	5236	(15,34)	42	85	210	343	1693
(16,33)	134	254	678	1023	5289	(16,34)	12	30	56	86	420
(17,33)	11	24	56	76	385	(17,34)	3	7	12	19	94
(18,33)	3	6	17	23	148	(18,34)	12	22	61	100	531
(19,33)	3	4	19	35	299	(19,34)	4	5	23	102	358
(20,33)	9	11	51	230	904	(20,34)	3	12	53	239	835
(21,33)	3	19	45	276	721	(21,34)	0	0	0	0	0
(22,33)	3	8	26	41	211	(22,34)	12	26	36	90	421
(23,33)	36	100	476	750	3772	(23,34)	17	35	95	144	724
(24,33)	242	426	1336	2940	10596	(24,34)	103	365	970	1423	7513
(25,33)	53	185	600	776	3857	(25,34)	43	76	225	322	1667
(26,33)	160	167	753	1000	4269	(26,34)	63	85	443	534	2710
(27,33)	32	58	313	426	1948	(27,34)	277	256	1422	1937	8986
(28,33)	16	39	71	109	460	(28,34)	0	16	39	51	230
(29,33)	164	339	717	1037	4624	(29,34)	154	306	675	976	3350
(30,33)	86	285	375	576	2424	(30,34)	52	198	230	368	1369
(31,33)	110	281	479	734	3091	(31,34)	592	1306	2582	7940	16656
(32,33)	1517	3614	6630	10173	42818	(32,34)	1238	2921	5470	9452	35769
(33,33)	1374	3246	6038	9309	39326	(33,34)	45	107	198	301	1267
(34,33)	1339	4243	8965	14330	82682	(34,34)	4252	9402	20479	33120	144843
(35,33)	2920	6414	14172	23249	101347	(35,34)	6691	14826	32273	52369	229012
(36,33)	902	1883	4835	3873	37097	(36,34)	1425	2831	7129	12521	54229
(37,33)	161	314	807	1432	6194	(37,34)	281	551	1415	2510	10860
(38,33)	163	380	717	1140	4675	(38,34)	15	23	75	132	573
(39,33)	357	850	1558	2463	10074	(39,34)	62	147	263	426	1742
(40,33)	0	0	0	0	0	(40,34)	151	361	661	1046	4277

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,35)	0	0	0	0	0	(1,36)	0	0	0	0	0
(2,35)	0	0	0	0	0	(2,36)	0	0	0	0	0
(3,35)	0	0	0	0	0	(3,36)	0	0	0	0	0
(4,35)	0	0	0	0	0	(4,36)	0	0	0	0	0
(5,35)	0	0	0	0	0	(5,36)	0	0	0	0	0
(6,35)	0	0	0	0	0	(6,36)	0	0	0	0	0
(7,35)	0	0	0	0	0	(7,36)	0	0	0	0	0
(8,35)	0	0	0	0	0	(8,36)	0	0	0	0	0
(9,35)	0	0	0	0	0	(9,36)	0	0	0	0	0
(10,35)	0	0	0	0	0	(10,36)	0	0	0	0	0
(11,35)	0	0	0	0	0	(11,36)	0	0	0	0	0
(12,35)	0	0	0	0	0	(12,36)	0	0	0	0	0
(13,35)	0	0	0	0	0	(13,36)	0	0	0	0	0
(14,35)	43	111	201	314	1532	(14,36)	210	545	986	1536	7497
(15,35)	107	278	502	783	3820	(15,36)	140	387	700	1030	5323
(16,35)	39	101	182	283	1383	(16,36)	55	143	258	402	1964
(17,35)	28	73	132	206	1003	(17,36)	2	5	9	14	70
(18,35)	2	6	12	18	88	(18,36)	11	14	54	100	476
(19,35)	6	8	37	165	579	(19,36)	70	89	341	631	2996
(20,35)	0	0	0	0	0	(20,36)	11	17	60	115	559
(21,35)	14	20	78	234	936	(21,36)	2	4	13	26	124
(22,35)	0	0	0	0	0	(22,36)	15	25	88	169	820
(23,35)	53	55	237	318	1458	(23,36)	155	206	768	1256	5930
(24,35)	122	132	598	838	4169	(24,36)	292	275	1276	1700	7611
(25,35)	37	63	194	201	1434	(25,36)	62	53	302	420	1896
(26,35)	59	52	307	424	1934	(26,36)	191	152	976	1383	6275
(27,35)	102	95	525	716	3276	(27,36)	23	18	118	167	759
(28,35)	20	40	87	114	512	(28,36)	0	0	0	0	0
(29,35)	377	748	1648	2140	9650	(29,36)	11	22	43	63	283
(30,35)	135	242	568	775	3407	(30,36)	96	152	388	556	2391
(31,35)	101	153	401	587	2493	(31,36)	383	583	1522	2232	9471
(32,35)	369	561	1466	2150	9125	(32,36)	650	1012	2591	3773	16084
(33,35)	1	2	5	7	29	(33,36)	290	535	1305	1939	8726
(34,35)	7467	16616	35963	58166	254352	(34,36)	1096	2439	5279	8537	37337
(35,35)	3679	8153	17744	28792	125868	(35,36)	2375	5383	10711	17464	77135
(36,35)	205	418	1012	1741	7559	(36,36)	0	0	0	0	0
(37,35)	23	46	117	208	900	(37,36)	0	0	0	0	0
(38,35)	33	80	146	231	945	(38,36)	0	0	0	0	0
(39,35)	43	102	187	296	1210	(39,36)	0	0	0	0	0
(40,35)	35	83	152	241	985	(40,36)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,37)	0	0	0	0	0	(1,38)	0	0	0	0	0
(2,37)	0	0	0	0	0	(2,38)	0	0	0	0	0
(3,37)	0	0	0	0	0	(3,38)	0	0	0	0	0
(4,37)	0	0	0	0	0	(4,38)	0	0	0	0	0
(5,37)	0	0	0	0	0	(5,38)	0	0	0	0	0
(6,37)	0	0	0	0	0	(6,38)	0	0	0	0	0
(7,37)	0	0	0	0	0	(7,38)	0	0	0	0	0
(8,37)	0	0	0	0	0	(8,38)	0	0	0	0	0
(9,37)	0	0	0	0	0	(9,38)	0	0	0	0	0
(10,37)	0	0	0	0	0	(10,38)	0	0	0	0	0
(11,37)	0	0	0	0	0	(11,38)	13	159	30	5	8
(12,37)	0	0	0	0	0	(12,38)	52	475	74	15	25
(13,37)	0	0	0	0	0	(13,38)	0	0	0	0	0
(14,37)	13	34	61	15	465	(14,38)	0	0	0	0	0
(15,37)	87	226	409	637	3108	(15,38)	221	572	1035	1613	7875
(16,37)	83	215	389	606	2960	(16,38)	131	340	615	958	4676
(17,37)	11	23	52	82	398	(17,38)	45	08	221	398	1896
(18,37)	7	8	32	59	282	(18,38)	1	2	6	11	54
(19,37)	87	119	442	629	3561	(19,38)	3	3	13	24	114
(20,37)	47	77	267	516	2501	(20,38)	22	37	93	166	773
(21,37)	16	26	90	174	842	(21,38)	43	70	245	473	2293
(22,37)	87	135	483	913	4401	(22,38)	42	55	219	335	1817
(23,37)	155	137	701	977	4322	(23,38)	136	116	633	903	3970
(24,37)	66	58	295	402	1793	(24,38)	149	111	709	1014	4581
(25,37)	65	52	332	471	2137	(25,38)	58	45	301	428	1949
(26,37)	106	84	540	765	3469	(26,38)	95	79	508	719	3264
(27,37)	0	0	0	0	0	(27,38)	440	842	1943	2544	11593
(28,37)	0	0	0	0	0	(28,38)	104	195	451	591	2892
(29,37)	48	94	215	279	1269	(29,38)	43	83	191	248	1129
(30,37)	114	223	512	663	3021	(30,38)	213	426	947	1252	5672
(31,37)	569	1056	2487	3315	14849	(31,38)	83	165	369	486	2203
(32,37)	136	227	550	783	3387	(32,38)	13	25	52	83	312
(33,37)	314	698	1395	2208	9786	(33,38)	292	507	1319	1827	8066
(34,37)	1266	2868	5707	9234	41053	(34,38)	87	152	393	546	2410
(35,37)	935	2121	4219	6879	30384	(35,38)	0	0	0	0	0
(36,37)	0	0	0	0	0	(36,38)	0	0	0	0	0
(37,37)	0	0	0	0	0	(37,38)	0	0	0	0	0
(38,37)	0	0	0	0	0	(38,38)	0	0	0	0	0
(39,37)	0	0	0	0	0	(39,38)	0	0	0	0	0
(40,37)	0	0	0	0	0	(40,38)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

AREA SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,39)	0	0	0	0	0	(1,40)	0	0	0	0	0
(2,39)	0	0	0	0	0	(2,40)	0	0	0	0	0
(3,39)	0	0	0	0	0	(3,40)	0	0	0	0	0
(4,39)	0	0	0	0	0	(4,40)	0	0	0	0	0
(5,39)	0	0	0	0	0	(5,40)	0	0	0	0	0
(6,39)	0	0	0	0	0	(6,40)	0	0	0	0	0
(7,39)	0	0	0	0	0	(7,40)	0	0	0	0	0
(8,39)	0	0	0	0	0	(8,40)	0	0	0	0	0
(9,39)	0	0	0	0	0	(9,40)	0	0	0	0	0
(10,39)	0	0	0	0	0	(10,40)	0	0	0	0	0
(11,39)	79	557	189	17	22	(11,40)	0	0	0	0	0
(12,39)	955	7166	2089	226	308	(12,40)	0	0	0	0	0
(13,39)	0	0	0	0	0	(13,40)	0	0	0	0	0
(14,39)	0	0	0	0	0	(14,40)	0	0	0	0	0
(15,39)	10	26	47	73	358	(15,40)	0	0	0	0	0
(16,39)	33	48	160	230	1381	(16,40)	0	0	0	0	0
(17,39)	97	124	476	831	4180	(17,40)	0	0	0	0	0
(18,39)	77	98	375	633	3288	(18,40)	18	27	80	145	679
(19,39)	36	51	147	260	1199	(19,40)	40	68	164	290	1336
(20,39)	39	67	161	234	1308	(20,40)	352	597	1440	2538	11708
(21,39)	101	170	447	810	3792	(21,40)	765	905	3662	5407	24814
(22,39)	185	161	986	1483	6844	(22,40)	82	63	434	625	2856
(23,39)	115	117	580	753	3328	(23,40)	605	520	3075	4253	19163
(24,39)	114	105	582	739	3536	(24,40)	438	400	2214	2996	13419
(25,39)	48	37	256	369	1687	(25,40)	32	25	169	244	1114
(26,39)	41	32	218	314	1433	(26,40)	1711	1124	4949	7759	29182
(27,39)	60	112	258	338	1538	(27,40)	37	70	162	212	965
(28,39)	69	129	297	389	1771	(28,40)	56	105	243	318	1451
(29,39)	312	603	1352	1735	8145	(29,40)	85	174	362	477	2159
(30,39)	240	506	1039	1443	6456	(30,40)	223	481	944	1245	5620
(31,39)	32	68	140	195	871	(31,40)	438	937	1865	2465	11115
(32,39)	44	65	212	303	1314	(32,40)	362	537	1755	2515	10888
(33,39)	290	430	1406	2015	8723	(33,40)	265	392	1283	1838	7959
(34,39)	118	174	569	816	3532	(34,40)	33	50	162	232	1005
(35,39)	0	0	0	0	0	(35,40)	0	0	0	0	0
(36,39)	0	0	0	0	0	(36,40)	0	0	0	0	0
(37,39)	0	0	0	0	0	(37,40)	0	0	0	0	0
(38,39)	0	0	0	0	0	(38,40)	0	0	0	0	0
(39,39)	0	0	0	0	0	(39,40)	0	0	0	0	0
(40,39)	0	0	0	0	0	(40,40)	0	0	0	0	0

SECTION E-3

GRIDDED POINT AND AREA SOURCE EMISSIONS (TONS/YEAR)

ON THE 20-KM GRID NETWORK

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 1)	5009	3294	4817	6608	33601	(1, 2)	778	694	1221	1807	8912
(2, 1)	1436	1359	1888	2726	13292	(2, 2)	2343	2297	702	1030	5046
(3, 1)	1573	1161	2706	3325	19152	(3, 2)	1265	1020	1977	2811	14342
(4, 1)	348	275	482	632	3037	(4, 2)	478	336	422	616	3235
(5, 1)	1264	999	1720	1711	8108	(5, 2)	76200	391908	68557	1737	7322
(6, 1)	4023	54470	6925	7775	33377	(6, 2)	558	440	772	775	3670
(7, 1)	389	2083	718	392	1629	(7, 2)	448	1445	1097	768	3370
(8, 1)	47	33	333	313	1336	(8, 2)	232	20068	4211	312	1276
(9, 1)	53	37	347	390	1663	(9, 2)	71	69	440	465	2122
(10, 1)	133	167	849	895	4383	(10, 2)	1936	1858	2450	2668	13270
(11, 1)	194	208	818	349	4476	(11, 2)	37	63	203	228	1088
(12, 1)	42	65	219	255	1197	(12, 2)	340	295	471	568	2563
(13, 1)	158	127	318	347	1619	(13, 2)	690	374	960	1056	14844
(14, 1)	0	0	0	0	0	(14, 2)	24	46	116	127	591
(15, 1)	59	29	183	211	837	(15, 2)	480	18	119	137	542
(16, 1)	0	0	0	0	0	(16, 2)	29	14	68	101	403
(17, 1)	144	224	690	954	3915	(17, 2)	1809	111	371	459	2142
(18, 1)	733	770	1912	2260	10528	(18, 2)	1107	498	1679	2079	9662
(19, 1)	609	1231	1057	919	4040	(19, 2)	113	126	563	713	3392
(20, 1)	440	513	2302	3666	14703	(20, 2)	16839	299	459	605	1902
(21, 1)	148	148	647	1034	3736	(21, 2)	48	59	212	275	1219
(22, 1)	666	78	388	510	2100	(22, 2)	54	65	249	329	1501
(23, 1)	46	31	161	211	833	(23, 2)	96	178	445	597	2871
(24, 1)	632	372	198	180	345	(24, 2)	346	74	310	446	1569
(25, 1)	79	72	303	440	1736	(25, 2)	42	36	101	236	876
(26, 1)	33	31	130	210	826	(26, 2)	65	88	304	450	1817
(27, 1)	38	39	159	228	985	(27, 2)	92	90	249	373	1538
(28, 1)	2907	3502	1670	1100	15743	(28, 2)	137	207	712	1014	4295
(29, 1)	68	64	389	537	2468	(29, 2)	53	59	274	400	1675
(30, 1)	38	36	210	314	1356	(30, 2)	8	8	45	67	290
(31, 1)	6	9	32	68	257	(31, 2)	88	123	452	647	3575
(32, 1)	33	46	168	353	1332	(32, 2)	19	27	97	204	771
(33, 1)	0	0	0	0	0	(33, 2)	0	0	0	0	0
(34, 1)	0	0	0	0	0	(34, 2)	0	0	0	0	0
(35, 1)	0	0	0	0	0	(35, 2)	0	0	0	0	0
(36, 1)	0	0	0	0	0	(36, 2)	0	0	0	0	0
(37, 1)	0	0	0	0	0	(37, 2)	0	0	0	0	0
(38, 1)	0	0	0	0	0	(38, 2)	0	0	0	0	0
(39, 1)	0	0	0	0	0	(39, 2)	0	0	0	0	0
(40, 1)	0	0	0	0	0	(40, 2)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 3)	4316	4979	5559	8140	38975	(1, 4)	669	919	1255	1775	9038
(2, 3)	31722	18281	37668	71182	297870	(2, 4)	300	289	460	664	3336
(3, 3)	29326	95573	28996	4511	27236	(3, 4)	23730	207132	37393	787	3365
(4, 3)	34	33	68	105	502	(4, 4)	2406	3148	1905	2421	11719
(5, 3)	215	219	526	844	3901	(5, 4)	157	159	239	345	1672
(6, 3)	1368	659	1039	732	3331	(6, 4)	409	475	673	744	3543
(7, 3)	606	523	1365	1235	5981	(7, 4)	52893	372164	77927	1619	6652
(8, 3)	78	74	510	526	2523	(8, 4)	30	33	211	212	1012
(9, 3)	33	36	216	237	1143	(9, 4)	42	41	275	311	1516
(10, 3)	2844	221601	124426	2005	8849	(10, 4)	910	204	1894	2166	10665
(11, 3)	190	270	1062	1234	5939	(11, 4)	322	9525	3705	2097	9983
(12, 3)	33	63	153	178	818	(12, 4)	1299	280	540	632	2816
(13, 3)	108	125	357	322	1383	(13, 4)	61	119	262	309	1406
(14, 3)	61	61	173	157	671	(14, 4)	1556	107946	27275	645	2397
(15, 3)	55	61	219	231	993	(15, 4)	161	37	132	139	597
(16, 3)	32	41	141	144	610	(16, 4)	100	98	286	281	1165
(17, 3)	65	71	254	296	1250	(17, 4)	18	22	75	75	312
(18, 3)	130	65	553	636	2940	(18, 4)	48	41	662	789	3285
(19, 3)	109	342	512	604	2869	(19, 4)	41	76	185	228	1157
(20, 3)	55	58	227	302	1308	(20, 4)	66	50	244	336	1338
(21, 3)	151	188	662	845	3969	(21, 4)	2414	187	843	900	5018
(22, 3)	20	24	107	137	614	(22, 4)	47	54	259	341	1515
(23, 3)	1357	5002	2718	6381	12607	(23, 4)	642	44637	13600	3276	7542
(24, 3)	138	147	683	945	3825	(24, 4)	6	7	36	52	209
(25, 3)	78	86	306	523	1956	(25, 4)	5926	61323	22072	1491	5038
(26, 3)	125	103	357	518	2134	(26, 4)	98	52	275	478	1743
(27, 3)	505	281	822	884	3664	(27, 4)	111	75	366	593	2276
(28, 3)	46	53	232	369	1533	(28, 4)	64	31	171	304	1089
(29, 3)	155	291	470	624	2593	(29, 4)	15	18	82	133	532
(30, 3)	0	0	0	0	0	(30, 4)	0	0	0	0	0
(31, 3)	64	77	351	571	2286	(31, 4)	38	46	209	340	1359
(32, 3)	51	62	276	407	1851	(32, 4)	7	8	38	61	244
(33, 3)	0	0	0	0	0	(33, 4)	0	0	0	0	0
(34, 3)	0	0	0	0	0	(34, 4)	0	0	0	0	0
(35, 3)	0	0	0	0	0	(35, 4)	0	0	0	0	0
(36, 3)	0	0	0	0	0	(36, 4)	0	0	0	0	0
(37, 3)	0	0	0	0	0	(37, 4)	0	0	0	0	0
(38, 3)	0	0	0	0	0	(38, 4)	0	0	0	0	0
(39, 3)	0	0	0	0	0	(39, 4)	0	0	0	0	0
(40, 3)	0	0	0	0	0	(40, 4)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 5)	967	1350	1805	2524	12972	(1, 6)	156	224	393	565	2893
(2, 5)	2760	2756	1420	1628	17122	(2, 6)	255	366	640	921	4716
(3, 5)	445	736	841	1167	6196	(3, 6)	9663	7077	1494	1368	6788
(4, 5)	62	66	85	123	607	(4, 6)	2226	2349	1586	2356	11834
(5, 5)	179	220	325	471	2257	(5, 6)	123	149	279	458	2130
(6, 5)	605	836	1102	1457	7084	(6, 6)	706	810	1229	1756	8345
(7, 5)	4843	86704	16751	3859	18017	(7, 6)	11332	13234	6492	5533	27279
(8, 5)	56	66	434	339	1864	(8, 6)	164	1977	516	528	2724
(9, 5)	42	63	280	369	1758	(9, 6)	115	177	747	985	4776
(10, 5)	72	92	463	596	2867	(10, 6)	3860	18746	30224	1878	8400
(11, 5)	5174	144262	28406	3206	14987	(11, 6)	792	1061	2501	3416	17060
(12, 5)	1068	26205	6304	660	2687	(12, 6)	274	259	289	326	1590
(13, 5)	81	132	402	483	2279	(13, 6)	42	66	240	300	1490
(14, 5)	59	87	352	438	2113	(14, 6)	44	56	251	306	1487
(15, 5)	32	56	148	204	945	(15, 6)	10125	75875	26443	2756	10289
(16, 5)	90	50	214	218	892	(16, 6)	92	96	384	406	1693
(17, 5)	36	39	150	151	625	(17, 6)	30	29	123	125	510
(18, 5)	9438	99	358	735	3385	(18, 6)	414	191	542	691	3323
(19, 5)	34194	18132	6498	1224	5540	(19, 6)	13243	1125	2822	4066	16538
(20, 5)	52	60	285	370	1615	(20, 6)	861	100	493	724	3024
(21, 5)	90	105	499	653	2879	(21, 6)	119	115	578	883	3688
(22, 5)	2198	547	2195	3256	15673	(22, 6)	588	833	3026	5011	22573
(23, 5)	1266	995	2837	4115	20306	(23, 6)	5997	9261	26410	48172	207926
(24, 5)	596	1651	2283	2403	10168	(24, 6)	4803	20195	23006	22760	119654
(25, 5)	185	108	781	1193	5047	(25, 6)	155	103	719	1184	5634
(26, 5)	235	115	639	1139	4118	(26, 6)	4232	62867	14099	831	3261
(27, 5)	619	756	1736	2586	9333	(27, 6)	15	12	65	118	510
(28, 5)	23	11	61	109	390	(28, 6)	19	17	80	147	659
(29, 5)	37	30	118	237	981	(29, 6)	39	33	172	270	1254
(30, 5)	142	115	453	909	3765	(30, 6)	82	67	270	525	2204
(31, 5)	92	110	501	813	3256	(31, 6)	34	31	146	223	1012
(32, 5)	82	425	378	506	2000	(32, 6)	60	114	315	496	1998
(33, 5)	0	0	0	0	0	(33, 6)	0	0	0	0	0
(34, 5)	0	0	0	0	0	(34, 6)	0	0	0	0	0
(35, 5)	0	0	0	0	0	(35, 6)	0	0	0	0	0
(36, 5)	0	0	0	0	0	(36, 6)	0	0	0	0	0
(37, 5)	0	0	0	0	0	(37, 6)	0	0	0	0	0
(38, 5)	0	0	0	0	0	(38, 6)	0	0	0	0	0
(39, 5)	0	0	0	0	0	(39, 6)	0	0	0	0	0
(40, 5)	0	0	0	0	0	(40, 6)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 7)	162[illegible]	1759	2169	2560	15233	(1, 8)	1508	5504	1977	2837	14373
(2, 7)	1481	1270	1415	1[illegible]	3592	(2, 8)	10119	13937	12264	15962	77507
(3, 7)	3461	4871	2240	3428	16773	(3, 8)	35570	30510	18847	78054	161057
(4, 7)	397	635	45[illegible]	676	3397	(4, 8)	1633	1117	1763	2253	11076
(5, 7)	240	339	634	1073	5222	(5, 8)	179	196	730	800	3003
(6, 7)	833	714	1018	1[illegible]73	6111	(6, 8)	16774	43816	8490[illegible]	4243	18328
(7, 7)	24726	141947	23985	111[illegible]	94018	(7, 8)	22712	75[illegible]5	71638	3217	45562
(8, 7)	3155	5152	3545	1424	11785	(8, 8)	406	734	2208	2937	15975
(9, 7)	1143	1405	4146	5[illegible]39	27430	(9, 8)	3855	7092	16167	23614	131716
(10, 7)	2536	2090	6336	6541	34415	(10, 8)	19875	16485[illegible]	29559	10169	55643
(11, 7)	911	1679	3452	4[illegible]23	23107	(11, 8)	983	976	2584	3447	18429
(12, 7)	66	139	324	443	2216	(12, 8)	77	191	385	519	2695
(13, 7)	37	64	162	2[illegible]6	1157	(13, 8)	3492	497	1221	1554	8885
(14, 7)	1124	198	519	655	3636	(14, 8)	71	123	309	393	2206
(15, 7)	633	1528	3969	4781	24284	(15, 8)	59	100	255	381	1672
(16, 7)	2390	902	39[illegible]	624	1104	(16, 8)	14	24	7[illegible]	51	395
(17, 7)	47	48	203	235	1745	(17, 8)	144	123	567	755	3655
(18, 7)	3[illegible]	44	109	183	901	(18, 8)	7[illegible]	32	374	450	2153
(19, 7)	583	4406	3062	1724	8169	(19, 8)	1301	5667	4303	2528	12221
(20, 7)	531	1310	954	831	3558	(20, 8)	319	263	1393	2289	10078
(21, 7)	21723	38233	13492	1572	6735	(21, 8)	2252	18392	4221	3035	15365
(22, 7)	283	304	1655	27[illegible]	14[illegible]	(22, 8)	264	272	1763	2839	15878
(23, 7)	8525	21386	40362	5456[illegible]	288511	(23, 8)	611	601	4024	6433	34523
(24, 7)	7604	22086	30545	39415	2[illegible]2843	(24, 8)	5167	1736	7514	11272	57262
(25, 7)	300	253	5850	2439	11911	(25, 8)	548	1[illegible]2[illegible]	4947	7519	36180
(26, 7)	135	115	645	1[illegible]46	4691	(26, 8)	50	44	255	410	1811
(27, 7)	37	39	152	518	1405	(27, 8)	187	250	1236	1643	7697
(28, 7)	315	303	1347	2125	9511	(29, 8)	149	132	710	1077	4965
(29, 7)	420	7080	6088	447	1700	(29, 8)	881	6547	2830	3016	11766
(30, 7)	658	791	2806	40[illegible]5	18841	(30, 8)	557	276	978	1681	8028
(31, 7)	107	108	427	543	2913	(31, 8)	225	150	684	1031	5067
(32, 7)	45	41	183	235	1274	(32, 8)	178	160	728	1123	5012
(33, 7)	0	0	[illegible]	0	0	(33, 8)	0	0	0	0	0
(34, 7)	0	0	[illegible]	0	0	(34, 8)	0	0	0	0	0
(35, 7)	0	0	[illegible]	0	0	(35, 8)	0	0	0	0	0
(36, 7)	0	0	[illegible]	0	0	(36, 8)	0	0	0	0	0
(37, 7)	0	0	[illegible]	0	0	(37, 8)	0	0	0	0	0
(38, 7)	0	0	[illegible]	0	0	(38, 8)	0	0	0	0	0
(39, 7)	0	0	[illegible]	0	0	(39, 8)	0	0	0	0	0
(40, 7)	0	0	[illegible]	0	0	(40, 8)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1, 9)	2871	3119	4292	6580	31586	(1,10)	13530	12823	11946	21966	83301
(2, 9)	35390	137200	31374	41522	145505	(2,10)	7178	6596	7068	14195	53409
(3, 9)	42078	8900	3056	4414	17060	(3,10)	1776	1409	2439	3959	19800
(4, 9)	5103	5623	3821	4758	22741	(4,10)	692	398	592	1133	4403
(5, 9)	2396	1356	4963	2841	20884	(5,10)	8171	4116	7461	9382	43165
(6, 9)	1052	1162	4267	2541	11855	(6,10)	31759	108752	27376	2572	12129
(7, 9)	3128	36554	11906	3782	27527	(7,10)	1133	5142	4993	4610	24628
(8, 9)	42216	55273	19821	11410	54445	(8,10)	554	725	2167	2316	12040
(9, 9)	46155	64694	56745	47140	269619	(9,10)	3936	2734	4310	5547	29264
(10, 9)	6533	3100	11376	13117	75505	(10,10)	12154	6144	13541	4632	27225
(11, 9)	20042	213666	43598	10064	59367	(11,10)	341	275	801	1037	6541
(12, 9)	160	322	924	1226	6646	(12,10)	5493	187186	33224	1618	7065
(13, 9)	200	348	374	1113	6244	(13,10)	1682	1763	5014	6356	35496
(14, 9)	121	209	532	678	3730	(14,10)	315	525	1432	1821	10022
(15, 9)	131	222	659	652	3700	(15,10)	108	182	542	701	3044
(16, 9)	4595	183	545	705	3060	(16,10)	86	142	433	559	2444
(17, 9)	2175	48	212	275	1303	(17,10)	70	77	333	440	2087
(18, 9)	138	300	535	716	3559	(18,10)	2212	242	843	1072	5577
(19, 9)	1684	1565	4792	7546	34961	(19,10)	2338	5876	3346	3185	22147
(20, 9)	120	93	493	741	3569	(20,10)	784	502	1230	1662	8189
(21, 9)	304	213	1153	1645	8102	(21,10)	31626	40656	5654	1468	6881
(22, 9)	216	287	1111	1259	5917	(22,10)	477	434	2545	2874	13173
(23, 9)	1360	1450	7605	10481	53293	(23,10)	14544	28055	27938	16009	125745
(24, 9)	11033	34889	52712	78180	232218	(24,10)	3622	8117	20772	28556	146403
(25, 9)	2026	17084	23301	94202	39737	(25,10)	862	984	2846	3025	18130
(26, 9)	110	80	498	841	3709	(26,10)	102	129	803	1326	6092
(27, 9)	106	82	485	753	3337	(27,10)	82	58	356	571	2466
(28, 9)	106	78	456	640	2954	(28,10)	273	262	629	1069	4723
(29, 9)	530	130	727	1289	8007	(29,10)	715	367	1740	2637	12050
(30, 9)	1921	308	960	1755	7801	(30,10)	322	691	856	937	4699
(31, 9)	1524	25446	7942	1133	5234	(31,10)	267	174	565	987	4716
(32, 9)	33	21	91	154	722	(32,10)	0	0	0	0	0
(33, 9)	0	0	0	0	0	(33,10)	0	0	0	0	0
(34, 9)	0	0	0	0	0	(34,10)	0	0	0	0	0
(35, 9)	0	0	0	0	0	(35,10)	0	0	0	0	0
(36, 9)	0	0	0	0	0	(36,10)	0	0	0	0	0
(37, 9)	0	0	0	0	0	(37,10)	2	0	0	0	0
(38, 9)	0	0	0	0	0	(38,10)	0	0	0	0	0
(39, 9)	0	0	0	0	0	(39,10)	0	0	0	0	0
(40, 9)	0	0	0	0	0	(40,10)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,11)	12829	183540	92477	140120	517051	(1,12)	18871	186355	39089	23238	92628
(2,11)	2036	2851	2480	3613	10068	(2,12)	1297	1553	2273	3255	14900
(3,11)	916	654	1179	1859	8585	(3,12)	634	606	1045	1503	6925
(4,11)	19161	12731	6912	11397	56325	(4,12)	1105	730	898	1386	6507
(5,11)	56423	90982	35643	31530	168903	(5,12)	1927	1830	2878	3613	17746
(6,11)	2002	1580	4357	4446	23032	(6,12)	344	250	1027	1267	6573
(7,11)	207	392	1109	1384	7255	(7,12)	383	320	1277	1585	8196
(8,11)	695	994	3446	4125	21323	(8,12)	47	76	278	354	1820
(9,11)	503	251	915	1167	5858	(9,12)	4233	8537	2391	1137	5404
(10,11)	13402	96749	27075	2877	13838	(10,12)	80	134	493	628	2992
(11,11)	3478	221985	50915	2216	9449	(11,12)	82	143	472	597	2873
(12,11)	31421	277136	56113	3343	14846	(12,12)	109	207	588	746	3611
(13,11)	446	421	1208	1531	8494	(13,12)	234	397	1093	1381	7613
(14,11)	1201	461	1314	1068	9356	(14,12)	343	615	1495	2003	11561
(15,11)	2623	1762	1753	2042	11670	(15,12)	34953	124891	6173	4284	24743
(16,11)	7100	2261	909	586	2483	(16,12)	376	585	903	1045	5566
(17,11)	1046	139	292	348	1856	(17,12)	296	256	570	685	3652
(18,11)	243	121	421	535	2784	(18,12)	33	50	174	220	1176
(19,11)	1468	542	1487	1800	9744	(19,12)	103	174	543	716	4116
(20,11)	277	418	1683	2095	10077	(20,12)	218	492	1121	1425	8001
(21,11)	1036	800	2599	3164	18032	(21,12)	293	506	1484	1633	9388
(22,11)	214	294	1079	1366	6710	(22,12)	5654	15171	5365	8753	46424
(23,11)	111	159	620	516	4829	(23,12)	156	285	757	940	5129
(24,11)	359	320	1961	2552	12839	(24,12)	8376	8497	3065	410	2056
(25,11)	908	977	4203	4203	20503	(25,12)	813	736	2673	3336	15661
(26,11)	55	51	306	511	2326	(26,12)	286	242	1224	1874	7670
(27,11)	80	51	289	515	2324	(27,12)	133	40	146	217	1017
(28,11)	1815	7224	5533	5771	25244	(28,12)	89	89	300	317	1276
(29,11)	441	138	898	1825	7199	(29,12)	233	91	305	322	1297
(30,11)	0	0	0	0	0	(30,12)	74	74	248	263	1058
(31,11)	332	418	1958	1309	4507	(31,12)	581	625	2957	2012	6931
(32,11)	0	0	0	0	0	(32,12)	0	0	0	0	0
(33,11)	0	0	0	0	0	(33,12)	0	0	0	0	0
(34,11)	0	0	0	0	0	(34,12)	0	0	0	0	0
(35,11)	0	0	0	0	0	(35,12)	0	0	0	0	0
(36,11)	0	0	0	0	0	(36,12)	0	0	0	0	0
(37,11)	0	0	0	0	0	(37,12)	0	0	0	0	0
(38,11)	0	0	0	0	0	(38,12)	0	0	0	0	0
(39,11)	0	0	0	0	0	(39,12)	0	0	0	0	0
(40,11)	0	0	0	0	0	(40,12)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,13)	5658	41312	7791	2105	9319	(1,14)	0	0	0	0	0
(2,13)	5467	9769	3915	17324	22002	(2,14)	369	410	483	731	3511
(3,13)	523	590	707	1025	4963	(3,14)	23610	80847	14882	4726	22405
(4,13)	530	294	353	511	2473	(4,14)	235	281	426	691	2858
(5,13)	288	330	1110	1407	7107	(5,14)	117	207	667	864	4056
(6,13)	100	139	548	681	3479	(6,14)	5159	8468	5315	2880	13452
(7,13)	253	384	1237	1610	8000	(7,14)	123	232	726	940	4686
(8,13)	70	131	416	536	2670	(8,14)	448	8431	1558	1464	6473
(9,13)	777	308	1153	1384	6587	(9,14)	49	80	333	390	1826
(10,13)	161	150	614	734	3511	(10,14)	38	65	235	269	1295
(11,13)	457	229	1839	1714	4525	(11,14)	145	245	861	986	4814
(12,13)	89	160	516	595	2900	(12,14)	263	585	1250	1522	7383
(13,13)	77	180	345	428	2072	(13,14)	18301	78714	16209	1857	8600
(14,13)	129	297	582	722	3526	(14,14)	240	525	995	1222	6022
(15,13)	12928	5730	2058	1274	7168	(15,14)	65	120	317	387	2202
(16,13)	63	125	262	313	1669	(16,14)	3083	3614	4214	3338	18650
(17,13)	133	227	527	654	3611	(17,14)	2131	1711	2284	2185	13809
(18,13)	40	59	200	245	1191	(18,14)	137	219	634	789	3957
(19,13)	103	151	553	680	3500	(19,14)	2012	209	805	960	4646
(20,13)	12210	2704	4745	6008	34056	(20,14)	259	448	1179	1551	8153
(21,13)	11435	23774	14877	8801	47819	(21,14)	17928	5847	4957	5892	32296
(22,13)	12953	382038	91255	4150	21303	(22,14)	9461	1109	1329	2043	9373
(23,13)	3631	2315	5790	7572	41120	(23,14)	1913	5313	5349	7727	35970
(24,13)	318	316	808	1066	6599	(24,14)	1993	24358	13335	2767	17904
(25,13)	219	347	1159	1482	7978	(25,14)	4163	3310	6472	3900	28097
(26,13)	4668	3713	8987	16588	61897	(26,14)	1837	3128	4621	5698	29718
(27,13)	20250	169136	290600	21333	42585	(27,14)	11494	51605	38122	33461	109746
(28,13)	272	264	1230	1160	4737	(28,14)	8156	121078	27912	4192	18501
(29,13)	5128	7551	7361	5678	24783	(29,14)	1033	1004	3503	3875	17020
(30,13)	712	149	563	553	4950	(30,14)	146	232	759	809	3517
(31,13)	4841	35009	8984	1752	6068	(31,14)	680	1104	3929	4427	19150
(32,13)	0	0	0	0	0	(32,14)	601	984	3528	4077	17736
(33,13)	0	0	0	0	0	(33,14)	0	0	0	0	0
(34,13)	0	0	0	0	0	(34,14)	0	0	0	0	0
(35,13)	0	0	0	0	0	(35,14)	0	0	0	0	0
(36,13)	0	0	0	0	0	(36,14)	0	0	0	0	0
(37,13)	0	0	0	0	0	(37,14)	0	0	0	0	0
(38,13)	0	0	0	0	0	(38,14)	0	0	0	0	0
(39,13)	0	0	0	0	0	(39,14)	0	0	0	0	0
(40,13)	0	0	0	0	0	(40,14)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 44 US-CANADIAN GRID
(GRID SPACING = 20 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,15)	0	0	0	0	0	(1,16)	0	0	0	0	0
(2,15)	0	0	0	0	0	(2,16)	0	0	0	0	0
(3,15)	532	713	855	1239	5937	(3,16)	0	0	0	0	0
(4,15)	206	563	670	816	4277	(4,16)	95	350	467	505	2693
(5,15)	145	475	725	605	4441	(5,16)	2112	5937	6102	7500	38886
(6,15)	83	157	507	656	3081	(6,16)	145	553	890	793	4243
(7,15)	204	282	887	1109	5423	(7,16)	159	513	803	936	4832
(8,15)	27	53	177	205	954	(8,16)	9410	1100	408	462	2226
(9,15)	25	59	193	192	778	(9,16)	18	27	111	120	606
(10,15)	24	55	177	178	735	(10,16)	50	80	307	348	1677
(11,15)	123	242	698	784	3854	(11,16)	482	9930	2323	741	3475
(12,15)	106	216	543	595	3021	(12,16)	200	406	1077	1153	5318
(13,15)	0	0	0	0	0	(13,16)	12	15	59	60	295
(14,15)	43	100	192	238	1152	(14,16)	14	21	71	68	334
(15,15)	57	106	279	340	1637	(15,16)	13	23	53	69	330
(16,15)	13767	3611	1923	1174	7747	(16,16)	2993	14893	4444	1643	8168
(17,15)	55	101	261	220	1813	(17,16)	105	179	468	537	2996
(18,15)	75	129	352	417	2157	(18,16)	105	202	522	583	3231
(19,15)	100	155	483	575	2922	(19,16)	19423	139905	15963	3199	16684
(20,15)	203	391	819	1144	6253	(20,16)	391	738	1487	2004	11138
(21,15)	85	163	354	466	2591	(21,16)	171	203	740	1000	5586
(22,15)	1615	1908	4029	4111	28539	(22,16)	348	1193	1317	1747	8406
(23,15)	1033	988	2325	3023	18847	(23,16)	565	471	1106	1551	10278
(24,15)	3719	95945	15974	4376	23917	(24,16)	17546	287204	10661	10645	54770
(25,15)	353	3163	2268	2401	12929	(25,16)	1268	8214	5304	5376	31443
(26,15)	2361	3093	6949	8203	44840	(26,16)	19311	5088	8925	10599	61439
(27,15)	20337	45641	73952	94597	499850	(27,16)	14431	16895	40131	53501	312186
(28,15)	8877	21351	42525	155057	275476	(28,16)	8989	31828	46728	45478	233293
(29,15)	1088	598	1906	2476	12715	(29,16)	673	1056	3623	3318	18437
(30,15)	176	284	1036	1139	5251	(30,16)	73	86	479	583	2901
(31,15)	81	112	495	563	2419	(31,16)	46	59	298	343	1322
(32,15)	25	39	147	153	757	(32,16)	40	68	247	233	1125
(33,15)	0	0	0	0	0	(33,16)	0	0	0	0	0
(34,15)	0	0	0	0	0	(34,16)	0	0	0	0	0
(35,15)	0	0	0	0	0	(35,16)	0	0	0	0	0
(36,15)	0	0	0	0	0	(36,16)	0	0	0	0	0
(37,15)	0	0	0	0	0	(37,16)	0	0	0	0	0
(38,15)	0	0	0	0	0	(38,16)	0	0	0	0	0
(39,15)	0	0	0	0	0	(39,16)	0	0	0	0	0
(40,15)	0	0	0	0	0	(40,16)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,17)	0	0	0	0	0	(1,18)	0	0	0	0	0
(2,17)	0	0	0	0	0	(2,18)	0	0	0	0	0
(3,17)	0	0	0	0	0	(3,18)	0	0	0	0	0
(4,17)	0	0	0	0	0	(4,18)	202	263	66	452	9
(5,17)	7358	48769	10309	4770	22387	(5,18)	0	0	0	0	0
(6,17)	111	553	586	847	3459	(6,18)	76	134	409	602	3198
(7,17)	53	92	275	416	2187	(7,18)	1300	5627	1421	683	3040
(8,17)	80	124	473	583	2821	(8,18)	1741	1026	4015	6113	24464
(9,17)	4228	15244	4541	2055	31347	(9,18)	75	61	206	301	1567
(10,17)	20	28	122	147	707	(10,18)	6380	3768	3256	2120	10117
(11,17)	17	23	103	123	595	(11,18)	105	132	584	703	3410
(12,17)	9	12	52	63	302	(12,18)	85	103	496	593	2834
(13,17)	103	146	519	499	2405	(13,18)	43	38	299	348	1603
(14,17)	6	9	30	35	182	(14,18)	4	3	26	31	142
(15,17)	62	104	266	307	1706	(15,18)	2	4	7	9	51
(16,17)	40	67	170	196	1091	(16,18)	1461	26	53	68	379
(17,17)	262	566	1033	1265	7028	(17,18)	111	210	428	546	3037
(18,17)	70	133	308	369	2049	(18,18)	1195	2348	4358	5001	28618
(19,17)	6203	23883	7915	2650	14455	(19,18)	313	424	898	1129	6929
(20,17)	3837	2568	2488	2263	12138	(20,18)	786	1185	2193	2515	15575
(21,17)	571	1037	2276	2997	16728	(21,18)	340	584	1394	1293	7599
(22,17)	1773	2379	4641	5116	25212	(22,18)	1108	1171	2897	7400	23125
(23,17)	127	219	535	712	3999	(23,18)	656	1394	2049	2916	16233
(24,17)	8854	1072	1728	2236	18615	(24,18)	2263	4621	4071	4363	24142
(25,17)	1310	2090	4685	5945	34278	(25,18)	19824	27816	14077	19744	117564
(26,17)	667	1433	2983	3664	21317	(26,18)	3663	12258	4698	1875	5883
(27,17)	1150	3516	5019	5780	33544	(27,18)	278	562	1401	1494	6744
(28,17)	16607	117595	51055	24144	135058	(28,18)	5547	11148	12182	10413	44088
(29,17)	1139	1327	5551	5948	29068	(29,18)	368	944	2816	3851	19209
(30,17)	1102	789	2393	906	3597	(30,18)	1417	975	4601	5906	26351
(31,17)	658	1246	3389	3498	13451	(31,18)	1003	1234	5961	7261	29675
(32,17)	129	288	638	1001	4655	(32,18)	58	132	284	452	2117
(33,17)	0	0	0	0	0	(33,18)	0	0	0	0	0
(34,17)	0	0	0	0	0	(34,18)	0	0	0	0	0
(35,17)	0	0	0	0	0	(35,18)	0	0	0	0	0
(36,17)	0	0	0	0	0	(36,18)	0	0	0	0	0
(37,17)	0	0	0	0	0	(37,18)	0	0	0	0	0
(38,17)	0	0	0	0	0	(38,18)	0	0	0	0	0
(39,17)	0	0	0	0	0	(39,18)	0	0	0	0	0
(40,17)	0	0	0	0	0	(40,18)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,19)	0	0	0	0	0	(1,20)	0	0	0	0	0
(2,19)	0	0	0	0	0	(2,20)	0	0	0	0	0
(3,19)	30	93	158	224	987	(3,20)	0	0	0	0	0
(4,19)	5	13	27	41	168	(4,20)	760	107262	19684	328	1091
(5,19)	0	0	0	0	0	(5,20)	0	0	0	0	0
(6,19)	154	58	139	211	1140	(6,20)	0	0	0	0	0
(7,19)	1785	782	16744	2885	15475	(7,20)	149	256	659	1016	5016
(8,19)	86	87	267	321	1708	(8,20)	705	286	894	1126	5103
(9,19)	145	88	472	576	2324	(9,20)	135	82	353	486	2207
(10,19)	207	182	633	1021	4782	(10,20)	45	73	250	358	1914
(11,19)	580	557	2307	2750	14301	(11,20)	123	116	584	879	4531
(12,19)	60	64	394	508	2573	(12,20)	154	137	824	1246	6301
(13,19)	19	17	131	152	701	(13,20)	61	70	392	546	2354
(14,19)	29	25	193	225	1036	(14,20)	63	87	410	439	2594
(15,19)	29	34	197	236	1192	(15,20)	209	155	413	633	2494
(16,19)	35	41	238	234	1435	(16,20)	152	396	913	1012	5092
(17,19)	20	35	83	104	569	(17,20)	82	123	464	580	2916
(18,19)	25	46	96	122	671	(18,20)	23	39	110	142	700
(19,19)	44	81	180	232	1218	(19,20)	43	74	191	249	1221
(20,19)	78	78	181	232	1599	(20,20)	33	50	151	201	1059
(21,19)	5432	4153	3912	1923	10849	(21,20)	590	1021	2644	3574	19791
(22,19)	234	405	1037	1405	7836	(22,20)	1346	2297	6123	8016	44697
(23,19)	553	209	293	419	6169	(23,20)	48	83	212	287	1453
(24,19)	1656	366	904	1335	6867	(24,20)	114	202	587	778	3777
(25,19)	24067	33744	14835	8011	51555	(25,20)	7115	34391	9936	2673	12839
(26,19)	529	698	2657	2545	13847	(26,20)	431	661	2144	2705	12830
(27,19)	493	547	2204	3102	11413	(27,20)	526	751	2719	3333	19155
(28,19)	5126	4611	11755	13461	68791	(28,20)	3728	6040	16071	21218	111410
(29,19)	4802	15946	39781	21936	112575	(29,20)	35740	97062	89871	121233	286631
(30,19)	2008	1779	7502	10371	51663	(30,20)	1268	1751	5855	8083	40351
(31,19)	1744	1891	8494	11303	59543	(31,20)	70	108	339	501	2438
(32,19)	68	152	330	523	2475	(32,20)	0	0	0	0	0
(33,19)	0	0	0	0	0	(33,20)	0	0	0	0	0
(34,19)	0	0	0	0	0	(34,20)	0	0	0	0	0
(35,19)	0	0	0	0	0	(35,20)	0	0	0	0	0
(36,19)	0	0	0	0	0	(36,20)	0	0	0	0	0
(37,19)	0	0	0	0	0	(37,20)	0	0	0	0	0
(38,19)	0	0	0	0	0	(38,20)	0	0	0	0	0
(39,19)	0	0	0	0	0	(39,20)	0	0	0	0	0
(40,19)	0	0	0	0	0	(40,20)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,21)	0	0	0	0	0	(1,22)	83	1132	264	24	9
(2,21)	0	0	0	0	0	(2,22)	1	4	3	0	0
(3,21)	923	667	230	12	2	(3,22)	17980	38038	41597	21010	84113
(4,21)	0	0	0	0	0	(4,22)	76	261	285	903	825
(5,21)	0	0	0	0	0	(5,22)	14	13	188	232	1172
(6,21)	47	233	167	160	595	(6,22)	7560	2954	1761	1494	6994
(7,21)	77	203	413	630	2587	(7,22)	8518	12742	43896	32470	173703
(8,21)	468	1235	2513	3851	15730	(8,22)	11180	36006	21315	25453	112131
(9,21)	254	335	689	1055	4343	(9,22)	102	242	564	857	3869
(10,21)	240	97	388	743	3270	(10,22)	80	73	381	571	3440
(11,21)	66	69	417	616	3440	(11,22)	124	109	982	820	4885
(12,21)	28	30	182	269	1500	(12,22)	58	83	301	470	2560
(13,21)	235	274	720	987	5931	(13,22)	300	566	1382	1789	10861
(14,21)	43	102	243	326	2000	(14,22)	18012	11481	7280	1474	8703
(15,21)	129	215	655	693	4814	(15,22)	731	771	2293	2221	12123
(16,21)	59	96	356	446	2398	(16,22)	1414	1486	4825	7088	37451
(17,21)	96	156	507	648	3238	(17,22)	128	189	654	916	4731
(18,21)	143	233	755	3366	4825	(18,22)	194	244	842	1120	5778
(19,21)	47	77	250	319	1595	(19,22)	49	80	259	330	1642
(20,21)	69	124	375	480	2193	(20,22)	67	106	369	432	2079
(21,21)	1459	365	1016	1345	6652	(21,22)	99	166	504	634	3154
(22,21)	8451	17553	13853	10747	64211	(22,22)	378	640	1579	2237	12794
(23,21)	80	135	375	544	2820	(23,22)	124	203	631	951	4496
(24,21)	54	89	308	445	2043	(24,22)	17	22	134	230	951
(25,21)	30	51	160	197	932	(25,22)	36	57	225	330	1385
(26,21)	293	410	1315	1458	6346	(26,22)	271	324	996	1105	4782
(27,21)	1576	3745	10722	10116	52066	(27,22)	290	562	1628	2198	11684
(28,21)	6210	29440	20177	24376	126343	(28,22)	8141	9050	22055	31141	194034
(29,21)	33692	100316	123405	119931	459788	(29,22)	28972	69284	108818	122212	502298
(30,21)	29680	96638	138663	146672	512800	(30,22)	32667	62290	123935	121011	475192
(31,21)	3890	5651	22933	14473	56051	(31,22)	11398	11259	43745	89480	375081
(32,21)	0	0	0	0	0	(32,22)	50	74	86	54	6
(33,21)	0	0	0	0	0	(33,22)	0	0	0	0	0
(34,21)	0	0	0	0	0	(34,22)	0	0	0	0	0
(35,21)	0	0	0	0	0	(35,22)	0	0	0	0	0
(36,21)	0	0	0	0	0	(36,22)	0	0	0	0	0
(37,21)	0	0	0	0	0	(37,22)	0	0	0	0	0
(38,21)	0	0	0	0	0	(38,22)	0	0	0	0	0
(39,21)	0	0	0	0	0	(39,22)	0	0	0	0	0
(40,21)	0	0	0	0	0	(40,22)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,23)	0	0	0	0	0	(1,24)	0	0	0	0	0
(2,23)	0	0	0	0	0	(2,24)	0	0	0	0	0
(3,23)	605	5444	2307	5156	212	(3,24)	1696	3577	3353	9322	17094
(4,23)	0	0	0	0	0	(4,24)	4040	170154	37000	3895	12864
(5,23)	534	1032	2304	3610	27635	(5,24)	0	0	0	0	0
(6,23)	4356	7272	17039	22810	243490	(6,24)	125	342	568	804	4029
(7,23)	2840	6139	10751	16040	68134	(7,24)	396	912	1812	3161	10804
(8,23)	1131	2215	4543	6934	27518	(8,24)	481	917	1853	2869	14591
(9,23)	448	750	1524	2013	10732	(9,24)	399	846	2158	2309	13497
(10,23)	107	177	665	1013	5708	(10,24)	808	707	826	1111	8076
(11,23)	343	222	1159	1586	9472	(11,24)	551	712	1155	1949	10214
(12,23)	196	247	992	1503	9112	(12,24)	162	184	737	1350	7039
(13,23)	185	204	661	1014	5261	(13,24)	110	179	755	1307	7613
(14,23)	113	212	541	792	4202	(14,24)	23312	14811	12310	1595	8237
(15,23)	540	185	1684	903	4821	(15,24)	56	76	336	537	2367
(16,23)	226	239	613	945	4553	(16,24)	630	730	1499	2363	12558
(17,23)	74	109	427	672	3722	(17,24)	315	306	1751	2238	12144
(18,23)	277	230	1277	1656	9356	(18,24)	128	195	470	740	4153
(19,23)	632	669	2602	4304	20201	(19,24)	3615	2271	8234	11109	52013
(20,23)	144	227	788	945	4583	(20,24)	6312	11836	6380	1632	8643
(21,23)	56	88	308	350	1731	(21,24)	277	152	580	818	3560
(22,23)	74	120	378	510	2455	(22,24)	107	36	151	233	1279
(23,23)	121	234	585	667	4113	(23,24)	131	115	526	730	4180
(24,23)	34	42	232	376	1743	(24,24)	98	115	577	857	4618
(25,23)	241	420	1038	1676	8521	(25,24)	553	172	865	1275	6793
(26,23)	3816	35147	11686	1281	5828	(26,24)	396	2081	2820	4512	24192
(27,23)	248	359	1238	2068	10595	(27,24)	1473	1106	3161	4731	25424
(28,23)	4138	2808	31297	35685	60435	(28,24)	1408	11571	17212	7223	34286
(29,23)	4057	3734	18145	31252	123911	(29,24)	970	1076	4682	6786	34621
(30,23)	2523	2857	12098	19421	89828	(30,24)	6342	27000	15606	18345	78396
(31,23)	4757	2732	44774	24307	102604	(31,24)	100	145	524	900	4116
(32,23)	3751	3668	17400	34830	148078	(32,24)	1974	1126	15113	12359	44449
(33,23)	96	13	57	59	110	(33,24)	714	1032	3002	5524	23638
(34,23)	0	0	0	0	0	(34,24)	14	0	44	2	3
(35,23)	0	0	0	0	0	(35,24)	0	0	0	0	0
(36,23)	0	0	0	0	0	(36,24)	0	0	0	0	0
(37,23)	0	0	0	0	0	(37,24)	0	0	0	0	0
(38,23)	0	0	0	0	0	(38,24)	0	0	0	0	0
(39,23)	0	0	0	0	0	(39,24)	0	0	0	0	0
(40,23)	0	0	0	0	0	(40,24)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,25)	0	0	0	0	0	(1,26)	0	0	0	0	0
(2,25)	0	0	0	0	0	(2,26)	0	0	0	0	0
(3,25)	2928	5640	13628	22268	92206	(3,26)	0	0	0	0	0
(4,25)	13444	41827	46548	49349	229902	(4,26)	728	1277	3953	4414	26648
(5,25)	0	0	0	0	0	(5,26)	7	34	39	1	0
(6,25)	0	0	0	0	0	(6,26)	0	0	0	0	0
(7,25)	167	457	759	1075	5389	(7,26)	0	0	0	0	0
(8,25)	135	238	654	1035	5637	(8,26)	138	78	5	8	0
(9,25)	317	297	1279	2176	11764	(9,26)	20	29	123	207	1168
(10,25)	1040	1468	1654	2788	12581	(10,26)	183	365	826	1377	6413
(11,25)	9249	24763	38491	26747	80953	(11,26)	10492	31827	44617	38773	105329
(12,25)	653	784	2330	4518	20238	(12,26)	636	551	1991	7031	11786
(13,25)	912	719	2472	5230	21589	(13,26)	395	602	2048	3056	15947
(14,25)	365	462	1277	1944	10299	(14,26)	540	202	492	712	3283
(15,25)	62	30	211	228	1216	(15,26)	791	3038	3526	4411	22790
(16,25)	14434	30797	19934	946	4585	(16,26)	188	114	361	588	3091
(17,25)	340	404	1495	2588	12829	(17,26)	195	239	801	1380	7003
(18,25)	42	71	237	372	2044	(18,26)	38	41	133	199	1120
(19,25)	147	244	728	1060	5649	(19,26)	151	143	555	577	3066
(20,25)	354	228	2153	1016	5128	(20,26)	245	539	1133	1530	8094
(21,25)	31	42	177	281	1564	(21,26)	139	140	663	1096	5792
(22,25)	118	52	291	398	2162	(22,26)	172	130	671	969	5500
(23,25)	42	52	253	384	2093	(23,26)	24	37	125	186	1061
(24,25)	134	153	774	1123	6039	(24,26)	7	5	38	59	325
(25,25)	234	292	1191	1731	9049	(25,26)	42	56	228	347	1810
(26,25)	242	235	895	1301	7279	(26,26)	556	1931	1972	3018	15718
(27,25)	1644	1372	42039	8837	41523	(27,26)	1368	1603	7825	9693	46758
(28,25)	453	499	2174	3757	16329	(28,26)	1116	367	1512	2076	10539
(29,25)	771	398	4111	6619	32102	(29,26)	604	796	2048	3110	13676
(30,25)	618	997	3092	5136	23729	(30,26)	398	753	1954	3054	14797
(31,25)	5421	44324	30464	24634	112503	(31,26)	3376	6446	16045	26131	120150
(32,25)	10	12	50	103	444	(32,26)	1527	6506	7229	10999	50447
(33,25)	179	135	444	1065	3205	(33,26)	0	0	0	0	0
(34,25)	223	221	1062	2168	9359	(34,26)	174	172	828	1704	7253
(35,25)	1	0	3	24	0	(35,26)	6	1	13	1	1
(36,25)	0	0	0	0	0	(36,26)	0	0	1	0	0
(37,25)	0	0	0	0	0	(37,26)	0	0	0	0	0
(38,25)	0	0	0	0	0	(38,26)	0	0	0	0	0
(39,25)	0	0	0	0	0	(39,26)	0	0	0	0	0
(40,25)	0	0	0	0	0	(40,26)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,27)	0	0	0	0	0	(1,28)	0	0	0	0	0
(2,27)	0	0	0	0	0	(2,28)	0	0	0	0	0
(3,27)	0	0	0	0	0	(3,28)	0	0	0	0	0
(4,27)	0	0	0	0	0	(4,28)	0	0	0	0	0
(5,27)	0	0	0	0	0	(5,28)	0	0	0	0	0
(6,27)	0	0	0	0	0	(6,28)	0	0	0	0	0
(7,27)	0	0	0	0	0	(7,28)	0	0	0	0	0
(8,27)	0	0	0	0	0	(8,28)	0	0	0	0	0
(9,27)	0	0	0	0	0	(9,28)	0	0	0	0	0
(10,27)	0	0	0	0	0	(10,28)	0	0	0	0	0
(11,27)	0	0	0	0	0	(11,28)	0	0	0	0	0
(12,27)	80	72	310	372	2038	(12,28)	0	0	0	0	0
(13,27)	232	313	1135	1594	8791	(13,28)	11	18	63	92	505
(14,27)	106	145	587	838	4583	(14,28)	141	134	536	749	3796
(15,27)	299	431	1187	1659	9402	(15,28)	1228	2390	4242	3770	12993
(16,27)	1320	4414	5808	8683	42465	(16,28)	8632	35970	16849	16911	73448
(17,27)	297	290	558	735	3845	(17,28)	471	783	2254	3456	18337
(18,27)	53	74	304	466	2663	(18,28)	211	186	601	974	5465
(19,27)	118	84	299	432	2333	(19,28)	202	227	700	1060	5912
(20,27)	86	144	490	633	3828	(20,28)	43	55	235	320	1767
(21,27)	420	434	2006	2510	14001	(21,28)	98	116	525	761	4263
(22,27)	43	50	243	369	2103	(22,28)	68	85	390	534	3375
(23,27)	57	52	297	456	2594	(23,28)	23	22	110	177	972
(24,27)	28	42	165	251	1360	(24,28)	33	54	225	317	1607
(25,27)	104	155	595	822	4703	(25,28)	88	140	526	771	3890
(26,27)	4834	5468	3376	5226	26341	(26,28)	3155	28640	3291	2255	11714
(27,27)	125	210	695	1103	5548	(27,28)	144	143	61[illegible]	842	4526
(28,27)	1731	247	1042	1649	7633	(28,28)	96	149	493	2463	3171
(29,27)	83	145	452	603	2753	(29,28)	347	619	1808	2228	10308
(30,27)	1587	2573	8063	11914	58934	(30,28)	725	1124	3623	5467	25376
(31,27)	2490	5130	9447	16042	72906	(31,28)	2456	3956	11761	18339	85437
(32,27)	446	467	1782	3239	14112	(32,28)	1175	14984	10474	5411	24736
(33,27)	465	552	2339	3488	17058	(33,28)	120	187	647	966	4486
(34,27)	26	35	131	227	1007	(34,28)	4627	23534	9355	7023	30436
(35,27)	21	22	106	216	934	(35,28)	80	120	393	613	2779
(36,27)	0	0	0	0	0	(36,28)	8	8	29	51	229
(37,27)	0	0	0	0	0	(37,28)	0	0	0	0	0
(38,27)	0	0	0	42	0	(38,28)	0	0	0	0	0
(39,27)	0	0	0	0	0	(39,28)	0	0	0	0	0
(40,27)	0	0	0	0	0	(40,28)	10	135	25	1	2

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20 KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,29)	0	0	0	0	0	(1,30)	0	0	0	0	0
(2,29)	0	0	0	0	0	(2,30)	0	0	0	0	0
(3,29)	0	0	0	0	0	(3,30)	0	0	0	0	0
(4,29)	0	0	0	0	0	(4,30)	0	0	0	0	0
(5,29)	0	0	0	0	0	(5,30)	0	0	0	0	0
(6,29)	0	0	0	0	0	(6,30)	0	0	0	0	0
(7,29)	0	0	0	0	0	(7,30)	0	0	0	0	0
(8,29)	0	0	0	0	0	(8,30)	0	0	0	0	0
(9,29)	0	0	0	0	0	(9,30)	0	0	0	0	0
(10,29)	0	0	0	0	0	(10,30)	0	0	0	0	0
(11,29)	0	0	0	0	0	(11,30)	0	0	0	0	0
(12,29)	0	0	0	0	0	(12,30)	0	0	0	0	0
(13,29)	0	0	0	0	0	(13,30)	0	0	0	0	0
(14,29)	1734	6406	50973	4117	16439	(14,30)	0	0	0	0	0
(15,29)	3631	373	1393	1702	8192	(15,30)	147	226	607	1033	4936
(16,29)	30	167	446	758	3653	(16,30)	10	19	52	88	425
(17,29)	117	148	481	717	3538	(17,30)	142	214	502	790	3934
(18,29)	848	679	2084	3319	16527	(18,30)	969	2364	3447	4837	22941
(19,29)	3045	2230	5557	8294	40349	(19,30)	839	872	2175	3245	16165
(20,29)	271	310	900	1548	7742	(20,30)	502	546	1672	2546	13104
(21,29)	55	72	224	322	1765	(21,30)	195	265	879	1190	6389
(22,29)	95	116	610	878	5500	(22,30)	220	196	627	923	4479
(23,29)	388	766	1135	1458	9135	(23,30)	76	132	413	646	3605
(24,29)	34	67	184	229	1207	(24,30)	555	691	1631	1868	8838
(25,29)	75	101	430	597	3030	(25,30)	12441	23757	24642	14155	61742
(26,29)	416	577	2117	3177	17775	(26,30)	173	284	919	1391	7535
(27,29)	281	2521	995	833	4141	(27,30)	572	1235	2657	4149	18799
(28,29)	168	296	702	1125	5007	(28,30)	333	1894	645	561	2323
(29,29)	105	168	517	717	3305	(29,30)	78	563	137	156	512
(30,29)	263	407	1301	2041	9485	(30,30)	20135	33098	24832	20316	81551
(31,29)	3267	12592	16069	20456	90001	(31,30)	1318	2853	6192	9679	42797
(32,29)	335	446	1910	2687	13714	(32,30)	4504	1097	2286	8576	13218
(33,29)	364	828	1794	2241	10659	(33,30)	179	271	959	1223	5892
(34,29)	493	1215	2849	3113	13948	(34,30)	213	336	1104	1428	6899
(35,29)	539	831	1974	3934	14424	(35,30)	151	179	554	948	4393
(36,29)	60	59	208	372	1664	(36,30)	913	1905	3685	6501	26913
(37,29)	0	0	0	0	0	(37,30)	0	0	0	0	0
(38,29)	0	0	0	0	0	(38,30)	0	0	0	0	0
(39,29)	0	0	0	0	0	(39,30)	0	0	0	0	0
(40,29)	0	0	0	0	0	(40,30)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,31)	0	0	0	0	0	(1,32)	0	0	0	0	0
(2,31)	0	0	0	0	0	(2,32)	0	0	0	0	0
(3,31)	0	0	0	0	0	(3,32)	0	0	0	0	0
(4,31)	0	0	0	0	0	(4,32)	0	0	0	0	0
(5,31)	0	0	0	0	0	(5,32)	0	0	0	0	0
(6,31)	0	0	0	0	0	(6,32)	0	0	0	0	0
(7,31)	0	0	0	0	0	(7,32)	0	0	0	0	0
(8,31)	0	0	0	0	0	(8,32)	0	0	0	0	0
(9,31)	0	0	0	0	0	(9,32)	0	0	0	0	0
(10,31)	0	0	0	0	0	(10,32)	0	0	0	0	0
(11,31)	0	0	0	0	0	(11,32)	0	0	0	0	0
(12,31)	0	0	0	0	0	(12,32)	0	0	0	0	0
(13,31)	0	0	0	0	0	(13,32)	0	0	0	0	0
(14,31)	3	2	1	0	0	(14,32)	109	176	589	951	4798
(15,31)	125	178	613	1131	5043	(15,32)	500	818	2185	4096	18909
(16,31)	14	30	71	105	521	(16,32)	123	144	396	935	2244
(17,31)	19	41	93	134	675	(17,32)	263	234	469	208	990
(18,31)	116	296	296	544	2316	(18,32)	3	6	14	22	111
(19,31)	26	40	104	148	741	(19,32)	0	0	0	0	0
(20,31)	16	29	83	135	714	(20,32)	1	2	7	34	118
(21,31)	8	14	45	77	414	(21,32)	4	6	26	116	406
(22,31)	477	626	2079	3250	17288	(22,32)	41	67	225	430	2149
(23,31)	583	772	2134	3121	16560	(23,32)	339	155	500	765	4021
(24,31)	1969	2882	7523	12487	59398	(24,32)	503	640	2580	4136	17062
(25,31)	2494	3904	9650	14502	60079	(25,32)	226	280	1026	1421	7123
(26,31)	720	837	3166	6161	28569	(26,32)	308	465	1135	2305	6978
(27,31)	903	4834	3370	4553	20100	(27,32)	924	3357	2957	4260	18329
(28,31)	93	154	344	573	2478	(28,32)	77	112	217	373	1500
(29,31)	264	926	1026	1768	6719	(29,32)	497	857	1606	2714	10750
(30,31)	7619	34938	17027	25737	70894	(30,32)	5202	4526	2878	2971	12341
(31,31)	850	2479	3195	5129	21361	(31,32)	295	1362	634	2052	3380
(32,31)	639	676	1309	2477	9507	(32,32)	3314	2084	3367	4474	18143
(33,31)	414	628	1726	2372	10749	(33,32)	2634	3452	4291	6399	25813
(34,31)	285	557	1183	1744	8185	(34,32)	1766	2942	5227	8012	37041
(35,31)	4194	3395	16722	73330	117858	(35,32)	7228	17313	22443	32712	119335
(36,31)	1245	2780	5511	9204	41832	(36,32)	3038	93905	36174	15716	40487
(37,31)	123	134	381	754	3123	(37,32)	2391	11153	10950	17757	44842
(38,31)	1	0	0	2	6	(38,32)	146	348	641	1015	4157
(39,31)	3	0	1	5	15	(39,32)	73	91	177	325	1247
(40,31)	0	0	0	0	0	(40,32)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,33)	0	0	0	0	0	(1,34)	0	0	0	0	0
(2,33)	0	0	0	0	0	(2,34)	0	0	0	0	0
(3,33)	0	0	0	0	0	(3,34)	0	0	0	0	0
(4,33)	0	0	0	0	0	(4,34)	0	0	0	0	0
(5,33)	0	0	0	0	0	(5,34)	0	0	0	0	0
(6,33)	0	0	0	0	0	(6,34)	0	0	0	0	0
(7,33)	0	0	0	0	0	(7,34)	0	0	0	0	0
(8,33)	0	0	0	0	0	(8,34)	0	0	0	0	0
(9,33)	0	0	0	0	0	(9,34)	0	0	0	0	0
(10,33)	0	0	0	0	0	(10,34)	0	0	0	0	0
(11,33)	0	0	0	0	0	(11,34)	0	0	0	0	0
(12,33)	0	0	0	0	0	(12,34)	0	0	0	0	0
(13,33)	56	95	301	504	2718	(13,34)	0	0	0	0	0
(14,33)	58	99	293	530	2601	(14,34)	42	59	213	389	1905
(15,33)	399	249	1352	1072	5277	(15,34)	51	87	236	344	1695
(16,33)	71419	264	793	1071	5297	(16,34)	61	30	60	06	420
(17,33)	11	24	56	76	385	(17,34)	3	7	12	19	94
(18,33)	4	6	17	28	148	(18,34)	12	22	61	100	531
(19,33)	3	4	19	35	299	(19,34)	4	5	23	102	358
(20,33)	9	11	51	230	804	(20,34)	10	12	55	239	835
(21,33)	3	10	45	206	721	(21,34)	3	0	0	11	0
(22,33)	5	8	26	41	211	(22,34)	12	26	56	90	421
(23,33)	449	160	1235	786	3824	(23,34)	27	49	104	144	725
(24,33)	483	458	1814	3705	10646	(24,34)	725	413	1598	1521	7560
(25,33)	140	185	604	4255	3864	(25,34)	44	76	227	322	1667
(26,33)	198	170	805	1248	4878	(26,34)	90	83	443	534	2710
(27,33)	62	58	313	426	1948	(27,34)	277	256	1422	1938	8866
(28,33)	23	39	74	122	496	(28,34)	56	226	97	368	308
(29,33)	327	860	824	1226	4979	(29,34)	423	1050	876	1242	4774
(30,33)	97	206	379	602	2484	(30,34)	156	204	283	760	1888
(31,33)	351	420	614	1047	4258	(31,34)	1007	4172	3565	5268	17220
(32,33)	1923	5760	7214	10308	44607	(32,34)	2592	7432	7846	8939	37446
(33,33)	2783	5138	6626	9879	41152	(33,34)	57	132	218	644	1617
(34,33)	2259	4715	9108	16538	65032	(34,34)	6173	13185	22094	56548	148189
(35,33)	3312	7757	14742	25303	101499	(35,34)	8100	26184	38761	56882	230232
(36,33)	1062	2624	4983	8652	37383	(36,34)	1444	2832	7136	12704	54331
(37,33)	234	319	834	1772	6581	(37,34)	315	553	1428	2573	11037
(38,33)	1351	31662	9343	1361	5079	(38,34)	15	29	75	132	573
(39,33)	357	850	1558	2463	10074	(39,34)	104	150	285	506	1368
(40,33)	0	0	0	0	0	(40,34)	151	361	681	1046	4277

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,35)	0	0	0	0	0	(1,36)	0	0	0	0	0
(2,35)	0	0	0	0	0	(2,36)	0	0	0	0	0
(3,35)	0	0	0	0	0	(3,36)	0	0	0	0	0
(4,35)	0	0	0	0	0	(4,36)	0	0	0	0	0
(5,35)	0	0	0	0	0	(5,36)	0	0	0	0	0
(6,35)	0	0	0	0	0	(6,36)	0	0	0	0	0
(7,35)	0	0	0	0	0	(7,36)	0	0	0	0	0
(8,35)	0	0	0	0	0	(8,36)	0	0	0	0	0
(9,35)	0	0	0	0	0	(9,36)	0	0	0	0	0
(10,35)	0	0	0	0	0	(10,36)	0	0	0	0	0
(11,35)	0	0	0	0	0	(11,36)	0	0	0	0	0
(12,35)	0	0	0	0	0	(12,36)	0	0	0	0	0
(13,35)	0	0	0	0	0	(13,36)	0	0	0	0	0
(14,35)	43	111	201	315	1532	(14,36)	1259	552	1103	1590	7624
(15,35)	165	278	598	788	3826	(15,36)	209	392	784	1105	5328
(16,35)	44	102	182	283	1383	(16,36)	93	145	390	405	1970
(17,35)	213	73	624	231	1036	(17,36)	2	5	3	14	70
(18,35)	2	6	12	18	88	(18,36)	11	14	54	100	476
(19,35)	6	8	37	165	579	(19,36)	128	104	443	658	3049
(20,35)	0	0	0	0	0	(20,36)	68	250	107	116	562
(21,35)	25	20	78	234	936	(21,36)	2	4	13	26	124
(22,35)	4	4	13	0	0	(22,36)	34	90	88	169	820
(23,35)	53	55	238	318	1458	(23,36)	1074	2860	1703	1316	5992
(24,35)	161	182	723	844	4177	(24,36)	297	275	1276	1700	7614
(25,35)	197	63	284	356	1505	(25,36)	446	118	369	637	1925
(26,35)	53	52	307	424	1934	(26,36)	191	152	976	1383	6275
(27,35)	134	95	525	716	3276	(27,36)	36	160	165	215	763
(28,35)	84	58	106	171	666	(28,36)	105	490	114	139	387
(29,35)	466	844	1893	2677	9786	(29,36)	11	22	48	63	283
(30,35)	187	243	577	820	3534	(30,36)	169	561	487	640	2623
(31,35)	234	246	460	801	2988	(31,36)	623	2055	1980	2744	10037
(32,35)	592	1220	1685	2572	9704	(32,36)	1589	2775	3128	10305	17970
(33,35)	1453	1866	784	3252	1714	(33,36)	1147	5881	2982	2816	9641
(34,35)	9590	35718	49805	63674	256571	(34,36)	1407	6016	5916	8707	37488
(35,35)	7228	34983	44806	30878	129112	(35,36)	3009	15136	20707	18602	77783
(36,35)	205	418	1012	1741	7559	(36,36)	0	0	0	0	0
(37,35)	23	46	117	206	905	(37,36)	0	0	0	0	0
(38,35)	109	85	174	373	1348	(38,36)	0	0	0	0	0
(39,35)	120	107	216	441	1620	(39,36)	0	0	0	0	0
(40,35)	35	83	152	241	985	(40,36)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,37)	0	0	0	0	0	(1,38)	0	0	0	0	0
(2,37)	0	0	0	0	0	(2,38)	0	0	0	0	0
(3,37)	0	0	0	0	0	(3,38)	0	0	0	0	0
(4,37)	0	0	0	0	0	(4,38)	0	0	0	0	0
(5,37)	0	0	0	0	0	(5,38)	0	0	0	0	0
(6,37)	0	0	0	0	0	(6,38)	0	0	0	0	0
(7,37)	0	0	0	0	0	(7,38)	0	0	0	0	0
(8,37)	0	0	0	0	0	(8,38)	0	0	0	0	0
(9,37)	0	0	0	0	0	(9,38)	0	0	0	0	0
(10,37)	0	0	0	0	0	(10,38)	0	0	0	0	0
(11,37)	0	0	0	0	0	(11,38)	18	159	30	5	8
(12,37)	0	0	0	0	0	(12,38)	52	475	74	15	25
(13,37)	0	0	0	0	0	(13,38)	0	0	0	0	0
(14,37)	13	34	61	95	465	(14,38)	14	4	0	0	0
(15,37)	135	228	409	637	3108	(15,38)	1400	974	1390	1667	7899
(16,37)	240	215	545	637	3019	(16,38)	231	340	615	960	4676
(17,37)	11	29	52	82	398	(17,38)	46	68	225	398	1896
(18,37)	7	8	32	59	282	(18,38)	2	2	6	11	54
(19,37)	114	119	443	829	3961	(19,38)	3	3	13	24	114
(20,37)	65	77	326	519	2505	(20,38)	22	37	93	166	773
(21,37)	16	26	95	174	842	(21,38)	46	70	250	473	2293
(22,37)	88	163	486	913	4401	(22,38)	43	55	219	385	1817
(23,37)	162	143	713	981	4323	(23,38)	201	169	815	997	4029
(24,37)	66	58	295	402	1793	(24,38)	140	111	709	1014	4581
(25,37)	65	52	332	471	2137	(25,38)	203	53	346	588	1957
(26,37)	107	91	543	769	3469	(26,38)	99	79	508	719	3264
(27,37)	107	6	16	253	96	(27,38)	552	1088	2029	2731	11594
(28,37)	51	130	40	78	218	(28,38)	125	196	459	630	2692
(29,37)	68	95	222	316	1269	(29,38)	58	178	212	264	1129
(30,37)	183	916	702	972	3021	(30,38)	345	568	1020	7146	5672
(31,37)	1168	50835	29854	3909	14849	(31,38)	104	213	385	520	2203
(32,37)	193	314	587	882	3387	(32,38)	249	40	141	512	312
(33,37)	463	748	1439	2381	9786	(33,38)	1157	40108	9091	5380	8343
(34,37)	1410	2897	5767	10022	41671	(34,38)	162	192	427	682	2410
(35,37)	935	2121	4219	8470	30384	(35,38)	0	0	0	0	0
(36,37)	0	0	0	0	0	(36,38)	0	0	0	0	0
(37,37)	0	0	0	0	0	(37,38)	0	0	0	0	0
(38,37)	0	0	0	0	0	(38,38)	0	0	0	0	0
(39,37)	0	0	0	0	0	(39,38)	0	0	0	0	0
(40,37)	0	0	0	0	0	(40,38)	0	0	0	0	0

ANNUAL EMISSION RATES (TONS/YEAR)
FOR THE 40 BY 40 US-CANADIAN GRID
(GRID SPACING = 20KM)

TOTAL SOURCE EMISSIONS

GRID PT	PART	SO2	NOX	HC	CO	GRID PT	PART	SO2	NOX	HC	CO
(1,39)	0	0	0	0	0	(1,40)	0	0	0	0	0
(2,39)	0	0	0	0	0	(2,40)	0	0	0	0	0
(3,39)	0	0	0	0	0	(3,40)	0	0	0	0	0
(4,39)	0	0	0	0	0	(4,40)	0	0	0	0	0
(5,39)	0	0	0	0	0	(5,40)	0	0	0	0	0
(6,39)	0	0	0	0	0	(6,40)	0	0	0	0	0
(7,39)	0	0	0	0	0	(7,40)	0	0	0	0	0
(8,39)	0	0	0	0	0	(8,40)	0	0	0	0	0
(9,39)	0	0	0	0	0	(9,40)	0	0	0	0	0
(10,39)	0	0	0	0	0	(10,40)	0	0	0	0	0
(11,39)	79	557	189	17	22	(11,40)	0	0	0	0	0
(12,39)	955	7166	2089	226	308	(12,40)	0	0	0	0	0
(13,39)	0	0	0	0	0	(13,40)	0	0	0	0	0
(14,39)	0	0	0	0	0	(14,40)	0	0	0	0	0
(15,39)	49	26	47	73	358	(15,40)	0	0	0	0	0
(16,39)	3165	542	251	235	1387	(16,40)	0	0	0	0	0
(17,39)	105	124	502	352	4182	(17,40)	0	0	0	0	0
(18,39)	32	99	335	634	3289	(18,40)	33	30	119	147	682
(19,39)	36	61	147	200	1199	(19,40)	40	68	165	230	1336
(20,39)	111	1107	349	770	1321	(20,40)	4434	665	2107	2666	11752
(21,39)	106	210	461	311	3793	(21,40)	775	907	3682	5410	24815
(22,39)	332	170	1183	2936	6852	(22,40)	110	116	509	731	2862
(23,39)	115	117	580	753	3328	(23,40)	605	520	3075	4253	19163
(24,39)	114	105	582	305	3536	(24,40)	445	414	2281	3001	13434
(25,39)	49	40	260	273	1687	(25,40)	46	25	169	246	1114
(26,39)	41	32	218	314	1433	(26,40)	1711	1124	4949	7759	29182
(27,39)	60	112	258	338	1538	(27,40)	242	72	172	260	965
(28,39)	100	131	309	447	1771	(28,40)	214	111	285	326	1451
(29,39)	376	999	1442	1083	8145	(29,40)	95	175	366	496	2159
(30,39)	353	695	1093	1861	6456	(30,40)	259	483	958	1313	5620
(31,39)	32	68	140	135	871	(31,40)	446	936	1868	2481	11115
(32,39)	171	657	348	682	1374	(32,40)	411	1033	1847	3033	10994
(33,39)	607	1419	1688	2877	9779	(33,40)	992	706	1360	1996	8328
(34,39)	119	175	569	516	3532	(34,40)	33	50	102	232	1005
(35,39)	0	0	0	0	0	(35,40)	0	0	0	0	0
(36,39)	0	0	0	0	0	(36,40)	0	0	0	0	0
(37,39)	0	0	0	0	0	(37,40)	0	0	0	0	0
(38,39)	0	0	0	0	0	(38,40)	0	0	0	0	0
(39,39)	0	0	0	0	0	(39,40)	0	0	0	0	0
(40,39)	0	0	0	0	0	(40,40)	0	0	0	0	0

TECHNICAL REPORT DATA
(Please read Instructions on the reverse before completing)

1. REPORT NO. EPA-600/4-79-030	2.	3. RECIPIENT'S ACCESSION NO.
4. TITLE AND SUBTITLE GRIDDED ANNUAL AIR POLLUTANT EMISSIONS EAST OF THE ROCKY MOUNTAINS		5. REPORT DATE May 1979
		6. PERFORMING ORGANIZATION CODE
7. AUTHOR(S) Terry L. Clark		8. PERFORMING ORGANIZATION REPORT NO.
9. PERFORMING ORGANIZATION NAME AND ADDRESS Environmental Sciences Research Laboratory, Office of Research and Development, U.S. Environmental Protection Agency, Research Triangle Park, N.C. 27711		10. PROGRAM ELEMENT NO. 1AA603A AB-021 (FY-79)
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16. ABSTRACT

Annual pollutant emissions of particulates, sulfur dioxide, nitrogen oxides, hydrocarbons, and carbon monoxide from point and area sources are apportioned to 80-km grid squares on a 35 by 30 grid network. The grid network is a polar stereographic projection true to 60°N. The domain of the network includes southern Canada and much of the United States east of the Rocky Mountains. Southern Texas and northern New England are omitted.

In addition, the emissions of the five pollutants are apportioned to 20-km grid squares on a 40 by 40 grid network, which is a subset of the previously mentioned grid network. The domain of the 40 by 40 grid network encompasses the area roughly from Columbus, Ohio to Portland, Maine and from Richmond Virginia to Ottawa, Ontario.

The emission data were obtained from the 1977 Environmental Protection Agency National Emissions Data System (NEDS) file as well as from data compiled by the Ontario Ministry of the Environment and Environment Canada. These emission inventories, the design of the gridding procedures, and the major source classifications responsible for much of the emissions are discussed. The emission grids are presented in both figure and tabular forms.

17. KEY WORDS AND DOCUMENT ANALYSIS

a. DESCRIPTORS	b. IDENTIFIERS/OPEN ENDED TERMS	c. COSATI Field/Group
* Air pollution * Sulfur dioxide * Nitrogen oxides * Hydrocarbons * Carbon monoxide * Particles * Emissions * Maps * Grids (coordinates)		13B 07B 07C 08B

18. DISTRIBUTION STATEMENT RELEASE TO PUBLIC	19. SECURITY CLASS *(This Report)* UNCLASSIFIED	21. NO. OF PAGES 178
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