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Dow Environmental Inc.
Penn Center West
Building III, Suite 300
Pittsburgh, PA 15276
Fax: (412) 788-1316
(412) 788-2717

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May 1, 1995

Mr. Dion Novak
U.S. Environmental Protection Agency
Region V
77 West Jackson Boulevard
HSRL-6J
Chicago, Illinois 60604

Subject: Enviro-Chem Superfund Site
Response to Comments
Draft Preliminary Design (30 percent) Report
DEI Project Number 2455.001

Dear Mr. Novak:

The purpose of this document is to address the United States Environmental Protection Agency (U.S. EPA) comments on the January 1995 Draft Preliminary Design (30 percent) Report. Responses to the comments contained in the U.S. EPA letter correspondence of March 6, 1995 follow. These responses to the Preliminary Design will be incorporated into the Pre-Final Design (90 percent) Report for this project. The U.S. EPA comments have been assigned numbers and they are restated here for ease of reference.

Also attached is a revised Appendix C calculation for excavation ambient air volatile organic compound risks. We have revised the air emissions modeling and the risk assessment as a result of the U.S. EPA comments. This work was previously submitted as Appendix C, Calculation No. 1.0, to the Preliminary Design Report.

U.S. EPA General Comment No. 1

Will the SVE vendor be allowed to conduct a pilot test of their SVE system design? Without a pilot test, it may be difficult for the SVE vendors to design such a relatively large system, especially one that has the added complexity of (1) transplanted soils from one part of the site to another, and (2) uncertain water volumes to be handled by the SVE system.

Response:

It is DEI's opinion, as a SVE contractor, and as supported by discussions with other SVE contractors, that the SVE system for the insitu and fill zones can be designed without further pilot testing. Additional pilot tests would have to be conducted either prior to letting SVE bids, or after a SVE contractor is selected. In either case, a significant portion of the concrete pad area would need to be excavated and placed in the northern fill area to conduct the pilot test. This operation would further delay the implementation schedule for the Remedial Action.

A pilot test has been conducted in the northwest area of the site by Terra Vac Inc. in 1988. This test provides useful design data for soil air permeability, VOC removal rate, and vapor moisture. This pilot test report will be provided to the SVE bidders as an attachment to the specifications. Additionally, the Remedial Investigation data and the Phase I and II Supplemental Investigation Reports for the shallow water-bearing zones (0 to 10 feet bgs) will be included in the bid package. The existing pilot test and site investigation data are expected to be adequate to provide a design basis for the soil vapor extraction system. The soil and crushed concrete/aggregate fill zones created from excavation of the southern concrete pad area are not readily amenable to pilot testing since these materials are presently in-place.

Note that pilot testing provides only a part of the design data needed for a soil vapor extraction system. Pilot testing provides data primarily on the air permeability and VOC removal rate for the test area of influence. Other important design data include site contaminant distribution and the heterogeneity of the site physical conditions (permeability, porosity, moisture content) which are not are not typically provided by pilot tests. Significant data on the site physical and chemical conditions is provided in the site investigation reports. This information is applicable primarily to insitu conditions, however, it can also be used to provide minimum design criteria for the fill zones.

How this existing investigation data is applied to the SVE design depends in part to the SVE contractor's approach to the system design. The SVE performance specifications allow flexibility in the system design, including the type of extraction system (well points or trenches) and the placement and compaction of the soil and aggregate fills.

U.S. EPA General Comment No. 2

The SVE specification contains no requirements pertaining to site demobilization following completion of SVE. Will the contractor be allowed to abandon the SVE system in place? Will the contractor be allowed or required to demobilize each area as it meets cleanup standards or demobilize once the entire site has achieved cleanup standards?

Response:

The SVE contractor will not demobilize until all of the site work is completed. All above-ground mechanical and electrical equipment and support facilities will be removed by the contractor upon completion of site cleanup. Piping and other SVE systems below ground will be left in place and grouted where they penetrate the final cap.

The option to shutdown portions of the SVE system (as these subareas meet cleanup levels) while other areas continue to operate should be kept open as a practical means to accelerate cleanup and minimize operating costs.

Demobilization will be described in Specification Section 01710 - Demobilization, which will be included in the Pre-Final Design.

U.S. EPA General Comment No. 3

Will the SVE vendor be responsible for monitoring and compliance sampling? If not, who will be responsible? Also, more details need to be provided telling the SVE vendor what is required in terms of start-up and monthly reporting.

Response:

It is anticipated that SVE system compliance monitoring (Section 2.2.8 of the Preliminary Design Report) will be conducted by an independent party rather than the SVE contractor. SVE verification monitoring as described in the Consent Decree, Exhibit A, Section 4.0, will be conducted by the SVE contractor in close coordination with the Enviro-Chem Trustees field representative.

Technical Specification Sections 13200 - Soil Vapor Extraction System Operations Start-up and 13250 - Soil Vapor Extraction System Operations Monitoring, will contain general performance requirements for the SVE contractor with respect to start-up and reporting. See Section 4.0 of the Draft Preliminary Design Report.

Additionally, the SVE System Operation and Maintenance Manual to be prepared by the SVE contractor will provide detailed guidelines for system start-up and reporting, among numerous other items. See Section 1.05 F of Specification 13100 - Soil Vapor Extraction System in the Draft Preliminary Design Report.

U.S. EPA General Comment No. 4

The PRP's responses to U.S. EPA Specific Comments Nos. 41, 42 and Appendix C (Section 1) are unsatisfactory and inaccurate. The inhalation risk assessment did not incorporate any recommendation made in U.S. EPA comments letter dated November 2, 1994. Appendix C provides an incomplete and inaccurate assessment of potential health risks from excavation activities. The risk assessment does not support the contention that the carcinogenic risks posed by the estimated emissions of both VOC's and particulate are within EPA's target risk range of 10^{-4} to 10^{-6} or the contention that the noncarcinogenic hazard index is less than 1. It is recommended that the PRP more thoroughly follow U.S.EPA risk assessment guidance, especially Risk Assessment Guidance for Superfund Volume 1 - Part C, Risk Evaluation of Remedial Alternatives (RAGS-C).

Response:

Responses to U.S. EPA Specific Comments Nos. 41, 42 and Appendix C have been rewritten to address the Agency's concerns (See responses to Specific Comments below). In addition, a new risk assessment which addresses all previous U.S. EPA comments has been prepared and is included with these responses. See attached Appendix C. This new risk assessment makes use of guidance provided in Risk Assessment Guidance for Superfund, Parts A, B and C to estimate potential health risks, to develop action levels for the excavation of Area C, and, to evaluate the short-term exposures which might occur during excavation. Please note that the evaluation of short-term inhalation risks are somewhat limited due to scarcity of currently available toxicological data. DEI has searched the scientific literature, the EPA latest published information and contacted the EPA Superfund Technical Support Center for the currently available toxicological data.

U.S. EPA Specific Comment No. 1

Page 2-11 par 2 and last par
Justification for the amounts of backfill? Will this provide enough wall stability? Are the different backfill amounts dependent on soil type?

Response:

A minimum of 3 feet of backfill shall be placed within the cutoff wall excavation prior to stopping pumping of the sand zone dewatering wells. The sheet pile walls will not be removed until the excavation is backfilled to grade. The minimum soil backfill thickness is based on providing adequate cover on the underlying confined sand zone to prevent hydrostatic uplift of

the subbase during non-pumping conditions. See Calculation No. 3.0 - Excavation Stability, in Appendix C of the Preliminary Design Report.

U.S. EPA Specific Comment No. 2

Par 2-12 line 1-2
How can exit sampling be conducted on the western sidewalls if the cutoff wall is left in place until the area is backfilled to grade?

Response:

Exit sampling will not be required through the western cut off wall since the soils to the west of the wall will be excavated by open cut. The eastern and southern cutoff walls may require exit sampling if deemed necessary by U. S. EPA. These soil walls will have to be sampled through the in-place steel cutoff wall, or they may be sampled directly behind the wall, depending on the exit sample locations identified by U.S. EPA.

U.S. EPA Specific Comment No. 3

Page 2-13 par 1
Risk range is 10(-4) to 10(-6).

Response:

The risk range of 10^{-4} to 10^{-6} is acknowledged and will be incorporated into the Pre-Final Design Report.

U.S. EPA Specific Comment No. 4

Page 2-14
References to CH2M Hill shall be replaced with U.S. EPA/IDEM or their selected representative. Under exit sampling, EPA will select the sample locations and the Trustees will cooperate in the collection of these samples. The way this is worded here implies that the Trustees have to approve the sample locations -- this is incorrect. Please revise the text. Please also state that the Trustees will provide sampling equipment for their split samples.

Response:

We agree that U.S. EPA will select the sample locations if it elects to conduct exit sampling and that U.S. EPA will conduct any sampling. The Enviro-Chem Trustees will assist U.S. EPA in the rapid collection of the samples. The Trustees intend to provide their own sample containers to receive their portion of the split samples from U.S. EPA. The Trustees will not perform any sampling or provide any sampling equipment.

U.S. EPA Specific Comment No. 5

Page 2-18 through 2-21
Where did the numbers come from in the last two columns of Table 2-2? Which of the three columns are being proposed as the RCRA clean closure standards?

Response:

These soil concentrations presented in the last two columns of Table 2-2 were taken from a Enviro-Chem Trustees proposal submitted to U.S. EPA on December 13, 1994 concerning exit soil sampling and closure criteria for capping the excavation area. The basis for calculating these values is the IDEM clean closure methodology which is described in the December proposal. The last column - Soil Concentrations Calculated Using Consent Decree Method, No Cover, Updated MCL's - lists the proposed clean closure criteria for not capping the excavation area unless the criteria are exceeded.

U.S. EPA Specific Comment No. 6

The U.S. EPA is not responsible for assessing the acceptability of a facility to accept and dispose of contaminated groundwater from a CERCLA site. The EPA may review and comment on the selection, but the responsibility for this assessment lies solely with the PRP's. Typo "mother" on 4th line of Section 2.2.5.

Response:

We understand that it is not U.S. EPA's responsibility to assess the acceptability of all proposed offsite disposal facilities. U.S. EPA assistance will be requested to determine the status of U.S. EPA permits and any notices of violation.

U.S. EPA Specific Comment No. 7

Section 13100-2 last par
The report states "The SVE system shall address differences in the physical characteristics of the insitu soils, soil (sic) fill, and crushed concrete and aggregate fill, including particle size, density, moisture content, porosity, and pneumatic/hydraulic conductivity. Separate SVE methods may be applied to the different zones intended for treatment, if deemed appropriate by the Contractor." The variability of the materials to be remediated by SVE is of primary concern. Much of the VOCs in the concrete, sub-base aggregates, and impacted soils will be released when excavation takes place. The excavated materials are to be placed in segregated areas on the northern portion of the site. No compaction of the fill material is planned. The differing physical characteristics of the materials could require three or four variations or applications of SVE system design. It is probable that remediation of the insitu soils via SVE will take significantly longer than non-compacted fill materials. How will the collected organics be destroyed offsite and where will they be sent?

Response:

The SVE system contractor will be required to install a vapor treatment unit. This unit shall be operated in accordance with all federal and state air emission standards. It is anticipated that the SVE vapor treatment system proposed by contractors will include either thermal treatment (flares) or activated carbon canisters connected in series. The use of activated carbon for soil vapor treatment is consistent with industry standards. If this is the case, the contractor would typically procure activated carbon from a supplier such as Calgon Environmental Systems located in Pittsburgh, Pennsylvania.

Calgon would deliver new carbon canisters for use as a vapor treatment unit, and collect spent carbon canisters for treatment. Spent carbon canisters are recycled by thermal regeneration. Thermal regeneration is achieved through the use of either a thermal-reactivation furnace, a multiple-hearth furnace, or a direct fired rotary kiln. These processes generate spent carbon through complete combustion of the organics adsorbed by the activated carbon. The carbon is then reloaded into clean canisters for reuse. Calgon performs thermal regeneration of spent carbon by use of a multiple-hearth furnace at their Big Sandy Plant in Cattletsburg, Kentucky. The Big Sandy Plant is a RCRA-permitted facility.

The performance specification for the SVE system does not limit the contractor to use of activated carbon as a vapor treatment unit. Contractors which present an alternative method of collection and disposal will be required to provide complete documentation of the collection and disposal processes. These processes shall be consistent with applicable federal and state regulations.

See the response to U. S. EPA General Comment No. 1 concerning the physical characteristics of the site area with respect to SVE treatment.

U.S. EPA Specific Comment No. 8

Sect. 13100, Page 11, Part 2.01.B.9
How will the vapor sampling data be documented? To whom will it be submitted? More details need to be provided on vapor sampling and analytical methods to be used by the vendor. Also, at what temperature and pressure is equilibrium defined? Just as a reminder, vapor phase concentrations may not be readily correlated with soil concentrations as presented in Table 4-1.

Response:

Details regarding vapor sampling and analytical methods and documentation to be used will be provided in Specification Section 13250 - Soil Vapor Extraction System Operations. A copy of all analytical data will be submitted U. S. EPA and IDEM. Vapor sampling and analyses specifications will reference U.S. EPA methods for vapor sample collection and VOC analyses. U. S. EPA Method 18 in 40 CFR 60, Appendix A, or the latest method at the time of the Final Design, will be used for VOC analysis of air samples. This specification section will be part of the Pre-Final Design submittal. Equilibrium will be defined at a temperature of 50° F and atmospheric pressure (1 atm).

U.S. EPA Specific Comment No. 9

Sect. 13100, Page 12, part 2.01.B.10.c
Where are the following Sections k, l, m?

Response:

The last sentence of Specification Section 13100, Part 2.01.B.10.c is a misprint and should read as follows: Soil Cleanup Verification Procedures are described in the following sections 11, 12 and 13.

U.S. EPA Specific Comment No. 10

Sect. 13100, Page 13, part 2.01.B.11.c
Why specify 500 scfm or one pore volume of soil over the entire treatment area every five hours? Is this supposed to be the flow rate assumed by the vendors in their design?

Response:

Specification Section 13100 ,page 13, Part 2.01.B.11.c will be modified to read as follows:

> The restart spike procedure will include shutting down the vapor extraction system for a period of three (3) days. Upon restarting the vapor extraction system, all extraction trenches, wellpoints, or wellpoint treatment cells will be operated as during normal operation. A sample of the soil vapor will be collected over a period equivalent to the time required for the removal of one pore volume of soil vapor for the area being sampled. This vapor sampling period will based on the porosity of the material (native soil, excavated soil, or aggregate fill) and the actual volumetric flow rates for soil vapor established by flow meters on the SVE system. Soil vapor sampling will begin one tenth of the sampling period after the SVE system is restarted. For example: if through calculations of the pore volume and SVE system flow rate it is established that the soil vapor sample shall be collected over a period of 60 minutes, the sample will begin being collected 6 minutes after the SVE system is restarted. This sample is expected to be representative of the soil vapor concentration at equilibrium. Sample collection shall not begin immediately to allow for purging of the volume of soil vapor in the SVE system piping at the time of the SVE system restart.

U.S. EPA Specific Comment No. 11

Sect 13100, Page 15, part 2.01.D.1.b
What are the specific performance standards for moisture resistance, temperature resistance, etc.?

Response:

The specific performance standards for the SVE system are not needed at this time. The SVE contractor will provide specific standards as part of the SVE Design (second look) which will be subject to U.S. EPA review. The SVE system piping shall exhibit characteristics consistent with the intended use. It is this intended use that will determine the appropriateness of a given pipe material or connection as part of the SVE system.

U.S. EPA Specific Comment No. 12

Sect. 13100, Page 15, Part 2.01.H
How will the vapor treatment unit be sampled? How frequently will it be sampled? Who is responsible for the sampling? Will sampling be done at the source, at the fenceline or elsewhere? What documentation will be provided for sampling data?

Response:

The SVE system vapor treatment unit sampling method will be in accordance with 40 CFR 60, Appendix A, Method 18 or an equivalent method. Sampling ports for influent and effluent streams will be designed pursuant to this method. The vapor discharge (source) from the treatment unit will be sampled quarterly or at a frequency required to monitor compliance with the State of Indiana emissions limits set for the permit equivalence. These limits will be determined during the Pre-Final Design.

The SVE contractor will be responsible for the emissions monitoring and the documentation and reporting. The Enviro-Chem Trustees field representative and U. S. EPA's OSC will observe the SVE contractor. Technical Specification Section 13250 - Soil Vapor Extraction System Operations Monitoring, will contain the vapor treatment unit monitoring requirements. This specification will be provided in the Pre-Final Design.

U.S. EPA Specific Comment No. 13

Appendix C
The PRP's inhalation risk assessment only addresses a residential receptor. As described in RAGS-C, the short-term risk assessment (i.e., evaluation of risks that would occur while implementing the remedy) should include an evaluation of the potential for short-term risks to two groups of individuals: (1) neighboring populations which includes residents and onsite workers not associated with the remediation and (2) onsite workers associated with the remediation. A more complete discussion and evaluation of potential receptors is needed.

Response:

Short-term inhalation risks (risks that would occur while implementing the remedy) have been evaluated for three groups of individuals; (1) neighboring residential populations, (2) onsite workers not associated with the excavation of Area C, and (3) onsite workers engaged in the excavation of Area C.

Inhalation risks for residential receptors were determined by modeling air concentrations (vapor and particulates) to existing residential dwellings. The revised risks assessment evaluates potential risks at the three offsite residences nearest and downwind of the Site. Inhalation risks for onsite workers not associated with the remediation were estimated assuming potential exposure to workers at the fence line. Short-term inhalation risks were estimated for onsite workers associated with the remediation. These individuals are exposed to air concentrations (vapor and particulates) in Area C. See attached revised Appendix C.

U.S. EPA Specific Comment No. 14

Appendix C, Table C-3
The inhalation rate, exposure frequency, exposure duration, body weight, and averaging times listed and used to estimate chemical intake by a residential receptor are acceptable. However the exposure time set at 10 hours per day (based on excavating for 10 hours per day) is not acceptable. To more accurately evaluate residential short-term or subchronic (i.e., 2 weeks to 7 years) exposures, it is recommended that a revised exposure time of 24 hours per day be used to estimate chemical intake.

Response:

Evaluation of residential short-term or subchronic exposure was made using the exposure time of 24 hours per day for the expected 21 days of excavation. In addition, a new scenario which evaluates the 1 month post-excavation period has been added to the risk assessment to account for the time when the soils of Area C lie uncovered in Area A (northern fill area). The exposure time for onsite workers associated with remediation and workers not associated with remediation is 8 hours per day for 15 days. A short term risk analysis (8 hours, 1 day) has been added to evaluate the effect of maximum modeled concentrations on workers engaged in excavation activities. See attached revised Appendix C.

U.S. EPA Specific Comment No. 15

Appendix C
It may be important to evaluate "single exposure events" which are exposures occurring over a few minutes, hours or a single day that might involve peak chemical concentrations in air. As stated in RAGS.C, "...the need to evaluate peak exposures as well as longer-term average exposures during remedy implementation depends on a number of considerations, including the degree of risk or hazard associated with the longer-term exposure and the difference between the predicted peak and average exposure concentrations." It is recommended that 8 hour average chemical concentrations in air be used to evaluate single exposure events or peak exposures.

Response:

In addition to the evaluation of longer-term average exposures (15, 21 and 30 days), a "single exposure event" has been evaluated in the revised risk assessment. This "single exposure event" represents an 8 hour exposure for a typical 8 hour work day. The air concentrations (maximum modeled vapor and particulate concentrations) have been applied in risk calculations to evaluate inhalation risks to workers. The comparisons of the predicted peak concentrations and the average exposure concentrations are included in the revised Appendix C. Note that 8 hour

average concentrations have been used to evaluate the "single exposure event", as suggested by the EPA reviewer.

U.S. EPA Specific Comment No. 16

Appendix C
There is little guidance available on characterizing risks from short-term exposure to carcinogens. The method (cumulative chemical intake averaged over a lifetime) used by the PRPs is the method preferred by EPA because cancer toxicity factors (slope factors) are based on lifetime exposures. However, it should be noted that this approach may underestimate risks for "early stage" carcinogens (i.e., DNA damaging agents).

Response:

The method used in this short-term inhalation risk assessment for characterizing risks associated with exposure to carcinogens is based on cumulative chemical intake averaged over a lifetime of 70 years. The fact that this method may underestimate risk for "early stage" carcinogens and their effects has been discussed in the Toxicological Assessment Section and in the Uncertainty Section of the revised risk assessment, Appendix C. To compensate for this possible underestimation of potential risk, DEI has obtained acute and short-term toxicological information with which to better evaluate short-term effects. This short-term data, which applies principally to noncarcinogens, is supplied in the revised risk assessment.

In addition, the action levels calculated for the perimeter monitoring program are based on the single event 8 hour exposure which was recommended by the EPA reviewer (see Comment and Response No. 15) which should reduce potential short-term effects.

U.S. EPA Specific Comment No. 17

Appendix C
The methodology used by the PRPs to characterize hazards from short-term exposures to noncarcinogens is appropriate. However, the use of chronic inhalation reference doses (RfD) to calculate the noncancer hazards is not appropriate but is acceptable because the use of chronic toxicity results in conservative values. Subchronic inhalation RfDs and intermediate (14 to 364 days) inhalation minimal risk levels (MRLs) are examples of noncancer toxicity factors that would be more appropriate for use in evaluation subchronic exposures. Subchronic inhalation RfDs can be derived from subchronic reference concentrations (refer to RAGS); both of these subchronic toxicity factors are available from HEAST (U.S. EPA's Health Effects Assessment Summary Tables) or can be developed by ECAO (U.S. EPA's Environmental Criteria and Assessment Office). MRLs are developed by the ATSDR (Agency for Toxic Substances and

Disease Registry) and published in the ATSDR's toxicity profile documents. Examples of toxicity criteria appropriate for evaluating single exposure events or peak exposures are acute inhalation criteria (AICs) and acute (1 to 14 days) inhalation MRLS. The Superfund Health Risk Technical Support Center (TSC) located in Cincinnati, Ohio should be contacted for AIC values. In all cases where short-term toxicity values are needed the TSC should be contacted through the site remedial project manager. The TSC can also be consulted for evaluating the availability and suitability of other toxicity values for the various short-term exposure scenarios.

Response:

DEI has expended considerable effort to address the EPA reviewer concerns in Comment No. 17. DEI has taken the following measures regarding toxicological data in the revised risk assessment:

- DEI has contacted the EPA Superfund Health Risk Technical Support Center (TSC) in Cincinnati, Ohio to obtain the latest subchronic inhalation RfDs and AICs.

- DEI consulted the EPA Regional offices toxicological data.

- When subchronic RfDs were not available, chronic RfDs, obtained from IRIS (U.S. EPA's Integrated Risk Information System) and HEAST (U.S. EPA's Health Effects Assessment Summary Tables) were applied to the risk calculations. This was done after consulting the site remedial project manager.

- When inhalation RfDs and CSFs were not available, oral values were used to quantify risks. The fact that the use of oral value for inhalation exposures underestimates risk has been noted in the Uncertainty Section of the risk assessment. DEI considers this approach preferable to completely omitting a compound from the risk analysis. This was done after consulting the site remedial project manager.

- Noncarcinogenic RfDs for 2-hexanone and di-n-butyl phthalate were not available from any of the above sources. The mass of 2-hexanone makes up approximately 0.4 percent of the total mass of contamination present in Area C soils and the mass of di-n-butyl phthalate makes up approximately 0.2 percent of the total mass. In addition, the vapor pressures of these compounds are relatively low when compared to the other site-related compounds. The compounds comprise even a lower percentage of the emissions (see response to Comment No. 20). Therefore, it is quite probable that the absence of 2-hexanone and di-n-butyl phthalate from the risk assessment would not affect the total risks presented in Appendix C. This has been noted in the Uncertainties Section of the inhalation risk assessment.

- DEI obtained all published ATSDR documents for compounds of interest in Area C. From these documents, DEI was able to obtain acute inhalation minimal risk levels (MRLs) for several compounds. These values, along with several other reference concentrations (such as State of Indiana Ambient Air Concentrations or OSHA PELs) have been compared to modeled air concentrations. A summary of these reference air concentrations is included as Table C-9 in the revised Appendix C.

U.S. EPA Specific Comment No. 18

Appendix C
Toxicity factors for the 34 chemicals detected in soil should be updated and reviewed for correctness using not only the IRIS data base but also the HEAST Annual 1994 data base. ECAO should be consulted for toxicity values. Inhalation noncancer toxicity values are available from HEAST for chlorobenzene and 1,2-dichlorobenzene and from ECAO for 1,1,-trichloroethane.

Response:

Toxicity factors for the chemicals detected in Area C soils have been reviewed and updated. The IRIS data base, HEAST, ATSDR's (Agency for Toxic Substances and Disease Registry) toxicity profile documents, and the TSC (Superfund Technical Support Center) have been consulted to compile the list of toxicity factors used in the inhalation risk calculations. Permission from the U.S. EPA remedial project manager has been given to utilize oral CSFs and RfDs to determine inhalation risks when an inhalation slope factor is not available. The uncertainties associated with this application are noted in the Toxicity Section and the Uncertainties Section of the revised risk assessment. A list of the toxicity factors utilized in this risk assessment are summarized in Table C-5 included in Appendix C.

Chlorobenzene and 1,2-dichlorobenzene were not evaluated in the revised risk assessment because these compounds were not detected in Area C, the area of the site to be excavated. Although excavated materials are to be placed in Area A, they are the materials from Area C. Accordingly, the Area C materials are the focus of the revised risk assessment. See revised Appendix C, attached.

U.S. EPA Specific Comment No. 19

Appendix C, Table C-4
Often times noncancer toxicity factors were identified yet were not used in the estimation of the noncancer hazard index for Areas A, B and C. For examples, in Area A 1,1,-trichloroethane, methylene chloride and 4-methyl-2-pentoanone have inhalation reference doses listed but are not

included in the calculation of Area A's hazard index. A complete evaluation of the areas of concern is needed.

Response:

Since only Area C will be excavated, only chemicals detected in the soils of Area C are addressed in the revised risk assessment. All compounds detected in the soils of Area C, with the exception of 2-hexanone and di-n-butyl phthalate, are included in the revised risk assessment. See revised Appendix C, attached.

U.S. EPA Specific Comment No. 20

The PRPs' response to U.S. EPA Specific Comment No. 41 refers to development of a residential standard equal to 2 ppm for use in the air monitoring program. RAGS-C explicitly states that EPA does not approve of the derivation of toxicity criteria from occupational exposure limits (e.g., PELs or TLVs) for use in evaluating residential exposures. It is recommended that the Technical Support Center be contacted for guidance on the use of suitable air monitoring criteria.

Response:

In response to U.S. EPA Specific Comment No. 41 (See U.S. EPA letter of November 2, 1994) and General Comment No. 20 from EPA, the site perimeter ambient air quality action levels and monitoring criteria have been reevaluated. Initially, an action level of 2 ppm was calculated using toxicity criteria for occupational exposure limits (e.g., PELs and TLVs) for the ambient air quality at the site perimeter. As referenced in the above listed general comment, RAGS-Part C explicitly states that U.S. EPA does not approve of the derivation of toxicity criteria from occupational exposure limits for the use in evaluating residential exposures. The Technical Support Center was contacted for guidance on developing action levels and suitable air monitoring criteria. Personnel from the Technical Support Center recommended the use of and supplied available subchronic inhalation reference doses (RfD) and acute inhalation criteria (AICs).

The health risks associated with the excavation activities were evaluated by current U.S. EPA risk assessment guidelines. Trichloroethene (TCE) was determined to be the compound with the most significant presence in the ambient air. The concentration of TCE in the ambient air will be an estimated 24% by volume. See table below. Using the U.S.EPA Risk Assessment Guidelines (RAGS-Part A), an eight hour action level (2.98 mg/m^3 or 0.54 ppm) for TCE was

calculated. The total volatile organic compound (VOC) eight hour action level (2.25 ppm) was calculated by dividing the TCE eight hour action level (0.54 ppm) by the mole fraction (0.24) of TCE. The 2.25 ppm action level for TCE was based on the assumptions listed in Attachment A.

	Mole Percent In Air	Action Level (ppm)
1,1,1-Trichloroethane	12.5	105
1,1-Dichloroethane	0.081	10,900
1,1,2-Trichloroethane	0.023	260
Chloroform	0.49	9.3
1,1-Dichloroethene	0.48	5.4
trans-1,2-Dichloroethene	0.34	380
Ethyl benzene	4.51	130
Methylene chloride	2.95	105
Tetrachloroethene	3.56	10.5
Toluene	10.4	185
Trichloroethene	24.0	2.25
Acetone	13.4	80
2-Butanone	8.99	275
2-Hexanone		
4-Methyl-2-pentanone	2.97	48
Xylenes (Total)	14.4	160
Phenol	0.322	12,400
Isophorone	0.129	2,550
Naphthalene	0.063	8.8
bis(2-ethylhexyl)phthalate	0.00008	100,000
Butyl benzyl phthalate	0.00039	1,000,000
di-n-butyl phthalate		
Diethyl phthalate	0.0022	1,000,000
Dimethyl phthalate	0.010	3,000,000

U.S. EPA Specific Comment No. 21

The PRP's response to Part 1 of U.S. EPA Comment No. 42 contains inaccurate statements (e.g., few VOCs without toxicity values, estimated air concentrations of contaminants without toxicity values are much lower than air concentrations of those contaminants with toxicity values, etc.) and draws a nonsupportable conclusion (relative contribution of contaminants without toxicity values would be insignificant). Risk assessment guidance defines VOCs as those compounds having a Henry's Law Constant greater than or equal to 10^{-5} (atm-m^3/mol) and a molecular weight less than 200 grams per mole. Using this criteria, 10 of the 21 VOCs identified in soil do not have an associated toxicity factor. This creates uncertainty in the inhalation risk and hazard estimates.

Air concentrations on a mass per unit volume basis (mg per m^3) are greater for some contaminants without toxicity values than the air concentrations of the loosely identified risk and hazard drivers (e.g., xylene which lacks a toxicity value is estimated to be present at a concentration of 1.44 mg per m^3 during implementation of the remedy -- the highest air concentration estimated for Area A). But this is a moot point given that more than the air concentration determines the inhalation risk of hazard. Relative risk contribution ranking of contaminants based on air concentrations without regard to a chemical's toxicity is a poor method of determining relative contribution to inhalation risk and hazard. This procedure does not improve or clarify the risk assessment. In addition, the procedure does not consider evaluation of cumulative efforts.

The inaccurate statements and methodology found in PRP's response do not support the conclusion that the relative contribution of contaminants without toxicity values would be insignificant. The PRP's response states that compounds with low vapor pressures will yield low ambient air concentrations that, as discussed above, do not contribute to health risks or hazards. The implication that SVOCs do not have the potential to contribute to inhalation risks or hazards is incorrect. Factors such as the soil concentration of the SVOC, organic carbon content (K_{oc}) of the soil and water content of the soil may be such that the SVOCs are important contributors to inhalation risks/hazards. For example, the Area A one congener of PCBs is present at a soil concentration of 6.4 mg/kg. As described in Guidance on Remedial Actions for Superfund Sites with PCB Contamination (EPA, August 1990), despite their low vapor pressures PCBs can volatize into the atmosphere whereby inhalation is the major exposure route (i.e. the dominant route of chemical intake).

A supportable conclusion might include the statement that uncertainty is associated with the inhalation risk assessment because of the lack of toxicity factors for some VOCs and SVOCs. This uncertainty should be considered in the risk management of the remedy implementation. For instance, engineering, administrative or other control methods may be required to control

uncertain risks and hazards resulting from airborne soil contaminants; this is especially evident given the chemical overexposure and subsequent mishap involving the backhoe operator.

Response:

The issues raised by the Agency reviewer in Comment No. 21 have been addressed in DEI's responses to the general and specific comments above and in the revised risk assessment. To summarize:

- All chemicals expected to be emitted during excavation have been included in the risk assessment.

- All chemicals, except 2-hexanone and di-n-butyl phthalate, reported in Area C in the 1986 Remedial Investigation (from samples collected in October, 1984) are now included in the revised risk assessment. Potential risks could not be quantified for 2-hexanone and di-n-butyl phthalate because no toxicological data are currently available for these compounds. Agency permission has been given to use oral CSFs and RfDs when inhalation values are not available with the provision that the potential underestimation of risk associated with this practice be discussed in the Uncertainty Section of the revised risk assessment.

- All SVOCs detected in Area C are included in the revised risk assessment, except di-n-butylphthalate, as discussed above.

- No PCBs were detected in Area C soils and are, therefore, not included in the revised risk assessment.

If you should have any questions regarding this information, please call me at (412) 788-2717.

Sincerely,

Mark J. Dowiak

Mark J. Dowiak, P.E.
Project Manager

MJD/rks

cc: Mr. Tony Likins, IDEM
Mr. Frank Mahuta, CH2M Hill

Attachment A

The 2.25 ppm action level for TCE was based on the following assumptions:

- A worker (or offsite receptor) is exposed at the site perimeter for the length of the excavation period. The 70 kg worker is, therefore, exposed 8 hours per day for 15 days and breathes at the rate of 20 m^3 per day.

- The action level was based on the fact that worker (or offsite receptor) would be positioned at a point on the perimeter which receives the maximum concentration as modeled by the ISCST2 model (See Appendix C- Risk Assessment).

- The action level assumes that approximately 25 percent of the chemicals inhaled by the worker (or offsite receptor) is TCE. In other words, each breath inhaled by the worker is assumed to contain chemical vapors, 25 percent of which is TCE.

- TCE was chosen as the indicator chemical for the excavation of Area C because it comprises the greatest mass by weight of the chemicals detected in Area C. TCE also constitutes 55 percent of the estimated cancer risk in the risk assessment for the Area C excavation.

- The table below also contains risk-based action levels calculated for the other compounds detected in Area C. An examination of these action levels indicates that the 2.25 ppm action level for TCE in significantly less than any of the other compounds. Therefore, it is the opinion of DEI that setting an action (trigger) level of 2.25 ppm at the site perimeter will provide a sufficiently protective warning.

As stated in the response to EPA specific comment number 41, the sampling frequency during the remedial action excavation phase will be continuous. Stationary photo ionization detectors (PIDs) will be positioned at the property line. Each unit will be equipped with an alarm to be activated at the total VOC eight hour action level trigger (2.25 ppm). If a PID alarm is activated, the VOC release contingency plan will be implemented. This plan will be a part of the site's air monitoring plan.

APPENDIX C

HUMAN HEALTH RISK ASSESSMENT

APPENDIX C

ATTACHMENT 1

AREA C SAMPLING RESULTS, OCTOBER 1984

TABLE 4-8
SOIL BORING ORGANIC RESULTS (ug/kg)
ECC Site RI Report

	INTERMEDIATE BORINGS								DEEP BORINGS				
Sample Location:	SB-01	SB-02	SB-03a	SB-03a	SB-04	SB-06	SB-08	SB-09	SB010A	SB020A	SB040A	SB060B	SB090A
Depth (ft):	2.5-4	2.5-4	2.5-4	2.5-4	2-3.5	2-3.5	2.5-4	2.5-4	5.5-7	5.5-7	5-6.5	7-8.5	5.7-7
Date Sampled:	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84
OTR Number:	E4912	E4914	E4928	E4929	E4934	E4932	E4931	E8077	E4913	E4915	E4933	E4935	E4930
VOLATILE COMPOUNDS													
1, 1, 1-TRICHLOROETHANE	14	49000	11000	65	3 J	27000	27 J	10000				11	110
1, 1-DICHLOROETHANE								380 J					
1, 1, 2-TRICHLOROETHANE			150		14								
CHLOROFORM	57	2900										5 J	
1, 1-DICHLOROETHENE		1600											
TRANS-1, 2-DICHLOROETHENE	37	1500			17		72					41	29
ETHYLBENZENE	15	21000				4000	27 J						
METHYLENE CHLORIDE	100 B	10000 B	1900	74	8	4100	59 B	1050	27 B	34 B	33	54	190
TETRACHLOROETHENE	44	11000			5 J	10000	26 J					8	
TOLUENE	52	31000	600			11000	170	20000	21	10		14	120
TRICHLOROETHENE	39	68000	340			110000	16 J	640				3 J	76
ACETONE	1400		32000	550	16	17000	380 B	10000	66		18 B	41 B	6500
2-BUTANONE	1200	17000	24000	550	6 J	8000 JB	410 B	6600 B					1000
2-HEXANONE					70		1600	920					
4-METHYL-2-PENTANONE	250			36			35 J						44
TOTAL XYLENES	95	110000			36	21000	190	2000				11	
TOTAL VOC's	3303	12900	70070	1275	175	220900	3012	60390	27	34	51	100	8069
ACID COMPOUNDS													
PHENOL						610		1100					
2-METHYLPHENOL													
4-METHYLPHENOL													
TOTAL ACIDS	0	0	0	0	0	610	0	1100	0	0	0	0	0
BASE/NEUTRAL COMPOUNDS													
ISOPHORONE						500							
NAPHTHALENE		640											
BIS(2-ETHYLHEXYL)PHTHALATE	230						730					270 J	
BUTYL BENZYL PHTHALATE								400 J					
DI-N-BUTYL PHTHALATE					420 JB	400 JB	53	320 JB			310 B		
DIETHYL PHTHALATE		9000				1200							
DIMETHYL PHTHALATE		1200				360 J							
TOTAL B/N COMPOUNDS	230	10840	0	0	420	2460	783	720	0	0	0	0	0

NOTE: CONCENTRATIONS REPORTED ON A DRY WEIGHT BASIS — SAMPLES ANALYZED FOR ROUTINE ORGANIC PACKAGE BUT ONLY DETECTED COMPOUNDS ARE LISTED — FOOTNOTES GIVEN ON FOLLOWING PAGE

TABLE 4-8
SOIL BORING ORGANIC RESULTS (ug/kg)
ECC Site RI Report

	INTERMEDIATE BORINGS								DEEP BORINGS				
Sample Location:	SB-01	SB-02	SB-03*	SB-03*	SB-04	SB-06	SB-08	SB-09	SB0104	SB0204	SB0403	SB0805	SB0904
Depth (ft):	2.5-4	2.5-4	2.5-4	2.5-4	2-3.5	2-3.5	2.5-4	2.5-4	5.5-7	5.5-7	5-6.5	7-8.5	5.7-7
Date Sampled:	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84	10-24-84
OTR Number:	E4912	E4914	E4928	E4929	E4934	E4932	E4931	E8677	E4913	E4915	E4933	E4935	E4930
PESTICIDE COMPOUNDS													
NONE DETECTED													
PCB's													
NONE DETECTED													
TENTATIVELY IDENTIFIED COMPOUNDS													
DECANE		900											
UNDECANE		1000											
TRICHLOROFLUOROMETHANE											10 J	12 J	
4-METHYL-2-PENTANOL					4 J								
TETRACHLOROETHENE					4 J								
1, 1, 2-TRICHLORO-1, 2, 2-TRIFLUOROETHANE								24000 J					
ISOPROPYL ALCOHOL				110 J									
2-BUTANOL				90 J									
DIETHYL ETHER													40 J
HEXANE													50
PERCENT MOISTURE	13.7	11.4	11.59	11.06	12	10	12	8	10.7	11	8	14.5	

FOOTNOTES:

A. Tentatively identified compound concentrations are estimated. A 1:1 response is assumed.
B. Analyte has been found in the laboratory blank as well as the sample. Indicates probable contamination.
C. Applies to pesticide parameters where the identicication has been confirmed by GC/MS.
J. Indicates an estimated value. When mass spectral data indicates the presence of a compound that meets the identification criteria and the result is less than the specified detection limit but greater than zero.
K. Actual value, within the limitations of the method is less than the value given
* Duplicate samples were taken at SB-03

1.0 INTRODUCTION

The purpose of this human health risk assessment (HRA) is to evaluate potential health effects arising from proposed excavation activities in Area C of the Enviro-Chem Site. This (HRA) quantifies potential carcinogenic risks and noncarcinogenic health effects for the following situations:

- Workers are exposed to chemical vapors and airborne particulates during the excavation of Area C (See Drawing 1). This evaluation includes potential risks incurred by workers during the total time of excavation which is expected to reach 3 work weeks (15 days), and potential short-term exposures assumed to occur in an 8 hour workday.

- Residents residing near the site who might be exposed to vapors and airborne particulates during the excavation of Area C. This exposure scenario assumes that residents are affected during and outside of work hours. Therefore, it is assumed that these residents are exposed during the full 3 weeks of the project, including evenings and weekends.

- According to project excavation plans, once the soil is removed from Area C, it will be deposited in Area A for approximately one month and then covered with a cap. This HRA examines the potential health effects which might occur if vapors migrating from Area A are inhaled by residents for the 30 day period following excavation.

The procedures for conducting this health risk assessment are based on the following documents:

- U.S. EPA's Risk Assessment Guidance for Superfund (RAGS), Volume I, Human Health Evaluation Manual, Part A

- Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual, Part B

- Development of Risk-Based Preliminary Remediation Goals

- Risk Assessment Guidance for Superfund, Volume I, Human Health Evaluation Manual, Part C

- Risk Evaluation of Remedial Alternatives, The Superfund Exposure Assessment Manual,

- The U.S. EPA's Air/Superfund National Technical Guidance Series

HRAs under current U.S. EPA guidelines generally involve the following steps:

- Identification of Contaminants of Concern
- Exposure Assessment
- Toxicity Assessment
- Risk Characterization

These steps as applicable to this project are addressed in the following sections.

2.0 IDENTIFICATION OF CONTAMINANTS OF CONCERN

The chemicals of concern evaluated in this HRA are compounds which have been detected in at least one soil sample collected from Area C of the Enviro-Chem Site. In the thirteen soil samples collected in Area C in October, 1984 and reported in the 1986 Remedial Investigation (RI) for the ECC Site. Analytical positive results from the 1984 samples are included in Attachment 1 to this Appendix. These chemicals are classified as volatile or semivolatile organic compounds and include the following:

Volatiles	Semivolatiles
1,1,1-Trichloroethane	Phenol
1,1-Dichloroethane	Isophorone
1,1,2-Trichloroethane	Naphthalene
Chloroform	bis(2-ethylhexyl)phthalate
1,1-Dichloroethene	Butyl benzyl phthalate
trans-1,2-Dichloroethene	di-n-butyl phthalate
Ethyl benzene	Diethyl phthalate
Methylene chloride	Dimethyl phthalate
Tetrachloroethene	
Toluene	
Trichloroethene	
Acetone	
2-Butanone	
2-Hexanone	
4-Methyl-2-pentanone	
Xylenes (Total)	

3.0 EXPOSURE ASSESSMENT

The purpose of this section is to estimate the type and magnitude of potential exposures to chemicals to which workers and neighoring residents may be exposed during the excavation of Area C. Results of the exposure assessment are combined with the chemical specific toxicity information provided in Section 4.0 to characterize the potential human health risks in Section 5.0. Results and conclusions of the risk analysis are presented in Section 6.0

An exposure assessment consists of the following steps:

- Identification of Exposed Populations and Exposure Pathways (Section 3.1)
- Estimation of Exposure Point Concentrations (Section 3.2)
- Estimation of Chemical Intakes (Section 3.3)

3.1 Identification of Potentially Exposed Populations and Exposure Pathways

The exposure scenarios evaluated in this HRA assume that workers on the Enviro-Chem Site inhale vapors and particulates during the three week excavation of Area C. It also assumes that residents living near the site inhale vapors and particulates resulting from the excavation activities. This HRA accordingly quantifies health risks for the following situations:

- Workers engaged in the excavation of Area C inhale vapors and airborne particulates emitted during the handling of soils. These activities, and resulting exposures, involve both the excavation of Area C soils and the dumping of the excavated soils on temporary storage piles. This HRA quantifies potential health risks to workers for the following situations:

  - Chemical vapors are emitted during soil handling activities during an 8-hour work day. This scenario assumes that workers are exposed by inhalation of vapors 8 hours per day, 5 days a week for 3 weeks. The term air concentrations to which workers are exposed represent maximum 8-hour average concentrations as modeled by the U.S. EPA's ISCST2 and SCREEN2 models (Sections 3.3.1 and 3.3.2).

  - Workers may also be exposed by inhaling particulate matter raised by excavation activities. This HRA quantifies risks to workers from exposure to particulates for the length of the excavation project, and also worst-case short-term risks resulting from increased dust concentrations caused by gusting winds.

- Workers may also be exposed to short-term concentrations produced when site contaminants are released over a relatively short period of time. This situation can result in greater vapor emission rates and higher local concentrations. This HRA, therefore, evaluates the situation in which workers are exposed to maximum modeled concentrations in an 8-hour work day.

- Residents inhale vapors and particulates emitted from excavation activities in Area C. This HRA evaluates potential health risks incurred by the three local residents living near the boundaries of the Site (See Drawing C-1).

- Residents are exposed to chemical vapors emitted from the soils of Area C which have been deposited on Area. This scenario assumes that the Area C soils lay uncovered for 30 days after removal from Area C.

3.2 Estimation of Exposure Point Concentrations

Exposure point concentrations are the actual contaminant concentrations to which persons (receptors) are exposed. In this HRA exposure point concentrations consist of the following:

- 8- Hour average vapor concentrations (mg/m^3) to which workers not involved in the excavation of Area C are exposed on-site.

- 8- Hour maximum vapor concentrations (mg/m^3) to which workers involved in the excavation of Area C are exposed.

- 8-Hour average particulate concentrations (mg/m^3) to which workers are exposed.

- On-site worst case particulate concentrations (mg/m^3) caused by greater than average wind speeds.

- 24-hour annual average vapor concentrations (mg/m^3) from excavation activities in Area C to which residents are exposed off-site.

- 24-hour annual average particulate concentrations (mg/m^3) from excavation activities in Area C to which residents are exposed.

- 24-hour annual average vapor concentrations (mg/m^3) emitted from Area C soils deposited on Area A to which residents are exposed.

Since these exposure point concentrations will occur during excavation of the site soils, it is necessary to estimate air concentrations of chemicals by means of mathematical or computer models for risk assessment purposes. The models and assumptions used to estimate vapor and particulate air concentrations are described in the following sections. Table C-1 lists estimated

onsite and offsite exposure point concentrations and the soil concentrations on which they are based, as described in the following sections.

3.2.1 Estimation of Vapor Concentrations in Air

Onsite and offsite vapor concentrations in air generated by excavation activities were estimated by U.S. EPA models. The Estimation of Air Impacts for the Excavation of Contaminated Soil was used to estimate chemical vapor emission rates from soil. The Industrial Source Complex - Short Term (ISCST2) model, and the Screening Procedures for Estimating the Air Quality Impact of Stationary Sources (SCREEN2) model used these emission rates to predict vapor concentrations in air at various distances from the source.

The following sections discuss the assumptions and parameters employed in these models.

3.2.1.1 Estimation of Vapor Emission Rates

When soils containing volatile chemicals are excavated and moved, vapors may be emitted from the soil matrix into the surrounding air. According to the EPA's Estimation of Air Impacts for the Excavation of Contaminated Soil, emissions from excavation occur by two mechanisms: emissions from soil pore space and emissions from diffusion. Total emissions from excavation, therefore, are the sum of these two processes, pore space emission and diffusion.

Accordingly, the average emission rate (ER) from the excavation of the soils of Area C is the sum of emission rates from the soil pore space (ER_{ps}) and from diffusion (ER_{diff}):

(Equation 1)

$$ER = Er_{ps} + Er_{diff}$$

The pore space emission rate (Er_{ps}) is further defined as:

(Equation 2)

$$Erps = \frac{P\ MW\ 10^6\ E_a\ Q\ ExC}{RT}$$

Where:

P	=	Vapor pressure of each chemical (mmHg)
MW	=	Chemical molecular weight (g/mole)
E_a	=	Air filled porosity (dimensionless)
Q	=	Excavation rate (m^3 of soil/day)
ExC	=	Soil-to-atmosphere exchange constant (dimensionless)
R	=	Universal gas constant (mmHg-cm^3/g-mole)

T	=	Temperature (°K)
10^6	=	Conversion factor (cm^3/m^3)

and, the emission rate due to diffusion is:

(Equation 3)

$$ER_{diff} = \frac{C\ 10{,}000\ SA}{\frac{Ea}{K_{eq}\ k_g} + \left(\frac{\pi t}{D_e\ K_{eq}}\right)^{1/2}}$$

where:

C	=	Chemical concentration in soil (μ/cm^3)
SA	=	Emitting surface area (m^2)
E_a	=	Air filled porosity (dimensionless)
K_{eq}	=	Equilibrium coefficient (dimensionless)
k_g	=	Gas-phase mass transfer coefficient (cm/sec)
D_e	=	Effective diffusivity in air (cm^2/sec)
t	=	time of excavation (sec)
π	=	3.1416

Complete and detailed calculations of vapor emission rates for all chemicals of concern are provided in Attachment 2 to this Appendix. Assumptions and input parameters employed in these emission equations are discussed in the following paragraphs.

The following assumptions are made in the estimation of pore space emissions (Er_{pa}):

- The value of air filled porosity (E_a) employed in all calculation is 0.35. This value is recommended by the Superfund Exposure Assessment Manual (SEAMs) for compacted soils.

- The volume of soil which is used to estimate the excavation rate (Q = volume of soil excavated / time from the start of excavation in seconds) is the volume of soil expected to be excavated in one (1) work week. Since the total volume of soil to be excavated is 6070.9 m^3, it is assumed that one-third (1/3) of this volume will be excavated in one week. Therefore, the volume of excavated soil used to estimate onsite vapor concentrations is 2023.3 m^3. This volume was used to estimate both the average eight (8) hour emission rates from which 8 hour onsite concentrations were derived and the 24 hour emission rates which served as the basis of offsite vapor concentrations.

- The time of excavation (t) is a variable which depends on the time that vapors are emitted from a given volume of soil. For example, it is assumed that workers are exposed 8 hours per day five days per week and that vapors are continuously emitted from soil during these forty (40) hours. The time (t) of excavation for workers is therefore 40 x 3,600 = 144,000 seconds and the excavation rate (Q) for worker exposure becomes:

(Equation 4)

$$\mathbf{Q\ (worker) = 2023.3\ m^3/144{,}000\ sec = 0.0141\ m^3/sec}$$

In regard to residential exposures, it cannot be assumed that vapor emissions cease when excavation activities cease. Therefore, this HRA assumes that residents living near the Site are exposed to vapors 24 hours a days, 7 days a week for 3 weeks. In this situation the time of excavation (t) is 7 x 24 x 3600 = 604,800 seconds, and the excavation rate for residential exposures becomes:

(Equation 5)

$$\mathbf{Q\ (resident) = 2023.3\ m^3/604{,}000\ sec = 0.0033\ m^3/sec}$$

- The value of the soil-to-atmosphere exchange constant (ExC) is 0.33. This is the default supplied by the EPA's documentation for the excavation model.

- The temperature employed in the emission rate model is 288°K (60°F). This temperature is approximately the daily maximum average for the Site area (NOAA, 1990).

The following assumptions and variables are used in the estimation of emissions from diffusion (Er_{diff}):

- The concentrations of chemicals in soil employed in the emission models represent the 95% Upper Confidence Limits (95% C.L.) of the 13 soil samples collected in Area C in October, 1984. The analytical results for these samples are reported in the ECC Site Remedial Investigation (RI) Report issued in March, 1986. As required by EPA, when calculating the 95%C.L., one-half the Contract Required Qunatitation Limit (CRQL) was used for non-detected results. The RI Report states that analyses had been performed under the U.S. EPA's Contract Laboratory Program (CLP). Therefore, the CRQLs used to compute the 95% C.L. were those required by the CLP at the time of analysis. The 95% C.L. concentrations used in this HRA are listed in Table C-1 and the 1984 analytical results are provided in Attachment 1 to this Appendix.

- The emitting surface area (SA) used in the excavation emission calculations is 1,178.9 m^2. This value is one-third of the total estimated area of Area C (3,536.67 m^2) and represents the surface area expected to emit chemical vapors in one work week.

- K_{eq} is the chemical specific equilibrium coefficient which is dependent on Henry's Law Constant and temperature (K_{eq} = H/RT). K_{eq} values calculated in this HRA are provided in Attachment 2 of this Appendix.

- The value of the gas-phase mass transfer coefficient (k_g) is 0.15 cm/sec. This value is supplied in the EPA's documentation for the excavation model.

- Effective diffusivity in air (De) values were estimated for each chemical included in emission calculations. The formula for calculating De is:

(Equation 6)

$$D_e = D_a \times E_a^{3.33} / E_t^2$$

where:

D_a	=	Diffusivity of a chemical in air (cm^2/sec)
E_a	=	Air filled porosity (dimensionless) = 0.35
E_t	=	Total porosity = 0.35

Values for Da were obtained from the U.S. EPA's Air/Superfund National Technical Guidance Study Series.

- The times of excavation are assumed to be the following:

  28,800 seconds for one day exposures (8 hours x 3,600 seconds)
  144,400 seconds for one week industrial exposures (5 days x 8 hours x 3,600)
  604,800 seconds for one week residential exposures (7 days x 24 hours x 3,600)

3.2.1.2 Estimation of Particulate Emissions

This HRA quantified three exposure situations involving exposures to site-related chemicals on particulate matter raised by the excavation of Area C. These are:

- On-site workers, not involved in excavation activities, inhale particulates from Area C.

- Workers engaged in excavation activities inhale peak short-term exposures to airborne particulates raised by maximum annual wind speeds.

- Residents near the site inhale particuates raised by the excavation of Area C.

Particulate matter emissions for these situations are estimated according to guidelines of the U.S. EPA's Estimation of Air Impacts from Area Sources of Particulate Matter Emissions at Superfund Sites. The following equation is employed to estimate particulate emissions for these exposure situations:

(Equation 7)

$$ER = \frac{k\,(0.0016)\,(M)\,(U/2.2)^{1.3}}{(X_{H2O}/2)^{1.4}}$$

Where:

ER	=	Particulate matter emissions (grams)
k	=	Particulate matter multiplier, 0.35 for PM_{10}
0.0016	=	Empirical constant, g/kg
M	=	Mass of soil handled
U	=	Wind speed (m/s)
2.2	=	Empirical constant (m/s)
X_{H2O}	=	Percent moisture content (%)

Attachment 2 to this Appendix provides calculations for the particulate emissions of all chemicals of concern in this HRA. The following sections describe the variables used in Equation 7.

- The value of the particulate matter multiplier (k) used in Equation 7 was 0.35 for PM_{10}, the value recommended by the U.S. EPA guidance document.

- The mass of soil handled (M) is dependent on the particular exposure scenario under investigation. For longer-term exposure situations (3 weeks) the entire estimated mass of soil in Area C was considered as the source of particulate emissions. This corresponds to a mass of 9.11×10^6 kg. For short-term exposures in which winds were assumed to gust for 1 hour, the mass was of soil handled was estimated at 6.07×10^4 kg, the mass assumed to be handled in 1 hour of excavation.

- Short-term and longer-term wind speeds were used in evaluating potential exposures to particulate emissions. For longer-term exposures, the wind speed was assumed to be the mean annual wind speed for the Site area, 4.6 m/sec. The wind speed used to estimate the short-term exposure situation was 20.56 m/sec, the maximum monthly wind speed observed for the Site area (NOAA, 1990).

- The percent soil moisture (X_{H2O}) used in Equation 7 was 13.3%. This value was obtained by averaging the percent moisture of each sample collected in 1984 in Area C.

3.2.1.3 Estimation of Vapor Emission Rates from Soils Spread on Area A

As previously stated, after excavation, the soils of Area C will be spread over Area A and it is assumed that these soils will lie uncovered for up to one month. This HRA accordingly examines potential health effects to residents who might be exposed to vapors emitted from Area A during this 30 day period.

The mathematical model used to estimate air emission rates for this scenario was published in the U.S. EPA's Air/Superfund National Technical Guidance, document guidelines for predictive baseline emissions estimation procedures for superfund sites. The calculations are based on the fact that measured bulk concentrations are less than the saturation concentration (Csat). This scenario assumes that all chemicals are in solution with the available soil moisture and adsorbed to soil particles within the soil matrix (fully incorporated).

The fundamental equation for calculating emission rate from Area A is:

(Equation 8)

$$Ei = (A\ 2\ D_{ei}\ \epsilon\ K_{as}\ Ci)/(\pi\ \alpha\ t)^{1/2}$$

where:

A = exposed surface area, cm^2

Ei = average emission rate of component I for exposure interval t, g/s

D_{ei} = effective diffusivity of component I, $cm^2/s = Di \times p^{0.33}$

Di = molecular diffusivity of component I in air, cm^2/s

ϵ = soil porosity

K_{as} = soil/air partition coefficient, $g/cm^3 = H/K_d \times 41$

- H = Henry's Law Constant, $atm\text{-}m^3/mole$
- K_d = soil/water partition coefficient, $mL/g = K_{oc} \times f_{oc}$.
- K_{oc} = organic carbon partition coefficient, L/kg (or mL/g)
- f_{oc} = fraction of organic carbon in soil, mg/kg (= 0.02 default)

Ci = soil concentration of component I, g/g

t = Exposure interval, s, = exposure time x exposure frequency x exposure duration (sec).

ϵ = soil porosity. $\epsilon = P_t$ for dry soil.

- Pt = 1 -(b/r), dimensionless (This is a worst case approximation which assumes that there is no soil moisture).
- b = soil bulk density, g/cm^3: generally between 1.0 and 2.0 g/cm^3, (default = 1.5).
- r = particle density, g/cm^3: usually 2.65 g/cm^3 for most mineral material.
- P_t = 0.35 for compacted soils

α = $(Dei\ \epsilon)/[\epsilon+(r)(1-\epsilon)/K_{as}]$

Calculations of emission rates for all chemicals of concern from Area A are provided in Attachment 2 of this Appendix.

3.3 Air Dispersion Modeling

Once vapor or particulate emission rates have been estimated, they are entered into computer dispersion models which convert the emission rates (g/sec) into air concentrations (mg/m^3). Air concentrations were estimated by two U.S. EPA computer models.

- The ISCST2 model was used to predict air concentration on-site at the fence line, and offsite.
- As specified on page 12 of the Excavation of Air Impacts for the Excavation of Contaminated guidance document, the EPA's SCREEN model should be used to estimate short-term worst-case air concentrations. Therefore, the SCREEN2 model was used to estimate concentrations to which workers engaged in excavation activities might be exposed.

The following sections provide details of dispersion modeling for the Enviro-Chem Site.

3.3.1 The ISCST2 Model

Ambient air contaminant concentrations were calculated using the Industrial Source Complex - Short Term (ISCST2), revision version 93109, air dispersion model. Model options and inputs included, rural dispersion mode, elevations above mean sea level, no buildings surrounding the site and regulatory default settings to include:

- Final Plume Rise
- Buoyancy Induced Dispersion
- Use of Calms Processing Routine
- Non-use of Missing Data Processing Routine
- Default Wind Profile Exponents
- Default Vertical Potential Temperature Gradient
- No Exponential Decay

A unit emission rate of 1 x 10^-3 g/s/m^2 was used to determine the dispersion factor for all contaminants.

The current air dispersion modeling estimates ambient air concentrations from two area sources of air emissions. The receptor and grid origin, which is also the reference point for the two area sources, is located at the same position as in the previous air dispersion modeling to maintain consistency.

The source defined in the model as SRC3 represents one third of the area to be excavated also known as the concrete pad or Area C. This fraction (1,179 square meters) was chosen because only one third of this area will be excavated at a time. As necessitated by the ISCST2 model, each area source must be defined as a square with the southwest corner identified as the source location. This source was defined as a square, 34.4 meters in length and width located at 7.3m east and -109.1 m north relative to the origin or reference point. The second source defined in the model as SRC2 represents Area A (9,651 square meters) where the overburden will be placed. This source was defined as a square, 98.24 meters in length and width located at -43.3 m east and -0.6 north relative to the origin or reference point. See drawing C-1.

To provide representative dispersion factors, meteorological data from the calendar years 1987 through 1991 was used. The meteorological surface data was obtained for Indianapolis, however, mixing height data from that location was not available. After a thorough review of the availability of mixing height data for the cities of surrounding states, Dayton, Ohio, was chosen due to the similar topography.

Discrete receptors on Cartesian and polar grids were chosen on and off the site. Special attention was given to the receptors located on the site perimeter and at nearby residential properties. A field investigation was performed to accurately place these residences on a scaled map.

The receptor grid used in the dispersion modeling consistent of the following:

- 23 discrete receptors representing actual nearby residences and public locations.
- 98 receptors located on four concentric rings at distances of 125, 175, 225 and 275 meters from the origin to represent close off-site receptors.
- 26 receptors located on the perimeter that were included in the previous modeling.

The 23 discrete receptors are shown on Drawing C1 with the associated coordinates relative to the grid origin.

The documentation listing the modeling input and output can be found in Attachment 3. A Risk Assessment was performed for three off-site residence receptors that exhibited the highest, second and third highest calculated ground level concentration for 24 hour averages. In addition, a Risk Assessment was performed for the perimeter receptor that exhibited the highest 8 hour

average calculated ground level concentrations. Tables C2, C3, and C4 lists these receptors and the calculated concentration of each compound. The location of these receptors are shown on Drawing C1 by the designations R1, R2, R3 and P1, respectively. The residential receptor locations are located north northwest of the site. In general, the predominant wind direction is from the southwest and the highest receptor concentrations are expected northeast of the site; however, the ISCST2 takes into consideration the source and receptor elevations. Since the three residential receptors have terrain elevation that is higher than the remediation area, the results in calculated concentrations that are higher than those derived for flat terrain.

3.3.2 The SCREEN2 Model

The U.S. EPA's SCREEN2 model was used to estimate vapor and particulate concentrations to which workers engaged in the excavation of Area C might be exposed. The following data were input into the SCREEN2 model to predict concentrations in Area C:

- Source type - Since emissions were generated from an area of soil, the type of source was specified an **area** source. The area of the source was assumed to be the estimated area of soil moved in one eight hour work day, 235.7 m^2. This area was obtained by dividing the surface area of Area C by 15 work days (3,536.7 m^2 / 15).

- Emission rate - Since the SCREEN2 model is linear in emission rate, the emission rate entered into the model was 0.001 g/sec-m^2. Emission rates for specific chemicals were then scaled against 0.001 to obtain on-site chemical concentrations in air.

- Source height - The source height used in the SCREEN2 model was 0.00 meters.

- Length of side - The SCREEN2 model requires the length of the side of the square source area. Since the area of soil assumed to be moved daily is 235 7 m^2, the length of one side used in the SCREEN2 model is 15.36 meters

- Receptor height - The height of a typical receptor was assumed to be 6 feet or 1.828 meters.

- Urban/Rural Option - This option allows the user to indicate the type of terrain in the area to be modeled. Since the rural option is more conservative from a risk assessment point of view, this option was set to rural.

The SCREEN2 model output provides air concentrations at distances from the source specified by the user. The model also specifies the distance from the source where the maximum concentration occurs. For Area C, since the maximum occurred 10 meters from the source, this value was used to estimate the maximum short-term concentrations employed in the risk assessment. The input and output of the SCREEN2 model run is included in Attachment 4 of this Appendix.

4.0 TOXICITY ASSESSMENT

The purpose of the toxicity assessment is to weigh available evidence regarding the potential for chemicals to cause adverse health effects in exposed individuals. Tables C-5 and C-6 summarize health related data for the chemicals of potential concern in the soils of Area C. These include:

- U.S. EPA Reference Doses (RfDs). Inhalation RfDs are EPA toxicity values for evaluating non-carcinogenic effects. RfDs are used in conjunction with the data developed in the exposure assessment to characterize human non-carcinogenic health effects of individual chemicals. RfDs are expressed in units of mg/kg/day.

  Since the health effects quantified in this HRA are the result of short term exposures, subchronic inhalation RfDs were employed, whereas available. DEI contacted the EPA Superfund Health Risk Technical Support Center in Cincinnati, Ohio to obtain subchronic RfDs. This EPA office was able to supply subchronic RfDs for chloroform, ethylbenzene, toluene, xylenes, naphthalene and bis(2-ethylhexyl)phthalate. Per guidance of the EPA Remedial Project Manager wherever subchronic RfDs were not available, chronic inhalation values were used in risk assessment calculation..

  For a number of chemicals evaluated in this HRA, neither subchronic or chronic inhalation RfDs were available. Per guidance from the EPA Remedial Project Manager oral RfDs were used as inhalation RfDs for the following compounds: 1,1,1-trichlorethane, 1,1,2-trichloroethane, 1,1-dichloroethane, trans-1,2-trichlorethene, methylene chloride, tetrachloroethene, acetone, 4-methyl-2-pentanone, phenol, butyl benzyl phthalate, diethyl phthalate and dimethyl phthalate.

  Table C-2 lists and identifies the types of RfDs used in this HRA.

- CARCINOGENIC SLOPE FACTORS (CSFs). Inhalation CSFs are U.S. EPA values which assess the carcinogenic potential of a chemical. As with RfDs, they are used with exposure data to quantify carcinogenic risks. CSFs are expressed in units of $(mg/kg/day)^{-1}$. Since inhalation CSFs are not available for trichloroethene, isophorone and bis(2-ethylhexyl)phthalate, per EPA guidance oral CSFs were used to quantify potential risks for these compounds.

- CARCINOGENIC WEIGHT OF EVIDENCE CLASSIFICATIONS rank carcinogens according to the strength of the toxicological evidence determining their carcinogenicity. The classes are defined as follows:

  Group A - Human carcinogen (sufficient evidence of carcinogenicity in humans).

Group B1 - Probable Human Carcinogen (limited evidence of carcinogenicity in humans).

Group B2 - Probable Human Carcinogen (sufficient evidence of carcinogenicity in animals with inadequate or lack off evidence in humans).

Group C - Possible Human Carcinogen (limited evidence of carcinogenicity in animals with inadequate or lack of human data).

Group D - Not classifiable as to human carcinogenicity.

Group E - Evidence of noncarcinogenicity for humans.

- MINIMAL RISK LEVELS (MRLs) are estimates of daily human exposure to a substance that is likely to be without an appreciable risk of adverse noncarcinogenic effects over a specified duration of exposure. MRLs can be derived for acute, intermediate and chronic duration exposures for inhalation and oral routes. Acute MRLs are currently available for the following site compounds: chloroform, 1,1,1-trichloroethane, trans-1,2-trichloroethene, methylene chloride, tetrachloroethene, toluene, acetone and xylenes. Table C-6 lists currently available acute inhalation MRLs. MRLs are published in toxicological profiles for specific chemicals by the U.S. Agency for Toxic Substances and Disease Registry (ATSDR).

- STATE OF INDIANA AMBIENT AIR CONCENTRATIONS are acceptable 8-hour air concentrations. The State of Indiana concentrations listed in Table C-3 were published in ATSDR documents.

- OSHA 8-HOUR TWA-PERMISSIBLE EXPOSURE LIMITS (PELs) are 8-hour time weighted averages which shall not be exceeded in any 8-hour work shift of a 40-hour work week.

- THRESHOLD LIMIT VALUES - TIME WEIGHTED AVERAGES (TLV-TWAs) are time weighted average concentrations established by the American Conference of Governmental Industrial Hygienists (ACGIH) for a "normal 8-hour workday and a 40-hour workweek to which nearly all workers may be repeatedly exposed, day afer day without adverse effect". TLV-TWAs are not regulatory values and are not to be used for risk assessment purposes. However, since TLV-TWAs were established to protect workers, they are listed in Table C-6 of this HRA as an additional reference.

5.0 RISK CHARACTERIZATION

This section represents the final step in the Risk Assessment process. In the risk characterization stage provided in this section, the exposure and toxicity assessments are combined to produce quantitative expressions of health risks. The steps involved in the risk characterization follow.

5.1 Calculation of Intake (Dose)

Assumptions determined in the Exposure Assessment are integrated to compute an intake, or dose, which is expressed in mg/kg/day. The generic equation for calculating chemical intakes is:

$$\textbf{Intake, or Dose (I)} = (C \times CR \times EFD) \div (BW \times AT)$$

where,

C	=	contaminant concentration
CR	=	contact rate
EFD	=	exposure frequency or duration
BW	=	body weight
AT	=	time over which exposure is averaged

The following equation is used to compute intakes (doses) for inhalation exposure to vapor and airborne particulate matter. Attachment 2 of this Appendix contains complete calculations of intakes for each scenario. Table C-7 provides values for all intake parameters listed below.

5.1.1 Intake for Inhalation of Airborne Chemicals

$$\textbf{Intake} = (CA \times IR \times ET \times EF \times ED)/(BW \times AT)$$

where,

CA	=	Contaminant concentration in air (mg/m^3)
IR	=	Inhalation rate (m^3/hour)
ET	=	Exposure time (hours/day)
EF	=	Exposure frequency (days/year)
ED	=	Exposure Duration (years)
BW	=	Body weight (kg)
AT	=	Averaging time (period over which exposure is averaged. AT = ED x 365 for noncarcinogenic effects AT = 70 x 365 for carcinogenic effects

5.2 Calculation of Noncarcinogenic Health Effects

The intakes estimated by the equation in Section 5.1.1 are compared to the Reference Doses discussed in Section 4.0 and listed in Table C-5. The ratio of Intake to Reference Dose is termed a Hazard Quotient and is a measure of the potential health effects of a given exposure. Thus:

$$\text{Hazard Quotient} = \text{Intake} \div \text{Reference Dose}$$

According to U.S. EPA guidelines, if the Hazard Quotient is greater than unity (≥ 1), "there may be concern for potential health effects", and when the hazard quotient is less than one "it is unlikely for even sensitive populations to experience adverse health effects" (RAGS, 1989). It is therefore desirable that

$$\text{Hazard Quotient} \leq 1$$

To assess the overall potential for noncarcinogenic effects when there is more than one chemical of concern, individual Hazard Quotients for a given exposure situation are summed to provide a Hazard Index.

$$\text{Hazard Index} = \sum \text{Hazard Quotients}$$

As with the Hazard Quotient, when the Hazard Index is less than one (≤ 1), there should be no impact and therefore it is desirable that

$$\text{Hazard Index} \leq 1$$

Several caveats should be acknowledged when employing the hazard index to evaluate noncarcinogenic health risks. In the first place, different chemicals may cause different health effects. For example, one chemical may affect the liver while another may affect the central nervous system. The EPA states (RAGS, 1989) that the hazard index approach "although appropriate as a screening level approach, could overestimate the potential for effects". Consequently, it may be appropriate, when summing hazard quotients with nearly equal values, to group chemicals with similar health effects. Secondly, when hazard quotients are summed, it is assumed that the effect is linear. However, given the fact that the toxicological basis of the RfDs often varies substantially, it is highly improbable the effect of summing is a linear one.

Noncarcinogenic Hazard Indices and Hazard Quotients calculated for excavation activities in Area C are presented in Tables C-8.

5.3 Calculation of Carcinogenic Risks

Unlike noncarcinogenic risks which are expressed in terms of a threshold value, i.e., ≤ 1, carcinogenic risks are expressed as a probability of contracting cancer. This probability is defined as an "incremental probability of an individual developing cancer over a lifetime as a result of exposure to a potential carcinogen". Incremental refers to the fact that the cancer risk is in excess of the individual's normal risk without this exposure.

The means by which intake is converted to a probability of carcinogenic risk is the Carcinogenic Slope Factor (CSF) defined in Section 4.0. To compute the probability of contracting cancer, the intakes computed in Section 5.1.1 are multiplied by the chemical-specific CSFs listed in Table C-5. Therefore,

Carcinogenic Risk = Dose x CSF

The U.S. EPA states that its goal range for remediated sites is 10^{-6} to 10^{-4} (RAGS. 1989) where a carcinogenic risk of 10^{-6} is equivalent to one incidence of cancer in 1,000,000 persons and a 10^{-4} risk indicates a risk of one in 10,000.

As with noncarcinogenic effects, cancer risks are summed for a specified exposure situation, but the total cancer risk should fall within 10^{-6} to 10^{-4} according to the EPA.

Risk assessment results are presented and discussed in Section 6.0

6.0 Results of the Risk Characterization

Tables C-8 and C-9 present results of the risk analysis for the excavation of Area C. Table C-8 presents concinogenic risks and noncarcinogenic hazard indices for workers and residents potentially affected by excavation activities. Table C-9 compares modeled (estimated) air concentrations of Area C related chemicals to the reference concentrations defined in Section 4.0. The results summarized in these tables are discussed in the subsections which follow.

6.1 Risk Estimation

Examination of the data provided in Table C-8 shows that potential carcinogenic risks from inhalation of vapors to workers engaged in the excavation of Area C for the length of the project is 2.31×10^{-6}. This risk reflects an 8-hour per day, 15 day exposure to the maximum modeled onsite air concentration of each chemical of concern. Data in this table also indicate that the total noncarcinogenic hazard index is 0.89. Both the carcinogenic risk and the noncarcinogenic hazard index meet U.S. EPA guidelines for Superfund Site remediation (The acceptable cancer risk range is 10^{-6} to 10^{-4} and the goal for noncarcinogens is to be less than 1).

Table C-8 also shows that 1 day exposure to the maximum modeled vapor concentrations easily meets these regulatory criteria.

Risks to onsite workers not engaged in excavation are also presented in Table C-85. These risks assume that the workers are exposed to vapor concentrations at the site perimeter. The data in Table C-8 show that total carcinogenic risk to workers at the perimeter is 1.74×10^{-6} and the noncarcinogenic hazard index is 0.65. These risks, which assume that the worker is exposed at the site fence line 8 hours a day for 15 days are well below the EPA guidelines.

Table C-8 also presents potential risks incurred by resident of three residential dwellings situated near and downwind of the Site. The three residences were chosen on the basis of output from the ISCST2 model (Section 3.3.2) which predicts locations impacted by the highest estimated concentrations of vapors from the Site. The findings presented in Table C-5 show that the carcinogenic risk to the residents residing in the dwelling exposed to the highest modeled concentration is 1.14×10^{-6} and the noncarcinogenic hazard index is 0.41 which meet the EPA Superfund Guidelines. These risks assume that residents have been exposed 24 hours a day for 21 days to the maximum predicted vapor concentrations.

Table C-8 provides risk assessment results from exposure to airborne particulates emitted from Area C and to vapors emanating from Area A after the initial excavation. The data provided in the table indicate that the carcinogenic risks from exposure to particulates were 3.46×10^{-12}

for workers and 2.02×10^{-12} for worst case residents, and that noncarcinogenic hazard indicies were 2.55×10^{-6} for workers and 1.43×10^{-6} residents. Potential health risks to residents exposed to vapors emitted from Area A were 2.66×10^{-4} for noncarcinogens and 2.92×10^{-10} for carcinogens. These risks are well below the U.S. EPA Remediation Guidelinese.

6.2 Comparison of Estimated (Modeled) Concentrations to Appropriate Criteria

Table C-9 lists estimated 8-hour concentrations at the fence line and 8-hour maximum concentrations projected to occur in the excavation area. For comparison, this table also lists acute MRLs, and OSHA and ACGIH 8-hour TWAs.

Examination of the 8-hour concentrations at the Site perimeter indicates that all chemical concentrations easily meet OSHA requirements.

Table C-9 also indicates that all projected 8-Hour average concentrations to which workers engaged in excavation might be exposed meet OSHA guidelines.

7.0 SUMMARY AND CONCLUSIONS

A human health risk assessment was performed to evaluate potential health effects which might occur during the excavation of Area C. The risk assessment employed computer models to estimate chemical concentrations in air to which workers and residents might be exposed during and after excavation.. The results of the risk assessment presented in Section 6.0 showed that the risks, both carcinogenic and noncarcinogenic, were within guidelines established by the U.S. EPA for remediation at Superfund Sites, i.e., total cancer risks were between the range of10^{-6} and 10^{-4} and noncarcinogenic hazard indices were less than 1.

Since current risk assessment guidelines may not adequately characterize health effects from short-term exposure situations, DEI researched the current literature to obtain health-based reference concentrations for comparison with the concentrations estimated by the computer models (See Table C-9). A comparison of the predicted concentrations with OSHA TWZ's in Table C-9 shows that all modeled concentrations are well below the OSHA standards for workers engaged in excavation and those at the perimeter.

8.0 UNCERTAINTY ANALYSIS

Quantitative risk assessments, in general, contain various degrees of uncertainty depending on the sources and quality of data which serve as the basis of the risk assessment. There is uncertainty arising from the toxicological data on which carcinogenic slope factors and noncarcinogenic hazard indices are based. Exposure factors, such as ingestion rates, body weight and exposure times, are generally non-site-specific U.S. EPA default values designed to protect the most sensitivel receptors and are, therefore, conservative in nature.

Perhaps the most unceratain risk factor in a risk assessment is the chemical concentration of each chemical evaluated. This is especially true for the air vapor and particulate concentrations employed in the risk assessment for the excavation of Area C of the ECC Site, since these concentrations are estimated from mathematical and computer models which attempt to simulate the movement of chemicals in the air . The following discussion of uncertainty considers factors specific to this project.

8.1 Uncertainty Tending to Overestimate Risk

This risk assessment is based on soil samples collected in 1984. Since the chemicals of primary concern in Area C are volatile organics which were detected mainly in shallow soil samples, it is highly likely that concentrations will be lower eleven years later in 1995.

The soil concentrations from which chemical air concentrations were estimated were the 95% Upper Confidence Limits. All soils expected to be excavated from Area C were assumed to contain the 95% C. L. of each chemical. Examination of the analytical data shows that for a number of compounds, there was only one positive result in the soil samples collected fromn Area C. The data also show that samples collected from deeper soils contained much lower concentrations than the shallow soils but the entire volume of soil is assumed to contain the 95% C.L. levels.

Analytical results for methylene chloride and some phthalates (See Attachment 1) presented in the 1986 R.I. for the ECC Site were flagged "B" indicating that they might be the results of laboratory contamination. These labeled results were not removed from the risk assessment and therefore risks from these compounds may be overestimated.

Numerical and mathematical models were used to estimate all chemical concentration in air for the Area C risk assessment. If values of variables required by the models were unknown, default values supplied with the models were used in the calculations. These default values are normally "conservative" from a human health point of view and tend to overestimate modeled concentrations.

8.2 Uncertainty Tending to Underestimate Risk

As discussed in the Toxicity Assessment Section (Scetion 4.0), chronic RfDs were used to estimate subchronic exposure situtations. Use of RfDs in this manner tends to underestimate subchronic noncarcinogenic hazard indices quantified with chronic RfDs. In addition, because inhalation CSFs and RFDs are not available for many of the compounds detected in Area C, oral values were used to estimate inhalation risks. As discussed in RAGS- Part A, the use of oral RfDs and CSFs to quantify inhalation risks may underestimate the calculated risks. It should be noted that DEI contacted the EPA ECC Remedial Project Manager and received permission to use the oral RfDs and CSFs. As stated in the U.S. EPA' comments on the original ECC risk assessment, "there is little guidance available on chracterizing risks from short-term exposure to carcinogens. The method (cumulative chemical intake averaged over a lifetime) ..... is the method preferred by EPA because cancer toxicity factors (slope factors) are based on lifetime exposures". The longterm averaging of cancer risks when exposures are short-term in duration may underestimate risks, especially for carcinogens which cause effects early, i.e., early stage carcinogens.

TABLE C-1
AREA C SOIL CONCENTRATIONS AND
ESTIMATED MAXIMUM OFFSITE AND ONSITE VAPOR CONCENTRATIONS

COMPOUND	SOILS	ESTIMATED AIR CONCENTRATIONS		
	Area C Soil Concentrations 95 % Upper C.L. mg/kg	Maximum Offsite 24 Hour mg/cu.m	Onsite at the Site Perimeter 8 Hour mg/cu.m	Onsite in Excavation Area 8 Hour mg/cu.m
1,1,1-Trichloroethane	16.3	2.45E-01	1.56E+00	2.05E+00
1,1-Dichloroethane	0.088	1.09E-03	7.48E-03	1.04E-02
1,1,2-Trichloroethane	0.037	3.76E-04	2.81E-03	4.14E-03
Chloroform	0.666	7.65E-03	5.41E-02	7.71E-02
1,1-Dichloroethene	0.366	7.46E-03	4.29E-02	5.16E-02
trans-1,2-Dichloroethene	0.356	4.53E-03	3.07E-02	4.24E-02
Ethyl benzene	5.18	6.58E-02	4.46E-01	6.17E-01
Methylene chloride	2.91	3.26E-02	2.33E-01	3.34E-01
Tetrachloroethene	5.30	9.02E-02	5.50E-01	6.96E-01
Toluene	10.2	1.33E-01	8.96E-01	1.23E+00
Trichloroethene	32.5	4.45E-01	2.93E+00	3.97E+00
Acetone	10.4	8.93E-02	7.25E-01	1.12E+00
2-Butanone	8.70	7.42E-02	6.03E-01	9.35E-01
2-Hexanone	0.47	4.00E-03	3.25E-02	5.04E-02
4-Methyl-2-pentanone	3.90	3.48E-02	2.76E-01	4.23E-01
Xylenes (Total)	26.9	2.34E-01	1.42E+00	1.80E+00
Phenol	0.422	3.41E-03	2.82E-02	4.40E-02
Isophorone	0.241	2.01E-03	1.66E-02	2.58E-02
Naphthalene	0.273	1.10E-03	7.54E-03	1.05E-02
bis(2-ethylhexyl)phthalate	0.306	7.45E-06	2.89E-05	1.84E-05
Butyl benzyl phthalate	0.234	2.84E-05	1.15E-04	8.04E-05
di-n-butyl phthalate	0.264	6.16E-06	2.50E-05	1.79E-05
Diethyl phthalate	2.25	1.12E-04	4.45E-04	2.97E-04
Dimethyl phthalate	0.416	2.27E-04	1.78E-03	2.72E-03

TABLE C-2
VAPOR EMISSION RATES FROM AREA C AND
AIR CONCENTRATIONS DERIVED FROM THESE EMISSION RATES

	INDUSTRIAL SETTING		RESIDENTIAL SETTING			
	Total ER	P-1 8 hour avg. at point (37.6,-112.8) for total emission rate	Total ER	R-1 24 hour avg. at point (-267,300.8) for total emission rate	R-2 24 hour avg. at point (-300.5,242.6) for total emission rate	R-3 24 hour avg. at point (-325,270.8) for total emission rate
	(g/s)	Air Concentration (mg/cu.m)	(g/s)	Air Concentration (mg/cu.m)	Air Concentration (mg/cu.m)	Air Concentration (mg/cu.m)
1,1,1-Trichloroethane	1.61E-01	1.56E+00	4.99E-02	2.45E-01	1.78E-01	1.24E-01
1,1-Dichloroethane	7.71E-04	7.48E-03	2.21E-04	1.09E-03	7.86E-04	5.48E-04
1,1,2-Trichloroethane	2.89E-04	2.81E-03	7.64E-05	3.76E-04	2.72E-04	1.90E-04
Chloroform	5.58E-03	5.41E-02	1.56E-03	7.65E-03	5.53E-03	3.86E-03
1,1-Dichloroethene	4.43E-03	4.29E-02	1.52E-03	7.46E-03	5.40E-03	3.76E-03
trans-1,2-Dichloroethene	3.17E-03	3.07E-02	9.21E-04	4.53E-03	3.28E-03	2.28E-03
Ethyl benzene	4.60E-02	4.46E-01	1.34E-02	6.58E-02	4.76E-02	3.32E-02
Methylene chloride	2.40E-02	2.33E-01	6.63E-03	3.26E-02	2.36E-02	1.64E-02
Tetrachloroethene	5.67E-02	5.50E-01	1.84E-02	9.02E-02	6.53E-02	4.55E-02
Toluene	9.24E-02	8.96E-01	2.71E-02	1.33E-01	9.65E-02	6.73E-02
Trichloroethene	3.03E-01	2.93E+00	9.06E-02	4.45E-01	3.22E-01	2.25E-01
Acetone	7.48E-02	7.25E-01	1.82E-02	8.93E-02	6.46E-02	4.51E-02
2-Butanone	6.22E-02	6.03E-01	1.51E-02	7.42E-02	5.37E-02	3.74E-02
2-Hexanone	3.35E-03	3.25E-02	8.13E-04	4.00E-03	2.89E-03	2.02E-03
4-Methyl-2-pentanone	2.85E-02	2.76E-01	7.07E-03	3.48E-02	2.52E-02	1.75E-02
Xylenes (Total)	1.47E-01	1.42E+00	4.76E-02	2.34E-01	1.69E-01	1.18E-01
Phenol	2.90E-03	2.82E-02	6.93E-04	3.41E-03	2.47E-03	1.72E-03
Isophorone	1.71E-03	1.66E-02	4.10E-04	2.01E-03	1.46E-03	1.02E-03
Naphthalene	7.78E-04	7.54E-03	2.23E-04	1.10E-03	7.95E-04	5.54E-04
bis(2-ethylhexyl)phthalate	2.98E-06	2.89E-05	1.52E-06	7.45E-06	5.39E-06	3.76E-06
Butyl benzyl phthalate	1.18E-05	1.15E-04	5.77E-06	2.84E-05	2.05E-05	1.43E-05
di-n-butyl phthalate	2.57E-06	2.50E-05	1.25E-06	6.16E-06	4.46E-06	3.11E-06
Diethyl phthalate	4.59E-05	4.45E-04	2.28E-05	1.12E-04	8.12E-05	5.67E-05
Dimethyl phthalate	1.84E-04	1.78E-03	4.61E-05	2.27E-04	1.64E-04	1.14E-04

TABLE C-3
PARTICULATE EMISSION RATES FROM AREA C AND AIR CONCENTRATIONS DERIVED FROM THESE EMISSION RATES

	INDUSTRIAL SETTING		RESIDENTIAL SETTING			
	Total ER	P-1 8 hour avg. at point (37.6,-112.8) for total emission rate	Total ER	R-1 24 hour avg. at point (-267,300.8) for total emission rate	R-2 24 hour avg. at point (-300.5,242.6) for total emission rate	R-3 24 hour avg. at point (-325,270.8) for total emission rate
	(g/s)	Air Concentration (mg/cu.m)	(g/s)	Air Concentration (mg/cu.m)	Air Concentration (mg/cu.m)	Air Concentration (mg/cu.m)
1,1,1-Trichloroethane	8.49E-08	8.23E-07	8.49E-08	4.17E-07	3.02E-07	2.11E-07
1,1-Dichloroethane	4.61E-10	4.47E-09	4.61E-10	2.27E-09	1.64E-09	1.14E-09
1,1,2-Trichloroethane	1.92E-10	1.86E-09	1.92E-10	9.45E-10	6.84E-10	4.77E-10
Chloroform	3.47E-09	3.37E-08	3.47E-09	1.71E-08	1.23E-08	8.61E-09
1,1-Dichloroethene	1.91E-09	1.85E-08	1.91E-09	9.38E-09	6.79E-09	4.73E-09
trans-1,2-Dichloroethene	1.85E-09	1.80E-08	1.85E-09	9.11E-09	6.59E-09	4.60E-09
Ethyl benzene	2.70E-08	2.62E-07	2.70E-08	1.33E-07	9.60E-08	6.69E-08
Methylene chloride	1.51E-08	1.47E-07	1.51E-08	7.45E-08	5.39E-08	3.76E-08
Tetrachloroethene	2.76E-08	2.68E-07	2.76E-08	1.36E-07	9.82E-08	6.85E-08
Toluene	5.33E-08	5.17E-07	5.33E-08	2.62E-07	1.90E-07	1.32E-07
Trichloroethene	1.69E-07	1.64E-06	1.69E-07	8.33E-07	6.03E-07	4.20E-07
Acetone	5.44E-08	5.28E-07	5.44E-08	2.68E-07	1.94E-07	1.35E-07
2-Butanone	4.53E-08	4.40E-07	4.53E-08	2.23E-07	1.61E-07	1.13E-07
2-Hexanone	2.44E-09	2.37E-08	2.44E-09	1.20E-08	8.70E-09	6.07E-09
4-Methyl-2-pentanone	2.03E-08	1.97E-07	2.03E-08	9.98E-08	7.22E-08	5.04E-08
Xylenes (Total)	1.40E-07	1.36E-06	1.40E-07	6.89E-07	4.99E-07	3.48E-07
Phenol	2.20E-09	2.13E-08	2.20E-09	1.08E-08	7.83E-09	5.46E-09
Isophorone	1.26E-09	1.22E-08	1.26E-09	6.18E-09	4.47E-09	3.12E-09
Naphthalene	1.42E-09	1.38E-08	1.42E-09	7.00E-09	5.06E-09	3.53E-09
bis(2-ethylhexyl)phthalate	1.60E-09	1.55E-08	1.60E-09	7.85E-09	5.68E-09	3.96E-09
Butyl benzyl phthalate	1.22E-09	1.18E-08	1.22E-09	6.00E-09	4.34E-09	3.03E-09
di-n-butyl phthalate	1.37E-09	1.33E-08	1.37E-09	6.75E-09	4.89E-09	3.41E-09
Diethyl phthalate	1.17E-08	1.14E-07	1.17E-08	5.77E-08	4.18E-08	2.91E-08
Dimethyl phthalate	2.17E-09	2.10E-08	2.17E-09	1.07E-08	7.71E-09	5.38E-09

TABLE C-4
VAPOR EMISSION RATES FROM AREA A AND AIR CONCENTRATIONS DERIVED FROM THESE EMISSION RATES

	RESIDENTIAL SETTING			
	Total ER	R-1 24 hour avg. at point (-267,300.8) for total emission rate	R-2 24 hour avg. at point (-300.5,242.6) for total emission rate	R-3 24 hour avg. at point (-325,270.8) for total emission rate
	(g/s)	Air Concentration (mg/cu.m)	Air Concentration (mg/cu.m)	Air Concentration (mg/cu.m)
1,1,1-Trichloroethane	1.73E-04	4.10E-05	3.72E-05	5.24E-05
1,1-Dichloroethane	9.57E-07	2.27E-07	2.06E-07	2.90E-07
1,1,2-Trichloroethane	3.80E-07	9.01E-08	8.18E-08	1.15E-07
Chloroform	7.06E-06	1.67E-06	1.52E-06	2.14E-06
1,1-Dichloroethene	4.55E-06	1.08E-06	9.81E-07	1.38E-06
trans-1,2-Dichloroethene	3.80E-06	9.01E-07	8.18E-07	1.15E-06
Ethyl benzene	5.30E-05	1.26E-05	1.14E-05	1.61E-05
Methylene chloride	3.25E-05	7.72E-06	7.01E-06	9.86E-06
Tetrachloroethene	5.57E-05	1.32E-05	1.20E-05	1.69E-05
Toluene	1.05E-04	2.50E-05	2.27E-05	3.19E-05
Trichloroethene	3.42E-04	8.11E-05	7.37E-05	1.04E-04
Acetone	1.07E-04	2.54E-05	2.31E-05	3.24E-05
2-Butanone	8.92E-05	2.11E-05	1.92E-05	2.70E-05
2-Hexanone	4.91E-06	1.16E-06	1.06E-06	1.49E-06
4-Methyl-2-pentanone	4.03E-05	9.56E-06	8.68E-06	1.22E-05
Xylenes (Total)	2.78E-04	6.59E-05	5.99E-05	8.42E-05
Phenol	5.42E-06	1.29E-06	1.17E-06	1.64E-06
Isophorone	3.76E-06	8.93E-07	8.11E-07	1.14E-06
Naphthalene	4.09E-06	9.71E-07	8.82E-07	1.24E-06
bis(2-ethylhexyl)phthalate	4.22E-06	1.00E-06	9.08E-07	1.28E-06
Butyl benzyl phthalate	3.52E-06	8.36E-07	7.59E-07	1.07E-06
di-n-butyl phthalate	3.75E-06	8.89E-07	8.07E-07	1.13E-06
Diethyl phthalate	2.42E-05	5.73E-06	5.20E-06	7.32E-06
Dimethyl phthalate	5.41E-06	1.28E-06	1.17E-06	1.64E-06

TABLE C-5
INHALATION NONCARCINOGENIC REFERENCES DOSES (RfDS) AND CARCINOGENIC SLOPE FACTORS (CSFS) EMPLOYED IN ECC RISK ASSESSMENT

Compound	Inhalation Reference Dose RfD (mg/kg/day)	Inhalation Carcinogenic Slope Factor CSF $(mg/kg/day)^{-1}$	Cancer Class
1,1,1-Trichloroethane	0.29 (b)*		
1,1-Dichloroethane	0.14 (b)*		
1,1,2-Trichloroethane	0.004 (b)*	0.056 (b)	C
Chloroform	0.0114 (c)	0.081 (b)	B2
1,1-Dichloroethene		0.175 (a)	C
trans-1,2-Dichloroethene	0.02 (b)*		
Ethyl benzene	0.1 (c)		
Methylene chloride	0.86 (b)*	0.00164 (a)	B2
Tetrachloroethene	0.01 (b)*	0.002 (b)	B2
Toluene	0.286 (c)		
Trichloroethene		0.006 (b)*	B2
Acetone	0.1 (b)*		
2-Butanone	0.286 (a)		
2-Hexanone			
4-Methyl-2-pentanone	0.023 (b)*		
Xylenes (Total)	0.4 (c)		
Phenol	0.6 (b)*		
Isophorone		0.00095 (b)*	C
Naphthalene	0.000114 (c)		
bis(2-ethylhexyl)phthalate	0.0571 (c)	0.014 (b)*	B2
Butyl benzyl phthalate	0.2 (b)*		
di-n-butyl phthalate			
Diethyl phthalate	0.8 (b)*		
Dimethyl phthalate	10 (b)*		

(a) IRIS
(b) U. S. EPA Region IX, 1994
(c) Superfund Technical Support Center (1995)
* = Oral RfD or CSF
Blank spaces indicate no value currently available.

TABLE C-6
FEDERAL AND STATE INHALATION GUIDELINES

COMPOUND	MRL Acute mg/cu.m	8 Hour Ambient Indiana mg/cu.m	OSHA TWA - PEL mg/cu.m	ACGIH TWA - TLV mg/cu.m
1,1,1-Trichloroethane	10.6	19	1,900	1,910
1,1-Dichloroethane				
1,1,2-Trichloroethane		4.5	53.2	53.2
Chloroform	0.044	1.2	9.79	49
1,1-Dichloroethene		0.1	3.97	20
trans-1,2-Dichloroethene	0.793			790
Ethyl benzene			449.9	435
Methylene chloride	1.39		1,738	175
Tetrachloroethene	4.17	1.68	174	339
Toluene		1.88	376	376
Trichloroethene		2.68	266	269
Acetone	0.95		1,800	1,780
2-Butanone			589	589
2-Hexanone			20	20
4-Methyl-2-pentanone				
Xylenes (Total)	0.225	2.17	435	435
Phenol			19	19 (skin)
Isophorone			22.6	28.2 (ceiling occ.)
Naphthalene			50	52
bis(2-ethylhexyl)phthalate			5	5
Butyl benzyl phthalate				
di-n-butyl phthalate			5	
Diethyl phthalate			5 (skin)	5
Dimethyl phthalate				5

TABLE C-7
INTAKE PARAMETERS EMPLOYED IN RISK ASSESSMENT CALCULATIONS

Inhalation of Vapors and Particulates	Inhalation Rate (cu. m/day)	Exposure Time (hours/day)	Exposure Frequency (days/year)	Exposure Duration (years)	Body Weight (kg)
Workers at the Site Perimeter - 8 hour exposure	20	8	1	1	70
Workers at the Site Perimeter - 15 day Exposure	20	8	15	1	70
Workers Engaged in Excavation - 8 hour exposure	20	8	1	1	70
Workers Engaged in Excavation - 15 day exposure	20	8	15	1	70
Residential - 21 day exposure	20	24	21	1	70
Residential - 30 day exposure	20	24	30	1	70

Table C-8
Risk Assessment Results
Enviro-Chem Site, Zionsville, Indiana

Industrial/Commecial Exposure to Vapors	Noncarcinogenic Hazard Indices	Carcinogenic Risk
Exposure at the Site Fenceline - 15 days	0.65	1.74E-06
Workers Engaged in Excavation - 1 Day	0.06	1.54E-07
Workers Engaged in Excavation - 15 Days	0.89	2.31E-06

Industrial/Commecial Exposure to Particulates	Noncarcinogenic Hazard Indices	Carcinogenic Risk
Workers Engaged in Excavation - 15 Day	2.55E-06	3.46E-12

Residential Exposure to Vapors - 21 Days	Noncarcinogenic Hazard Indices	Carcinogenic Risk
Worst Case (R-1)	0.41	1.14E-06
2nd Worst Case (R-2)	0.30	8.25E-07
3rd Worst Case (R-3)	0.21	5.75E-07

Residential Exposure to Particulates - 21 Days	Noncarcinogenic Hazard Indices	Carcinogenic Risk
Worst Case (R-1)	1.43E-06	2.02E-12
2nd Worst Case (R-2)	1.04E-06	1.46E-12
3rd Worst Case (R-3)	7.24E-07	1.02E-12

Residential Exposure to Vapors - 30 Days (Emissions from Area A)	Noncarcinogenic Hazard Indices	Carcinogenic Risk
Worst Case (R-1)	2.66E-04	2.92E-10
2nd Worst Case (R-2)	2.42E-04	2.65E-10
3rd Worst Case (R-3)	2.40E-04	2.64E-10

TABLE C-9
Onsite Estimated Concentrations vs. Various Inhalation Guidelines

	Estimated Concentrations		Inhalation Criteria		
COMPOUND	8 Hour at Perimeter mg/cu.m	8 Hour Workers in Excavation mg/cu.m	MRL Acute mg/cu.m	OSHA TWA - PEL mg/cu.m	ACGIH TWA - TLV mg/cu.m
1,1,1-Trichloroethane	1.56	8.56	10.6	1,900	1,910
1,1-Dichloroethane	0.007	0.034			
1,1,2-Trichloroethane	0.003	0.011		53.2	53.2
Chloroform	0.054	0.233	0.044	9.79	49
1,1-Dichloroethene	0.043	0.286		3.97	20
trans-1,2-Dichloroethene	0.031	0.147	0.793		790
Ethyl benzene	0.45	2.13		449.9	435
Methylene chloride	0.23	0.97	1.39	1,738	175
Tetrachloroethene	0.550	3.30	4.17	174	339
Toluene	0.896	4.35		376	376
Trichloroethene	2.93	14.9		266	269
Acetone	0.725	2.19	0.95	1,800	1,780
2-Butanone	0.603	1.83		589	589
2-Hexanone	0.033	0.099		20	20
4-Methyl-2-pentanone	0.276	0.890			
Xylenes (Total)	1.42	8.46	0.225	435	435
Phenol	0.028	0.083		19	19 (skin)
Isophorone	0.017	0.049		22.6	28.2 (ceiling occ.
Naphthalene	0.008	0.034		50	52
bis(2-ethylhexyl)phthalate	0.00003	0.0001		5	5
Butyl benzyl phthalate	0.00011	0.0007			
di-n-butyl phthalate	0.00002	0.0001		5	
Diethyl phthalate	0.00044	0.0015		5 (skin)	5
Dimethyl phthalate	0.002	0.005			5

APPENDIX C

ATTACHMENT 2

EMISSION MODELS AND

RISK ASSESSEMENT CALCULATIONS

ESTIMATION OF AIR IMPACTS FOR THE EXCAVATION OF CONTAMINATED SOILS
AIR/SUPERFUND NATIONAL TECHNICAL GUIDANCE SERIES, MARCH 1992
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

A. CALCULATION OF PORE SPACE EMISSION RATE (ERps)

Step 1. Calculation of Soil Excavation Rate (m^3/s)

Equation 1 **Q = V / (D x hr x 3,600 s/hr) (m^3/s)**

D = Days of excavation (days)
V = Volume of excavated soil (m^3)
hr = Excavation time (hours)

V (cu. m.)	D (days)	hr (hours)	Q (cu. m/s)
404.7	1	8	0.0141

Step 2. Calculation of Pore Space Emission Rate (ERps)
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

Equation 2 **ERps = (Pi x MWi x CF x Ea x Q x ExC)/(R x T)**

ERps = pore space emission rate (g/s)
Pi = Compound's vapor pressure (mmHg)
MWi = Compund's molecular weight
CF = Conversion factor (10^6 cm^3/m^3)
Ea = Air filled porosity (dimensionless)
Q = Soil excavation rate (m^3/s)
ExC = Soil-gas to atmosphere exchange constant (dimensionless)
R = Universal gas constant (62,361 mmHg-cm^3/mole-K)
T = Soil temperature (K)

Compound	Pi (mmHg)	MWi (g/mole)	CF (cu. cm/cu, m)	Ea	Q (cu. m/s)	ExC	R	T (K)	ERps (g/s)
1,1,1-Trichloroethane	123	133.41	1.00E+06	0.35	0.0141	0.33	62,361	288	1.48E+00
1,1-Dichloroethane	234	98.96	1.00E+06	0.35	0.0141	0.33	62,361	288	2.09E+00
1,1,2-Trichloroethane	30	133.42	1.00E+06	0.35	0.0141	0.33	62,361	288	3.62E-01
Chloroform	198	119.39	1.00E+06	0.35	0.0141	0.33	62,361	288	2.14E+00
1,1-Dichloroethene	60	96.94	1.00E+06	0.35	0.0141	0.33	62,361	288	5.26E-01
trans-1,2-Dichloroethene	324	96.94	1.00E+06	0.35	0.0141	0.33	62,361	288	2.84E+00
Ethyl benzene	10	106.16	1.00E+06	0.35	0.0141	0.33	62,361	288	9.59E-02
Methylene chloride	362	84.93	1.00E+06	0.35	0.0141	0.33	62,361	288	2.78E+00
Tetrachloroethene	19	165.83	1.00E+06	0.35	0.0141	0.33	62,361	288	2.85E-01
Toluene	30	92.14	1.00E+06	0.35	0.0141	0.33	62,361	288	2.50E-01
Trichloroethene	75	131.4	1.00E+06	0.35	0.0141	0.33	62,361	288	8.91E-01
Acetone	266	58.08	1.00E+06	0.35	0.0141	0.33	62,361	288	1.40E+00
2-Butanone	77.5	72.1	1.00E+06	0.35	0.0141	0.33	62,361	288	5.05E-01
2-Hexanone	19.31	100.2	1.00E+06	0.35	0.0141	0.33	62,361	288	1.75E-01
4-Methyl-2-pentanone	20	100	1.00E+06	0.35	0.0141	0.33	62,361	288	1.81E-01
Xylenes (Total)	10	106.2	1.00E+06	0.35	0.0141	0.33	62,361	288	9.60E-02
Phenol	0.341	94	1.00E+06	0.35	0.0141	0.33	62,361	288	2.90E-03
Isophorone	0.38	138	1.00E+06	0.35	0.0141	0.33	62,361	288	4.74E-03
Naphthalene	0.054	128.16	1.00E+06	0.35	0.0141	0.33	62,361	288	6.25E-04
bis(2-ethylhexyl)phthalate	2E-07	390.54	1.00E+06	0.35	0.0141	0.33	62,361	288	7.06E-09
Butyl benzyl phthalate	8.25E-06	312.39	1.00E+06	0.35	0.0141	0.33	62,361	288	2.33E-07
di-n-butyl phthalate	1E-05	278	1.00E+06	0.35	0.0141	0.33	62,361	288	2.51E-07
Diethyl phthalate	3.5E-05	222	1.00E+06	0.35	0.0141	0.33	62,361	288	7.02E-07
Dimethyl phthalate	0.01	194.19	1.00E+06	0.35	0.0141	0.33	62,361	288	1.75E-04

Step 3. Comparison with Results of Equation 2 with Total Mass of Contaminant
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

Equation 3 **Total Mass (M) = C x Sv x B x10^6 cm^3/m^3**

C = Soil concentration (mg/kg)
M = Total mass (g)
Sv = Volume of soil moved (m^3)
B = Bulk density (g/cm^3)

	C (mg/kg)	Sv (cu. m)	B (g/cu. cm)	M (g)
1,1,1-Trichloroethane	16.284	404.7	1.5	9.89E+03
1,1-Dichloroethane	0.088	404.7	1.5	5.37E+01
1,1,2-Trichloroethane	0.037	404.7	1.5	2.24E+01
Chloroform	0.666	404.7	1.5	4.04E+02
1,1-Dichloroethene	0.366	404.7	1.5	2.22E+02
trans-1,2-Dichloroethene	0.356	404.7	1.5	2.16E+02
Ethyl benzene	5.177	404.7	1.5	3.14E+03
Methylene chloride	2.907	404.7	1.5	1.76E+03
Tetrachloroethene	5.297	404.7	1.5	3.22E+03
Toluene	10.234	404.7	1.5	6.21E+03
Trichloroethene	32.516	404.7	1.5	1.97E+04
Acetone	10.444	404.7	1.5	6.34E+03
2-Butanone	8.702	404.7	1.5	5.28E+03
2-Hexanone	0.469	404.7	1.5	2.85E+02
4-Methyl-2-pentanone	3.897	404.7	1.5	2.37E+03
Xylenes (Total)	26.900	404.7	1.5	1.63E+04
Phenol	0.422	404.7	1.5	2.56E+02
Isophorone	0.241	404.7	1.5	1.46E+02
Naphthalene	0.273	404.7	1.5	1.66E+02
bis(2-ethylhexyl)phthalate	0.306	404.7	1.5	1.86E+02
Butyl benzyl phthalate	0.234	404.7	1.5	1.42E+02
di-n-butyl phthalate	0.264	404.7	1.5	1.60E+02
Diethyl phthalate	2.252	404.7	1.5	1.37E+03
Dimethyl phthalate	0.416	404.7	1.5	2.53E+02

Step 4. Estimation of Mass of Each Contaminant Using Equation 2
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

Equation 4 **Mass (M)** = ERps x t

ERps = pore space emission rate (g/s)
t = time of excavation (s) - assuming ten hours per day

	ERps (g/s)	t (days)	hr/day (hours)	t (seconds)	M (g)
1,1,1-Trichloroethane	1.48E+00	1	8	28,800	4.27E+04
1,1-Dichloroethane	2.09E+00	1	8	28,800	6.03E+04
1,1,2-Trichloroethane	3.62E-01	1	8	28,800	1.04E+04
Chloroform	2.14E+00	1	8	28,800	6.15E+04
1,1-Dichloroethene	5.26E-01	1	8	28,800	1.51E+04
trans-1,2-Dichloroethene	2.84E+00	1	8	28,800	8.18E+04
Ethyl benzene	9.59E-02	1	8	28,800	2.76E+03
Methylene chloride	2.78E+00	1	8	28,800	8.00E+04
Tetrachloroethene	2.85E-01	1	8	28,800	8.20E+03
Toluene	2.50E-01	1	8	28,800	7.19E+03
Trichloroethene	8.91E-01	1	8	28,800	2.57E+04
Acetone	1.40E+00	1	8	28,800	4.02E+04
2-Butanone	5.05E-01	1	8	28,800	1.45E+04
2-Hexanone	1.75E-01	1	8	28,800	5.04E+03
4-Methyl-2-pentanone	1.81E-01	1	8	28,800	5.21E+03
Xylenes (Total)	9.60E-02	1	8	28,800	2.76E+03
Phenol	2.90E-03	1	8	28,800	8.34E+01
Isophorone	4.74E-03	1	8	28,800	1.36E+02
Naphthalene	6.25E-04	1	8	28,800	1.80E+01
bis(2-ethylhexyl)phthalate	7.06E-09	1	8	28,800	2.03E-04
Butyl benzyl phthalate	2.33E-07	1	8	28,800	6.71E-03
di-n-butyl phthalate	2.51E-07	1	8	28,800	7.24E-03
Diethyl phthalate	7.02E-07	1	8	28,800	2.02E-02
Dimethyl phthalate	1.75E-04	1	8	28,800	5.05E+00

According to U.S. EPA guidelines, if the mass computed by Equation 4 exceeds one-third (1/3) of M, the following equation should be used instead of Equation 2 to compute ERps.

Step 5. Alternate Calculation of Pore Space Emission Rate (ERps)
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

ERps (Equation 5) = M x 0.33/Tsv

ERps = pore space emission rate (g/s)
M = Total mass as computed by Equation 3.
Tsv = Time to excavate a given volume of soil (s)

	M (g)	Tsv (seconds)	ERps (Eq. 5) (g/s)
1,1,1-Trichloroethane	9885.9	28,800	1.14E-01
1,1-Dichloroethane	53.7	28,800	6.22E-04
1,1,2-Trichloroethane	22.4	28,800	2.59E-04
Chloroform	404.3	28,800	4.68E-03
1,1-Dichloroethene	222.3	28,800	2.57E-03
trans-1,2-Dichloroethene	215.9	28,800	2.50E-03
Ethyl benzene	3142.9	28,800	3.64E-02
Methylene chloride	1764.8	28,800	2.04E-02
Tetrachloroethene	3215.7	28,800	3.72E-02
Toluene	6213.2	28,800	7.19E-02
Trichloroethene	19739.9	28,800	2.28E-01
Acetone	6340.3	28,800	7.34E-02
2-Butanone	5283.1	28,800	6.11E-02
2-Hexanone	284.8	28,800	3.30E-03
4-Methyl-2-pentanone	2365.9	28,800	2.74E-02
Xylenes (Total)	16330.7	28,800	1.89E-01
Phenol	256.3	28,800	2.97E-03
Isophorone	146.5	28,800	1.70E-03
Naphthalene	165.8	28,800	1.92E-03
bis(2-ethylhexyl)phthalate	186.1	28,800	2.15E-03
Butyl benzyl phthalate	142.2	28,800	1.65E-03
di-n-butyl phthalate	160.1	28,800	1.85E-03
Diethyl phthalate	1367.4	28,800	1.58E-02
Dimethyl phthalate	252.5	28,800	2.92E-03

Step 6. **Comparison of Erps by Equation 2 with ERps by Equation 5**

EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

Lower of the 2 values is chosen for risk assessment purposes.

	ERps (Eq. 2) (g/s)	ERps (Eq. 5) (g/s)	Final ERps (g/s)
1,1,1-Trichloroethane	1.48E+00	1.14E-01	1.14E-01
1,1-Dichloroethane	2.09E+00	6.22E-04	6.22E-04
1,1,2-Trichloroethane	3.62E-01	2.59E-04	2.59E-04
Chloroform	2.14E+00	4.68E-03	4.68E-03
1,1-Dichloroethene	5.26E-01	2.57E-03	2.57E-03
trans-1,2-Dichloroethene	2.84E+00	2.50E-03	2.50E-03
Ethyl benzene	9.59E-02	3.64E-02	3.64E-02
Methylene chloride	2.78E+00	2.04E-02	2.04E-02
Tetrachloroethene	2.85E-01	3.72E-02	3.72E-02
Toluene	2.50E-01	7.19E-02	7.19E-02
Trichloroethene	8.91E-01	2.28E-01	2.28E-01
Acetone	1.40E+00	7.34E-02	7.34E-02
2-Butanone	5.05E-01	6.11E-02	6.11E-02
2-Hexanone	1.75E-01	3.30E-03	3.30E-03
4-Methyl-2-pentanone	1.81E-01	2.74E-02	2.74E-02
Xylenes (Total)	9.60E-02	1.89E-01	9.60E-02
Phenol	2.90E-03	2.97E-03	2.90E-03
Isophorone	4.74E-03	1.70E-03	1.70E-03
Naphthalene	6.25E-04	1.92E-03	6.25E-04
bis(2-ethylhexyl)phthalate	7.06E-09	2.15E-03	7.06E-09
Butyl benzyl phthalate	2.33E-07	1.65E-03	2.33E-07
di-n-butyl phthalate	2.51E-07	1.85E-03	2.51E-07
Diethyl phthalate	7.02E-07	1.58E-02	7.02E-07
Dimethyl phthalate	1.75E-04	2.92E-03	1.75E-04

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EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

CALCULATION OF EMISSION RATE FROM DIFFUSION (ERdiff)

Equation 6

ERdiff = (Ci x CF2 x SA)/[(Ea/Keq kg) + (pi t/De Keq)^1/2]

ERdiff = Emission rate from diffusion (g/s)
Ci = Compound soil concentration (ug/kg)
CF2 = Conversion factor (10,000 cm^2/m^2)
SA = Emitting surface area (m^2)
Keq = Equilibrium coefficient (dimensionless)
Kg = Gas phase mass transfer coefficient (0.15 cm/s)
pi = 3.1416
t = Time of excavation (s)
De = Effective diffusivity in air (cm^2/s)

Step 7. Calculation of Keq
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

Equation 7 **Keq = Hi/RT**

Keq = Equilibrium coefficient (dimensionless)
Hi = Henry's Law Constant (atm-m^3/mole)
R = Universal gas constant (8.205E-5 atm-m^3/mole-K)
T = Soil temperature (K)

	Hi (atm-cu.m/mole)	R (atm-cu.m/mole-K)	T (K)	Keq
1,1,1-Trichloroethane	0.0144	8.21E-05	288	6.09E-01
1,1-Dichloroethane	0.00431	8.21E-05	288	1.82E-01
1,1,2-Trichloroethane	0.00117	8.21E-05	288	4.95E-02
Chloroform	0.002873	8.21E-05	288	1.22E-01
1,1-Dichloroethene	0.034	8.21E-05	288	1.44E+00
trans-1,2-Dichloroethene	0.00656	8.21E-05	288	2.78E-01
Ethyl benzene	0.00643	8.21E-05	288	2.72E-01
Methylene chloride	0.00203	8.21E-05	288	8.59E-02
Tetrachloroethene	0.0259	8.21E-05	288	1.10E+00
Toluene	0.00637	8.21E-05	288	2.70E-01
Trichloroethene	0.0091	8.21E-05	288	3.85E-01
Acetone	2.06E-05	8.21E-05	288	8.72E-04
2-Butanone	2.74E-05	8.21E-05	288	1.16E-03
2-Hexanone	2.82E-05	8.21E-05	288	1.19E-03
4-Methyl-2-pentanone	0.000155	8.21E-05	288	6.56E-03
Xylenes (Total)	0.00704	8.21E-05	288	2.98E-01
Phenol	4.54E-07	8.21E-05	288	1.92E-05
Isophorone	5.75E-06	8.21E-05	288	2.43E-04
Naphthalene	0.000734	8.21E-05	288	3.11E-02
bis(2-ethylhexyl)phthalate	3.61E-07	8.21E-05	288	1.53E-05
Butyl benzyl phthalate	8.3E-06	8.21E-05	288	3.51E-04
di-n-butyl phthalate	2.82E-07	8.21E-05	288	1.19E-05
Diethyl phthalate	1.14E-06	8.21E-05	288	4.82E-05
Dimethyl phthalate	1.14E-06	8.21E-05	288	4.82E-05

Step 8. Calculation of De
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

Equation 8

De = Da (Ea)^3.33/(Et)^2
Da = Compound's diffusivity in air (cm^2/s)
Ea = Air filled porosity (dimensionless)
Et = Total porosity (dimensionless)

	Da	Ea (sq. cm/s)	Et	De
1,1,1-Trichloroethane	0.078	0.35	0.35	0.0193
1,1-Dichloroethane	0.0919	0.35	0.35	0.0227
1,1,2-Trichloroethane	0.0792	0.35	0.35	0.0196
Chloroform	0.0888	0.35	0.35	0.0220
1,1-Dichloroethene	0.104	0.35	0.35	0.0257
trans-1,2-Dichloroethene	0.07442	0.35	0.35	0.0184
Ethyl benzene	0.075	0.35	0.35	0.0186
Methylene chloride	0.10525	0.35	0.35	0.0261
Tetrachloroethene	0.072	0.35	0.35	0.0178
Toluene	0.087	0.35	0.35	0.0215
Trichloroethene	0.079	0.35	0.35	0.0196
Acetone	0.124	0.35	0.35	0.0307
2-Butanone	0.0808	0.35	0.35	0.0200
2-Hexanone	0.07524	0.35	0.35	0.0186
4-Methyl-2-pentanone	0.0752	0.35	0.35	0.0186
Xylenes (Total)	0.07	0.35	0.35	0.0173
Phenol	0.082	0.35	0.35	0.0203
Isophorone	0.0625	0.35	0.35	0.0155
Naphthalene	0.059	0.35	0.35	0.0146
bis(2-ethylhexyl)phthalate	0.042807	0.35	0.35	0.0106
Butyl benzyl phthalate	0.04235	0.35	0.35	0.0105
di-n-butyl phthalate	0.0467	0.35	0.35	0.0116
Diethyl phthalate	0.0545	0.35	0.35	0.0135
Dimethyl phthalate	0.05746	0.35	0.35	0.0142

Step 9. Calculation of Emission Rate from Diffusion (ERdiff)
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

Equation 6 **ERdiff = (Ci x CF2 x SA)/[(Ea/Keq kg) + (pi t/De Keq)^1/2]**

Step 9a

Equation 6a Ci x CF2 x SA

Ci = Compound soil concentration (ug/kg)
CF2 = Conversion factor (10,000 cm^2/m^2)
SA = Emitting surface area (m^2)
B = Bulk density (1.5 g/cm^3)

	Ci (ug/kg)	CF2 (sq. cm/sq.m)	SA (sq. m)	kg/ug	B (g/ cu. cm)	CixCF2xSAxBx1E-9
1,1,1-Trichloroethane	16283.9	1E+04	235.8	1E-09	1.5	5.76E+01
1,1-Dichloroethane	88.5	1E+04	235.8	1E-09	1.5	3.13E-01
1,1,2-Trichloroethane	36.9	1E+04	235.8	1E-09	1.5	1.30E-01
Chloroform	666.0	1E+04	235.8	1E-09	1.5	2.36E+00
1,1-Dichloroethene	366.2	1E+04	235.8	1E-09	1.5	1.30E+00
trans-1,2-Dichloroethene	355.6	1E+04	235.8	1E-09	1.5	1.26E+00
Ethyl benzene	5177.0	1E+04	235.8	1E-09	1.5	1.83E+01
Methylene chloride	2907.0	1E+04	235.8	1E-09	1.5	1.03E+01
Tetrachloroethene	5296.9	1E+04	235.8	1E-09	1.5	1.87E+01
Toluene	10234.3	1E+04	235.8	1E-09	1.5	3.62E+01
Trichloroethene	32515.5	1E+04	235.8	1E-09	1.5	1.15E+02
Acetone	10443.7	1E+04	235.8	1E-09	1.5	3.69E+01
2-Butanone	8702.3	1E+04	235.8	1E-09	1.5	3.08E+01
2-Hexanone	469.2	1E+04	235.8	1E-09	1.5	1.66E+00
4-Methyl-2-pentanone	3897.0	1E+04	235.8	1E-09	1.5	1.38E+01
Xylenes (Total)	26899.9	1E+04	235.8	1E-09	1.5	9.51E+01
Phenol	422.1	1E+04	235.8	1E-09	1.5	1.49E+00
Isophorone	241.3	1E+04	235.8	1E-09	1.5	8.53E-01
Naphthalene	273.2	1E+04	235.8	1E-09	1.5	9.66E-01
bis(2-ethylhexyl)phthalate	306.5	1E+04	235.8	1E-09	1.5	1.08E+00
Butyl benzyl phthalate	234.3	1E+04	235.8	1E-09	1.5	8.29E-01
di-n-butyl phthalate	263.6	1E+04	235.8	1E-09	1.5	9.32E-01
Diethyl phthalate	2252.4	1E+04	235.8	1E-09	1.5	7.97E+00
Dimethyl phthalate	416.0	1E+04	235.8	1E-09	1.5	1.47E+00

Step 9b
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

Equation 6b Ea/Keq Kg

Ea = Air filled porosity (dimensionless)
Keq = Equilibrium coefficient (dimensionless)
Kg = Gas phase mass transfer coefficient (0.15 cm/s)

	Ea	Keq	Kg cm/sec	Ea/(KeqxKg)
1,1,1-Trichloroethane	0.35	6.09E-01	0.15	3.83
1,1-Dichloroethane	0.35	1.82E-01	0.15	12.79
1,1,2-Trichloroethane	0.35	4.95E-02	0.15	47.13
Chloroform	0.35	1.22E-01	0.15	19.19
1,1-Dichloroethene	0.35	1.44E+00	0.15	1.62
trans-1,2-Dichloroethene	0.35	2.78E-01	0.15	8.41
Ethyl benzene	0.35	2.72E-01	0.15	8.58
Methylene chloride	0.35	8.59E-02	0.15	27.16
Tetrachloroethene	0.35	1.10E+00	0.15	2.13
Toluene	0.35	2.70E-01	0.15	8.66
Trichloroethene	0.35	3.85E-01	0.15	6.06
Acetone	0.35	8.72E-04	0.15	2676.58
2-Butanone	0.35	1.16E-03	0.15	2012.32
2-Hexanone	0.35	1.19E-03	0.15	1955.23
4-Methyl-2-pentanone	0.35	6.56E-03	0.15	355.73
Xylenes (Total)	0.35	2.98E-01	0.15	7.83
Phenol	0.35	1.92E-05	0.15	121448.46
Isophorone	0.35	2.43E-04	0.15	9589.15
Naphthalene	0.35	3.11E-02	0.15	75.12
bis(2-ethylhexyl)phthalate	0.35	1.53E-05	0.15	152735.73
Butyl benzyl phthalate	0.35	3.51E-04	0.15	6643.08
di-n-butyl phthalate	0.35	1.19E-05	0.15	195523.40
Diethyl phthalate	0.35	4.82E-05	0.15	48366.32
Dimethyl phthalate	0.35	4.82E-05	0.15	48366.32

Step 9c
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

Equation 6c pi x t /((De x Keq)

pi = 3.1416
t = Time of excavation (s)
De = Effective diffusivity in air (cm^2/s)
Keq = Equilibrium coefficient (dimensionless)

	pi	t (days)	t (seconds)	Keq	De	pit/((DeKeq)
1,1,1-Trichloroethane	3.1416	1	28,800	6.09E-01	1.93E-02	7.69E+06
1,1-Dichloroethane	3.1416	1	28,800	1.82E-01	2.27E-02	2.18E+07
1,1,2-Trichloroethane	3.1416	1	28,800	4.95E-02	1.96E-02	9.32E+07
Chloroform	3.1416	1	28,800	1.22E-01	2.20E-02	3.39E+07
1,1-Dichloroethene	3.1416	1	28,800	1.44E+00	2.57E-02	2.44E+06
trans-1,2-Dichloroethene	3.1416	1	28,800	2.78E-01	1.84E-02	1.77E+07
Ethyl benzene	3.1416	1	28,800	2.72E-01	1.86E-02	1.79E+07
Methylene chloride	3.1416	1	28,800	8.59E-02	2.61E-02	4.04E+07
Tetrachloroethene	3.1416	1	28,800	1.10E+00	1.78E-02	4.63E+06
Toluene	3.1416	1	28,800	2.70E-01	2.15E-02	1.56E+07
Trichloroethene	3.1416	1	28,800	3.85E-01	1.96E-02	1.20E+07
Acetone	3.1416	1	28,800	8.72E-04	3.07E-02	3.38E+09
2-Butanone	3.1416	1	28,800	1.16E-03	2.00E-02	3.90E+09
2-Hexanone	3.1416	1	28,800	1.19E-03	1.86E-02	4.07E+09
4-Methyl-2-pentanone	3.1416	1	28,800	6.56E-03	1.86E-02	7.41E+08
Xylenes (Total)	3.1416	1	28,800	2.98E-01	1.73E-02	1.75E+07
Phenol	3.1416	1	28,800	1.92E-05	2.03E-02	2.32E+11
Isophorone	3.1416	1	28,800	2.43E-04	1.55E-02	2.40E+10
Naphthalene	3.1416	1	28,800	3.11E-02	1.46E-02	1.99E+08
bis(2-ethylhexyl)phthalate	3.1416	1	28,800	1.53E-05	1.06E-02	5.59E+11
Butyl benzyl phthalate	3.1416	1	28,800	3.51E-04	1.05E-02	2.46E+10
di-n-butyl phthalate	3.1416	1	28,800	1.19E-05	1.16E-02	6.56E+11
Diethyl phthalate	3.1416	1	28,800	4.82E-05	1.35E-02	1.39E+11
Dimethyl phthalate	3.1416	1	28,800	4.82E-05	1.42E-02	1.32E+11

Step 9d
EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

Equation 6a /(6b + 6c^1/2)

	6a	6b	6c^0.5	ERdiff 6a/(6b+6c^1/2)
1,1,1-Trichloroethane	5.76E+01	3.83E+00	2.77E+03	2.07E-02
1,1-Dichloroethane	3.13E-01	1.28E+01	4.67E+03	6.68E-05
1,1,2-Trichloroethane	1.30E-01	4.71E+01	9.65E+03	1.34E-05
Chloroform	2.36E+00	1.92E+01	5.82E+03	4.03E-04
1,1-Dichloroethene	1.30E+00	1.62E+00	1.56E+03	8.28E-04
trans-1,2-Dichloroethene	1.26E+00	8.41E+00	4.21E+03	2.98E-04
Ethyl benzene	1.83E+01	8.58E+00	4.23E+03	4.32E-03
Methylene chloride	1.03E+01	2.72E+01	6.36E+03	1.61E-03
Tetrachloroethene	1.87E+01	2.13E+00	2.15E+03	8.70E-03
Toluene	3.62E+01	8.66E+00	3.95E+03	9.15E-03
Trichloroethene	1.15E+02	6.06E+00	3.47E+03	3.31E-02
Acetone	3.69E+01	2.68E+03	5.82E+04	6.07E-04
2-Butanone	3.08E+01	2.01E+03	6.25E+04	4.77E-04
2-Hexanone	1.66E+00	1.96E+03	6.38E+04	2.52E-05
4-Methyl-2-pentanone	1.38E+01	3.56E+02	2.72E+04	5.00E-04
Xylenes (Total)	9.51E+01	7.83E+00	4.19E+03	2.27E-02
Phenol	1.49E+00	1.21E+05	4.82E+05	2.48E-06
Isophorone	8.53E-01	9.59E+03	1.55E+05	5.18E-06
Naphthalene	9.66E-01	7.51E+01	1.41E+04	6.80E-05
bis(2-ethylhexyl)phthalate	1.08E+00	1.53E+05	7.48E+05	1.20E-06
Butyl benzyl phthalate	8.29E-01	6.64E+03	1.57E+05	5.07E-06
di-n-butyl phthalate	9.32E-01	1.96E+05	8.10E+05	9.27E-07
Diethyl phthalate	7.97E+00	4.84E+04	3.73E+05	1.89E-05
Dimethyl phthalate	1.47E+00	4.84E+04	3.63E+05	3.58E-06

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EXPOSURE TO WORKERS ENGAGED IN EXCAVATION

TOTAL EMISSION RATE FROM EXCAVATION (ER)

ER = ERps + ERdiff

	ERps (g/s)	ERdiff (g/s)	Total ER (g/s)
1,1,1-Trichloroethane	1.14E-01	2.07E-02	1.35E-01
1,1-Dichloroethane	6.22E-04	6.68E-05	6.88E-04
1,1,2-Trichloroethane	2.59E-04	1.34E-05	2.73E-04
Chloroform	4.68E-03	4.03E-04	5.08E-03
1,1-Dichloroethene	2.57E-03	8.28E-04	3.40E-03
trans-1,2-Dichloroethene	2.50E-03	2.98E-04	2.80E-03
Ethyl benzene	3.64E-02	4.32E-03	4.07E-02
Methylene chloride	2.04E-02	1.61E-03	2.20E-02
Tetrachloroethene	3.72E-02	8.70E-03	4.59E-02
Toluene	7.19E-02	9.15E-03	8.11E-02
Trichloroethene	2.28E-01	3.31E-02	2.62E-01
Acetone	7.34E-02	6.07E-04	7.40E-02
2-Butanone	6.11E-02	4.77E-04	6.16E-02
2-Hexanone	3.30E-03	2.52E-05	3.32E-03
4-Methyl-2-pentanone	2.74E-02	5.00E-04	2.79E-02
Xylenes (Total)	9.60E-02	2.27E-02	1.19E-01
Phenol	2.90E-03	2.48E-06	2.90E-03
Isophorone	1.70E-03	5.18E-06	1.70E-03
Naphthalene	6.25E-04	6.80E-05	6.93E-04
bis(2-ethylhexyl)phthalate	7.06E-09	1.20E-06	1.21E-06
Butyl benzyl phthalate	2.33E-07	5.07E-06	5.30E-06
di-n-butyl phthalate	2.51E-07	9.27E-07	1.18E-06
Diethyl phthalate	7.02E-07	1.89E-05	1.96E-05
Dimethyl phthalate	1.75E-04	3.58E-06	1.79E-04

RISK ASSESSMENT CALCULATIONS - EXPOSURE TO WORKERS IN AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING VAPORS
WORKERS ENGAGED IN EXCAVATION OF AREA C - 1 DAY RISKS

On-site Perimeter Conc.(mg/m3)
8 hour avg. at point (37.6,-112.8)
for total emission rate

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	2.05E+00	0.83	8	1	1	70	365	25,550	5.35E-04	7.64E-06	2.90E-01		1.84E-03	
1,1-Dichloroethane	1.04E-02	0.83	8	1	1	70	365	25,550	2.72E-06	3.89E-08	1.40E-01		1.95E-05	
1,1,2-Trichloroethane	4.14E-03	0.83	8	1	1	70	365	25,550	1.08E-06	1.54E-08	4.00E-03	5.60E-02	2.70E-04	8.63E-10
Chloroform	7.71E-02	0.83	8	1	1	70	365	25,550	2.01E-05	2.87E-07	1.14E-02	8.10E-02	1.76E-03	2.33E-08
1,1-Dichloroethene	5.16E-02	0.83	8	1	1	70	365	25,550	1.35E-05	1.92E-07		1.75E-01		3.36E-08
trans-1,2-Dichloroethene	4.24E-02	0.83	8	1	1	70	365	25,550	1.11E-05	1.58E-07	2.00E-02		5.53E-04	
Ethyl benzene	6.17E-01	0.83	8	1	1	70	365	25,550	1.61E-04	2.30E-06	1.00E-01		1.61E-03	
Methylene chloride	3.34E-01	0.83	8	1	1	70	365	25,550	8.72E-05	1.25E-06	8.60E-01	1.64E-03	1.01E-04	2.04E-09
Tetrachloroethene	6.96E-01	0.83	8	1	1	70	365	25,550	1.82E-04	2.60E-06	1.00E-02	2.00E-03	1.82E-02	5.19E-09
Toluene	1.23E+00	0.83	8	1	1	70	365	25,550	3.21E-04	4.58E-06	2.86E-01		1.12E-03	
Trichloroethene	3.97E+00	0.83	8	1	1	70	365	25,550	1.04E-03	1.48E-05		6.00E-03		8.87E-08
Acetone	1.12E+00	0.83	8	1	1	70	365	25,550	2.93E-04	4.18E-06	1.00E-01		2.93E-03	
2-Butanone	9.35E-01	0.83	8	1	1	70	365	25,550	2.44E-04	3.48E-06	2.86E-01		8.53E-04	
2-Hexanone	5.04E-02	0.83	8	1	1	70	365	25,550	1.31E-05	1.88E-07				
4-Methyl-2-pentanone	4.23E-01	0.83	8	1	1	70	365	25,550	1.10E-04	1.58E-06	2.30E-02		4.80E-03	
Xylenes (Total)	1.80E+00	0.83	8	1	1	70	365	25,550	4.70E-04	6.71E-06	4.00E-01		1.17E-03	
Phenol	4.40E-02	0.83	8	1	1	70	365	25,550	1.15E-05	1.64E-07	6.00E-01		1.91E-05	
Isophorone	2.58E-02	0.83	8	1	1	70	365	25,550	6.73E-06	9.61E-08		9.50E-04		9.13E-11
Naphthalene	1.05E-02	0.83	8	1	1	70	365	25,550	2.74E-06	3.92E-08	1.14E-04		2.40E-02	
bis(2-ethylhexyl)phthalate	1.84E-05	0.83	8	1	1	70	365	25,550	4.79E-09	6.85E-11	5.71E-02	1.40E-02	8.39E-08	9.58E-13
Butyl benzyl phthalate	8.04E-05	0.83	8	1	1	70	365	25,550	2.10E-08	3.00E-10	2.00E-01		1.05E-07	
di-n-butyl phthalate	1.79E-05	0.83	8	1	1	70	365	25,550	4.66E-09	6.66E-11				
Diethyl phthalate	2.97E-04	0.83	8	1	1	70	365	25,550	7.76E-08	1.11E-09	8.00E-01		9.70E-08	
Dimethyl phthalate	2.72E-03	0.83	8	1	1	70	365	25,550	7.09E-07	1.01E-08	1.00E+01		7.09E-08	
													0.06	**1.54E-07**

RISK ASSESSMENT CALCULATIONS - EXPOSURE TO WORKERS IN AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING VAPORS
WORKERS ENGAGED IN EXCAVATION OF AREA C - 15 DAY RISKS

On-site Perimeter Conc.(mg/m3)
8 hour avg. at point (37.6,-112.8)
for total emission rate

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	2.05E+00	0.83	8	15	1	70	365	25,550	8.02E-03	1.15E-04	2.90E-01		2.77E-02	
1,1-Dichloroethane	1.04E-02	0.83	8	15	1	70	365	25,550	4.09E-05	5.84E-07	1.40E-01		2.92E-04	
1,1,2-Trichloroethane	4.14E-03	0.83	8	15	1	70	365	25,550	1.62E-05	2.31E-07	4.00E-03	5.60E-02	4.05E-03	1.29E-08
Chloroform	7.71E-02	0.83	8	15	1	70	365	25,550	3.02E-04	4.31E-06	1.14E-02	8.10E-02	2.64E-02	3.49E-07
1,1-Dichloroethene	5.16E-02	0.83	8	15	1	70	365	25,550	2.02E-04	2.88E-06		1.75E-01		5.05E-07
trans-1,2-Dichloroethene	4.24E-02	0.83	8	15	1	70	365	25,550	1.66E-04	2.37E-06	2.00E-02		8.30E-03	
Ethyl benzene	6.17E-01	0.83	8	15	1	70	365	25,550	2.42E-03	3.45E-05	1.00E-01		2.42E-02	
Methylene chloride	3.34E-01	0.83	8	15	1	70	365	25,550	1.31E-03	1.87E-05	8.60E-01	1.64E-03	1.52E-03	3.06E-08
Tetrachloroethene	6.96E-01	0.83	8	15	1	70	365	25,550	2.73E-03	3.89E-05	1.00E-02	2.00E-03	2.73E-01	7.79E-08
Toluene	1.23E+00	0.83	8	15	1	70	365	25,550	4.81E-03	6.87E-05	2.86E-01		1.68E-02	
Trichloroethene	3.97E+00	0.83	8	15	1	70	365	25,550	1.55E-02	2.22E-04		6.00E-03		1.33E-06
Acetone	1.12E+00	0.83	8	15	1	70	365	25,550	4.39E-03	6.27E-05	1.00E-01		4.39E-02	
2-Butanone	9.35E-01	0.83	8	15	1	70	365	25,550	3.66E-03	5.23E-05	2.86E-01		1.28E-02	
2-Hexanone	5.04E-02	0.83	8	15	1	70	365	25,550	1.97E-04	2.82E-06				
4-Methyl-2-pentanone	4.23E-01	0.83	8	15	1	70	365	25,550	1.65E-03	2.36E-05	2.30E-02		7.20E-02	
Xylenes (Total)	1.80E+00	0.83	8	15	1	70	365	25,550	7.04E-03	1.01E-04	4.00E-01		1.76E-02	
Phenol	4.40E-02	0.83	8	15	1	70	365	25,550	1.72E-04	2.46E-06	6.00E-01		2.87E-04	
Isophorone	2.58E-02	0.83	8	15	1	70	365	25,550	1.01E-04	1.44E-06		9.50E-04		1.37E-09
Naphthalene	1.05E-02	0.83	8	15	1	70	365	25,550	4.12E-05	5.88E-07	1.14E-04		3.60E-01	
bis(2-ethylhexyl)phthalate	1.84E-05	0.83	8	15	1	70	365	25,550	7.19E-08	1.03E-09	5.71E-02	1.40E-02	1.26E-06	1.44E-11
Butyl benzyl phthalate	8.04E-05	0.83	8	15	1	70	365	25,550	3.15E-07	4.50E-09	2.00E-01		1.57E-06	
di-n-butyl phthalate	1.79E-05	0.83	8	15	1	70	365	25,550	7.00E-08	9.99E-10				
Diethyl phthalate	2.97E-04	0.83	8	15	1	70	365	25,550	1.16E-06	1.66E-08	8.00E-01		1.46E-06	
Dimethyl phthalate	2.72E-03	0.83	8	15	1	70	365	25,550	1.06E-05	1.52E-07	1.00E+01		1.06E-06	
													0.89	**2.31E-06**

ESTIMATION OF AIR IMPACTS FOR THE EXCAVATION OF CONTAMINATED SOILS
AIR/SUPERFUND NATIONAL TECHNICAL GUIDANCE SERIES, MARCH 1992
ONSITE EXPOSURES AT THE SITE PERIMETER

A. CALCULATION OF PORE SPACE EMISSION RATE (ERps)

Step 1. Calculation of Soil Excavation Rate (m^3/s)

Equation 1 **Q = V / (D x hr x 3,600 s/hr) (m^3/s)**

D = Days of excavation (days)
V = Volume of excavated soil (m^3)
hr = Excavation time (hours)

V (cu. m.)	D (days)	hr (hours)	Q (cu. m/s)
2023.6	5	8	0.0141

Step 2. Calculation of Pore Space Emission Rate (ERps)
ONSITE EXPOSURES AT THE SITE PERIMETER

Equation 2 **ERps = (Pi x MWi x CF x Ea x Q x ExC)/(R x T)**

ERps = pore space emission rate (g/s)
Pi = Compound's vapor pressure (mmHg)
MWi = Compund's molecular weight
CF = Conversion factor (10^6 cm^3/m^3)
Ea = Air filled porosity (dimensionless)
Q = Soil excavation rate (m^3/s)
ExC = Soil-gas to atmosphere exchange constant (dimensionless)
R = Universal gas constant (62,361 mmHg-cm^3/mole-K)
T = Soil temperature (K)

Compound	Pi (mmHg)	MWi (g/mole)	CF (cu. cm/cu, m)	Ea	Q (cu. m/s)	ExC	R	T (K)	ERps (g/s)
1,1,1-Trichloroethane	123	133.41	1.00E+06	0.35	0.0141	0.33	62,361	288	1.48E+00
1,1-Dichloroethane	234	98.96	1.00E+06	0.35	0.0141	0.33	62,361	288	2.09E+00
1,1,2-Trichloroethane	30	133.42	1.00E+06	0.35	0.0141	0.33	62,361	288	3.62E-01
Chloroform	198	119.39	1.00E+06	0.35	0.0141	0.33	62,361	288	2.14E+00
1,1-Dichloroethene	60	96.94	1.00E+06	0.35	0.0141	0.33	62,361	288	5.26E-01
trans-1,2-Dichloroethene	324	96.94	1.00E+06	0.35	0.0141	0.33	62,361	288	2.84E+00
Ethyl benzene	10	106.16	1.00E+06	0.35	0.0141	0.33	62,361	288	9.59E-02
Methylene chloride	362	84.93	1.00E+06	0.35	0.0141	0.33	62,361	288	2.78E+00
Tetrachloroethene	19	165.83	1.00E+06	0.35	0.0141	0.33	62,361	288	2.85E-01
Toluene	30	92.14	1.00E+06	0.35	0.0141	0.33	62,361	288	2.50E-01
Trichloroethene	75	131.4	1.00E+06	0.35	0.0141	0.33	62,361	288	8.91E-01
Acetone	266	58.08	1.00E+06	0.35	0.0141	0.33	62,361	288	1.40E+00
2-Butanone	77.5	72.1	1.00E+06	0.35	0.0141	0.33	62,361	288	5.05E-01
2-Hexanone	19.31	100.2	1.00E+06	0.35	0.0141	0.33	62,361	288	1.75E-01
4-Methyl-2-pentanone	20	100	1.00E+06	0.35	0.0141	0.33	62,361	288	1.81E-01
Xylenes (Total)	10	106.2	1.00E+06	0.35	0.0141	0.33	62,361	288	9.60E-02
Phenol	0.341	94	1.00E+06	0.35	0.0141	0.33	62,361	288	2.90E-03
Isophorone	0.38	138	1.00E+06	0.35	0.0141	0.33	62,361	288	4.74E-03
Naphthalene	0.054	128.16	1.00E+06	0.35	0.0141	0.33	62,361	288	6.25E-04
bis(2-ethylhexyl)phthalate	2E-07	390.54	1.00E+06	0.35	0.0141	0.33	62,361	288	7.06E-09
Butyl benzyl phthalate	8.25E-06	312.39	1.00E+06	0.35	0.0141	0.33	62,361	288	2.33E-07
di-n-butyl phthalate	1E-05	278	1.00E+06	0.35	0.0141	0.33	62,361	288	2.51E-07
Diethyl phthalate	3.5E-05	222	1.00E+06	0.35	0.0141	0.33	62,361	288	7.02E-07
Dimethyl phthalate	0.01	194.19	1.00E+06	0.35	0.0141	0.33	62,361	288	1.75E-04

Step 3. Comparison with Results of Equation 2 with Total Mass of Contaminant
ONSITE EXPOSURES AT THE SITE PERIMETER

Equation 3 **Total Mass (M) = C x Sv x B x10^6 cm^3/m^3**

C = Soil concentration (mg/kg)
M = Total mass (g)
Sv = Volume of soil moved (m^3)
B = Bulk density (g/cm^3)

	C (mg/kg)	Sv (cu. m)	B (g/cu. cm)	M (g)
1,1,1-Trichloroethane	16.284	2023.6	1.5	4.94E+04
1,1-Dichloroethane	0.088	2023.6	1.5	2.68E+02
1,1,2-Trichloroethane	0.037	2023.6	1.5	1.12E+02
Chloroform	0.666	2023.6	1.5	2.02E+03
1,1-Dichloroethene	0.366	2023.6	1.5	1.11E+03
trans-1,2-Dichloroethene	0.356	2023.6	1.5	1.08E+03
Ethyl benzene	5.177	2023.6	1.5	1.57E+04
Methylene chloride	2.907	2023.6	1.5	8.82E+03
Tetrachloroethene	5.297	2023.6	1.5	1.61E+04
Toluene	10.234	2023.6	1.5	3.11E+04
Trichloroethene	32.516	2023.6	1.5	9.87E+04
Acetone	10.444	2023.6	1.5	3.17E+04
2-Butanone	8.702	2023.6	1.5	2.64E+04
2-Hexanone	0.469	2023.6	1.5	1.42E+03
4-Methyl-2-pentanone	3.897	2023.6	1.5	1.18E+04
Xylenes (Total)	26.900	2023.6	1.5	8.17E+04
Phenol	0.422	2023.6	1.5	1.28E+03
Isophorone	0.241	2023.6	1.5	7.32E+02
Naphthalene	0.273	2023.6	1.5	8.29E+02
bis(2-ethylhexyl)phthalate	0.306	2023.6	1.5	9.30E+02
Butyl benzyl phthalate	0.234	2023.6	1.5	7.11E+02
di-n-butyl phthalate	0.264	2023.6	1.5	8.00E+02
Diethyl phthalate	2.252	2023.6	1.5	6.84E+03
Dimethyl phthalate	0.416	2023.6	1.5	1.26E+03

Step 4. Estimation of Mass of Each Contaminant Using Equation 2
ONSITE EXPOSURES AT THE SITE PERIMETER

Equation 4 **Mass (M)** = ERps x t

ERps = pore space emission rate (g/s)
t = time of excavation (s) - assuming ten hours per day

	ERps (g/s)	t (days)	hr/day (hours)	t (seconds)	M (g)
1,1,1-Trichloroethane	1.48E+00	5	8	144,000	2.14E+05
1,1-Dichloroethane	2.09E+00	5	8	144,000	3.01E+05
1,1,2-Trichloroethane	3.62E-01	5	8	144,000	5.21E+04
Chloroform	2.14E+00	5	8	144,000	3.08E+05
1,1-Dichloroethene	5.26E-01	5	8	144,000	7.57E+04
trans-1,2-Dichloroethene	2.84E+00	5	8	144,000	4.09E+05
Ethyl benzene	9.59E-02	5	8	144,000	1.38E+04
Methylene chloride	2.78E+00	5	8	144,000	4.00E+05
Tetrachloroethene	2.85E-01	5	8	144,000	4.10E+04
Toluene	2.50E-01	5	8	144,000	3.60E+04
Trichloroethene	8.91E-01	5	8	144,000	1.28E+05
Acetone	1.40E+00	5	8	144,000	2.01E+05
2-Butanone	5.05E-01	5	8	144,000	7.27E+04
2-Hexanone	1.75E-01	5	8	144,000	2.52E+04
4-Methyl-2-pentanone	1.81E-01	5	8	144,000	2.60E+04
Xylenes (Total)	9.60E-02	5	8	144,000	1.38E+04
Phenol	2.90E-03	5	8	144,000	4.17E+02
Isophorone	4.74E-03	5	8	144,000	6.82E+02
Naphthalene	6.25E-04	5	8	144,000	9.01E+01
bis(2-ethylhexyl)phthalate	7.06E-09	5	8	144,000	1.02E-03
Butyl benzyl phthalate	2.33E-07	5	8	144,000	3.35E-02
di-n-butyl phthalate	2.51E-07	5	8	144,000	3.62E-02
Diethyl phthalate	7.02E-07	5	8	144,000	1.01E-01
Dimethyl phthalate	1.75E-04	5	8	144,000	2.53E+01

According to U.S. EPA guidelines, if the mass computed by Equation 4 exceeds one-third (1/3) of M, the following equation should be used instead of Equation 2 to compute ERps.

Step 5. Alternate Calculation of Pore Space Emission Rate (ERps)
ONSITE EXPOSURES AT THE SITE PERIMETER

ERps (Equation 5) = M x 0.33/Tsv

ERps = pore space emission rate (g/s)
M = Total mass as computed by Equation 3.
Tsv = Time to excavate a given volume of soil (s)

	M (g)	Tsv (seconds)	ERps (Eq. 5) (g/s)
1,1,1-Trichloroethane	49429.3	144,000	1.14E-01
1,1-Dichloroethane	268.5	144,000	6.22E-04
1,1,2-Trichloroethane	112.0	144,000	2.59E-04
Chloroform	2021.5	144,000	4.68E-03
1,1-Dichloroethene	1111.7	144,000	2.57E-03
trans-1,2-Dichloroethene	1079.4	144,000	2.50E-03
Ethyl benzene	15714.6	144,000	3.64E-02
Methylene chloride	8824.0	144,000	2.04E-02
Tetrachloroethene	16078.6	144,000	3.72E-02
Toluene	31065.9	144,000	7.19E-02
Trichloroethene	98699.7	144,000	2.28E-01
Acetone	31701.4	144,000	7.34E-02
2-Butanone	26415.4	144,000	6.11E-02
2-Hexanone	1424.2	144,000	3.30E-03
4-Methyl-2-pentanone	11829.3	144,000	2.74E-02
Xylenes (Total)	81653.6	144,000	1.89E-01
Phenol	1281.4	144,000	2.97E-03
Isophorone	732.4	144,000	1.70E-03
Naphthalene	829.1	144,000	1.92E-03
bis(2-ethylhexyl)phthalate	930.3	144,000	2.15E-03
Butyl benzyl phthalate	711.2	144,000	1.65E-03
di-n-butyl phthalate	800.3	144,000	1.85E-03
Diethyl phthalate	6837.0	144,000	1.58E-02
Dimethyl phthalate	1262.7	144,000	2.92E-03

Step 6. **Comparison of Erps by Equation 2 with ERps by Equation 5**

ONSITE EXPOSURES AT THE SITE PERIMETER

Lower of the 2 values is chosen for risk assessment purposes.

	ERps (Eq. 2) (g/s)	ERps (Eq. 5) (g/s)	Final ERps (g/s)
1,1,1-Trichloroethane	1.48E+00	1.14E-01	1.14E-01
1,1-Dichloroethane	2.09E+00	6.22E-04	6.22E-04
1,1,2-Trichloroethane	3.62E-01	2.59E-04	2.59E-04
Chloroform	2.14E+00	4.68E-03	4.68E-03
1,1-Dichloroethene	5.26E-01	2.57E-03	2.57E-03
trans-1,2-Dichloroethene	2.84E+00	2.50E-03	2.50E-03
Ethyl benzene	9.59E-02	3.64E-02	3.64E-02
Methylene chloride	2.78E+00	2.04E-02	2.04E-02
Tetrachloroethene	2.85E-01	3.72E-02	3.72E-02
Toluene	2.50E-01	7.19E-02	7.19E-02
Trichloroethene	8.91E-01	2.28E-01	2.28E-01
Acetone	1.40E+00	7.34E-02	7.34E-02
2-Butanone	5.05E-01	6.11E-02	6.11E-02
2-Hexanone	1.75E-01	3.30E-03	3.30E-03
4-Methyl-2-pentanone	1.81E-01	2.74E-02	2.74E-02
Xylenes (Total)	9.60E-02	1.89E-01	9.60E-02
Phenol	2.90E-03	2.97E-03	2.90E-03
Isophorone	4.74E-03	1.70E-03	1.70E-03
Naphthalene	6.25E-04	1.92E-03	6.25E-04
bis(2-ethylhexyl)phthalate	7.06E-09	2.15E-03	7.06E-09
Butyl benzyl phthalate	2.33E-07	1.65E-03	2.33E-07
di-n-butyl phthalate	2.51E-07	1.85E-03	2.51E-07
Diethyl phthalate	7.02E-07	1.58E-02	7.02E-07
Dimethyl phthalate	1.75E-04	2.92E-03	1.75E-04

ESTIMATION OF AIR IMPACTS FOR THE EXCAVATION OF CONTAMINATED SOILS
AIR/SUPERFUND NATIONAL TECHNICAL GUIDANCE SERIES, MARCH 1992
ONSITE EXPOSURES AT THE SITE PERIMETER

CALCULATION OF EMISSION RATE FROM DIFFUSION (ERdiff)

Equation 6

ERdiff = (Ci x CF2 x SA)/[(Ea/Keq kg) + (pi t/De Keq)^1/2]

ERdiff = Emission rate from diffusion (g/s)
Ci = Compound soil concentration (ug/kg)
CF2 = Conversion factor (10,000 cm^2/m^2)
SA = Emitting surface area (m^2)
Keq = Equilibrium coefficient (dimensionless)
Kg = Gas phase mass transfer coefficient (0.15 cm/s)
pi = 3.1416
t = Time of excavation (s)
De = Effective diffusivity in air (cm^2/s)

Step 7. Calculation of Keq
ONSITE EXPOSURES AT THE SITE PERIMETER

Equation 7 **Keq = Hi/RT**

Keq = Equilibrium coefficient (dimensionless)
Hi = Henry's Law Constant (atm-m^3/mole)
R = Universal gas constant (8.205E-5 atm-m^3/mole-K)
T = Soil temperature (K)

	Hi (atm-cu.m/mole)	R (atm-cu.m/mole-K)	T (K)	Keq
1,1,1-Trichloroethane	0.0144	8.21E-05	288	6.09E-01
1,1-Dichloroethane	0.00431	8.21E-05	288	1.82E-01
1,1,2-Trichloroethane	0.00117	8.21E-05	288	4.95E-02
Chloroform	0.002873	8.21E-05	288	1.22E-01
1,1-Dichloroethene	0.034	8.21E-05	288	1.44E+00
trans-1,2-Dichloroethene	0.00656	8.21E-05	288	2.78E-01
Ethyl benzene	0.00643	8.21E-05	288	2.72E-01
Methylene chloride	0.00203	8.21E-05	288	8.59E-02
Tetrachloroethene	0.0259	8.21E-05	288	1.10E+00
Toluene	0.00637	8.21E-05	288	2.70E-01
Trichloroethene	0.0091	8.21E-05	288	3.85E-01
Acetone	2.06E-05	8.21E-05	288	8.72E-04
2-Butanone	2.74E-05	8.21E-05	288	1.16E-03
2-Hexanone	2.82E-05	8.21E-05	288	1.19E-03
4-Methyl-2-pentanone	0.000155	8.21E-05	288	6.56E-03
Xylenes (Total)	0.00704	8.21E-05	288	2.98E-01
Phenol	4.54E-07	8.21E-05	288	1.92E-05
Isophorone	5.75E-06	8.21E-05	288	2.43E-04
Naphthalene	0.000734	8.21E-05	288	3.11E-02
bis(2-ethylhexyl)phthalate	3.61E-07	8.21E-05	288	1.53E-05
Butyl benzyl phthalate	8.3E-06	8.21E-05	288	3.51E-04
di-n-butyl phthalate	2.82E-07	8.21E-05	288	1.19E-05
Diethyl phthalate	1.14E-06	8.21E-05	288	4.82E-05
Dimethyl phthalate	1.14E-06	8.21E-05	288	4.82E-05

Step 8. Calculation of De
ONSITE EXPOSURES AT THE SITE PERIMETER

Equation 8

De = Da (Ea)^3.33/(Et)^2
Da = Compound's diffusivity in air (cm^2/s)
Ea = Air filled porosity (dimensionless)
Et = Total porosity (dimensionless)

	Da	Ea (sq. cm/s)	Et	De
1,1,1-Trichloroethane	0.078	0.35	0.35	0.0193
1,1-Dichloroethane	0.0919	0.35	0.35	0.0227
1,1,2-Trichloroethane	0.0792	0.35	0.35	0.0196
Chloroform	0.0888	0.35	0.35	0.0220
1,1-Dichloroethene	0.104	0.35	0.35	0.0257
trans-1,2-Dichloroethene	0.07442	0.35	0.35	0.0184
Ethyl benzene	0.075	0.35	0.35	0.0186
Methylene chloride	0.10525	0.35	0.35	0.0261
Tetrachloroethene	0.072	0.35	0.35	0.0178
Toluene	0.087	0.35	0.35	0.0215
Trichloroethene	0.079	0.35	0.35	0.0196
Acetone	0.124	0.35	0.35	0.0307
2-Butanone	0.0808	0.35	0.35	0.0200
2-Hexanone	0.07524	0.35	0.35	0.0186
4-Methyl-2-pentanone	0.0752	0.35	0.35	0.0186
Xylenes (Total)	0.07	0.35	0.35	0.0173
Phenol	0.082	0.35	0.35	0.0203
Isophorone	0.0625	0.35	0.35	0.0155
Naphthalene	0.059	0.35	0.35	0.0146
bis(2-ethylhexyl)phthalate	0.042807	0.35	0.35	0.0106
Butyl benzyl phthalate	0.04235	0.35	0.35	0.0105
di-n-butyl phthalate	0.0467	0.35	0.35	0.0116
Diethyl phthalate	0.0545	0.35	0.35	0.0135
Dimethyl phthalate	0.05746	0.35	0.35	0.0142

Step 9. Calculation of Emission Rate from Diffusion (ERdiff)
ONSITE EXPOSURES AT THE SITE PERIMETER

Equation 6 **ERdiff = (Ci x CF2 x SA)/[(Ea/Keq kg) + (pi t/De Keq)^1/2]**

Step 9a

Equation 6a Ci x CF2 x SA

Ci = Compound soil concentration (ug/kg)
CF2 = Conversion factor (10,000 cm^2/m^2)
SA = Emitting surface area (m^2)
B = Bulk density (1.5 g/cm^3)

	Ci (ug/kg)	CF2 (sq. cm/sq.m)	SA (sq. m)	kg/ug	B (g/ cu. cm)	CixCF2xSAxBx1E-9
1,1,1-Trichloroethane	16283.9	1E+04	1178.9	1E-09	1.5	2.88E+02
1,1-Dichloroethane	88.5	1E+04	1178.9	1E-09	1.5	1.56E+00
1,1,2-Trichloroethane	36.9	1E+04	1178.9	1E-09	1.5	6.52E-01
Chloroform	666.0	1E+04	1178.9	1E-09	1.5	1.18E+01
1,1-Dichloroethene	366.2	1E+04	1178.9	1E-09	1.5	6.48E+00
trans-1,2-Dichloroethene	355.6	1E+04	1178.9	1E-09	1.5	6.29E+00
Ethyl benzene	5177.0	1E+04	1178.9	1E-09	1.5	9.15E+01
Methylene chloride	2907.0	1E+04	1178.9	1E-09	1.5	5.14E+01
Tetrachloroethene	5296.9	1E+04	1178.9	1E-09	1.5	9.37E+01
Toluene	10234.3	1E+04	1178.9	1E-09	1.5	1.81E+02
Trichloroethene	32515.5	1E+04	1178.9	1E-09	1.5	5.75E+02
Acetone	10443.7	1E+04	1178.9	1E-09	1.5	1.85E+02
2-Butanone	8702.3	1E+04	1178.9	1E-09	1.5	1.54E+02
2-Hexanone	469.2	1E+04	1178.9	1E-09	1.5	8.30E+00
4-Methyl-2-pentanone	3897.0	1E+04	1178.9	1E-09	1.5	6.89E+01
Xylenes (Total)	26899.9	1E+04	1178.9	1E-09	1.5	4.76E+02
Phenol	422.1	1E+04	1178.9	1E-09	1.5	7.46E+00
Isophorone	241.3	1E+04	1178.9	1E-09	1.5	4.27E+00
Naphthalene	273.2	1E+04	1178.9	1E-09	1.5	4.83E+00
bis(2-ethylhexyl)phthalate	306.5	1E+04	1178.9	1E-09	1.5	5.42E+00
Butyl benzyl phthalate	234.3	1E+04	1178.9	1E-09	1.5	4.14E+00
di-n-butyl phthalate	263.6	1E+04	1178.9	1E-09	1.5	4.66E+00
Diethyl phthalate	2252.4	1E+04	1178.9	1E-09	1.5	3.98E+01
Dimethyl phthalate	416.0	1E+04	1178.9	1E-09	1.5	7.36E+00

Step 9b
ONSITE EXPOSURES AT THE SITE PERIMETER

Equation 6b Ea/Keq Kg

Ea = Air filled porosity (dimensionless)
Keq = Equilibrium coefficient (dimensionless)
Kg = Gas phase mass transfer coefficient (0.15 cm/s)

	Ea	Keq	Kg	Ea/(KeqxKg)
1,1,1-Trichloroethane	0.35	6.09E-01	0.15	3.83
1,1-Dichloroethane	0.35	1.82E-01	0.15	12.79
1,1,2-Trichloroethane	0.35	4.95E-02	0.15	47.13
Chloroform	0.35	1.22E-01	0.15	19.19
1,1-Dichloroethene	0.35	1.44E+00	0.15	1.62
trans-1,2-Dichloroethene	0.35	2.78E-01	0.15	8.41
Ethyl benzene	0.35	2.72E-01	0.15	8.58
Methylene chloride	0.35	8.59E-02	0.15	27.16
Tetrachloroethene	0.35	1.10E+00	0.15	2.13
Toluene	0.35	2.70E-01	0.15	8.66
Trichloroethene	0.35	3.85E-01	0.15	6.06
Acetone	0.35	8.72E-04	0.15	2676.58
2-Butanone	0.35	1.16E-03	0.15	2012.32
2-Hexanone	0.35	1.19E-03	0.15	1955.23
4-Methyl-2-pentanone	0.35	6.56E-03	0.15	355.73
Xylenes (Total)	0.35	2.98E-01	0.15	7.83
Phenol	0.35	1.92E-05	0.15	121448.46
Isophorone	0.35	2.43E-04	0.15	9589.15
Naphthalene	0.35	3.11E-02	0.15	75.12
bis(2-ethylhexyl)phthalate	0.35	1.53E-05	0.15	152735.73
Butyl benzyl phthalate	0.35	3.51E-04	0.15	6643.08
di-n-butyl phthalate	0.35	1.19E-05	0.15	195523.40
Diethyl phthalate	0.35	4.82E-05	0.15	48366.32
Dimethyl phthalate	0.35	4.82E-05	0.15	48366.32

Step 9c
ONSITE EXPOSURES AT THE SITE PERIMETER

Equation 6c pi x t /((De x Keq)

pi = 3.1416
t = Time of excavation (s)
De = Effective diffusivity in air (cm^2/s)
Keq = Equilibrium coefficient (dimensionless)

	pi	t (days)	hours/day	t (seconds0	Keq	De	pit/((DeKeq)
1,1,1-Trichloroethane	3.1416	5	8	144,000	6.09E-01	1.93E-02	3.85E+07
1,1-Dichloroethane	3.1416	5	8	144,000	1.82E-01	2.27E-02	1.09E+08
1,1,2-Trichloroethane	3.1416	5	8	144,000	4.95E-02	1.96E-02	4.66E+08
Chloroform	3.1416	5	8	144,000	1.22E-01	2.20E-02	1.69E+08
1,1-Dichloroethene	3.1416	5	8	144,000	1.44E+00	2.57E-02	1.22E+07
trans-1,2-Dichloroethene	3.1416	5	8	144,000	2.78E-01	1.84E-02	8.85E+07
Ethyl benzene	3.1416	5	8	144,000	2.72E-01	1.86E-02	8.96E+07
Methylene chloride	3.1416	5	8	144,000	8.59E-02	2.61E-02	2.02E+08
Tetrachloroethene	3.1416	5	8	144,000	1.10E+00	1.78E-02	2.32E+07
Toluene	3.1416	5	8	144,000	2.70E-01	2.15E-02	7.79E+07
Trichloroethene	3.1416	5	8	144,000	3.85E-01	1.96E-02	6.01E+07
Acetone	3.1416	5	8	144,000	8.72E-04	3.07E-02	1.69E+10
2-Butanone	3.1416	5	8	144,000	1.16E-03	2.00E-02	1.95E+10
2-Hexanone	3.1416	5	8	144,000	1.19E-03	1.86E-02	2.04E+10
4-Methyl-2-pentanone	3.1416	5	8	144,000	6.56E-03	1.86E-02	3.71E+09
Xylenes (Total)	3.1416	5	8	144,000	2.98E-01	1.73E-02	8.76E+07
Phenol	3.1416	5	8	144,000	1.92E-05	2.03E-02	1.16E+12
Isophorone	3.1416	5	8	144,000	2.43E-04	1.55E-02	1.20E+11
Naphthalene	3.1416	5	8	144,000	3.11E-02	1.46E-02	9.97E+08
bis(2-ethylhexyl)phthalate	3.1416	5	8	144,000	1.53E-05	1.06E-02	2.79E+12
Butyl benzyl phthalate	3.1416	5	8	144,000	3.51E-04	1.05E-02	1.23E+11
di-n-butyl phthalate	3.1416	5	8	144,000	1.19E-05	1.16E-02	3.28E+12
Diethyl phthalate	3.1416	5	8	144,000	4.82E-05	1.35E-02	6.95E+11
Dimethyl phthalate	3.1416	5	8	144,000	4.82E-05	1.42E-02	6.59E+11

Step 9d
ONSITE EXPOSURES AT THE SITE PERIMETER

Equation 6a /(6b + 6c^1/2)

	6a	6b	6c^0.5	ERdiff 6a/(6b+6c^1/2)
1,1,1-Trichloroethane	2.88E+02	3.83E+00	6.20E+03	4.64E-02
1,1-Dichloroethane	1.56E+00	1.28E+01	1.04E+04	1.50E-04
1,1,2-Trichloroethane	6.52E-01	4.71E+01	2.16E+04	3.02E-05
Chloroform	1.18E+01	1.92E+01	1.30E+04	9.04E-04
1,1-Dichloroethene	6.48E+00	1.62E+00	3.49E+03	1.85E-03
trans-1,2-Dichloroethene	6.29E+00	8.41E+00	9.41E+03	6.68E-04
Ethyl benzene	9.15E+01	8.58E+00	9.46E+03	9.67E-03
Methylene chloride	5.14E+01	2.72E+01	1.42E+04	3.61E-03
Tetrachloroethene	9.37E+01	2.13E+00	4.81E+03	1.95E-02
Toluene	1.81E+02	8.66E+00	8.83E+03	2.05E-02
Trichloroethene	5.75E+02	6.06E+00	7.75E+03	7.41E-02
Acetone	1.85E+02	2.68E+03	1.30E+05	1.39E-03
2-Butanone	1.54E+02	2.01E+03	1.40E+05	1.09E-03
2-Hexanone	8.30E+00	1.96E+03	1.43E+05	5.74E-05
4-Methyl-2-pentanone	6.89E+01	3.56E+02	6.09E+04	1.13E-03
Xylenes (Total)	4.76E+02	7.83E+00	9.36E+03	5.08E-02
Phenol	7.46E+00	1.21E+05	1.08E+06	6.23E-06
Isophorone	4.27E+00	9.59E+03	3.47E+05	1.20E-05
Naphthalene	4.83E+00	7.51E+01	3.16E+04	1.53E-04
bis(2-ethylhexyl)phthalate	5.42E+00	1.53E+05	1.67E+06	2.97E-06
Butyl benzyl phthalate	4.14E+00	6.64E+03	3.51E+05	1.16E-05
di-n-butyl phthalate	4.66E+00	1.96E+05	1.81E+06	2.32E-06
Diethyl phthalate	3.98E+01	4.84E+04	8.34E+05	4.52E-05
Dimethyl phthalate	7.36E+00	4.84E+04	8.12E+05	8.55E-06

ESTIMATION OF AIR IMPACTS FOR THE EXCAVATION OF CONTAMINATED SOILS
AIR/SUPERFUND NATIONAL TECHNICAL GUIDANCE SERIES, MARCH 1992
ONSITE EXPOSURES AT THE SITE PERIMETER

TOTAL EMISSION RATE FROM EXCAVATION (ER)

ER = ERps + ERdiff

	ERps (g/s)	ERdiff (g/s)	Total ER (g/s)
1,1,1-Trichloroethane	1.14E-01	4.64E-02	1.61E-01
1,1-Dichloroethane	6.22E-04	1.50E-04	7.71E-04
1,1,2-Trichloroethane	2.59E-04	3.02E-05	2.89E-04
Chloroform	4.68E-03	9.04E-04	5.58E-03
1,1-Dichloroethene	2.57E-03	1.85E-03	4.43E-03
trans-1,2-Dichloroethene	2.50E-03	6.68E-04	3.17E-03
Ethyl benzene	3.64E-02	9.67E-03	4.60E-02
Methylene chloride	2.04E-02	3.61E-03	2.40E-02
Tetrachloroethene	3.72E-02	1.95E-02	5.67E-02
Toluene	7.19E-02	2.05E-02	9.24E-02
Trichloroethene	2.28E-01	7.41E-02	3.03E-01
Acetone	7.34E-02	1.39E-03	7.48E-02
2-Butanone	6.11E-02	1.09E-03	6.22E-02
2-Hexanone	3.30E-03	5.74E-05	3.35E-03
4-Methyl-2-pentanone	2.74E-02	1.13E-03	2.85E-02
Xylenes (Total)	9.60E-02	5.08E-02	1.47E-01
Phenol	2.90E-03	6.23E-06	2.90E-03
Isophorone	1.70E-03	1.20E-05	1.71E-03
Naphthalene	6.25E-04	1.53E-04	7.78E-04
bis(2-ethylhexyl)phthalate	7.06E-09	2.97E-06	2.98E-06
Butyl benzyl phthalate	2.33E-07	1.16E-05	1.18E-05
di-n-butyl phthalate	2.51E-07	2.32E-06	2.57E-06
Diethyl phthalate	7.02E-07	4.52E-05	4.59E-05
Dimethyl phthalate	1.75E-04	8.55E-06	1.84E-04

RISK ASSESSMENT CALCULATIONS - ONSITE 15 DAY EXPOSURES FROM EXCAVATION ACTIVITIES AT AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO WORKERS FROM INHALING VAPORS
EXPOSURE AT THE FENCELINE

On-site Perimeter Conc.(mg/m3)
8 hour avg. at point (37.6,-112.8)
for total emission rate

COMPOUND	AIR CONCENTRATION mg/cu.m	INHALATION RATE cu.m/hr	EXPOSURE TIME hr/day	EXPOSURE FREQUENCY days	EXPOSURE DURATION years	BODY WEIGHT kg	AVERAGING TIME NONCANCER days	AVERAGING TIME CANCER days	DOSE NONCANC (mg/kg/day)	DOSE CANCER (mg/kg/day)	RfC inhalation (mg/kg/day)	CSF inhalation (mg/kg/day)-1	Hazard Index	Cancer Risk
1,1,1-Trichloroethane	1.56E+00	0.83	8	15	1	70	365	25,550	6.10E-03	8.72E-05	2.90E-01		2.10E-02	
1,1-Dichloroethane	7.48E-03	0.83	8	15	1	70	365	25,550	2.93E-05	4.18E-07	1.40E-01		2.09E-04	
1,1,2-Trichloroethane	2.81E-03	0.83	8	15	1	70	365	25,550	1.10E-05	1.57E-07	4.00E-03	5.60E-02	2.75E-03	8.79E-09
Chloroform	5.41E-02	0.83	8	15	1	70	365	25,550	2.12E-04	3.03E-06	1.14E-02	8.10E-02	1.85E-02	2.45E-07
1,1-Dichloroethene	4.29E-02	0.83	8	15	1	70	365	25,550	1.68E-04	2.40E-06		1.75E-01		4.20E-07
trans-1,2-Dichloroethene	3.07E-02	0.83	8	15	1	70	365	25,550	1.20E-04	1.72E-06	2.00E-02		6.01E-03	
Ethyl benzene	4.46E-01	0.83	8	15	1	70	365	25,550	1.75E-03	2.50E-05	1.00E-01		1.75E-02	
Methylene chloride	2.33E-01	0.83	8	15	1	70	365	25,550	9.12E-04	1.30E-05	8.60E-01	1.64E-03	1.06E-03	2.14E-08
Tetrachloroethene	5.50E-01	0.83	8	15	1	70	365	25,550	2.15E-03	3.07E-05	1.00E-02	2.00E-03	2.15E-01	6.15E-08
Toluene	8.96E-01	0.83	8	15	1	70	365	25,550	3.51E-03	5.01E-05	2.86E-01		1.23E-02	
Trichloroethene	2.93E+00	0.83	8	15	1	70	365	25,550	1.15E-02	1.64E-04		6.00E-03		9.84E-07
Acetone	7.25E-01	0.83	8	15	1	70	365	25,550	2.84E-03	4.05E-05	1.00E-01		2.84E-02	
2-Butanone	6.03E-01	0.83	8	15	1	70	365	25,550	2.36E-03	3.37E-05	2.86E-01		8.26E-03	
2-Hexanone	3.25E-02	0.83	8	15	1	70	365	25,550	1.27E-04	1.82E-06				
4-Methyl-2-pentanone	2.76E-01	0.83	8	15	1	70	365	25,550	1.08E-03	1.55E-05	2.30E-02		4.70E-02	
Xylenes (Total)	1.42E+00	0.83	8	15	1	70	365	25,550	5.57E-03	7.96E-05	4.00E-01		1.39E-02	
Phenol	2.82E-02	0.83	8	15	1	70	365	25,550	1.10E-04	1.57E-06	6.00E-01		1.84E-04	
Isophorone	1.66E-02	0.83	8	15	1	70	365	25,550	6.48E-05	9.26E-07		9.50E-04		8.79E-10
Naphthalene	7.54E-03	0.83	8	15	1	70	365	25,550	2.95E-05	4.22E-07	1.14E-04		2.58E-01	
bis(2-ethylhexyl)phthalate	2.89E-05	0.83	8	15	1	70	365	25,550	1.13E-07	1.61E-09	5.71E-02	1.40E-02	1.98E-06	2.26E-11
Butyl benzyl phthalate	1.15E-04	0.83	8	15	1	70	365	25,550	4.49E-07	6.42E-09	2.00E-01		2.25E-06	
di-n-butyl phthalate	2.50E-05	0.83	8	15	1	70	365	25,550	9.77E-08	1.40E-09				
Diethyl phthalate	4.45E-04	0.83	8	15	1	70	365	25,550	1.74E-06	2.49E-08	8.00E-01		2.18E-06	
Dimethyl phthalate	1.78E-03	0.83	8	15	1	70	365	25,550	6.98E-06	9.98E-08	1.00E+01		6.98E-07	
													0.65	**1.74E-06**

ESTIMATION OF AIR IMPACTS FOR THE EXCAVATION OF CONTAMINATED SOILS
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RESIDENTIAL OFFSITE EXPOSURES

A. CALCULATION OF PORE SPACE EMISSION RATE (ERps)

Step 1. Calculation of Soil Excavation Rate (m^3/s)

Equation 1 **Q = V / (D x hr x 3,600 s/hr) (m^3/s)**

D = Days of excavation (days)
V = Volume of excavated soil (m^3)
hr = Excavation time (hours)

V (cu. m.)	D (days)	hr (hours)	Q (cu. m/s)
2023.6	7	24	0.0033

Step 2. Calculation of Pore Space Emission Rate (ERps)
RESIDENTIAL OFFSITE EXPOSURES

Equation 2 **ERps = (Pi x MWi x CF x Ea x Q x ExC)/(R x T)**

ERps = pore space emission rate (g/s)
Pi = Compound's vapor pressure (mmHg)
MWi = Compund's molecular weight
CF = Conversion factor (10^6 cm^3/m^3)
Ea = Air filled porosity (dimensionless)
Q = Soil excavation rate (m^3/s)
ExC = Soil-gas to atmosphere exchange constant (dimensionless)
R = Universal gas constant (62,361 mmHg-cm^3/mole-K)
T = Soil temperature (K)

Compound	Pi (mmHg)	MWi (g/mole)	CF (cu. cm/cu, m)	Ea	Q (cu. m/s)	ExC	R	T (K)	ERps (g/s)
1,1,1-Trichloroethane	123	133.41	1.00E+06	0.35	0.0033	0.33	62,361	288	3.53E-01
1,1-Dichloroethane	234	98.96	1.00E+06	0.35	0.0033	0.33	62,361	288	4.98E-01
1,1,2-Trichloroethane	30	133.42	1.00E+06	0.35	0.0033	0.33	62,361	288	8.61E-02
Chloroform	198	119.39	1.00E+06	0.35	0.0033	0.33	62,361	288	5.09E-01
1,1-Dichloroethene	60	96.94	1.00E+06	0.35	0.0033	0.33	62,361	288	1.25E-01
trans-1,2-Dichloroethene	324	96.94	1.00E+06	0.35	0.0033	0.33	62,361	288	6.76E-01
Ethyl benzene	10	106.16	1.00E+06	0.35	0.0033	0.33	62,361	288	2.28E-02
Methylene chloride	362	84.93	1.00E+06	0.35	0.0033	0.33	62,361	288	6.62E-01
Tetrachloroethene	19	165.83	1.00E+06	0.35	0.0033	0.33	62,361	288	6.78E-02
Toluene	30	92.14	1.00E+06	0.35	0.0033	0.33	62,361	288	5.95E-02
Trichloroethene	75	131.4	1.00E+06	0.35	0.0033	0.33	62,361	288	2.12E-01
Acetone	266	58.08	1.00E+06	0.35	0.0033	0.33	62,361	288	3.32E-01
2-Butanone	77.5	72.1	1.00E+06	0.35	0.0033	0.33	62,361	288	1.20E-01
2-Hexanone	19.31	100.2	1.00E+06	0.35	0.0033	0.33	62,361	288	4.16E-02
4-Methyl-2-pentanone	20	100	1.00E+06	0.35	0.0033	0.33	62,361	288	4.30E-02
Xylenes (Total)	10	106.2	1.00E+06	0.35	0.0033	0.33	62,361	288	2.29E-02
Phenol	0.341	94	1.00E+06	0.35	0.0033	0.33	62,361	288	6.90E-04
Isophorone	0.38	138	1.00E+06	0.35	0.0033	0.33	62,361	288	1.13E-03
Naphthalene	0.054	128.16	1.00E+06	0.35	0.0033	0.33	62,361	288	1.49E-04
bis(2-ethylhexyl)phthalate	2E-07	390.54	1.00E+06	0.35	0.0033	0.33	62,361	288	1.68E-09
Butyl benzyl phthalate	8.25E-06	312.39	1.00E+06	0.35	0.0033	0.33	62,361	288	5.55E-08
di-n-butyl phthalate	1E-05	278	1.00E+06	0.35	0.0033	0.33	62,361	288	5.98E-08
Diethyl phthalate	3.5E-05	222	1.00E+06	0.35	0.0033	0.33	62,361	288	1.67E-07
Dimethyl phthalate	0.01	194.19	1.00E+06	0.35	0.0033	0.33	62,361	288	4.18E-05

Step 3. Comparison with Results of Equation 2 with Total Mass of Contaminant
RESIDENTIAL OFFSITE EXPOSURES

Equation 3 **Total Mass (M) = C x Sv x B x10^6 cm^3/m^3**

C = Soil concentration (mg/kg)
M = Total mass (g)
Sv = Volume of soil moved (m^3)
B = Bulk density (g/cm^3)

	C (mg/kg)	Sv (cu. m)	B (g/cu. cm)	M (g)
1,1,1-Trichloroethane	16.284	2023.6	1.5	4.94E+04
1,1-Dichloroethane	0.088	2023.6	1.5	2.68E+02
1,1,2-Trichloroethane	0.037	2023.6	1.5	1.12E+02
Chloroform	0.666	2023.6	1.5	2.02E+03
1,1-Dichloroethene	0.366	2023.6	1.5	1.11E+03
trans-1,2-Dichloroethene	0.356	2023.6	1.5	1.08E+03
Ethyl benzene	5.177	2023.6	1.5	1.57E+04
Methylene chloride	2.907	2023.6	1.5	8.82E+03
Tetrachloroethene	5.297	2023.6	1.5	1.61E+04
Toluene	10.234	2023.6	1.5	3.11E+04
Trichloroethene	32.516	2023.6	1.5	9.87E+04
Acetone	10.444	2023.6	1.5	3.17E+04
2-Butanone	8.702	2023.6	1.5	2.64E+04
2-Hexanone	0.469	2023.6	1.5	1.42E+03
4-Methyl-2-pentanone	3.897	2023.6	1.5	1.18E+04
Xylenes (Total)	26.900	2023.6	1.5	8.17E+04
Phenol	0.422	2023.6	1.5	1.28E+03
Isophorone	0.241	2023.6	1.5	7.32E+02
Naphthalene	0.273	2023.6	1.5	8.29E+02
bis(2-ethylhexyl)phthalate	0.306	2023.6	1.5	9.30E+02
Butyl benzyl phthalate	0.234	2023.6	1.5	7.11E+02
di-n-butyl phthalate	0.264	2023.6	1.5	8.00E+02
Diethyl phthalate	2.252	2023.6	1.5	6.84E+03
Dimethyl phthalate	0.416	2023.6	1.5	1.26E+03

Step 4. Estimation of Mass of Each Contaminant Using Equation 2
RESIDENTIAL OFFSITE EXPOSURES

Equation 4 **Mass (M)** = ERps x t

ERps = pore space emission rate (g/s)
t = time of excavation (s) - assuming ten hours per day

	ERps (g/s)	t (days)	hr/day (hours)	t (seconds)	M (g)
1,1,1-Trichloroethane	3.53E-01	7	24	604,800	2.14E+05
1,1-Dichloroethane	4.98E-01	7	24	604,800	3.01E+05
1,1,2-Trichloroethane	8.61E-02	7	24	604,800	5.21E+04
Chloroform	5.09E-01	7	24	604,800	3.08E+05
1,1-Dichloroethene	1.25E-01	7	24	604,800	7.57E+04
trans-1,2-Dichloroethene	6.76E-01	7	24	604,800	4.09E+05
Ethyl benzene	2.28E-02	7	24	604,800	1.38E+04
Methylene chloride	6.62E-01	7	24	604,800	4.00E+05
Tetrachloroethene	6.78E-02	7	24	604,800	4.10E+04
Toluene	5.95E-02	7	24	604,800	3.60E+04
Trichloroethene	2.12E-01	7	24	604,800	1.28E+05
Acetone	3.32E-01	7	24	604,800	2.01E+05
2-Butanone	1.20E-01	7	24	604,800	7.27E+04
2-Hexanone	4.16E-02	7	24	604,800	2.52E+04
4-Methyl-2-pentanone	4.30E-02	7	24	604,800	2.60E+04
Xylenes (Total)	2.29E-02	7	24	604,800	1.38E+04
Phenol	6.90E-04	7	24	604,800	4.17E+02
Isophorone	1.13E-03	7	24	604,800	6.82E+02
Naphthalene	1.49E-04	7	24	604,800	9.01E+01
bis(2-ethylhexyl)phthalate	1.68E-09	7	24	604,800	1.02E-03
Butyl benzyl phthalate	5.55E-08	7	24	604,800	3.35E-02
di-n-butyl phthalate	5.98E-08	7	24	604,800	3.62E-02
Diethyl phthalate	1.67E-07	7	24	604,800	1.01E-01
Dimethyl phthalate	4.18E-05	7	24	604,800	2.53E+01

According to U.S. EPA guidelines, if the mass computed by Equation 4 exceeds one-third (1/3) of M, the following equation should be used instead of Equation 2 to compute ERps.

Step 5. Alternate Calculation of Pore Space Emission Rate (ERps)
RESIDENTIAL OFFSITE EXPOSURES

ERps (Equation 5) = M x 0.33/Tsv

ERps = pore space emission rate (g/s)
M = Total mass as computed by Equation 3.
Tsv = Time to excavate a given volume of soil (s)

	M (g)	Tsv (seconds)	ERps (Eq. 5) (g/s)
1,1,1-Trichloroethane	49429.3	604,800	2.72E-02
1,1-Dichloroethane	268.5	604,800	1.48E-04
1,1,2-Trichloroethane	112.0	604,800	6.17E-05
Chloroform	2021.5	604,800	1.11E-03
1,1-Dichloroethene	1111.7	604,800	6.13E-04
trans-1,2-Dichloroethene	1079.4	604,800	5.95E-04
Ethyl benzene	15714.6	604,800	8.66E-03
Methylene chloride	8824.0	604,800	4.86E-03
Tetrachloroethene	16078.6	604,800	8.86E-03
Toluene	31065.9	604,800	1.71E-02
Trichloroethene	98699.7	604,800	5.44E-02
Acetone	31701.4	604,800	1.75E-02
2-Butanone	26415.4	604,800	1.46E-02
2-Hexanone	1424.2	604,800	7.85E-04
4-Methyl-2-pentanone	11829.3	604,800	6.52E-03
Xylenes (Total)	81653.6	604,800	4.50E-02
Phenol	1281.4	604,800	7.06E-04
Isophorone	732.4	604,800	4.04E-04
Naphthalene	829.1	604,800	4.57E-04
bis(2-ethylhexyl)phthalate	930.3	604,800	5.13E-04
Butyl benzyl phthalate	711.2	604,800	3.92E-04
di-n-butyl phthalate	800.3	604,800	4.41E-04
Diethyl phthalate	6837.0	604,800	3.77E-03
Dimethyl phthalate	1262.7	604,800	6.96E-04

Step 6. **Comparison of Erps by Equation 2 with ERps by Equation 5**

RESIDENTIAL OFFSITE EXPOSURES

Lower of the 2 values is chosen for risk assessment purposes.

	ERps (Eq. 2) (g/s)	ERps (Eq. 5) (g/s)	Final ERps (g/s)
1,1,1-Trichloroethane	3.53E-01	2.72E-02	2.72E-02
1,1-Dichloroethane	4.98E-01	1.48E-04	1.48E-04
1,1,2-Trichloroethane	8.61E-02	6.17E-05	6.17E-05
Chloroform	5.09E-01	1.11E-03	1.11E-03
1,1-Dichloroethene	1.25E-01	6.13E-04	6.13E-04
trans-1,2-Dichloroethene	6.76E-01	5.95E-04	5.95E-04
Ethyl benzene	2.28E-02	8.66E-03	8.66E-03
Methylene chloride	6.62E-01	4.86E-03	4.86E-03
Tetrachloroethene	6.78E-02	8.86E-03	8.86E-03
Toluene	5.95E-02	1.71E-02	1.71E-02
Trichloroethene	2.12E-01	5.44E-02	5.44E-02
Acetone	3.32E-01	1.75E-02	1.75E-02
2-Butanone	1.20E-01	1.46E-02	1.46E-02
2-Hexanone	4.16E-02	7.85E-04	7.85E-04
4-Methyl-2-pentanone	4.30E-02	6.52E-03	6.52E-03
Xylenes (Total)	2.29E-02	4.50E-02	2.29E-02
Phenol	6.90E-04	7.06E-04	6.90E-04
Isophorone	1.13E-03	4.04E-04	4.04E-04
Naphthalene	1.49E-04	4.57E-04	1.49E-04
bis(2-ethylhexyl)phthalate	1.68E-09	5.13E-04	1.68E-09
Butyl benzyl phthalate	5.55E-08	3.92E-04	5.55E-08
di-n-butyl phthalate	5.98E-08	4.41E-04	5.98E-08
Diethyl phthalate	1.67E-07	3.77E-03	1.67E-07
Dimethyl phthalate	4.18E-05	6.96E-04	4.18E-05

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CALCULATION OF EMISSION RATE FROM DIFFUSION (ERdiff)

Equation 6

ERdiff = (Ci x CF2 x SA)/[(Ea/Keq kg) + (pi t/De Keq)^1/2]

ERdiff = Emission rate from diffusion (g/s)
Ci = Compound soil concentration (ug/kg)
CF2 = Conversion factor (10,000 cm^2/m^2)
SA = Emitting surface area (m^2)
Keq = Equilibrium coefficient (dimensionless)
Kg = Gas phase mass transfer coefficient (0.15 cm/s)
pi = 3.1416
t = Time of excavation (s)
De = Effective diffusivity in air (cm^2/s)

Step 7. Calculation of Keq
RESIDENTIAL OFFSITE EXPOSURES

Equation 7 **Keq = Hi/RT**

Keq = Equilibrium coefficient (dimensionless)
Hi = Henry's Law Constant (atm-m^3/mole)
R = Universal gas constant (8.205E-5 atm-m^3/mole-K)
T = Soil temperature (K)

	Hi (atm-cu.m/mole)	R (atm-cu.m/mole-K)	T (K)	Keq
1,1,1-Trichloroethane	0.0144	8.21E-05	288	6.09E-01
1,1-Dichloroethane	0.00431	8.21E-05	288	1.82E-01
1,1,2-Trichloroethane	0.00117	8.21E-05	288	4.95E-02
Chloroform	0.002873	8.21E-05	288	1.22E-01
1,1-Dichloroethene	0.034	8.21E-05	288	1.44E+00
trans-1,2-Dichloroethene	0.00656	8.21E-05	288	2.78E-01
Ethyl benzene	0.00643	8.21E-05	288	2.72E-01
Methylene chloride	0.00203	8.21E-05	288	8.59E-02
Tetrachloroethene	0.0259	8.21E-05	288	1.10E+00
Toluene	0.00637	8.21E-05	288	2.70E-01
Trichloroethene	0.0091	8.21E-05	288	3.85E-01
Acetone	2.06E-05	8.21E-05	288	8.72E-04
2-Butanone	2.74E-05	8.21E-05	288	1.16E-03
2-Hexanone	2.82E-05	8.21E-05	288	1.19E-03
4-Methyl-2-pentanone	0.000155	8.21E-05	288	6.56E-03
Xylenes (Total)	0.00704	8.21E-05	288	2.98E-01
Phenol	4.54E-07	8.21E-05	288	1.92E-05
Isophorone	5.75E-06	8.21E-05	288	2.43E-04
Naphthalene	0.000734	8.21E-05	288	3.11E-02
bis(2-ethylhexyl)phthalate	3.61E-07	8.21E-05	288	1.53E-05
Butyl benzyl phthalate	8.3E-06	8.21E-05	288	3.51E-04
di-n-butyl phthalate	2.82E-07	8.21E-05	288	1.19E-05
Diethyl phthalate	1.14E-06	8.21E-05	288	4.82E-05
Dimethyl phthalate	1.14E-06	8.21E-05	288	4.82E-05

Step 8. Calculation of De
RESIDENTIAL OFFSITE EXPOSURES

Equation 8

De = Da (Ea)^3.33/(Et)^2
Da = Compound's diffusivity in air (cm^2/s)
Ea = Air filled porosity (dimensionless)
Et = Total porosity (dimensionless)

	Da	Ea (sq. cm/s)	Et	De
1,1,1-Trichloroethane	0.078	0.35	0.35	0.0193
1,1-Dichloroethane	0.0919	0.35	0.35	0.0227
1,1,2-Trichloroethane	0.0792	0.35	0.35	0.0196
Chloroform	0.0888	0.35	0.35	0.0220
1,1-Dichloroethene	0.104	0.35	0.35	0.0257
trans-1,2-Dichloroethene	0.07442	0.35	0.35	0.0184
Ethyl benzene	0.075	0.35	0.35	0.0186
Methylene chloride	0.10525	0.35	0.35	0.0261
Tetrachloroethene	0.072	0.35	0.35	0.0178
Toluene	0.087	0.35	0.35	0.0215
Trichloroethene	0.079	0.35	0.35	0.0196
Acetone	0.124	0.35	0.35	0.0307
2-Butanone	0.0808	0.35	0.35	0.0200
2-Hexanone	0.07524	0.35	0.35	0.0186
4-Methyl-2-pentanone	0.0752	0.35	0.35	0.0186
Xylenes (Total)	0.07	0.35	0.35	0.0173
Phenol	0.082	0.35	0.35	0.0203
Isophorone	0.0625	0.35	0.35	0.0155
Naphthalene	0.059	0.35	0.35	0.0146
bis(2-ethylhexyl)phthalate	0.042807	0.35	0.35	0.0106
Butyl benzyl phthalate	0.04235	0.35	0.35	0.0105
di-n-butyl phthalate	0.0467	0.35	0.35	0.0116
Diethyl phthalate	0.0545	0.35	0.35	0.0135
Dimethyl phthalate	0.05746	0.35	0.35	0.0142

Step 9. Calculation of Emission Rate from Diffusion (ERdiff)
RESIDENTIAL OFFSITE EXPOSURES

Equation 6 **ERdiff = (Ci x CF2 x SA)/[(Ea/Keq kg) + (pi t/De Keq)^1/2]**

Step 9a

Equation 6a Ci x CF2 x SA

Ci = Compound soil concentration (ug/kg)
CF2 = Conversion factor (10,000 cm^2/m^2)
SA = Emitting surface area (m^2)
B = Bulk density (1.5 g/cm^3)

	Ci (ug/kg)	CF2 (sq. cm/sq.m)	SA (sq. m)	kg/ug	B (g/ cu. cm)	CixCF2xSAxBx1E-9
1,1,1-Trichloroethane	16283.9	1E+04	1178.9	1E-09	1.5	2.88E+02
1,1-Dichloroethane	88.5	1E+04	1178.9	1E-09	1.5	1.56E+00
1,1,2-Trichloroethane	36.9	1E+04	1178.9	1E-09	1.5	6.52E-01
Chloroform	666.0	1E+04	1178.9	1E-09	1.5	1.18E+01
1,1-Dichloroethene	366.2	1E+04	1178.9	1E-09	1.5	6.48E+00
trans-1,2-Dichloroethene	355.6	1E+04	1178.9	1E-09	1.5	6.29E+00
Ethyl benzene	5177.0	1E+04	1178.9	1E-09	1.5	9.15E+01
Methylene chloride	2907.0	1E+04	1178.9	1E-09	1.5	5.14E+01
Tetrachloroethene	5296.9	1E+04	1178.9	1E-09	1.5	9.37E+01
Toluene	10234.3	1E+04	1178.9	1E-09	1.5	1.81E+02
Trichloroethene	32515.5	1E+04	1178.9	1E-09	1.5	5.75E+02
Acetone	10443.7	1E+04	1178.9	1E-09	1.5	1.85E+02
2-Butanone	8702.3	1E+04	1178.9	1E-09	1.5	1.54E+02
2-Hexanone	469.2	1E+04	1178.9	1E-09	1.5	8.30E+00
4-Methyl-2-pentanone	3897.0	1E+04	1178.9	1E-09	1.5	6.89E+01
Xylenes (Total)	26899.9	1E+04	1178.9	1E-09	1.5	4.76E+02
Phenol	422.1	1E+04	1178.9	1E-09	1.5	7.46E+00
Isophorone	241.3	1E+04	1178.9	1E-09	1.5	4.27E+00
Naphthalene	273.2	1E+04	1178.9	1E-09	1.5	4.83E+00
bis(2-ethylhexyl)phthalate	306.5	1E+04	1178.9	1E-09	1.5	5.42E+00
Butyl benzyl phthalate	234.3	1E+04	1178.9	1E-09	1.5	4.14E+00
di-n-butyl phthalate	263.6	1E+04	1178.9	1E-09	1.5	4.66E+00
Diethyl phthalate	2252.4	1E+04	1178.9	1E-09	1.5	3.98E+01
Dimethyl phthalate	416.0	1E+04	1178.9	1E-09	1.5	7.36E+00

Step 9b
RESIDENTIAL OFFSITE EXPOSURES

Equation 6b Ea/Keq Kg

Ea = Air filled porosity (dimensionless)
Keq = Equilibrium coefficient (dimensionless)
Kg = Gas phase mass transfer coefficient (0.15 cm/s)

	Ea	Keq	Kg	Ea/(KeqxKg)
1,1,1-Trichloroethane	0.35	6.09E-01	0.15	3.83
1,1-Dichloroethane	0.35	1.82E-01	0.15	12.79
1,1,2-Trichloroethane	0.35	4.95E-02	0.15	47.13
Chloroform	0.35	1.22E-01	0.15	19.19
1,1-Dichloroethene	0.35	1.44E+00	0.15	1.62
trans-1,2-Dichloroethene	0.35	2.78E-01	0.15	8.41
Ethyl benzene	0.35	2.72E-01	0.15	8.58
Methylene chloride	0.35	8.59E-02	0.15	27.16
Tetrachloroethene	0.35	1.10E+00	0.15	2.13
Toluene	0.35	2.70E-01	0.15	8.66
Trichloroethene	0.35	3.85E-01	0.15	6.06
Acetone	0.35	8.72E-04	0.15	2676.58
2-Butanone	0.35	1.16E-03	0.15	2012.32
2-Hexanone	0.35	1.19E-03	0.15	1955.23
4-Methyl-2-pentanone	0.35	6.56E-03	0.15	355.73
Xylenes (Total)	0.35	2.98E-01	0.15	7.83
Phenol	0.35	1.92E-05	0.15	121448.46
Isophorone	0.35	2.43E-04	0.15	9589.15
Naphthalene	0.35	3.11E-02	0.15	75.12
bis(2-ethylhexyl)phthalate	0.35	1.53E-05	0.15	152735.73
Butyl benzyl phthalate	0.35	3.51E-04	0.15	6643.08
di-n-butyl phthalate	0.35	1.19E-05	0.15	195523.40
Diethyl phthalate	0.35	4.82E-05	0.15	48366.32
Dimethyl phthalate	0.35	4.82E-05	0.15	48366.32

Step 9c
RESIDENTIAL OFFSITE EXPOSURES

Equation 6c pi x t /((De x Keq)

pi = 3.1416
t = Time of excavation (s)
De = Effective diffusivity in air (cm^2/s)
Keq = Equilibrium coefficient (dimensionless)

	pi	t (days)	hours/day	t (seconds0	Keq	De	pit/((DeKeq)
1,1,1-Trichloroethane	3.1416	7	24	604,800	6.09E-01	1.93E-02	1.61E+08
1,1-Dichloroethane	3.1416	7	24	604,800	1.82E-01	2.27E-02	4.58E+08
1,1,2-Trichloroethane	3.1416	7	24	604,800	4.95E-02	1.96E-02	1.96E+09
Chloroform	3.1416	7	24	604,800	1.22E-01	2.20E-02	7.11E+08
1,1-Dichloroethene	3.1416	7	24	604,800	1.44E+00	2.57E-02	5.13E+07
trans-1,2-Dichloroethene	3.1416	7	24	604,800	2.78E-01	1.84E-02	3.72E+08
Ethyl benzene	3.1416	7	24	604,800	2.72E-01	1.86E-02	3.76E+08
Methylene chloride	3.1416	7	24	604,800	8.59E-02	2.61E-02	8.49E+08
Tetrachloroethene	3.1416	7	24	604,800	1.10E+00	1.78E-02	9.73E+07
Toluene	3.1416	7	24	604,800	2.70E-01	2.15E-02	3.27E+08
Trichloroethene	3.1416	7	24	604,800	3.85E-01	1.96E-02	2.52E+08
Acetone	3.1416	7	24	604,800	8.72E-04	3.07E-02	7.10E+10
2-Butanone	3.1416	7	24	604,800	1.16E-03	2.00E-02	8.19E+10
2-Hexanone	3.1416	7	24	604,800	1.19E-03	1.86E-02	8.55E+10
4-Methyl-2-pentanone	3.1416	7	24	604,800	6.56E-03	1.86E-02	1.56E+10
Xylenes (Total)	3.1416	7	24	604,800	2.98E-01	1.73E-02	3.68E+08
Phenol	3.1416	7	24	604,800	1.92E-05	2.03E-02	4.87E+12
Isophorone	3.1416	7	24	604,800	2.43E-04	1.55E-02	5.05E+11
Naphthalene	3.1416	7	24	604,800	3.11E-02	1.46E-02	4.19E+09
bis(2-ethylhexyl)phthalate	3.1416	7	24	604,800	1.53E-05	1.06E-02	1.17E+13
Butyl benzyl phthalate	3.1416	7	24	604,800	3.51E-04	1.05E-02	5.16E+11
di-n-butyl phthalate	3.1416	7	24	604,800	1.19E-05	1.16E-02	1.38E+13
Diethyl phthalate	3.1416	7	24	604,800	4.82E-05	1.35E-02	2.92E+12
Dimethyl phthalate	3.1416	7	24	604,800	4.82E-05	1.42E-02	2.77E+12

Step 9d - Calculation of ERdiff
RESIDENTIAL OFFSITE EXPOSURES

Equation 6a /(6b + 6c^1/2)

	6a	6b	6c^0.5	ERdiff 6a/(6b+6c^1/2)
1,1,1-Trichloroethane	2.88E+02	3.83E+00	1.27E+04	2.27E-02
1,1-Dichloroethane	1.56E+00	1.28E+01	2.14E+04	7.30E-05
1,1,2-Trichloroethane	6.52E-01	4.71E+01	4.42E+04	1.47E-05
Chloroform	1.18E+01	1.92E+01	2.67E+04	4.41E-04
1,1-Dichloroethene	6.48E+00	1.62E+00	7.16E+03	9.04E-04
trans-1,2-Dichloroethene	6.29E+00	8.41E+00	1.93E+04	3.26E-04
Ethyl benzene	9.15E+01	8.58E+00	1.94E+04	4.72E-03
Methylene chloride	5.14E+01	2.72E+01	2.91E+04	1.76E-03
Tetrachloroethene	9.37E+01	2.13E+00	9.86E+03	9.50E-03
Toluene	1.81E+02	8.66E+00	1.81E+04	1.00E-02
Trichloroethene	5.75E+02	6.06E+00	1.59E+04	3.62E-02
Acetone	1.85E+02	2.68E+03	2.66E+05	6.86E-04
2-Butanone	1.54E+02	2.01E+03	2.86E+05	5.34E-04
2-Hexanone	8.30E+00	1.96E+03	2.92E+05	2.82E-05
4-Methyl-2-pentanone	6.89E+01	3.56E+02	1.25E+05	5.51E-04
Xylenes (Total)	4.76E+02	7.83E+00	1.92E+04	2.48E-02
Phenol	7.46E+00	1.21E+05	2.21E+06	3.21E-06
Isophorone	4.27E+00	9.59E+03	7.10E+05	5.93E-06
Naphthalene	4.83E+00	7.51E+01	6.47E+04	7.45E-05
bis(2-ethylhexyl)phthalate	5.42E+00	1.53E+05	3.43E+06	1.51E-06
Butyl benzyl phthalate	4.14E+00	6.64E+03	7.18E+05	5.71E-06
di-n-butyl phthalate	4.66E+00	1.96E+05	3.71E+06	1.19E-06
Diethyl phthalate	3.98E+01	4.84E+04	1.71E+06	2.27E-05
Dimethyl phthalate	7.36E+00	4.84E+04	1.66E+06	4.30E-06

ESTIMATION OF AIR IMPACTS FOR THE EXCAVATION OF CONTAMINATED SOILS
AIR/SUPERFUND NATIONAL TECHNICAL GUIDANCE SERIES, MARCH 1992
RESIDENTIAL OFFSITE EXPOSURES

TOTAL EMISSION RATE FROM EXCAVATION (ER)

ER = ERps + ERdiff

	ERps (g/s)	ERdiff (g/s)	Total ER (g/s)
1,1,1-Trichloroethane	2.72E-02	2.27E-02	4.99E-02
1,1-Dichloroethane	1.48E-04	7.30E-05	2.21E-04
1,1,2-Trichloroethane	6.17E-05	1.47E-05	7.64E-05
Chloroform	1.11E-03	4.41E-04	1.56E-03
1,1-Dichloroethene	6.13E-04	9.04E-04	1.52E-03
trans-1,2-Dichloroethene	5.95E-04	3.26E-04	9.21E-04
Ethyl benzene	8.66E-03	4.72E-03	1.34E-02
Methylene chloride	4.86E-03	1.76E-03	6.63E-03
Tetrachloroethene	8.86E-03	9.50E-03	1.84E-02
Toluene	1.71E-02	1.00E-02	2.71E-02
Trichloroethene	5.44E-02	3.62E-02	9.06E-02
Acetone	1.75E-02	6.86E-04	1.82E-02
2-Butanone	1.46E-02	5.34E-04	1.51E-02
2-Hexanone	7.85E-04	2.82E-05	8.13E-04
4-Methyl-2-pentanone	6.52E-03	5.51E-04	7.07E-03
Xylenes (Total)	2.29E-02	2.48E-02	4.76E-02
Phenol	6.90E-04	3.21E-06	6.93E-04
Isophorone	4.04E-04	5.93E-06	4.10E-04
Naphthalene	1.49E-04	7.45E-05	2.23E-04
bis(2-ethylhexyl)phthalate	1.68E-09	1.51E-06	1.52E-06
Butyl benzyl phthalate	5.55E-08	5.71E-06	5.77E-06
di-n-butyl phthalate	5.98E-08	1.19E-06	1.25E-06
Diethyl phthalate	1.67E-07	2.27E-05	2.28E-05
Dimethyl phthalate	4.18E-05	4.30E-06	4.61E-05

RISK ASSESSMENT CALCULATIONS - OFFSITE 21 DAY EXPOSURES FROM EXCAVATION ACTIVITIES IN AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING VAPORS
WORST CASE - OFFSITE

Off-site Residential Conc.(mg/m3)
24 hour avg. at point (-267,300.8)
for total emission rate

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	2.45E-01	0.83	24	21	1	70	365	25,550	4.03E-03	5.76E-05	2.90E-01		1.39E-02	
1,1-Dichloroethane	1.09E-03	0.83	24	21	1	70	365	25,550	1.79E-05	2.55E-07	1.40E-01		1.28E-04	
1,1,2-Trichloroethane	3.76E-04	0.83	24	21	1	70	365	25,550	6.18E-06	8.83E-08	4.00E-03	5.60E-02	1.54E-03	4.94E-09
Chloroform	7.65E-03	0.83	24	21	1	70	365	25,550	1.26E-04	1.80E-06	1.14E-02	8.10E-02	1.10E-02	1.45E-07
1,1-Dichloroethene	7.46E-03	0.83	24	21	1	70	365	25,550	1.23E-04	1.75E-06		1.75E-01		3.06E-07
trans-1,2-Dichloroethene	4.53E-03	0.83	24	21	1	70	365	25,550	7.44E-05	1.06E-06	2.00E-02		3.72E-03	
Ethyl benzene	6.58E-02	0.83	24	21	1	70	365	25,550	1.08E-03	1.54E-05	1.00E-01		1.08E-02	
Methylene chloride	3.26E-02	0.83	24	21	1	70	365	25,550	5.35E-04	7.65E-06	8.60E-01	1.64E-03	6.23E-04	1.25E-08
Tetrachloroethene	9.02E-02	0.83	24	21	1	70	365	25,550	1.48E-03	2.12E-05	1.00E-02	2.00E-03	1.48E-01	4.24E-08
Toluene	1.33E-01	0.83	24	21	1	70	365	25,550	2.19E-03	3.13E-05	2.86E-01		7.66E-03	
Trichloroethene	4.45E-01	0.83	24	21	1	70	365	25,550	7.32E-03	1.05E-04		6.00E-03		6.27E-07
Acetone	8.93E-02	0.83	24	21	1	70	365	25,550	1.47E-03	2.10E-05	1.00E-01		1.47E-02	
2-Butanone	7.42E-02	0.83	24	21	1	70	365	25,550	1.22E-03	1.74E-05	2.86E-01		4.26E-03	
2-Hexanone	4.00E-03	0.83	24	21	1	70	365	25,550	6.57E-05	9.39E-07				
4-Methyl-2-pentanone	3.48E-02	0.83	24	21	1	70	365	25,550	5.71E-04	8.16E-06	2.30E-02		2.48E-02	
Xylenes (Total)	2.34E-01	0.83	24	21	1	70	365	25,550	3.85E-03	5.50E-05	4.00E-01		9.62E-03	
Phenol	3.41E-03	0.83	24	21	1	70	365	25,550	5.60E-05	8.00E-07	6.00E-01		9.33E-05	
Isophorone	2.01E-03	0.83	24	21	1	70	365	25,550	3.31E-05	4.73E-07		9.50E-04		4.49E-10
Naphthalene	1.10E-03	0.83	24	21	1	70	365	25,550	1.81E-05	2.58E-07	1.14E-04		1.58E-01	
bis(2-ethylhexyl)phthalate	7.45E-06	0.83	24	21	1	70	365	25,550	1.23E-07	1.75E-09	5.71E-02	1.40E-02	2.14E-06	2.45E-11
Butyl benzyl phthalate	2.84E-05	0.83	24	21	1	70	365	25,550	4.66E-07	6.66E-09	2.00E-01		2.33E-06	
di-n-butyl phthalate	6.16E-06	0.83	24	21	1	70	365	25,550	1.01E-07	1.45E-09				
Diethyl phthalate	1.12E-04	0.83	24	21	1	70	365	25,550	1.85E-06	2.64E-08	8.00E-01		2.31E-06	
Dimethyl phthalate	2.27E-04	0.83	24	21	1	70	365	25,550	3.72E-06	5.32E-08	1.00E+01		3.72E-07	
	CA	IR	ET	EF	ED	BW	AT	AT					0.41	1.14E-06

RISK ASSESSMENT CALCULATIONS - OFFSITE 21 DAY EXPOSURES FROM EXCAVATION ACTIVITIES IN AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING VAPORS
2ND WORST CASE - OFFSITE

Off-site Residential Conc.(mg/m3)
24 hour avg. at point (-300.5,242.6)
for total emission rate

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	1.78E-01	0.83	24	21	1	70	365	25,550	2.92E-03	4.17E-05	2.90E-01		1.01E-02	
1,1-Dichloroethane	7.86E-04	0.83	24	21	1	70	365	25,550	1.29E-05	1.85E-07	1.40E-01		9.23E-05	
1,1,2-Trichloroethane	2.72E-04	0.83	24	21	1	70	365	25,550	4.47E-06	6.39E-08	4.00E-03	5.60E-02	1.12E-03	3.58E-09
Chloroform	5.53E-03	0.83	24	21	1	70	365	25,550	9.10E-05	1.30E-06	1.14E-02	8.10E-02	7.96E-03	1.05E-07
1,1-Dichloroethene	5.40E-03	0.83	24	21	1	70	365	25,550	8.87E-05	1.27E-06		1.75E-01		2.22E-07
trans-1,2-Dichloroethene	3.28E-03	0.83	24	21	1	70	365	25,550	5.39E-05	7.69E-07	2.00E-02		2.69E-03	
Ethyl benzene	4.76E-02	0.83	24	21	1	70	365	25,550	7.82E-04	1.12E-05	1.00E-01		7.82E-03	
Methylene chloride	2.36E-02	0.83	24	21	1	70	365	25,550	3.88E-04	5.54E-06	8.60E-01	1.64E-03	4.51E-04	9.08E-09
Tetrachloroethene	6.53E-02	0.83	24	21	1	70	365	25,550	1.07E-03	1.53E-05	1.00E-02	2.00E-03	1.07E-01	3.07E-08
Toluene	9.65E-02	0.83	24	21	1	70	365	25,550	1.59E-03	2.27E-05	2.86E-01		5.55E-03	
Trichloroethene	3.22E-01	0.83	24	21	1	70	365	25,550	5.30E-03	7.57E-05		6.00E-03		4.54E-07
Acetone	6.46E-02	0.83	24	21	1	70	365	25,550	1.06E-03	1.52E-05	1.00E-01		1.06E-02	
2-Butanone	5.37E-02	0.83	24	21	1	70	365	25,550	8.83E-04	1.26E-05	2.86E-01		3.09E-03	
2-Hexanone	2.89E-03	0.83	24	21	1	70	365	25,550	4.76E-05	6.79E-07				
4-Methyl-2-pentanone	2.52E-02	0.83	24	21	1	70	365	25,550	4.14E-04	5.91E-06	2.30E-02		1.80E-02	
Xylenes (Total)	1.69E-01	0.83	24	21	1	70	365	25,550	2.79E-03	3.98E-05	4.00E-01		6.96E-03	
Phenol	2.47E-03	0.83	24	21	1	70	365	25,550	4.05E-05	5.79E-07	6.00E-01		6.75E-05	
Isophorone	1.46E-03	0.83	24	21	1	70	365	25,550	2.40E-05	3.42E-07		9.50E-04		3.25E-10
Naphthalene	7.95E-04	0.83	24	21	1	70	365	25,550	1.31E-05	1.87E-07	1.14E-04		1.14E-01	
bis(2-ethylhexyl)phthalate	5.39E-06	0.83	24	21	1	70	365	25,550	8.87E-08	1.27E-09	5.71E-02	1.40E-02	1.55E-06	1.77E-11
Butyl benzyl phthalate	2.05E-05	0.83	24	21	1	70	365	25,550	3.37E-07	4.82E-09	2.00E-01		1.69E-06	
di-n-butyl phthalate	4.46E-06	0.83	24	21	1	70	365	25,550	7.33E-08	1.05E-09				
Diethyl phthalate	8.12E-05	0.83	24	21	1	70	365	25,550	1.34E-06	1.91E-08	8.00E-01		1.67E-06	
Dimethyl phthalate	1.64E-04	0.83	24	21	1	70	365	25,550	2.69E-06	3.85E-08	1.00E+01		2.69E-07	
													0.30	**8.25E-07**

RISK ASSESSMENT CALCULATIONS - OFFSITE 21 DAY EXPOSURES FROM EXCAVATION ACTIVITIES IN AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING VAPORS
3RD WORST CASE - OFFSITE

Off-site Residential Conc.(mg/m3)
24 hour avg. at point (-325,207.3)
for total emission rate

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	1.24E-01	0.83	24	21	1	70	365	25,550	2.03E-03	2.91E-05	2.90E-01		7.02E-03	
1,1-Dichloroethane	5.48E-04	0.83	24	21	1	70	365	25,550	9.01E-06	1.29E-07	1.40E-01		6.44E-05	
1,1,2-Trichloroethane	1.90E-04	0.83	24	21	1	70	365	25,550	3.12E-06	4.45E-08	4.00E-03	5.60E-02	7.79E-04	2.49E-09
Chloroform	3.86E-03	0.83	24	21	1	70	365	25,550	6.34E-05	9.06E-07	1.14E-02	8.10E-02	5.55E-03	7.34E-08
1,1-Dichloroethene	3.76E-03	0.83	24	21	1	70	365	25,550	6.19E-05	8.84E-07		1.75E-01		1.55E-07
trans-1,2-Dichloroethene	2.28E-03	0.83	24	21	1	70	365	25,550	3.76E-05	5.37E-07	2.00E-02		1.88E-03	
Ethyl benzene	3.32E-02	0.83	24	21	1	70	365	25,550	5.46E-04	7.80E-06	1.00E-01		5.46E-03	
Methylene chloride	1.64E-02	0.83	24	21	1	70	365	25,550	2.70E-04	3.86E-06	8.60E-01	1.64E-03	3.14E-04	6.33E-09
Tetrachloroethene	4.55E-02	0.83	24	21	1	70	365	25,550	7.49E-04	1.07E-05	1.00E-02	2.00E-03	7.49E-02	2.14E-08
Toluene	6.73E-02	0.83	24	21	1	70	365	25,550	1.11E-03	1.58E-05	2.86E-01		3.87E-03	
Trichloroethene	2.25E-01	0.83	24	21	1	70	365	25,550	3.69E-03	5.28E-05		6.00E-03		3.17E-07
Acetone	4.51E-02	0.83	24	21	1	70	365	25,550	7.41E-04	1.06E-05	1.00E-01		7.41E-03	
2-Butanone	3.74E-02	0.83	24	21	1	70	365	25,550	6.16E-04	8.79E-06	2.86E-01		2.15E-03	
2-Hexanone	2.02E-03	0.83	24	21	1	70	365	25,550	3.32E-05	4.74E-07				
4-Methyl-2-pentanone	1.75E-02	0.83	24	21	1	70	365	25,550	2.88E-04	4.12E-06	2.30E-02		1.25E-02	
Xylenes (Total)	1.18E-01	0.83	24	21	1	70	365	25,550	1.94E-03	2.78E-05	4.00E-01		4.86E-03	
Phenol	1.72E-03	0.83	24	21	1	70	365	25,550	2.83E-05	4.04E-07	6.00E-01		4.71E-05	
Isophorone	1.02E-03	0.83	24	21	1	70	365	25,550	1.67E-05	2.39E-07		9.50E-04		2.27E-10
Naphthalene	5.54E-04	0.83	24	21	1	70	365	25,550	9.11E-06	1.30E-07	1.14E-04		7.97E-02	
bis(2-ethylhexyl)phthalate	3.76E-06	0.83	24	21	1	70	365	25,550	6.18E-08	8.83E-10	5.71E-02	1.40E-02	1.08E-06	1.24E-11
Butyl benzyl phthalate	1.43E-05	0.83	24	21	1	70	365	25,550	2.35E-07	3.36E-09	2.00E-01		1.18E-06	
di-n-butyl phthalate	3.11E-06	0.83	24	21	1	70	365	25,550	5.11E-08	7.30E-10				
Diethyl phthalate	5.67E-05	0.83	24	21	1	70	365	25,550	9.31E-07	1.33E-08	8.00E-01		1.16E-06	
Dimethyl phthalate	1.14E-04	0.83	24	21	1	70	365	25,550	1.88E-06	2.68E-08	1.00E+01		1.88E-07	
													0.21	**5.76E-07**

CALCULATION OF PARTICULATE EMISSIONS
USEPA'S AIR/SUPERFUND NATIONAL TECHNICAL GUIDANCE STUDY SERIES:
ESTIMATION OF AIR IMPACTS FROM AREA SOURCES OF PARTICULATE MATTER EMISSIONS AT SUPERFUND SITES
U.S. EPA 1993

1. Calculation of Particulate Emissions
EXPOSURES TO WORKERS ENGAGED IN EXCAVATION

ER = k x (0.l0016) x M x (u/2.2)^(1/3)/(xH20/2)^1.4

ER = Particulate matter emissions (g or g/s)
k = Particulate size multiplier, 0.35 for PM10
0.0016 = Empirical constant (g/kg)
M = Mass of soil handled (kg)
u = mean wind speed (4.6 m/s)
2.2 = Empirical constant (m/s)
%H2O = Percent moisture (13.3%)
t = Excavation time (s)

Fastest 1 min. wind speed = 46 mph = 20.56 meters/sec

M = 6070.9/150*1.5*1000

k		M	u		% H2O	ER	t	ER
	(g/kg)	(kg)	(m/s)			(g)	(s)	(g/s)
0.35	0.0016	6.07E+04	20.56	2.2	13.3	43.78	3,600	1.22E-02

2. Calculation of Emissions for Each Compund
EXPOSURES TO WORKERS ENGAGED IN EXCAVATION

	Particulate ER (g/s)	Soil Conc. (mg/kg)	Chemical ER (g/s)
1,1,1-Trichloroethane	1.22E-02	16.284	1.98E-07
1,1-Dichloroethane	1.22E-02	0.088	1.08E-09
1,1,2-Trichloroethane	1.22E-02	0.037	4.49E-10
Chloroform	1.22E-02	0.666	8.10E-09
1,1-Dichloroethene	1.22E-02	0.366	4.45E-09
trans-1,2-Dichloroethene	1.22E-02	0.356	4.32E-09
Ethyl benzene	1.22E-02	5.177	6.30E-08
Methylene chloride	1.22E-02	2.907	3.54E-08
Tetrachloroethene	1.22E-02	5.297	6.44E-08
Toluene	1.22E-02	10.234	1.24E-07
Trichloroethene	1.22E-02	32.516	3.95E-07
Acetone	1.22E-02	10.444	1.27E-07
2-Butanone	1.22E-02	8.702	1.06E-07
2-Hexanone	1.22E-02	0.469	5.71E-09
4-Methyl-2-pentanone	1.22E-02	3.897	4.74E-08
Xylenes (Total)	1.22E-02	26.900	3.27E-07
Phenol	1.22E-02	0.422	5.13E-09
Isophorone	1.22E-02	0.241	2.93E-09
Naphthalene	1.22E-02	0.273	3.32E-09
bis(2-ethylhexyl)phthalate	1.22E-02	0.306	3.73E-09
Butyl benzyl phthalate	1.22E-02	0.234	2.85E-09
di-n-butyl phthalate	1.22E-02	0.264	3.21E-09
Diethyl phthalate	1.22E-02	2.252	2.74E-08
Dimethyl phthalate	1.22E-02	0.416	5.06E-09

RISK ASSESSMENT CALCULATIONS - ONSITE SINGLE EVENT PEAK EXPOSURES FROM EXCAVATION ACTIVITIES IN AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO WORKERS FROM INHALING PARTICULATES

On-site Perimeter Conc.(mg/m3)
8 hour avg. at point (37.6,-112.8)
for total emission rate

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	3.00E-06	0.83	8	15	1	70	365	25,550	1.18E-08	1.68E-10	2.90E-01		4.05E-08	
1,1-Dichloroethane	1.63E-08	0.83	8	15	1	70	365	25,550	6.38E-11	9.12E-13	1.40E-01		4.56E-10	
1,1,2-Trichloroethane	6.80E-09	0.83	8	15	1	70	365	25,550	2.66E-11	3.80E-13	4.00E-03	5.60E-02	6.66E-09	2.13E-14
Chloroform	1.23E-07	0.83	8	15	1	70	365	25,550	4.81E-10	6.87E-12	1.14E-02	8.10E-02	4.21E-08	5.56E-13
1,1-Dichloroethene	6.75E-08	0.83	8	15	1	70	365	25,550	2.64E-10	3.78E-12		1.75E-01		6.61E-13
trans-1,2-Dichloroethene	6.56E-08	0.83	8	15	1	70	365	25,550	2.57E-10	3.67E-12	2.00E-02		1.28E-08	
Ethyl benzene	9.55E-07	0.83	8	15	1	70	365	25,550	3.74E-09	5.34E-11	1.00E-01		3.74E-08	.
Methylene chloride	5.36E-07	0.83	8	15	1	70	365	25,550	2.10E-09	3.00E-11	8.60E-01	1.64E-03	2.44E-09	4.92E-14
Tetrachloroethene	9.77E-07	0.83	8	15	1	70	365	25,550	3.82E-09	5.46E-11	1.00E-02	2.00E-03	3.82E-07	1.09E-13
Toluene	1.89E-06	0.83	8	15	1	70	365	25,550	7.39E-09	1.06E-10	2.86E-01		2.58E-08	
Trichloroethene	6.00E-06	0.83	8	15	1	70	365	25,550	2.35E-08	3.35E-10		6.00E-03		2.01E-12
Acetone	1.93E-06	0.83	8	15	1	70	365	25,550	7.54E-09	1.08E-10	1.00E-01		7.54E-08	
2-Butanone	1.60E-06	0.83	8	15	1	70	365	25,550	6.28E-09	8.97E-11	2.86E-01		2.20E-08	
2-Hexanone	8.65E-08	0.83	8	15	1	70	365	25,550	3.39E-10	4.84E-12				
4-Methyl-2-pentanone	7.19E-07	0.83	8	15	1	70	365	25,550	2.81E-09	4.02E-11	2.30E-02		1.22E-07	
Xylenes (Total)	4.96E-06	0.83	8	15	1	70	365	25,550	1.94E-08	2.77E-10	4.00E-01		4.85E-08	
Phenol	7.79E-08	0.83	8	15	1	70	365	25,550	3.05E-10	4.35E-12	6.00E-01		5.08E-10	
Isophorone	4.45E-08	0.83	8	15	1	70	365	25,550	1.74E-10	2.49E-12		9.50E-04		2.36E-15
Naphthalene	5.04E-08	0.83	8	15	1	70	365	25,550	1.97E-10	2.82E-12	1.14E-04		1.73E-06	
bis(2-ethylhexyl)phthalate	5.65E-08	0.83	8	15	1	70	365	25,550	2.21E-10	3.16E-12	5.71E-02	1.40E-02	3.87E-09	4.42E-14
Butyl benzyl phthalate	4.32E-08	0.83	8	15	1	70	365	25,550	1.69E-10	2.42E-12	2.00E-01		8.46E-10	
di-n-butyl phthalate	4.86E-08	0.83	8	15	1	70	365	25,550	1.90E-10	2.72E-12				
Diethyl phthalate	4.15E-07	0.83	8	15	1	70	365	25,550	1.63E-09	2.32E-11	8.00E-01		2.03E-09	
Dimethyl phthalate	7.67E-08	0.83	8	15	1	70	365	25,550	3.00E-10	4.29E-12	1.00E+01		3.00E-11	
													2.55E-06	**3.46E-12**

RISK ASSESSMENT CALCULATIONS - ONSITE SINGLE EVENT PEAK EXPOSURES FROM EXCAVATION ACTIVITIES IN AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO WORKERS FROM INHALING PARTICULATES

On-site Perimeter Conc.(mg/m3)
8 hour avg. at point (37.6,-112.8)
for total emission rate

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	3.00E-06	0.83	8	1	1	70	365	25,550	7.84E-10	1.12E-11	2.90E-01		2.70E-09	
1,1-Dichloroethane	1.63E-08	0.83	8	1	1	70	365	25,550	4.26E-12	6.08E-14	1.40E-01		3.04E-11	
1,1,2-Trichloroethane	6.80E-09	0.83	8	1	1	70	365	25,550	1.78E-12	2.54E-14	4.00E-03	5.60E-02	4.44E-10	1.42E-15
Chloroform	1.23E-07	0.83	8	1	1	70	365	25,550	3.20E-11	4.58E-13	1.14E-02	8.10E-02	2.80E-09	3.71E-14
1,1-Dichloroethene	6.75E-08	0.83	8	1	1	70	365	25,550	1.76E-11	2.52E-13		1.75E-01		4.41E-14
trans-1,2-Dichloroethene	6.56E-08	0.83	8	1	1	70	365	25,550	1.71E-11	2.44E-13	2.00E-02		8.56E-10	
Ethyl benzene	9.55E-07	0.83	8	1	1	70	365	25,550	2.49E-10	3.56E-12	1.00E-01		2.49E-09	
Methylene chloride	5.36E-07	0.83	8	1	1	70	365	25,550	1.40E-10	2.00E-12	8.60E-01	1.64E-03	1.63E-10	3.28E-15
Tetrachloroethene	9.77E-07	0.83	8	1	1	70	365	25,550	2.55E-10	3.64E-12	1.00E-02	2.00E-03	2.55E-08	7.28E-15
Toluene	1.89E-06	0.83	8	1	1	70	365	25,550	4.92E-10	7.04E-12	2.86E-01		1.72E-09	
Trichloroethene	6.00E-06	0.83	8	1	1	70	365	25,550	1.56E-09	2.24E-11		6.00E-03		1.34E-13
Acetone	1.93E-06	0.83	8	1	1	70	365	25,550	5.03E-10	7.18E-12	1.00E-01		5.03E-09	
2-Butanone	1.60E-06	0.83	8	1	1	70	365	25,550	4.19E-10	5.98E-12	2.86E-01		1.46E-09	
2-Hexanone	8.65E-08	0.83	8	1	1	70	365	25,550	2.26E-11	3.23E-13				
4-Methyl-2-pentanone	7.19E-07	0.83	8	1	1	70	365	25,550	1.88E-10	2.68E-12	2.30E-02		8.15E-09	
Xylenes (Total)	4.96E-06	0.83	8	1	1	70	365	25,550	1.29E-09	1.85E-11	4.00E-01		3.24E-09	
Phenol	7.79E-08	0.83	8	1	1	70	365	25,550	2.03E-11	2.90E-13	6.00E-01		3.39E-11	
Isophorone	4.45E-08	0.83	8	1	1	70	365	25,550	1.16E-11	1.66E-13		9.50E-04		1.58E-16
Naphthalene	5.04E-08	0.83	8	1	1	70	365	25,550	1.31E-11	1.88E-13	1.14E-04		1.15E-07	
bis(2-ethylhexyl)phthalate	5.65E-08	0.83	8	1	1	70	365	25,550	1.47E-11	2.11E-13	5.71E-02	1.40E-02	2.58E-10	2.95E-15
Butyl benzyl phthalate	4.32E-08	0.83	8	1	1	70	365	25,550	1.13E-11	1.61E-13	2.00E-01		5.64E-11	
di-n-butyl phthalate	4.86E-08	0.83	8	1	1	70	365	25,550	1.27E-11	1.81E-13				
Diethyl phthalate	4.15E-07	0.83	8	1	1	70	365	25,550	1.08E-10	1.55E-12	8.00E-01		1.35E-10	
Dimethyl phthalate	7.67E-08	0.83	8	1	1	70	365	25,550	2.00E-11	2.86E-13	1.00E+01		2.00E-12	
													1.70E-07	**2.30E-13**

PARTICULATE EMISSIONS
USEPA'S AIR/SUPERFUND NATIONAL TECHNICAL GUIDANCE STUDY SERIES:
ESTIMATION OF AIR IMPACTS FROM AREA SOURCES OF PARTICULATE MATTER EMISSIONS AT SUPERFUND SITES
U.S. EPA 1993

1. Calculation of Particulate Emissions
OFFSITE RESIDENTIAL EXPOSURES

ER = k x (0.I0016) x M x (u/2.2)^(1/3)/(xH20/2)^1.4

ER = Particulate matter emissions (g or g/s)
k = Particulate size multiplier, 0.35 for PM10
0.0016 = Empirical constant (g/kg)
M = Mass of soil handled (kg)
u = mean wind speed (4.6 m/s)
2.2 = Empirical constant (m/s)
%H2O = Percent moisture (13.3%)
t = Excavation time (s)

k		M	u		% H2O	ER	t	ER
	(g/kg)	(kg)	(m/s)			(g)		
0.35	0.0016	9.11E+06	4.6	2.2	13.3	937.98	180,000	5.21E-03

2. Calculation of Emissions for Each Compund
OFFSITE RESIDENTIAL EXPOSURES

	Particulate ER (g/s)	Soil Conc. (mg/kg)	Chemical ER (g/s)
1,1,1-Trichloroethane	5.21E-03	16.284	8.49E-08
1,1-Dichloroethane	5.21E-03	0.088	4.61E-10
1,1,2-Trichloroethane	5.21E-03	0.037	1.92E-10
Chloroform	5.21E-03	0.666	3.47E-09
1,1-Dichloroethene	5.21E-03	0.366	1.91E-09
trans-1,2-Dichloroethene	5.21E-03	0.356	1.85E-09
Ethyl benzene	5.21E-03	5.177	2.70E-08
Methylene chloride	5.21E-03	2.907	1.51E-08
Tetrachloroethene	5.21E-03	5.297	2.76E-08
Toluene	5.21E-03	10.234	5.33E-08
Trichloroethene	5.21E-03	32.516	1.69E-07
Acetone	5.21E-03	10.444	5.44E-08
2-Butanone	5.21E-03	8.702	4.53E-08
2-Hexanone	5.21E-03	0.469	2.44E-09
4-Methyl-2-pentanone	5.21E-03	3.897	2.03E-08
Xylenes (Total)	5.21E-03	26.900	1.40E-07
Phenol	5.21E-03	0.422	2.20E-09
Isophorone	5.21E-03	0.241	1.26E-09
Naphthalene	5.21E-03	0.273	1.42E-09
bis(2-ethylhexyl)phthalate	5.21E-03	0.306	1.60E-09
Butyl benzyl phthalate	5.21E-03	0.234	1.22E-09
di-n-butyl phthalate	5.21E-03	0.264	1.37E-09
Diethyl phthalate	5.21E-03	2.252	1.17E-08
Dimethyl phthalate	5.21E-03	0.416	2.17E-09

RISK ASSESSMENT CALCULATIONS - OFFSITE 21 DAY EXPOSURES FROM EXCAVATION ACTIVITIES AT AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING PARTICULATES
WORST CASE - OFFSITE

Off-site Residential Conc.(mg/m3)
24 hour avg. at point (-267,300.8)
for total emission rate

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	4.17E-07	0.83	24	21	1	70	365	25,550	6.86E-09	9.80E-11	2.90E-01		2.36E-08	
1,1-Dichloroethane	2.27E-09	0.83	24	21	1	70	365	25,550	3.72E-11	5.32E-13	1.40E-01		2.66E-10	
1,1,2-Trichloroethane	9.45E-10	0.83	24	21	1	70	365	25,550	1.55E-11	2.22E-13	4.00E-03	5.60E-02	3.88E-09	1.24E-14
Chloroform	1.71E-08	0.83	24	21	1	70	365	25,550	2.80E-10	4.01E-12	1.14E-02	8.10E-02	2.45E-08	3.25E-13
1,1-Dichloroethene	9.38E-09	0.83	24	21	1	70	365	25,550	1.54E-10	2.20E-12		1.75E-01		3.86E-13
trans-1,2-Dichloroethene	9.11E-09	0.83	24	21	1	70	365	25,550	1.50E-10	2.14E-12	2.00E-02		7.49E-09	
Ethyl benzene	1.33E-07	0.83	24	21	1	70	365	25,550	2.18E-09	3.11E-11	1.00E-01		2.18E-08	
Methylene chloride	7.45E-08	0.83	24	21	1	70	365	25,550	1.22E-09	1.75E-11	8.60E-01	1.64E-03	1.42E-09	2.87E-14
Tetrachloroethene	1.36E-07	0.83	24	21	1	70	365	25,550	2.23E-09	3.19E-11	1.00E-02	2.00E-03	2.23E-07	6.37E-14
Toluene	2.62E-07	0.83	24	21	1	70	365	25,550	4.31E-09	6.16E-11	2.86E-01		1.51E-08	
Trichloroethene	8.33E-07	0.83	24	21	1	70	365	25,550	1.37E-08	1.96E-10		6.00E-03		1.17E-12
Acetone	2.68E-07	0.83	24	21	1	70	365	25,550	4.40E-09	6.28E-11	1.00E-01		4.40E-08	
2-Butanone	2.23E-07	0.83	24	21	1	70	365	25,550	3.66E-09	5.24E-11	2.86E-01		1.28E-08	
2-Hexanone	1.20E-08	0.83	24	21	1	70	365	25,550	1.98E-10	2.82E-12	2.29E-02		8.63E-09	
4-Methyl-2-pentanone	9.98E-08	0.83	24	21	1	70	365	25,550	1.64E-09	2.34E-11	2.00E-01		8.21E-09	
Xylenes (Total)	6.89E-07	0.83	24	21	1	70	365	25,550	1.13E-08	1.62E-10	4.00E-01		2.83E-08	
Phenol	1.08E-08	0.83	24	21	1	70	365	25,550	1.78E-10	2.54E-12	6.00E-01		2.96E-10	
Isophorone	6.18E-09	0.83	24	21	1	70	365	25,550	1.02E-10	1.45E-12		9.50E-04		1.38E-15
Naphthalene	7.00E-09	0.83	24	21	1	70	365	25,550	1.15E-10	1.64E-12	1.14E-04		1.01E-06	
bis(2-ethylhexyl)phthalate	7.85E-09	0.83	24	21	1	70	365	25,550	1.29E-10	1.84E-12	5.71E-02	1.40E-02	2.26E-09	2.58E-14
Butyl benzyl phthalate	6.00E-09	0.83	24	21	1	70	365	25,550	9.87E-11	1.41E-12	2.00E-01		4.93E-10	
di-n-butyl phthalate	6.75E-09	0.83	24	21	1	70	365	25,550	1.11E-10	1.59E-12				
Diethyl phthalate	5.77E-08	0.83	24	21	1	70	365	25,550	9.49E-10	1.36E-11	8.00E-01		1.19E-09	
Dimethyl phthalate	1.07E-08	0.83	24	21	1	70	365	25,550	1.75E-10	2.50E-12	1.00E+01		1.75E-11	
	CA	IR	ET	EF	ED	BW	AT	AT					**1.43E-06**	**2.02E-12**

RISK ASSESSMENT CALCULATIONS - OFFSITE 21 DAY EXPOSURES FROM EXCAVATION ACTIVITIES AT AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING PARTICULATES
2ND WORST CASE - OFFSITE

Off-site Residential Conc.(mg/m3)
24 hour avg. at point (-300.5,242.6)
for total emission rate

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	3.02E-07	0.83	24	21	1	70	365	25,550	4.96E-09	7.09E-11	2.90E-01		1.71E-08	
1,1-Dichloroethane	1.64E-09	0.83	24	21	1	70	365	25,550	2.70E-11	3.85E-13	1.40E-01		1.93E-10	
1,1,2-Trichloroethane	6.84E-10	0.83	24	21	1	70	365	25,550	1.12E-11	1.61E-13	4.00E-03	5.60E-02	2.81E-09	8.99E-15
Chloroform	1.23E-08	0.83	24	21	1	70	365	25,550	2.03E-10	2.90E-12	1.14E-02	8.10E-02	1.78E-08	2.35E-13
1,1-Dichloroethene	6.79E-09	0.83	24	21	1	70	365	25,550	1.12E-10	1.59E-12		1.75E-01		2.79E-13
trans-1,2-Dichloroethene	6.59E-09	0.83	24	21	1	70	365	25,550	1.08E-10	1.55E-12	2.00E-02		5.42E-09	
Ethyl benzene	9.60E-08	0.83	24	21	1	70	365	25,550	1.58E-09	2.25E-11	1.00E-01		1.58E-08	
Methylene chloride	5.39E-08	0.83	24	21	1	70	365	25,550	8.86E-10	1.27E-11	8.60E-01	1.64E-03	1.03E-09	2.08E-14
Tetrachloroethene	9.82E-08	0.83	24	21	1	70	365	25,550	1.61E-09	2.31E-11	1.00E-02	2.00E-03	1.61E-07	4.61E-14
Toluene	1.90E-07	0.83	24	21	1	70	365	25,550	3.12E-09	4.46E-11	2.86E-01		1.09E-08	
Trichloroethene	6.03E-07	0.83	24	21	1	70	365	25,550	9.91E-09	1.42E-10		6.00E-03		8.49E-13
Acetone	1.94E-07	0.83	24	21	1	70	365	25,550	3.18E-09	4.55E-11	1.00E-01		3.18E-08	
2-Butanone	1.61E-07	0.83	24	21	1	70	365	25,550	2.65E-09	3.79E-11	2.86E-01		9.27E-09	
2-Hexanone	8.70E-09	0.83	24	21	1	70	365	25,550	1.43E-10	2.04E-12	2.29E-02		6.24E-09	
4-Methyl-2-pentanone	7.22E-08	0.83	24	21	1	70	365	25,550	1.19E-09	1.70E-11	2.00E-01		5.94E-09	
Xylenes (Total)	4.99E-07	0.83	24	21	1	70	365	25,550	8.20E-09	1.17E-10	4.00E-01		2.05E-08	
Phenol	7.83E-09	0.83	24	21	1	70	365	25,550	1.29E-10	1.84E-12	6.00E-01		2.14E-10	
Isophorone	4.47E-09	0.83	24	21	1	70	365	25,550	7.35E-11	1.05E-12		9.50E-04		9.98E-16
Naphthalene	5.06E-09	0.83	24	21	1	70	365	25,550	8.32E-11	1.19E-12	1.14E-04		7.28E-07	
bis(2-ethylhexyl)phthalate	5.68E-09	0.83	24	21	1	70	365	25,550	9.34E-11	1.33E-12	5.71E-02	1.40E-02	1.63E-09	1.87E-14
Butyl benzyl phthalate	4.34E-09	0.83	24	21	1	70	365	25,550	7.14E-11	1.02E-12	2.00E-01		3.57E-10	
di-n-butyl phthalate	4.89E-09	0.83	24	21	1	70	365	25,550	8.03E-11	1.15E-12				
Diethyl phthalate	4.18E-08	0.83	24	21	1	70	365	25,550	6.86E-10	9.81E-12	8.00E-01		8.58E-10	
Dimethyl phthalate	7.71E-09	0.83	24	21	1	70	365	25,550	1.27E-10	1.81E-12	1.00E+01		1.27E-11	
													1.04E-06	**1.46E-12**

RISK ASSESSMENT CALCULATIONS - OFFSITE 21 DAY EXPOSURES FROM EXCAVATION ACTIVITIES AT AREA C
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING PARTICULATES
3RD WORST CASE - OFFSITE

Off-site Residential Conc.(mg/m3)
24 hour avg. at point (-325,270.8)
for total emission rate

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	2.11E-07	0.83	24	21	1	70	365	25,550	3.46E-09	4.94E-11	2.90E-01		1.19E-08	
1,1-Dichloroethane	1.14E-09	0.83	24	21	1	70	365	25,550	1.88E-11	2.69E-13	1.40E-01		1.34E-10	
1,1,2-Trichloroethane	4.77E-10	0.83	24	21	1	70	365	25,550	7.84E-12	1.12E-13	4.00E-03	5.60E-02	1.96E-09	6.27E-15
Chloroform	8.61E-09	0.83	24	21	1	70	365	25,550	1.42E-10	2.02E-12	1.14E-02	8.10E-02	1.24E-08	1.64E-13
1,1-Dichloroethene	4.73E-09	0.83	24	21	1	70	365	25,550	7.78E-11	1.11E-12		1.75E-01		1.95E-13
trans-1,2-Dichloroethene	4.60E-09	0.83	24	21	1	70	365	25,550	7.56E-11	1.08E-12	2.00E-02		3.78E-09	
Ethyl benzene	6.69E-08	0.83	24	21	1	70	365	25,550	1.10E-09	1.57E-11	1.00E-01		1.10E-08	
Methylene chloride	3.76E-08	0.83	24	21	1	70	365	25,550	6.18E-10	8.83E-12	8.60E-01	1.64E-03	7.18E-10	1.45E-14
Tetrachloroethene	6.85E-08	0.83	24	21	1	70	365	25,550	1.13E-09	1.61E-11	1.00E-02	2.00E-03	1.13E-07	3.22E-14
Toluene	1.32E-07	0.83	24	21	1	70	365	25,550	2.18E-09	3.11E-11	2.86E-01		7.61E-09	
Trichloroethene	4.20E-07	0.83	24	21	1	70	365	25,550	6.91E-09	9.87E-11		6.00E-03		5.92E-13
Acetone	1.35E-07	0.83	24	21	1	70	365	25,550	2.22E-09	3.17E-11	1.00E-01		2.22E-08	
2-Butanone	1.13E-07	0.83	24	21	1	70	365	25,550	1.85E-09	2.64E-11	2.86E-01		6.47E-09	
2-Hexanone	6.07E-09	0.83	24	21	1	70	365	25,550	9.97E-11	1.42E-12	2.29E-02		4.35E-09	
4-Methyl-2-pentanone	5.04E-08	0.83	24	21	1	70	365	25,550	8.28E-10	1.18E-11	2.00E-01		4.14E-09	
Xylenes (Total)	3.48E-07	0.83	24	21	1	70	365	25,550	5.72E-09	8.17E-11	4.00E-01		1.43E-08	
Phenol	5.46E-09	0.83	24	21	1	70	365	25,550	8.97E-11	1.28E-12	6.00E-01		1.50E-10	
Isophorone	3.12E-09	0.83	24	21	1	70	365	25,550	5.13E-11	7.33E-13		9.50E-04		6.96E-16
Naphthalene	3.53E-09	0.83	24	21	1	70	365	25,550	5.81E-11	8.29E-13	1.14E-04		5.08E-07	
bis(2-ethylhexyl)phthalate	3.96E-09	0.83	24	21	1	70	365	25,550	6.51E-11	9.30E-13	5.71E-02	1.40E-02	1.14E-09	1.30E-14
Butyl benzyl phthalate	3.03E-09	0.83	24	21	1	70	365	25,550	4.98E-11	7.11E-13	2.00E-01		2.49E-10	
di-n-butyl phthalate	3.41E-09	0.83	24	21	1	70	365	25,550	5.60E-11	8.00E-13				
Diethyl phthalate	2.91E-08	0.83	24	21	1	70	365	25,550	4.79E-10	6.84E-12	8.00E-01		5.98E-10	
Dimethyl phthalate	5.38E-09	0.83	24	21	1	70	365	25,550	8.84E-11	1.26E-12	1.00E+01		8.84E-12	
													7.24E-07	**1.02E-12**

Calculation of Air Emission Rates from Superfund National Technical Guidance.
Calculations based on the fact that measured bulk concentrations are less than the saturation concentration (Csat). This scenario assumes that all chmicals are in solution with the available soil moisture and adsorbed to soil particles within the soil matrix (fully incorporated).

Step 1. Calculation of Pt, Dry Soil Porosity (g/cm3) - WORST CASE

b (g/cm3)	r (g/cm3)	Pt
1.5	2.65	0.350

STPE 2. Calculation of Dei, Effective Diffusivity

Dei = Di x p0.33

COMPOUND	Pt	Di (cm2/s)	Dei (cm2/s)
1,1,1-Trichloroethane	0.35	0.078	0.0552
1,1-Dichloroethane	0.35	0.0919	0.0650
1,1,2-Trichloroethane	0.35	0.0792	0.0560
Chloroform	0.35	0.0888	0.0628
1,1-Dichloroethene	0.35	0.104	0.0735
trans-1,2-Dichloroethene	0.35	0.07442	0.0526
Ethyl benzene	0.35	0.075	0.0530
Methylene chloride	0.35	0.10525	0.0744
Tetrachloroethene	0.35	0.072	0.0509
Toluene	0.35	0.087	0.0615
Trichloroethene	0.35	0.079	0.0559
Acetone	0.35	0.124	0.0877
2-Butanone	0.35	0.0808	0.0571
2-Hexanone	0.35	0.07524	0.0532
4-Methyl-2-pentanone	0.35	0.0752	0.0532
Xylenes (Total)	0.35	0.07	0.0495
Phenol	0.35	0.082	0.0580
Isophorone	0.35	0.0625	0.0442
Naphthalene	0.35	0.059	0.0417
bis(2-ethylhexyl)phthalate	0.35	0.042807	0.0303
Butyl benzyl phthalate	0.35	0.04235	0.0299
di-n-butyl phthalate	0.35	0.0467	0.0330
Diethyl phthalate	0.35	0.0545	0.0385
Dimethyl phthalate	0.35	0.05746	0.0406

Step 3. Calculation of Soil/Air Partition Coefficient, Kas, g/cm3

Kas = (H / Kd,) x 41, g/cm3
Kd = Koc x foc, mL/g

COMPOUND	Koc (mL/g)	foc (default)	Kd (mL/g)	H (atm-m3/mole)	Kas (g/cm3)
1,1,1-Trichloroethane	152	0.02	3.04	0.0144	1.94E-01
1,1-Dichloroethane	30	0.02	0.6	0.00431	2.95E-01
1,1,2-Trichloroethane	56	0.02	1.12	0.00117	4.28E-02
Chloroform	31	0.02	0.62	0.002873	1.90E-01
1,1-Dichloroethene	65	0.02	1.3	0.034	1.07E+00
trans-1,2-Dichloroethene	59	0.02	1.18	0.00656	2.28E-01
Ethyl benzene	1100	0.02	22	0.00643	1.20E-02
Methylene chloride	8.8	0.02	0.176	0.00203	4.73E-01
Tetrachloroethene	364	0.02	7.28	0.0259	1.46E-01
Toluene	300	0.02	6	0.00637	4.35E-02
Trichloroethene	126	0.02	2.52	0.0091	1.48E-01
Acetone	2.2	0.02	0.044	2.06E-05	1.92E-02
2-Butanone	4.5	0.02	0.09	2.74E-05	1.25E-02
2-Hexanone	134.9	0.02	2.70	2.82E-05	4.29E-04
4-Methyl-2-pentanone	6.17	0.02	0.123	0.000155	5.15E-02
Xylenes (Total)	240	0.02	4.8	0.00704	6.01E-02
Phenol	14.2	0.02	0.284	4.54E-07	6.55E-05
Isophorone	30.90	0.02	0.62	5.75E-06	3.81E-04
Naphthalene	524.81	0.02	10.50	0.000734	2.87E-03
bis(2-ethylhexyl)phthalate	100,000	0.02	2000	3.61E-07	7.40E-09
Butyl benzyl phthalate	170,000	0.02	3400	8.3E-06	1.00E-07
di-n-butyl phthalate	170,000	0.02	3400	2.82E-07	3.40E-09
Diethyl phthalate	142	0.02	2.84	1.14E-06	1.65E-05
Dimethyl phthalate	7.59	0.02	0.15	1.14E-06	3.08E-04

Step 4. CALCULATION OF a

a = (Dei x p)/[p+(r)(1-p)/Kas
r = particle density = 2.65 g/cm3
Let p = Pt in most cases

COMPOUND	Dei (cm2/s)	Pt	r (g/cm3)	Kas (g/cm3)	a
1,1,1-Trichloroethane	0.0552	0.35	2.65	1.94E-01	2.09E-03
1,1-Dichloroethane	0.0650	0.35	2.65	2.95E-01	3.67E-03
1,1,2-Trichloroethane	0.0560	0.35	2.65	4.28E-02	4.83E-04
Chloroform	0.0628	0.35	2.65	1.90E-01	2.33E-03
1,1-Dichloroethene	0.0735	0.35	2.65	1.07E+00	1.32E-02
trans-1,2-Dichloroethene	0.0526	0.35	2.65	2.28E-01	2.33E-03
Ethyl benzene	0.0530	0.35	2.65	1.20E-02	1.29E-04
Methylene chloride	0.0744	0.35	2.65	4.73E-01	6.53E-03
Tetrachloroethene	0.0509	0.35	2.65	1.46E-01	1.47E-03
Toluene	0.0615	0.35	2.65	4.35E-02	5.39E-04
Trichloroethene	0.0559	0.35	2.65	1.48E-01	1.63E-03
Acetone	0.0877	0.35	2.65	1.92E-02	3.41E-04
2-Butanone	0.0571	0.35	2.65	1.25E-02	1.45E-04
2-Hexanone	0.0532	0.35	2.65	4.29E-04	4.63E-06
4-Methyl-2-pentanone	0.0532	0.35	2.65	5.15E-02	5.51E-04
Xylenes (Total)	0.0495	0.35	2.65	6.01E-02	5.98E-04
Phenol	0.0580	0.35	2.65	6.55E-05	7.72E-07
Isophorone	0.0442	0.35	2.65	3.81E-04	3.43E-06
Naphthalene	0.0417	0.35	2.65	2.87E-03	2.43E-05
bis(2-ethylhexyl)phthalate	0.0303	0.35	2.65	7.40E-09	4.55E-11
Butyl benzyl phthalate	0.0299	0.35	2.65	1.00E-07	6.09E-10
di-n-butyl phthalate	0.0330	0.35	2.65	3.40E-09	2.28E-11
Diethyl phthalate	0.0385	0.35	2.65	1.65E-05	1.29E-07
Dimethyl phthalate	0.0406	0.35	2.65	3.08E-04	2.54E-06

Step 5. Calculation of Avarage Emission Rate, Ei, g/s

Ei = (A x 2 Dei X p x Kas x Ci)/(pi x a x t)^1/2
Ci = soil concentration x 1E-09
t = ET x EF x ED = 24 hr/day x 30 day/yr x 1 yr x 3600 sec/hr

COMPOUND	A (cm2)	Dei (cm2/s)	Pt	Kas (g/cm3)	Ci (g/g)	pi	a	t (sec)	Ei (g/s)
1,1,1-Trichloroethane	9.65E+07	0.0552	0.35	1.94E-01	1.63E-05	3.1416	2.09E-03	2.59E+06	1.73E-04
1,1-Dichloroethane	9.65E+07	0.0650	0.35	2.95E-01	8.85E-08	3.1416	3.67E-03	2.59E+06	9.57E-07
1,1,2-Trichloroethane	9.65E+07	0.0560	0.35	4.28E-02	3.69E-08	3.1416	4.83E-04	2.59E+06	3.80E-07
Chloroform	9.65E+07	0.0628	0.35	1.90E-01	6.66E-07	3.1416	2.33E-03	2.59E+06	7.06E-06
1,1-Dichloroethene	9.65E+07	0.0735	0.35	1.07E+00	3.66E-07	3.1416	1.32E-02	2.59E+06	4.55E-06
trans-1,2-Dichloroethene	9.65E+07	0.0526	0.35	2.28E-01	3.56E-07	3.1416	2.33E-03	2.59E+06	3.80E-06
Ethyl benzene	9.65E+07	0.0530	0.35	1.20E-02	5.18E-06	3.1416	1.29E-04	2.59E+06	5.30E-05
Methylene chloride	9.65E+07	0.0744	0.35	4.73E-01	2.91E-06	3.1416	6.53E-03	2.59E+06	3.25E-05
Tetrachloroethene	9.65E+07	0.0509	0.35	1.46E-01	5.30E-06	3.1416	1.47E-03	2.59E+06	5.57E-05
Toluene	9.65E+07	0.0615	0.35	4.35E-02	1.02E-05	3.1416	5.39E-04	2.59E+06	1.05E-04
Trichloroethene	9.65E+07	0.0559	0.35	1.48E-01	3.25E-05	3.1416	1.63E-03	2.59E+06	3.42E-04
Acetone	9.65E+07	0.0877	0.35	1.92E-02	1.04E-05	3.1416	3.41E-04	2.59E+06	1.07E-04
2-Butanone	9.65E+07	0.0571	0.35	1.25E-02	8.71E-06	3.1416	1.45E-04	2.59E+06	8.92E-05
2-Hexanone	9.65E+07	0.0532	0.35	4.29E-04	4.81E-07	3.1416	4.63E-06	2.59E+06	4.91E-06
4-Methyl-2-pentanone	9.65E+07	0.0532	0.35	5.15E-02	3.91E-06	3.1416	5.51E-04	2.59E+06	4.03E-05
Xylenes (Total)	9.65E+07	0.0495	0.35	6.01E-02	2.69E-05	3.1416	5.98E-04	2.59E+06	2.78E-04
Phenol	9.65E+07	0.0580	0.35	6.55E-05	5.31E-07	3.1416	7.72E-07	2.59E+06	5.42E-06
Isophorone	9.65E+07	0.0442	0.35	3.81E-04	3.69E-07	3.1416	3.43E-06	2.59E+06	3.76E-06
Naphthalene	9.65E+07	0.0417	0.35	2.87E-03	4.01E-07	3.1416	2.43E-05	2.59E+06	4.09E-06
bis(2-ethylhexyl)phthalate	9.65E+07	0.0303	0.35	7.40E-09	4.13E-07	3.1416	4.55E-11	2.59E+06	4.22E-06
Butyl benzyl phthalate	9.65E+07	0.0299	0.35	1.00E-07	3.45E-07	3.1416	6.09E-10	2.59E+06	3.52E-06
di-n-butyl phthalate	9.65E+07	0.0330	0.35	3.40E-09	3.67E-07	3.1416	2.28E-11	2.59E+06	3.75E-06
Diethyl phthalate	9.65E+07	0.0385	0.35	1.65E-05	2.37E-06	3.1416	1.29E-07	2.59E+06	2.42E-05
Dimethyl phthalate	9.65E+07	0.0406	0.35	3.08E-04	5.30E-07	3.1416	2.54E-06	2.59E+06	5.41E-06

RISK ASSESSMENT CALCULATIONS
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING VAPORS EMITTED FROM AREA A
WORST CASE - OFFSITE

Off-site Residential Conc.(mg/m3)
24 hour avg. at point (-267,300.8)
for total emission rate.

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	4.10E-05	0.83	24	30	1	70	365	25,550	9.62E-07	1.37E-08	2.90E-01		3.32E-06	
1,1-Dichloroethane	2.27E-07	0.83	24	30	1	70	365	25,550	5.33E-09	7.62E-11	1.40E-01		3.81E-08	
1,1,2-Trichloroethane	9.01E-08	0.83	24	30	1	70	365	25,550	2.12E-09	3.02E-11	4.00E-03	5.60E-02	5.29E-07	1.69E-12
Chloroform	1.67E-06	0.83	24	30	1	70	365	25,550	3.93E-08	5.62E-10	1.14E-02	8.10E-02	3.44E-06	4.55E-11
1,1-Dichloroethene	1.08E-06	0.83	24	30	1	70	365	25,550	2.54E-08	3.62E-10		1.75E-01		6.34E-11
trans-1,2-Dichloroethene	9.01E-07	0.83	24	30	1	70	365	25,550	2.12E-08	3.02E-10	2.00E-02		1.06E-06	
Ethyl benzene	1.26E-05	0.83	24	30	1	70	365	25,550	2.95E-07	4.22E-09	1.00E-01		2.95E-06	
Methylene chloride	7.72E-06	0.83	24	30	1	70	365	25,550	1.81E-07	2.59E-09	8.60E-01	1.64E-03	2.11E-07	4.24E-12
Tetrachloroethene	1.32E-05	0.83	24	30	1	70	365	25,550	3.10E-07	4.43E-09	1.00E-02	2.00E-03	3.10E-05	8.86E-12
Toluene	2.50E-05	0.83	24	30	1	70	365	25,550	5.87E-07	8.39E-09	2.86E-01		2.05E-06	
Trichloroethene	8.11E-05	0.83	24	30	1	70	365	25,550	1.90E-06	2.72E-08		6.00E-03		1.63E-10
Acetone	2.54E-05	0.83	24	30	1	70	365	25,550	5.96E-07	8.52E-09	1.00E-01		5.96E-06	
2-Butanone	2.11E-05	0.83	24	30	1	70	365	25,550	4.97E-07	7.09E-09	2.86E-01		1.74E-06	
2-Hexanone	1.16E-06	0.83	24	30	1	70	365	25,550	2.73E-08	3.91E-10				
4-Methyl-2-pentanone	9.56E-06	0.83	24	30	1	70	365	25,550	2.25E-07	3.21E-09	2.30E-02		9.76E-06	
Xylenes (Total)	6.59E-05	0.83	24	30	1	70	365	25,550	1.55E-06	2.21E-08	4.00E-01		3.87E-06	
Phenol	1.29E-06	0.83	24	30	1	70	365	25,550	3.02E-08	4.31E-10	6.00E-01		5.03E-08	
Isophorone	8.93E-07	0.83	24	30	1	70	365	25,550	2.10E-08	3.00E-10		9.50E-04		2.85E-13
Naphthalene	9.71E-07	0.83	24	30	1	70	365	25,550	2.28E-08	3.26E-10	1.14E-04		1.99E-04	
bis(2-ethylhexyl)phthalate	1.00E-06	0.83	24	30	1	70	365	25,550	2.35E-08	3.35E-10	5.71E-02	1.40E-02	4.11E-07	4.70E-12
Butyl benzyl phthalate	8.36E-07	0.83	24	30	1	70	365	25,550	1.96E-08	2.80E-10	2.00E-01		9.81E-08	
di-n-butyl phthalate	8.89E-07	0.83	24	30	1	70	365	25,550	2.09E-08	2.98E-10				
Diethyl phthalate	5.73E-06	0.83	24	30	1	70	365	25,550	1.35E-07	1.92E-09	8.00E-01		1.68E-07	
Dimethyl phthalate	1.28E-06	0.83	24	30	1	70	365	25,550	3.01E-08	4.31E-10	1.00E+01		3.01E-09	
	CA	IR	ET	EF	ED	BW	AT	AT					**2.66E-04**	**2.92E-10**

RISK ASSESSMENT CALCULATIONS
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING VAPORS EMITTED FROM AREA A
2ND WORST CASE - OFFSITE

Off-site Residential Conc.(ug/m3)
24 hour avg. at point (-325.5,207.3)
for total emission rate.

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	3.72E-05	0.83	24	30	1	70	365	25,550	8.74E-07	1.25E-08	2.90E-01		3.01E-06	
1,1-Dichloroethane	2.06E-07	0.83	24	30	1	70	365	25,550	4.84E-09	6.92E-11	1.40E-01		3.46E-08	
1,1,2-Trichloroethane	8.18E-08	0.83	24	30	1	70	365	25,550	1.92E-09	2.75E-11	4.00E-03	5.60E-02	4.80E-07	1.54E-12
Chloroform	1.52E-06	0.83	24	30	1	70	365	25,550	3.57E-08	5.10E-10	1.14E-02	8.10E-02	3.13E-06	4.13E-11
1,1-Dichloroethene	9.81E-07	0.83	24	30	1	70	365	25,550	2.30E-08	3.29E-10		1.75E-01		5.76E-11
trans-1,2-Dichloroethene	8.18E-07	0.83	24	30	1	70	365	25,550	1.92E-08	2.75E-10	2.00E-02		9.61E-07	
Ethyl benzene	1.14E-05	0.83	24	30	1	70	365	25,550	2.68E-07	3.83E-09	1.00E-01		2.68E-06	
Methylene chloride	7.01E-06	0.83	24	30	1	70	365	25,550	1.65E-07	2.35E-09	8.60E-01	1.64E-03	1.91E-07	3.86E-12
Tetrachloroethene	1.20E-05	0.83	24	30	1	70	365	25,550	2.82E-07	4.02E-09	1.00E-02	2.00E-03	2.82E-05	8.05E-12
Toluene	2.27E-05	0.83	24	30	1	70	365	25,550	5.33E-07	7.62E-09	2.86E-01		1.86E-06	
Trichloroethene	7.37E-05	0.83	24	30	1	70	365	25,550	1.73E-06	2.47E-08		6.00E-03		1.48E-10
Acetone	2.31E-05	0.83	24	30	1	70	365	25,550	5.41E-07	7.74E-09	1.00E-01		5.41E-06	
2-Butanone	1.92E-05	0.83	24	30	1	70	365	25,550	4.51E-07	6.44E-09	2.86E-01		1.58E-06	
2-Hexanone	1.06E-06	0.83	24	30	1	70	365	25,550	2.48E-08	3.55E-10				
4-Methyl-2-pentanone	8.68E-06	0.83	24	30	1	70	365	25,550	2.04E-07	2.91E-09	2.30E-02		8.87E-06	
Xylenes (Total)	5.99E-05	0.83	24	30	1	70	365	25,550	1.41E-06	2.01E-08	4.00E-01		3.52E-06	
Phenol	1.17E-06	0.83	24	30	1	70	365	25,550	2.74E-08	3.92E-10	6.00E-01		4.57E-08	
Isophorone	8.11E-07	0.83	24	30	1	70	365	25,550	1.90E-08	2.72E-10		9.50E-04		2.58E-13
Naphthalene	8.82E-07	0.83	24	30	1	70	365	25,550	2.07E-08	2.96E-10	1.14E-04		1.81E-04	
bis(2-ethylhexyl)phthalate	9.08E-07	0.83	24	30	1	70	365	25,550	2.13E-08	3.05E-10	5.71E-02	1.40E-02	3.73E-07	4.27E-12
Butyl benzyl phthalate	7.59E-07	0.83	24	30	1	70	365	25,550	1.78E-08	2.55E-10	2.00E-01		8.91E-08	
di-n-butyl phthalate	8.07E-07	0.83	24	30	1	70	365	25,550	1.90E-08	2.71E-10				
Diethyl phthalate	5.20E-06	0.83	24	30	1	70	365	25,550	1.22E-07	1.75E-09	8.00E-01		1.53E-07	
Dimethyl phthalate	1.17E-06	0.83	24	30	1	70	365	25,550	2.74E-08	3.91E-10	1.00E+01		2.74E-09	
													2.42E-04	**2.65E-10**

RISK ASSESSMENT CALCULATIONS
CARCINOGENIC AND NON CARCINOGENIC RISKS TO AN ADULT FROM INHALING VAPORS EMITTED FROM AREA A
3RD WORST CASE - OFFSITE

Off-site Residential Conc.(ug/m3)
24 hour avg. at point (-300.5,242.6)
for total emission rate.

COMPOUND	AIR CONCENTRATION	INHALATION RATE	EXPOSURE TIME	EXPOSURE FREQUENCY	EXPOSURE DURATION	BODY WEIGHT	AVERAGING TIME NONCANCER	AVERAGING TIME CANCER	DOSE NONCANC	DOSE CANCER	RfC inhalation	CSF inhalation	Hazard Index	Cancer Risk
	mg/cu.m	cu.m/hr	hr/day	days	years	kg	days	days	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)	(mg/kg/day)-1		
1,1,1-Trichloroethane	3.70E-05	0.83	24	30	1	70	365	25,550	8.70E-07	1.24E-08	2.90E-01		3.00E-06	
1,1-Dichloroethane	2.05E-07	0.83	24	30	1	70	365	25,550	4.82E-09	6.88E-11	1.40E-01		3.44E-08	
1,1,2-Trichloroethane	8.14E-08	0.83	24	30	1	70	365	25,550	1.91E-09	2.73E-11	4.00E-03	5.60E-02	4.78E-07	1.53E-12
Chloroform	1.51E-06	0.83	24	30	1	70	365	25,550	3.55E-08	5.08E-10	1.14E-02	8.10E-02	3.11E-06	4.11E-11
1,1-Dichloroethene	9.76E-07	0.83	24	30	1	70	365	25,550	2.29E-08	3.27E-10		1.75E-01		5.73E-11
trans-1,2-Dichloroethene	8.14E-07	0.83	24	30	1	70	365	25,550	1.91E-08	2.73E-10	2.00E-02		9.56E-07	
Ethyl benzene	1.14E-05	0.83	24	30	1	70	365	25,550	2.67E-07	3.81E-09	1.00E-01		2.67E-06	
Methylene chloride	6.97E-06	0.83	24	30	1	70	365	25,550	1.64E-07	2.34E-09	8.60E-01	1.64E-03	1.90E-07	3.84E-12
Tetrachloroethene	1.19E-05	0.83	24	30	1	70	365	25,550	2.80E-07	4.00E-09	1.00E-02	2.00E-03	2.80E-05	8.01E-12
Toluene	2.26E-05	0.83	24	30	1	70	365	25,550	5.30E-07	7.58E-09	2.86E-01		1.85E-06	
Trichloroethene	7.33E-05	0.83	24	30	1	70	365	25,550	1.72E-06	2.46E-08		6.00E-03		1.47E-10
Acetone	2.29E-05	0.83	24	30	1	70	365	25,550	5.39E-07	7.69E-09	1.00E-01		5.39E-06	
2-Butanone	1.91E-05	0.83	24	30	1	70	365	25,550	4.49E-07	6.41E-09	2.86E-01		1.57E-06	
2-Hexanone	1.05E-06	0.83	24	30	1	70	365	25,550	2.47E-08	3.53E-10				
4-Methyl-2-pentanone	8.64E-06	0.83	24	30	1	70	365	25,550	2.03E-07	2.90E-09	2.30E-02		8.82E-06	
Xylenes (Total)	5.96E-05	0.83	24	30	1	70	365	25,550	1.40E-06	2.00E-08	4.00E-01		3.50E-06	
Phenol	1.16E-06	0.83	24	30	1	70	365	25,550	2.73E-08	3.90E-10	6.00E-01		4.55E-08	
Isophorone	8.07E-07	0.83	24	30	1	70	365	25,550	1.89E-08	2.71E-10		9.50E-04		2.57E-13
Naphthalene	8.77E-07	0.83	24	30	1	70	365	25,550	2.06E-08	2.94E-10	1.14E-04		1.80E-04	
bis(2-ethylhexyl)phthalate	9.04E-07	0.83	24	30	1	70	365	25,550	2.12E-08	3.03E-10	5.71E-02	1.40E-02	3.71E-07	4.24E-12
Butyl benzyl phthalate	7.55E-07	0.83	24	30	1	70	365	25,550	1.77E-08	2.53E-10	2.00E-01		8.86E-08	
di-n-butyl phthalate	8.03E-07	0.83	24	30	1	70	365	25,550	1.89E-08	2.69E-10				
Diethyl phthalate	5.18E-06	0.83	24	30	1	70	365	25,550	1.22E-07	1.74E-09	8.00E-01		1.52E-07	
Dimethyl phthalate	1.16E-06	0.83	24	30	1	70	365	25,550	2.72E-08	3.89E-10	1.00E+01		2.72E-09	
													2.40E-04	**2.64E-10**

APPENDIX C

ATTACHMENT 3

ISCST2 AIR DISPERSION MODELING

ISCST2 - (DATED 93109)

IBM-PC VERSION (2.1) ISCST2F
(C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 10634 SOLD TO AWD TECHNOLOGIES

Run Began on 4/10/1995 at 12:15:55

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*** TRINITY SOURCE FILE NAME: C:\MODELS\ECCMET\ECC2.PNT
*** TRINITY RECEPTOR FILE NAME: C:\MODELS\ECCMET\WCC.REC
CO STARTING
CO TITLEONE ECC, Zionsville, Indiana, 1987-1991
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 8 24
CO POLLUTID PM10
CO TERRHGTS ELEV
CO ELEVUNIT METERS
CO RUNORNOT RUN
CO MULTYEAR C:\MODELS\ECCMET\ECC91.SV1 C:\MODELS\ECCMET\ECC90.SV1
CO FINISHED
SO STARTING
SO LOCATION SRC1 AREA     0.00     0.00    271.30
SO SRCPARAM SRC1 0.000001     0.00     0.01
SO LOCATION SRC2 AREA    -43.30    -0.60    271.30
SO SRCPARAM SRC2 0.001000     0.00    98.24
SO LOCATION SRC3 AREA     7.30   -109.10    271.30
SO SRCPARAM SRC3 0.001000     0.00    34.33
SO EMISUNIT 1000000.000000 GRAMS/SEC MICROGRAMS/M**3
SO SRCGROUP GROUP1 SRC1 SRC3
SO SRCGROUP GROUP2 SRC1 SRC2
SO SRCGROUP GROUP3 SRC1 SRC2 SRC3
SO FINISHED
RE STARTING
RE DISCPOLR SRC1 275.00 160.00  272.80
RE DISCPOLR SRC1 275.00 170.00  272.80
RE DISCPOLR SRC1 275.00 180.00  272.80
RE DISCPOLR SRC1 275.00 190.00  271.60
RE DISCPOLR SRC1 275.00 200.00  270.70
RE DISCPOLR SRC1 275.00 210.00  270.10
RE DISCPOLR SRC1 275.00 220.00  269.40
RE DISCPOLR SRC1 275.00 230.00  270.10
RE DISCPOLR SRC1 275.00 240.00  271.30
RE DISCPOLR SRC1 275.00 250.00  272.50
RE DISCPOLR SRC1 275.00 260.00  273.10
RE DISCPOLR SRC1 275.00 270.00  273.70
RE DISCPOLR SRC1 275.00 280.00  274.30
RE DISCPOLR SRC1 275.00 290.00  274.90
RE DISCPOLR SRC1 275.00 300.00  274.90
RE DISCPOLR SRC1 275.00 310.00  272.80
RE DISCPOLR SRC1 275.00 320.00  272.80
RE DISCPOLR SRC1 275.00 330.00  271.60
RE DISCPOLR SRC1 275.00 340.00  270.70
RE DISCPOLR SRC1 275.00 350.00  271.60
RE DISCPOLR SRC1 275.00 360.00  271.30
RE DISCPOLR SRC1 275.00 10.00  268.80
RE DISCPOLR SRC1 275.00 20.00  271.90
RE DISCPOLR SRC1 275.00 30.00  271.90
RE DISCPOLR SRC1 275.00 40.00  271.90
RE DISCPOLR SRC1 225.00 170.00  272.80
RE DISCPOLR SRC1 225.00 180.00  272.80
RE DISCPOLR SRC1 225.00 190.00  271.90
RE DISCPOLR SRC1 225.00 200.00  269.70
RE DISCPOLR SRC1 225.00 210.00  270.10
RE DISCPOLR SRC1 225.00 220.00  270.10
RE DISCPOLR SRC1 225.00 230.00  270.40
RE DISCPOLR SRC1 225.00 240.00  270.40
RE DISCPOLR SRC1 225.00 250.00  270.70
RE DISCPOLR SRC1 225.00 260.00  271.30
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RE DISCPOLR SRC1 225.00 270.00  271.90
RE DISCPOLR SRC1 225.00 280.00  272.50
RE DISCPOLR SRC1 225.00 290.00  273.10
RE DISCPOLR SRC1 225.00 300.00  273.70
RE DISCPOLR SRC1 225.00 310.00  272.80
RE DISCPOLR SRC1 225.00 320.00  271.00
RE DISCPOLR SRC1 225.00 330.00  271.00
RE DISCPOLR SRC1 225.00 340.00  270.70
RE DISCPOLR SRC1 225.00 350.00  270.70
RE DISCPOLR SRC1 225.00 360.00  269.40
RE DISCPOLR SRC1 225.00 10.00  270.40
RE DISCPOLR SRC1 225.00 20.00  271.60
RE DISCPOLR SRC1 225.00 30.00  271.30
RE DISCPOLR SRC1 225.00 40.00  271.30
RE DISCPOLR SRC1 175.00 170.00  271.30
RE DISCPOLR SRC1 175.00 180.00  265.80
RE DISCPOLR SRC1 175.00 190.00  265.80
RE DISCPOLR SRC1 175.00 200.00  264.60
RE DISCPOLR SRC1 175.00 210.00  265.20
RE DISCPOLR SRC1 175.00 220.00  266.70
RE DISCPOLR SRC1 175.00 230.00  267.30
RE DISCPOLR SRC1 175.00 240.00  267.90
RE DISCPOLR SRC1 175.00 250.00  268.80
RE DISCPOLR SRC1 175.00 260.00  269.70
RE DISCPOLR SRC1 175.00 270.00  270.40
RE DISCPOLR SRC1 175.00 280.00  271.60
RE DISCPOLR SRC1 175.00 290.00  271.60
RE DISCPOLR SRC1 175.00 300.00  271.90
RE DISCPOLR SRC1 175.00 310.00  271.90
RE DISCPOLR SRC1 175.00 320.00  271.30
RE DISCPOLR SRC1 175.00 330.00  271.30
RE DISCPOLR SRC1 175.00 340.00  271.30
RE DISCPOLR SRC1 175.00 350.00  270.70
RE DISCPOLR SRC1 175.00 360.00  270.70
RE DISCPOLR SRC1 175.00 10.00  270.70
RE DISCPOLR SRC1 175.00 20.00  269.70
RE DISCPOLR SRC1 175.00 30.00  270.70
RE DISCPOLR SRC1 175.00 40.00  270.70
RE DISCPOLR SRC1 125.00 160.00  266.70
RE DISCPOLR SRC1 125.00 170.00  266.70
RE DISCPOLR SRC1 125.00 180.00  266.40
RE DISCPOLR SRC1 125.00 190.00  265.20
RE DISCPOLR SRC1 125.00 200.00  268.20
RE DISCPOLR SRC1 125.00 210.00  266.70
RE DISCPOLR SRC1 125.00 220.00  268.20
RE DISCPOLR SRC1 125.00 230.00  268.20
RE DISCPOLR SRC1 125.00 240.00  268.20
RE DISCPOLR SRC1 125.00 250.00  268.50
RE DISCPOLR SRC1 125.00 260.00  268.80
RE DISCPOLR SRC1 125.00 270.00  268.80
RE DISCPOLR SRC1 125.00 280.00  269.10
RE DISCPOLR SRC1 125.00 290.00  270.70
RE DISCPOLR SRC1 125.00 300.00  271.30
RE DISCPOLR SRC1 125.00 310.00  271.60
RE DISCPOLR SRC1 125.00 320.00  271.90
RE DISCPOLR SRC1 125.00 330.00  271.30
RE DISCPOLR SRC1 125.00 340.00  271.00
RE DISCPOLR SRC1 125.00 350.00  270.10
RE DISCPOLR SRC1 125.00 360.00  270.40
RE DISCPOLR SRC1 125.00 10.00  270.10
RE DISCPOLR SRC1 125.00 20.00  269.70
RE DISCPOLR SRC1 125.00 30.00  267.90
RE DISCPOLR SRC1 125.00 40.00  270.70
RE DISCCART -180.00 -150.00  272.00
RE DISCCART 500.00 750.00  280.00
RE DISCCART -200.00 125.00  273.00
RE DISCCART -50.00 -300.00  274.00
RE DISCCART 1350.00 0.00  279.00
RE DISCCART -3.00 98.10  275.00
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RE DISCCART -450.00 -150.00  281.00
RE DISCCART 1350.00 -1000.00  280.00
RE DISCCART 17.30 98.10  275.00
RE DISCCART -20.30 98.10  275.00
RE DISCCART -21.80 0.00  275.00
RE DISCCART -43.70 0.00  275.00
RE DISCCART -43.70 98.10  275.00
RE DISCCART -43.70 24.50  275.00
RE DISCCART -43.70 49.10  275.00
RE DISCCART 37.60 98.10  275.00
RE DISCCART 37.60 49.10  275.00
RE DISCCART 37.60 0.00  275.00
RE DISCCART 37.60 24.50  275.00
RE DISCCART 37.60 -24.90  275.00
RE DISCCART 37.60 -49.80  275.00
RE DISCCART 37.60 -81.30  275.00
RE DISCCART 37.60 -112.80  275.00
RE DISCCART 15.70 -111.80  275.00
RE DISCCART 6.10 -110.70  275.00
RE DISCCART -9.10 -92.50  275.00
RE DISCCART -11.20 -49.80  275.00
RE DISCCART -10.20 -71.10  275.00
RE DISCCART 0.00 -49.80  275.00
RE DISCCART 0.00 -37.30  275.00
RE DISCCART 0.00 -24.90  275.00
RE DISCCART 0.00 -12.40  275.00
RE DISCCART -341.10 290.50  278.00
RE DISCCART -325.80 296.30  277.70
RE DISCCART -267.90 300.80  276.10
RE DISCCART -300.50 242.60  277.10
RE DISCCART -325.50 207.30  277.10
RE DISCCART -284.40 192.00  276.10
RE DISCCART -266.70 115.50  274.90
RE DISCCART -190.20 58.80  273.40
RE DISCCART -82.00 -36.00  270.40
RE DISCCART -397.20 -197.50  271.90
RE DISCCART -121.30 -124.40  270.10
RE DISCCART -80.50 -152.40  269.70
RE DISCCART -230.10 -461.50  269.40
RE DISCCART -26.50 -406.30  271.60
RE DISCCART 20.40 312.70  271.90
RE DISCCART 649.80 667.50  284.10
RE DISCCART 648.60 621.80  283.80
RE DISCCART 550.50 524.00  281.60
RE DISCCART 496.80 492.60  281.00
RE DISCCART 368.80 460.90  278.30
RE DISCCART 1424.00 473.70  277.70
RE DISCCART 1358.20 117.70  277.40
RE DISCCART 1418.20 130.80  279.20
RE DISCCART -29.10 -24.00  275.00
RE DISCCART -14.60 -24.00  275.00
RE DISCCART 12.50 -24.00  275.00
RE DISCCART 25.10 -24.00  275.00
RE FINISHED
ME STARTING
ME INPUTFIL A:\ECCMET91.BIN UNFORM
ME ANEMHGHT  10.000 METERS
ME SURFDATA 93819 1991 INDIANAPOLIS
ME UAIRDATA 13840 1991 DAYTON
ME STARTEND 1991 1 1 1 1991 12 31 24
ME FINISHED
OU STARTING
OU RECTABLE 8 FIRST SECOND
OU RECTABLE 24 FIRST SECOND
OU MAXTABLE 8 30
OU MAXTABLE 24 30
OU FINISHED

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** MODEL SETUP OPTIONS SUMMARY ***

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

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Accepts Receptors on ELEV Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates 2 Short Term Average(s) of: 8-HR 24-HR

**This Run Includes: 3 Source(s); 3 Source Group(s); and 157 Receptor(s)

**The Model Assumes A Pollutant Type of: PM10

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Input Runstream File: C:\MODELS\ECCMET\ECC91.DAT ; **Output Print File:
C:\MODELS\ECCMET\ECC91.LST
**This Run is Part of a Multi-year Run.
NOTE: PERIOD Results Are for Current Period Only.
Short Term Results Are Cumulative Across All Years Processed.
**File for Saving Result Arrays: C:\MODELS\ECCMET\ECC91.SV1
**File for Initializing Result Arrays: C:\MODELS\ECCMET\ECC90.SV1

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** AREA SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS /METER**2)	COORD (SW CORNER) X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	WIDTH OF AREA (METERS)	EMISSION RATE SCALAR VARY BY
SRC1	0	0.10000E-05	0.0	0.0	271.3	0.00	0.01	
SRC2	0	0.10000E-02	-43.3	-0.6	271.3	0.00	98.24	
SRC3	0	0.10000E-02	7.3	-109.1	271.3	0.00	34.33	

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
GROUP1	SRC1 , SRC3 ,
GROUP2	SRC1 , SRC2 ,
GROUP3	SRC1 , SRC2 , SRC3 ,

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

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

(-180.0,	-150.0,	272.0,	0.0);	(500.0,	750.0,	280.0,	0.0);
(-200.0,	125.0,	273.0,	0.0);	(-50.0,	-300.0,	274.0,	0.0);
(1350.0,	0.0,	279.0,	0.0);	(-3.0,	98.1,	275.0,	0.0);
(-450.0,	-150.0,	281.0,	0.0);	(1350.0,	-1000.0,	280.0,	0.0);
(17.3,	98.1,	275.0,	0.0);	(-20.3,	98.1,	275.0,	0.0);
(-21.8,	0.0,	275.0,	0.0);	(-43.7,	0.0,	275.0,	0.0);
(-43.7,	98.1,	275.0,	0.0);	(-43.7,	24.5,	275.0,	0.0);
(-43.7,	49.1,	275.0,	0.0);	(37.6,	98.1,	275.0,	0.0);
(37.6,	49.1,	275.0,	0.0);	(37.6,	0.0,	275.0,	0.0);
(37.6,	24.5,	275.0,	0.0);	(37.6,	-24.9,	275.0,	0.0);
(37.6,	-49.8,	275.0,	0.0);	(37.6,	-81.3,	275.0,	0.0);
(37.6,	-112.8,	275.0,	0.0);	(15.7,	-111.8,	275.0,	0.0);
(6.1,	-110.7,	275.0,	0.0);	(-9.1,	-92.5,	275.0,	0.0);
(-11.2,	-49.8,	275.0,	0.0);	(-10.2,	-71.1,	275.0,	0.0);
(0.0,	-49.8,	275.0,	0.0);	(0.0,	-37.3,	275.0,	0.0);
(0.0,	-24.9,	275.0,	0.0);	(0.0,	-12.4,	275.0,	0.0);
(-341.1,	290.5,	278.0,	0.0);	(-325.8,	296.3,	277.7,	0.0);
(-267.9,	300.8,	276.1,	0.0);	(-300.5,	242.6,	277.1,	0.0);
(-325.5,	207.3,	277.1,	0.0);	(-284.4,	192.0,	276.1,	0.0);
(-266.7,	115.5,	274.9,	0.0);	(-190.2,	58.8,	273.4,	0.0);
(-82.0,	-36.0,	270.4,	0.0);	(-397.2,	-197.5,	271.9,	0.0);
(-121.3,	-124.4,	270.1,	0.0);	(-80.5,	-152.4,	269.7,	0.0);
(-230.1,	-461.5,	269.4,	0.0);	(-26.5,	-406.3,	271.6,	0.0);
(20.4,	312.7,	271.9,	0.0);	(649.8,	667.5,	284.1,	0.0);
(648.6,	621.8,	283.8,	0.0);	(550.5,	524.0,	281.6,	0.0);
(496.8,	492.6,	281.0,	0.0);	(368.8,	460.9,	278.3,	0.0);
(1424.0,	473.7,	277.7,	0.0);	(1358.2,	117.7,	277.4,	0.0);
(1418.2,	130.8,	279.2,	0.0);	(-29.1,	-24.0,	275.0,	0.0);
(-14.6,	-24.0,	275.0,	0.0);	(12.5,	-24.0,	275.0,	0.0);
(25.1,	-24.0,	275.0,	0.0);				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** DISCRETE POLAR RECEPTORS ***
ORIGIN: (DIST, DIR, ZELEV, ZFLAG)
SRCID: (METERS,DEG,METERS,METERS)

SRC1	: (	275.0,	160.0,	272.8,	0.0);	SRC1	: (	275.0,	170.0,	272.8,	0.0);
SRC1	: (	275.0,	180.0,	272.8,	0.0);	SRC1	: (	275.0,	190.0,	271.6,	0.0);
SRC1	: (	275.0,	200.0,	270.7,	0.0);	SRC1	: (	275.0,	210.0,	270.1,	0.0);
SRC1	: (	275.0,	220.0,	269.4,	0.0);	SRC1	: (	275.0,	230.0,	270.1,	0.0);
SRC1	: (	275.0,	240.0,	271.3,	0.0);	SRC1	: (	275.0,	250.0,	272.5,	0.0);
SRC1	: (	275.0,	260.0,	273.1,	0.0);	SRC1	: (	275.0,	270.0,	273.7,	0.0);
SRC1	: (	275.0,	280.0,	274.3,	0.0);	SRC1	: (	275.0,	290.0,	274.9,	0.0);
SRC1	: (	275.0,	300.0,	274.9,	0.0);	SRC1	: (	275.0,	310.0,	272.8,	0.0);
SRC1	: (	275.0,	320.0,	272.8,	0.0);	SRC1	: (	275.0,	330.0,	271.6,	0.0);
SRC1	: (	275.0,	340.0,	270.7,	0.0);	SRC1	: (	275.0,	350.0,	271.6,	0.0);
SRC1	: (	275.0,	360.0,	271.3,	0.0);	SRC1	: (	275.0,	10.0,	268.8,	0.0);
SRC1	: (	275.0,	20.0,	271.9,	0.0);	SRC1	: (	275.0,	30.0,	271.9,	0.0);
SRC1	: (	275.0,	40.0,	271.9,	0.0);	SRC1	: (	225.0,	170.0,	272.8,	0.0);
SRC1	: (	225.0,	180.0,	272.8,	0.0);	SRC1	: (	225.0,	190.0,	271.9,	0.0);
SRC1	: (	225.0,	200.0,	269.7,	0.0);	SRC1	: (	225.0,	210.0,	270.1,	0.0);
SRC1	: (	225.0,	220.0,	270.1,	0.0);	SRC1	: (	225.0,	230.0,	270.4,	0.0);
SRC1	: (	225.0,	240.0,	270.4,	0.0);	SRC1	: (	225.0,	250.0,	270.7,	0.0);
SRC1	: (	225.0,	260.0,	271.3,	0.0);	SRC1	: (	225.0,	270.0,	271.9,	0.0);
SRC1	: (	225.0,	280.0,	272.5,	0.0);	SRC1	: (	225.0,	290.0,	273.1,	0.0);
SRC1	: (	225.0,	300.0,	273.7,	0.0);	SRC1	: (	225.0,	310.0,	272.8,	0.0),
SRC1	: (	225.0,	320.0,	271.0,	0.0);	SRC1	: (	225.0,	330.0,	271.0,	0.0);
SRC1	: (	225.0,	340.0,	270.7,	0.0);	SRC1	: (	225.0,	350.0,	270.7,	0.0);
SRC1	: (	225.0,	360.0,	269.4,	0.0);	SRC1	: (	225.0,	10.0,	270.4,	0.0);
SRC1	: (	225.0,	20.0,	271.6,	0.0);	SRC1	: (	225.0,	30.0,	271.3,	0.0);
SRC1	: (	225.0,	40.0,	271.3,	0.0);	SRC1	: (	175.0,	170.0,	271.3,	0.0);
SRC1	: (	175.0,	180.0,	265.8,	0.0);	SRC1	: (	175.0,	190.0,	265.8,	0.0);
SRC1	: (	175.0,	200.0,	264.6,	0.0);	SRC1	: (	175.0,	210.0,	265.2,	0.0);
SRC1	: (	175.0,	220.0,	266.7,	0.0);	SRC1	: (	175.0,	230.0,	267.3,	0.0);
SRC1	: (	175.0,	240.0,	267.9,	0.0);	SRC1	: (	175.0,	250.0,	268.8,	0.0);
SRC1	: (	175.0,	260.0,	269.7,	0.0);	SRC1	: (	175.0,	270.0,	270.4,	0.0);
SRC1	: (	175.0,	280.0,	271.6,	0.0);	SRC1	: (	175.0,	290.0,	271.6,	0.0);
SRC1	: (	175.0,	300.0,	271.9,	0.0);	SRC1	: (	175.0,	310.0,	271.9,	0.0);
SRC1	: (	175.0,	320.0,	271.3,	0.0);	SRC1	: (	175.0,	330.0,	271.3,	0.0);
SRC1	: (	175.0,	340.0,	271.3,	0.0);	SRC1	: (	175.0,	350.0,	270.7,	0.0);
SRC1	: (	175.0,	360.0,	270.7,	0.0);	SRC1	: (	175.0,	10.0,	270.7,	0.0);
SRC1	: (	175.0,	20.0,	269.7,	0.0);	SRC1	: (	175.0,	30.0,	270.7,	0.0);
SRC1	: (	175.0,	40.0,	270.7,	0.0);	SRC1	: (	125.0,	160.0,	266.7,	0.0);
SRC1	: (	125.0,	170.0,	266.7,	0.0);	SRC1	: (	125.0,	180.0,	266.4,	0.0);
SRC1	: (	125.0,	190.0,	265.2,	0.0);	SRC1	: (	125.0,	200.0,	268.2,	0.0);
SRC1	: (	125.0,	210.0,	266.7,	0.0);	SRC1	: (	125.0,	220.0,	268.2,	0.0);
SRC1	: (	125.0,	230.0,	268.2,	0.0);	SRC1	: (	125.0,	240.0,	268.2,	0.0);
SRC1	: (	125.0,	250.0,	268.5,	0.0);	SRC1	: (	125.0,	260.0,	268.8,	0.0);
SRC1	: (	125.0,	270.0,	268.8,	0.0);	SRC1	: (	125.0,	280.0,	269.1,	0.0);
SRC1	: (	125.0,	290.0,	270.7,	0.0);	SRC1	: (	125.0,	300.0,	271.3,	0.0);
SRC1	: (	125.0,	310.0,	271.6,	0.0);	SRC1	: (	125.0,	320.0,	271.9,	0.0);

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** DISCRETE POLAR RECEPTORS ***
ORIGIN: (DIST, DIR, ZELEV, ZFLAG)
SRCID: (METERS,DEG,METERS,METERS)

SRC1	: (	125.0,	330.0,	271.3,	0.0);	SRC1	: (	125.0,	340.0,	271.0,	0.0);
SRC1	: (	125.0,	350.0,	270.1,	0.0);	SRC1	: (	125.0,	360.0,	270.4,	0.0);
SRC1	: (	125.0,	10.0,	270.1,	0.0);	SRC1	: (	125.0,	20.0,	269.7,	0.0);
SRC1	: (	125.0,	30.0,	267.9,	0.0);	SRC1	: (	125.0,	40.0,	270.7,	0.0);

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 1.0 METER OR 3*ZLB *
IN DISTANCE. CALCULATIONS MAY NOT BE PERFORMED.

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS)	YR (METERS)	DISTANCE (METERS)
SRC2	-3.0	98.1	-5.07
SRC2	17.3	98.1	-4.53
SRC2	-20.3	98.1	0.61
SRC2	-21.8	0.0	0.40
SRC2	-43.7	24.5	-0.39
SRC2	-43.7	49.1	-5.90
SRC2	37.6	49.1	-23.64
SRC2	37.6	24.5	-15.59
SRC3	37.6	-81.3	-2.47

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
```

METEOROLOGICAL DATA PROCESSED BETWEEN START DATE: 91 1 1 1
AND END DATE: 91 12 31 24

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

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

FILE: A:\ECCMET91.BIN FORMAT: UNFORM
SURFACE STATION NO.: 93819 UPPER AIR STATION NO.: 13840
NAME: INDIANAPOLIS NAME: DAYTON
YEAR: 1991 YEAR: 1991

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	MIXING HEIGHT (M) URBAN
91	1	1	1	351.0	2.57	264.8	6	519.2	398.0
91	1	1	2	348.0	5.66	265.4	5	517.7	398.0
91	1	1	3	354.0	3.09	264.8	6	516.1	398.0
91	1	1	4	353.0	3.09	264.8	6	514.6	398.0
91	1	1	5	353.0	4.63	265.4	5	513.0	398.0
91	1	1	6	352.0	4.12	265.4	4	511.4	511.4
91	1	1	7	355.0	3.09	265.4	4	509.9	509.9
91	1	1	8	353.0	3.09	265.4	5	508.3	398.0
91	1	1	9	347.0	3.60	265.4	4	69.5	412.1
91	1	1	10	1.0	3.60	267.0	3	155.4	429.5
91	1	1	11	4.0	4.12	268.7	3	241.3	446.8
91	1	1	12	356.0	4.63	270.4	3	327.2	464.2
91	1	1	13	13.0	5.66	271.5	4	413.1	481.6
91	1	1	14	9.0	4.12	273.1	3	499.0	499.0
91	1	1	15	22.0	3.60	274.8	3	499.0	499.0
91	1	1	16	4.0	3.60	275.4	4	499.0	499.0
91	1	1	17	1.0	4.12	274.3	4	499.0	499.0
91	1	1	18	17.0	3.09	272.0	5	494.8	481.2
91	1	1	19	4.0	2.57	272.6	6	487.6	450.4
91	1	1	20	327.0	3.09	272.0	6	480.4	419.5
91	1	1	21	340.0	3.09	271.5	6	473.1	388.6
91	1	1	22	342.0	2.57	270.9	6	465.9	357.7
91	1	1	23	30.0	2.57	270.4	6	458.6	326.9
91	1	1	24	10.0	2.57	270.4	6	451.4	296.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	692.02594	(87092708)	500.00	750.00	525.01947c	(87041008)
-200.00	125.00	654.00201c	(87072908)	-50.00	-300.00	914.46985	(90022008)
1350.00	0.00	555.15289	(87052624)	-3.00	98.10	1214.45569c	(88042608)
-450.00	-150.00	370.91312c	(87121024)	1350.00	-1000.00	595.62274	(87091424)
17.30	98.10	1640.97424	(88101408)	-20.30	98.10	1347.76160c	(90101324)
-21.80	0.00	4109.26904c	(87062508)	-43.70	0.00	2217.11914	(87102508)
-43.70	98.10	2307.64282c	(87060508)	-43.70	24.50	1756.03821	(90020808)
-43.70	49.10	2011.59949	(87022408)	37.60	98.10	1595.58032	(88101324)
37.60	49.10	2142.59497	(88101324)	37.60	0.00	3159.26563	(88101324)
37.60	24.50	2566.77905	(88101324)	37.60	-24.90	4084.93945	(88101324)
37.60	-49.80	7309.88672c	(89062208)	37.60	-81.30	1848.66687c	(87090708)
37.60	-112.80	11427.75290c	(90072508)	15.70	-111.80	8821.75586c	(89100908)
6.10	-110.70	9598.06348c	(89080208)	-9.10	-92.50	6789.10986c	(88030608)
-11.20	-49.80	5708.17725c	(88092708)	-10.20	-71.10	8114.72021c	(90090108)
0.00	-49.80	7471.88379	(88010308)	0.00	-37.30	5845.92334	(88010308)
0.00	-24.90	4585.08691	(89012308)	0.00	-12.40	3914.77539	(88010308)
-341.10	290.50	1010.99078	(87091508)	-325.80	296.30	907.18280c	(87060708)
-267.90	300.80	9787.82715c	(87021308)	-300.50	242.60	9274.33496c	(87040308)
-325.50	207.30	5320.60352	(87021908)	-284.40	192.00	4143.55957	(87022408)
-266.70	115.50	3483.14844	(87020508)	-190.20	58.80	1758.54297	(87050608)
-82.00	-36.00	2834.44507c	(88030608)	-397.20	-197.50	944.30530	(87102524)
-121.30	-124.40	1065.72314	(89091908)	-80.50	-152.40	2316.80493	(91062508)
-230.10	-461.50	1888.10315c	(87101908)	-26.50	-406.30	2612.55298c	(87090708)
20.40	312.70	1473.61621c	(87090708)	649.80	667.50	1420.37195c	(87101424)
648.60	621.80	1227.39001	(87092708)	550.50	524.00	958.61932c	(87041008)
496.80	492.60	988.14130c	(87083008)	368.80	460.90	1288.77332c	(87083008)
1424.00	473.70	963.84650c	(87080108)	1358.20	117.70	826.61292	(87052624)
1418.20	130.80	767.74451	(87071824)	-29.10	-24.00	3149.18164c	(88092708)
-14.60	-24.00	4573.29297	(88010308)	12.50	-24.00	5270.05664	(88101408)
25.10	-24.00	4801.38672	(88101408)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC (YYMMDDHH)
SRC1 :	275.00	160.00	1232.86646c	(89081024)	SRC1 :	275.00	170.00	2406.05103c (88092608)
SRC1 :	275.00	180.00	1383.91272	(88041308)	SRC1 :	275.00	190.00	1216.85181 (90091708)
SRC1 :	275.00	200.00	865.00690	(88070408)	SRC1 :	275.00	210.00	1052.48730c (90080208)
SRC1 :	275.00	220.00	1160.02258	(91062508)	SRC1 :	275.00	230.00	576.84906c (90101608)
SRC1 :	275.00	240.00	1064.41785	(87071824)	SRC1 :	275.00	250.00	901.46960 (87052624)
SRC1 :	275.00	260.00	3457.88599c	(87083008)	SRC1 :	275.00	270.00	2347.15015 (87092708)
SRC1 :	275.00	280.00	1188.41431c	(87080108)	SRC1 :	275.00	290.00	2032.13660c (87083008)
SRC1 :	275.00	300.00	2319.60767c	(87083008)	SRC1 :	275.00	310.00	835.90851c (87082024)
SRC1 :	275.00	320.00	1367.08057	(87091424)	SRC1 :	275.00	330.00	2855.71680 (87091424)
SRC1 :	275.00	340.00	1957.93787	(87091424)	SRC1 :	275.00	350.00	3585.82178 (87091424)
SRC1 :	275.00	360.00	6471.42432	(87091508)	SRC1 :	275.00	10.00	633.97723 (88101324)
SRC1 :	275.00	20.00	11141.98140c	(87021308)	SRC1 :	275.00	30.00	6751.46631 (87050108)
SRC1 :	275.00	40.00	8743.94043c	(87103108)	SRC1 :	225.00	170.00	7689.87646c (87101908)
SRC1 :	225.00	180.00	5907.40283c	(87101508)	SRC1 :	225.00	190.00	7591.27100c (87090708)
SRC1 :	225.00	200.00	6451.74365c	(87083008)	SRC1 :	225.00	210.00	5667.28662c (87083008)
SRC1 :	225.00	220.00	4601.66162c	(87083008)	SRC1 :	225.00	230.00	3456.00220c (87083008)
SRC1 :	225.00	240.00	657.21204	(88112308)	SRC1 :	225.00	250.00	521.37097c (90092708)
SRC1 :	225.00	260.00	415.05258	(89031008)	SRC1 :	225.00	270.00	696.87262 (90082508)
SRC1 :	225.00	280.00	920.36407c	(88030608)	SRC1 :	225.00	290.00	766.94043 (89031708)
SRC1 :	225.00	300.00	769.76471c	(87090708)	SRC1 :	225.00	310.00	1281.10315c (87090708)
SRC1 :	225.00	320.00	3542.09253c	(87090708)	SRC1 :	225.00	330.00	680.73242 (88010308)
SRC1 :	225.00	340.00	1127.57629c	(87061708)	SRC1 :	225.00	350.00	1970.18518 (87022408)
SRC1 :	225.00	360.00	516.91412	(91052724)	SRC1 :	225.00	10.00	879.21765 (88101324)
SRC1 :	225.00	20.00	542.40363c	(88081124)	SRC1 :	225.00	30.00	611.63544c (91052908)
SRC1 :	225.00	40.00	592.71057	(88011024)	SRC1 :	175.00	170.00	4392.52539c (88092608)
SRC1 :	175.00	180.00	3044.33179	(90022008)	SRC1 :	175.00	190.00	2533.41162 (88070408)
SRC1 :	175.00	200.00	2697.07544c	(89080208)	SRC1 :	175.00	210.00	2215.77319 (91062508)
SRC1 :	175.00	220.00	1164.56262c	(88022724)	SRC1 :	175.00	230.00	2898.98315 (87092708)
SRC1 :	175.00	240.00	4679.66260c	(87083008)	SRC1 :	175.00	250.00	3604.59277c (87080108)
SRC1 :	175.00	260.00	3580.82104c	(87080208)	SRC1 :	175.00	270.00	1170.66968 (87041808)
SRC1 :	175.00	280.00	1756.66516c	(87062508)	SRC1 :	175.00	290.00	1080.69177c (87092524)
SRC1 :	175.00	300.00	817.32471	(87082408)	SRC1 :	175.00	310.00	785.37244 (87021908)
SRC1 :	175.00	320.00	920.35797	(89012308)	SRC1 :	175.00	330.00	1014.18805 (88010308)
SRC1 :	175.00	340.00	953.17596c	(91102108)	SRC1 :	175.00	350.00	891.37451c (88042608)
SRC1 :	175.00	360.00	719.15179	(91010108)	SRC1 :	175.00	10.00	1152.93994 (88101324)
SRC1 :	175.00	20.00	641.17462	(91091508)	SRC1 :	175.00	30.00	843.47235c (91052908)
SRC1 :	175.00	40.00	1070.82629c	(87090708)	SRC1 :	125.00	160.00	9627.80762c (91030808)
SRC1 :	125.00	170.00	9805.86523c	(90052408)	SRC1 :	125.00	180.00	6641.34424c (89080208)
SRC1 :	125.00	190.00	6214.35107c	(89080208)	SRC1 :	125.00	200.00	3389.47900 (91062508)
SRC1 :	125.00	210.00	1969.11572	(88112308)	SRC1 :	125.00	220.00	2109.97217 (88112308)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	1318.11865	(89093024)	SRC1	:	125.00	240.00	1537.69897	(89031008)
SRC1	:	125.00	250.00	1591.66040	(90082508)	SRC1	:	125.00	260.00	1607.50781c	(89102208)
SRC1	:	125.00	270.00	2722.75415c	(87062508)	SRC1	:	125.00	280.00	1439.71826	(87102508)
SRC1	:	125.00	290.00	1180.28589	(87020424)	SRC1	:	125.00	300.00	1022.62946	(91012708)
SRC1	:	125.00	310.00	941.10352	(89012308)	SRC1	:	125.00	320.00	1238.18311	(87022408)
SRC1	:	125.00	330.00	1495.86047	(88010308)	SRC1	:	125.00	340.00	1182.42542c	(91102108)
SRC1	:	125.00	350.00	1122.07532c	(90101324)	SRC1	:	125.00	360.00	1024.28442	(91010108)
SRC1	:	125.00	10.00	1445.22888	(88101408)	SRC1	:	125.00	20.00	1242.98291	(88101324)
SRC1	:	125.00	30.00	1029.88745c	(87090708)	SRC1	:	125.00	40.00	1042.99561c	(91052908)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	6505.29688c	(87090708)	500.00	750.00	6693.43750c	(87090708)
-200.00	125.00	5618.06396c	(87071508)	-50.00	-300.00	6553.96729c	(87083008)
1350.00	0.00	6357.00342c	(87083008)	-3.00	98.10	4817.94678c	(87080208)
-450.00	-150.00	4670.58496	(87091424)	1350.00	-1000.00	5979.23730	(87091508)
17.30	98.10	5724.66943c	(87073108)	-20.30	98.10	6674.84766c	(87060608)
-21.80	0.00	5158.38037c	(87062508)	-43.70	0.00	12130.76860c	(89080208)
-43.70	98.10	14826.97170c	(89102808)	-43.70	24.50	2894.29834	(87102508)
-43.70	49.10	2977.38281c	(87060508)	37.60	98.10	11716.32420	(89121708)
37.60	49.10	3846.03247	(87021908)	37.60	0.00	12449.45610c	(88083008)
37.60	24.50	4196.36719	(87022408)	37.60	-24.90	13139.16800c	(90072508)
37.60	-49.80	10382.44240c	(90061108)	37.60	-81.30	8480.18066c	(90081008)
37.60	-112.80	6694.27930c	(88092608)	15.70	-111.80	7036.04346c	(91060808)
6.10	-110.70	7769.60303c	(87090708)	-9.10	-92.50	8006.30908c	(87090708)
-11.20	-49.80	9647.77441c	(91060808)	-10.20	-71.10	8495.91309c	(91060808)
0.00	-49.80	10696.37890	(88011008)	0.00	-37.30	13141.70210c	(90052408)
0.00	-24.90	15612.23340c	(90052408)	0.00	-12.40	12215.31050c	(91060808)
-341.10	290.50	7793.10596c	(87073108)	-325.80	296.30	8994.30957c	(87060608)
-267.90	300.80	6124.87109c	(87062508)	-300.50	242.60	6078.08545c	(87062508)
-325.50	207.30	6098.84766c	(87062508)	-284.40	192.00	5012.80713c	(87010408)
-266.70	115.50	3515.43750c	(87010408)	-190.20	58.80	3947.83862c	(87060508)
-82.00	-36.00	8876.80078c	(89080208)	-397.20	-197.50	4882.04492	(87021908)
-121.30	-124.40	5309.73682	(87021908)	-80.50	-152.40	5150.90381	(87022408)
-230.10	-461.50	5269.68701	(87022408)	-26.50	-406.30	5627.97412	(87020508)
20.40	312.70	5870.07275	(87020508)	649.80	667.50	4967.99365	(87041924)
648.60	621.80	9417.57324c	(87090708)	550.50	524.00	9856.62402c	(87090708)
496.80	492.60	10142.85160c	(87090708)	368.80	460.90	10680.60640c	(87090708)
1424.00	473.70	11629.39750c	(87083008)	1358.20	117.70	12865.96290c	(87090708)
1418.20	130.80	12554.89750c	(87083008)	-29.10	-24.00	13810.56840c	(91060808)
-14.60	-24.00	13888.73140c	(91060808)	12.50	-24.00	14321.33890c	(90081008)
25.10	-24.00	13528.67190c	(91030808)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	3177.38257c	(88092608)	SRC1 :	275.00	170.00	4290.85352c	(88092608)
SRC1 :	275.00	180.00	5405.00342c	(87101908)	SRC1 :	275.00	190.00	3109.87793	(88041308)
SRC1 :	275.00	200.00	2656.59644	(90022008)	SRC1 :	275.00	210.00	3192.74341	(90091708)
SRC1 :	275.00	220.00	2573.91577	(89092408)	SRC1 :	275.00	230.00	3779.08911c	(89080208)
SRC1 :	275.00	240.00	2752.24756c	(89030908)	SRC1 :	275.00	250.00	3204.55786	(91062508)
SRC1 :	275.00	260.00	2220.60083c	(90101608)	SRC1 :	275.00	270.00	11017.64940c	(87103108)
SRC1 :	275.00	280.00	12326.88180c	(87090708)	SRC1 :	275.00	290.00	2920.41235c	(90092708)
SRC1 :	275.00	300.00	3350.89478	(90082508)	SRC1 :	275.00	310.00	10006.53610	(87051008)
SRC1 :	275.00	320.00	4757.78076	(89031708)	SRC1 :	275.00	330.00	11269.25100c	(87101308)
SRC1 :	275.00	340.00	4585.46924	(88010308)	SRC1 :	275.00	350.00	12951.73540c	(87021308)
SRC1 :	275.00	360.00	8721.90527c	(87101308)	SRC1 :	275.00	10.00	7128.52686c	(87062508)
SRC1 :	275.00	20.00	6250.69092c	(87062508)	SRC1 :	275.00	30.00	6361.72656c	(87062508)
SRC1 :	275.00	40.00	6429.48828c	(87062508)	SRC1 :	225.00	170.00	7553.58545c	(87040308)
SRC1 :	225.00	180.00	10639.33890c	(87040308)	SRC1 :	225.00	190.00	8840.19531c	(87040308)
SRC1 :	225.00	200.00	10595.99320c	(87040308)	SRC1 :	225.00	210.00	11422.77640c	(87040308)
SRC1 :	225.00	220.00	12399.38960c	(87040308)	SRC1 :	225.00	230.00	11976.48730c	(87040308)
SRC1 :	225.00	240.00	4307.36572c	(89080208)	SRC1 :	225.00	250.00	3628.20874	(91062508)
SRC1 :	225.00	260.00	3229.75293	(91062508)	SRC1 :	225.00	270.00	4356.97168c	(87090708)
SRC1 :	225.00	280.00	3431.96582	(88112308)	SRC1 :	225.00	290.00	4460.03271c	(87090708)
SRC1 :	225.00	300.00	3965.79956c	(89092808)	SRC1 :	225.00	310.00	5996.34180c	(88030608)
SRC1 :	225.00	320.00	6507.64258c	(90090108)	SRC1 :	225.00	330.00	6179.89307c	(88092708)
SRC1 :	225.00	340.00	7185.62207	(88010308)	SRC1 :	225.00	350.00	6108.56250	(88101408)
SRC1 :	225.00	360.00	6244.92725	(88101408)	SRC1 :	225.00	10.00	5556.22949	(88101408)
SRC1 :	225.00	20.00	6095.81250c	(89062208)	SRC1 :	225.00	30.00	6242.56982	(89121708)
SRC1 :	225.00	40.00	7385.01123	(89121708)	SRC1 :	175.00	170.00	5514.25635c	(88092608)
SRC1 :	175.00	180.00	5480.66797c	(88092608)	SRC1 :	175.00	190.00	4118.06543	(88041308)
SRC1 :	175.00	200.00	4037.84741	(90022008)	SRC1 :	175.00	210.00	4240.76660	(90091708)
SRC1 :	175.00	220.00	4314.58203	(90091708)	SRC1 :	175.00	230.00	11086.35160c	(87040308)
SRC1 :	175.00	240.00	12572.15140c	(87040308)	SRC1 :	175.00	250.00	12417.09280c	(87040308)
SRC1 :	175.00	260.00	12376.01270c	(87040308)	SRC1 :	175.00	270.00	3593.82104c	(87040308)
SRC1 :	175.00	280.00	4015.50586	(88112308)	SRC1 :	175.00	290.00	4638.50586	(88112308)
SRC1 :	175.00	300.00	5263.20313c	(88030608)	SRC1 :	175.00	310.00	7197.22900c	(88030608)
SRC1 :	175.00	320.00	8391.59863c	(90090108)	SRC1 :	175.00	330.00	8445.35938c	(90090108)
SRC1 :	175.00	340.00	9327.06348	(88010308)	SRC1 :	175.00	350.00	8694.44238	(88101408)
SRC1 :	175.00	360.00	8896.11816	(88101408)	SRC1 :	175.00	10.00	7781.66162	(88101408)
SRC1 :	175.00	20.00	9084.14746	(90071808)	SRC1 :	175.00	30.00	8789.79980	(89121708)
SRC1 :	175.00	40.00	9389.20020	(89121708)	SRC1 :	125.00	160.00	6562.81104c	(88092608)
SRC1 :	125.00	170.00	6714.70752c	(91060808)	SRC1 :	125.00	180.00	6519.10693c	(88092608)
SRC1 :	125.00	190.00	6311.48096	(88021808)	SRC1 :	125.00	200.00	5673.42480	(88041308)
SRC1 :	125.00	210.00	5182.69238	(90022008)	SRC1 :	125.00	220.00	5330.79199	(88082108)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	6016.80518c	(89080208)	SRC1	:	125.00	240.00	7213.56250c	(89080208)
SRC1	:	125.00	250.00	7714.45557c	(89080208)	SRC1	:	125.00	260.00	7324.83008c	(89080208)
SRC1	:	125.00	270.00	5412.01025	(91062508)	SRC1	:	125.00	280.00	6006.22803	(91062508)
SRC1	:	125.00	290.00	5947.53223	(88112308)	SRC1	:	125.00	300.00	7529.42334c	(88030608)
SRC1	:	125.00	310.00	9138.00098c	(88030608)	SRC1	:	125.00	320.00	10791.46580c	(90090108)
SRC1	:	125.00	330.00	11377.48050	(88010308)	SRC1	:	125.00	340.00	13445.10640c	(89102808)
SRC1	:	125.00	350.00	13767.74120c	(88061908)	SRC1	:	125.00	360.00	13288.61130	(88010308)
SRC1	:	125.00	10.00	12494.31250	(90071808)	SRC1	:	125.00	20.00	14542.82810c	(89121808)
SRC1	:	125.00	30.00	13813.05860c	(91101608)	SRC1	:	125.00	40.00	12858.13570c	(91101608)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	6505.29688c	(87090708)	500.00	750.00	6693.43750c	(87090708)
-200.00	125.00	5749.35986c	(87071508)	-50.00	-300.00	6974.94775c	(87083008)
1350.00	0.00	6365.41797c	(87083008)	-3.00	98.10	5276.13232c	(87080208)
-450.00	-150.00	4857.30762	(87091424)	1350.00	-1000.00	6230.30859	(87091508)
17.30	98.10	5724.66943c	(87073108)	-20.30	98.10	6674.84766c	(87060608)
-21.80	0.00	9267.64844c	(87062508)	-43.70	0.00	12134.35840c	(89080208)
-43.70	98.10	15225.73140c	(89102808)	-43.70	24.50	2984.02661	(87082408)
-43.70	49.10	3113.46777	(87082408)	37.60	98.10	11716.32420	(89121708)
37.60	49.10	3846.03247	(87021908)	37.60	0.00	12449.45610c	(88083008)
37.60	24.50	4198.36719	(87022408)	37.60	-24.90	13139.16800c	(90072508)
37.60	-49.80	10382.44240c	(90061108)	37.60	-81.30	8480.18066c	(90081008)
37.60	-112.80	16315.58300	(89041908)	15.70	-111.80	13821.81450c	(91060808)
6.10	-110.70	13589.17290	(88041308)	-9.10	-92.50	8901.51563c	(88092608)
-11.20	-49.80	9647.77441c	(91060808)	-10.20	-71.10	8688.27148c	(87083008)
0.00	-49.80	10696.37890	(88011008)	0.00	-37.30	13141.70210c	(90052408)
0.00	-24.90	15612.23340c	(90052408)	0.00	-12.40	12215.31050c	(91060808)
-341.10	290.50	7793.10596c	(87073108)	-325.80	296.30	8994.30957c	(87060608)
-267.90	300.80	13969.26660c	(87062508)	-300.50	242.60	14882.58980c	(87040308)
-325.50	207.30	8091.86426	(87102508)	-284.40	192.00	5012.80713c	(87010408)
-266.70	115.50	4032.15430c	(87072808)	-190.20	58.80	4344.87646c	(87022008)
-82.00	-36.00	9002.93066c	(89080208)	-397.20	-197.50	4882.04492	(87021908)
-121.30	-124.40	5309.73682	(87021908)	-80.50	-152.40	5150.90381	(87022408)
-230.10	-461.50	5269.68701	(87022408)	-26.50	-406.30	5627.97412	(87020508)
20.40	312.70	5870.07275	(87020508)	649.80	667.50	4986.98682	(87041924)
648.60	621.80	9417.57520c	(87090708)	550.50	524.00	9856.62402c	(87090708)
496.80	492.60	10142.85160c	(87090708)	368.80	460.90	11723.32810c	(87083008)
1424.00	473.70	12380.72360c	(87083008)	1358.20	117.70	12865.96290c	(87090708)
1418.20	130.80	12711.70210c	(87083008)	-29.10	-24.00	13810.56840c	(91060808)
-14.60	-24.00	13888.73140c	(91060808)	12.50	-24.00	14321.33890c	(90081008)
25.10	-24.00	13528.67190c	(91030808)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC (YYMMDDHH)
SRC1 :	275.00	160.00	4349.19678c	(89081024)	SRC1 :	275.00	170.00	6696.90479c (88092608)
SRC1 :	275.00	180.00	5405.16602c	(87101908)	SRC1 :	275.00	190.00	3354.25854 (88041308)
SRC1 :	275.00	200.00	2791.64795	(90022008)	SRC1 :	275.00	210.00	3217.39697 (90091708)
SRC1 :	275.00	220.00	2697.26514c	(89080208)	SRC1 :	275.00	230.00	3918.71680c (89080208)
SRC1 :	275.00	240.00	2752.25024c	(89030908)	SRC1 :	275.00	250.00	3215.74609 (91062508)
SRC1 :	275.00	260.00	3457.88599c	(87083008)	SRC1 :	275.00	270.00	11017.64940c (87103108)
SRC1 :	275.00	280.00	12931.26270c	(87083008)	SRC1 :	275.00	290.00	3100.55151c (90092708)
SRC1 :	275.00	300.00	3361.96313	(90082508)	SRC1 :	275.00	310.00	10398.24020 (87012708)
SRC1 :	275.00	320.00	4950.60986	(89031708)	SRC1 :	275.00	330.00	11269.25100c (87101308)
SRC1 :	275.00	340.00	5047.14209	(88010308)	SRC1 :	275.00	350.00	12951.73540c (87021308)
SRC1 :	275.00	360.00	9252.55371c	(87062508)	SRC1 :	275.00	10.00	7128.52686c (87062508)
SRC1 :	275.00	20.00	15005.33690c	(87062508)	SRC1 :	275.00	30.00	9739.72852 (87032024)
SRC1 :	275.00	40.00	11364.10350c	(87042008)	SRC1 :	225.00	170.00	7927.84961c (88092608)
SRC1 :	225.00	180.00	10639.33890c	(87040308)	SRC1 :	225.00	190.00	8840.19531c (87040308)
SRC1 :	225.00	200.00	10595.99320c	(87040308)	SRC1 :	225.00	210.00	11422.77640c (87040308)
SRC1 :	225.00	220.00	12399.38960c	(87040308)	SRC1 :	225.00	230.00	11976.48730c (87040308)
SRC1 :	225.00	240.00	4307.36572c	(89080208)	SRC1 :	225.00	250.00	3663.12329 (91062508)
SRC1 :	225.00	260.00	3289.15137	(91062508)	SRC1 :	225.00	270.00	4356.97363c (87090708)
SRC1 :	225.00	280.00	3597.90942	(88112308)	SRC1 :	225.00	290.00	4461.53076c (87090708)
SRC1 :	225.00	300.00	4071.17993c	(88030608)	SRC1 :	225.00	310.00	5997.00391c (88030608)
SRC1 :	225.00	320.00	6844.99561c	(90090108)	SRC1 :	225.00	330.00	6672.29834c (88092708)
SRC1 :	225.00	340.00	7747.13135	(88010308)	SRC1 :	225.00	350.00	6522.40869c (90101324)
SRC1 :	225.00	360.00	6753.08203	(88101408)	SRC1 :	225.00	10.00	6360.51074 (88101408)
SRC1 :	225.00	20.00	6316.83984c	(89062208)	SRC1 :	225.00	30.00	6242.56982 (89121708)
SRC1 :	225.00	40.00	7386.95557	(89121708)	SRC1 :	175.00	170.00	9906.78125c (88092608)
SRC1 :	175.00	180.00	6858.69336	(88021808)	SRC1 :	175.00	190.00	4736.36914c (90042208)
SRC1 :	175.00	200.00	4056.42578	(90091708)	SRC1 :	175.00	210.00	4240.80811 (90091708)
SRC1 :	175.00	220.00	4314.58203	(90091708)	SRC1 :	175.00	230.00	11086.35160c (87040308)
SRC1 :	175.00	240.00	12572.15140c	(87040308)	SRC1 :	175.00	250.00	12417.09280c (87040308)
SRC1 :	175.00	260.00	12376.01270c	(87040308)	SRC1 :	175.00	270.00	4262.25244 (87041808)
SRC1 :	175.00	280.00	5757.99268c	(87062508)	SRC1 :	175.00	290.00	4643.23730 (88112308)
SRC1 :	175.00	300.00	5409.22021c	(88030608)	SRC1 :	175.00	310.00	7197.31299c (88030608)
SRC1 :	175.00	320.00	8684.44629c	(90090108)	SRC1 :	175.00	330.00	8925.27148 (88010308)
SRC1 :	175.00	340.00	10037.38770	(88010308)	SRC1 :	175.00	350.00	8895.63574 (88101408)
SRC1 :	175.00	360.00	9536.91113	(88101408)	SRC1 :	175.00	10.00	8846.57715 (88101408)
SRC1 :	175.00	20.00	9438.70698	(90071808)	SRC1 :	175.00	30.00	8789.79980 (89121708)
SRC1 :	175.00	40.00	9389.24316	(89121708)	SRC1 :	125.00	160.00	15030.54200c (88092608)
SRC1 :	125.00	170.00	14995.64940c	(91060808)	SRC1 :	125.00	180.00	9152.66602c (90052408)
SRC1 :	125.00	190.00	6683.53857	(88021808)	SRC1 :	125.00	200.00	5673.42480 (88041308)
SRC1 :	125.00	210.00	5601.04004	(91062008)	SRC1 :	125.00	220.00	5330.79199 (88082108)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)	ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	6016.97852c	(89080208)	SRC1	:	125.00	240.00	7217.64307c	(89080208)
SRC1	:	125.00	250.00	7739.19678c	(89080208)	SRC1	:	125.00	260.00	7387.73584c	(89080208)
SRC1	:	125.00	270.00	7226.23242c	(87062508)	SRC1	:	125.00	280.00	6006.58545	(91062508)
SRC1	:	125.00	290.00	5947.73682	(88112308)	SRC1	:	125.00	300.00	7557.16211c	(88030608)
SRC1	:	125.00	310.00	9138.00293c	(88030608)	SRC1	:	125.00	320.00	10993.38180c	(90090108)
SRC1	:	125.00	330.00	12873.34180	(88010308)	SRC1	:	125.00	340.00	13964.97750c	(89102808)
SRC1	:	125.00	350.00	13948.45610c	(88061908)	SRC1	:	125.00	360.00	13442.88380	(88010308)
SRC1	:	125.00	10.00	13543.91890	(88101408)	SRC1	:	125.00	20.00	15203.63280c	(89121808)
SRC1	:	125.00	30.00	14420.72270	(88010208)	SRC1	:	125.00	40.00	12858.13570c	(91101608)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	636.19531c	(88022724)	500.00	750.00	490.55313	(87081508)
-200.00	125.00	617.41193c	(90092808)	-50.00	-300.00	831.67627	(91110908)
1350.00	0.00	465.45270	(87081608)	-3.00	98.10	1185.35229	(91010108)
-450.00	-150.00	352.59540c	(87082024)	1350.00	-1000.00	472.67166	(87100424)
17.30	98.10	1383.57312	(88101324)	-20.30	98.10	1170.29175c	(88042608)
-21.80	0.00	3363.55176c	(87040308)	-43.70	0.00	2100.98560c	(87010408)
-43.70	98.10	1858.48889	(87021908)	-43.70	24.50	1705.46423	(89012308)
-43.70	49.10	1919.58557	(88010308)	37.60	98.10	1369.03076	(88101408)
37.60	49.10	1837.89014	(88101408)	37.60	0.00	2820.09766	(88101408)
37.60	24.50	2226.35376	(88101408)	37.60	-24.90	3894.29102	(88101408)
37.60	-49.80	7246.38086c	(89121808)	37.60	-81.30	1198.50525c	(87101508)
37.60	-112.80	10968.17090c	(91030808)	15.70	-111.80	8526.87598	(88041308)
6.10	-110.70	8465.19824	(88041308)	-9.10	-92.50	6641.12939c	(89102208)
-11.20	-49.80	5644.58936	(89031708)	-10.20	-71.10	7560.24121	(89102908)
0.00	-49.80	6643.13281c	(88092708)	0.00	-37.30	5212.54688	(89012308)
0.00	-24.90	4347.23877	(88010308)	0.00	-12.40	3068.34937c	(90101324)
-341.10	290.50	783.75977	(87091424)	-325.80	296.30	597.26459	(87050924)
-267.90	300.80	8862.07910c	(87101208)	-300.50	242.60	8452.33105c	(87010408)
-325.50	207.30	4577.08887	(87042608)	-284.40	192.00	3192.20313c	(87042008)
-266.70	115.50	3448.52051	(87022408)	-190.20	58.80	1645.51501c	(87061708)
-82.00	-36.00	2473.21362c	(89102208)	-397.20	-197.50	864.25983	(87030608)
-121.30	-124.40	971.92316c	(88022724)	-80.50	-152.40	2097.93506c	(87101908)
-230.10	-461.50	1494.26160c	(87090708)	-26.50	-406.30	1583.22461c	(87101508)
20.40	312.70	1454.32361c	(87101508)	649.80	667.50	1352.49048c	(87071508)
648.60	621.80	1006.00848c	(87092624)	550.50	524.00	913.00781	(87092708)
496.80	492.60	846.51709c	(87072908)	368.80	460.90	1024.59888c	(87080108)
1424.00	473.70	751.32690c	(87083008)	1358.20	117.70	715.79578	(87081608)
1418.20	130.80	749.36328	(87071724)	-29.10	-24.00	2514.26733c	(89102808)
-14.60	-24.00	3402.67310	(89012308)	12.50	-24.00	4630.74951c	(90101324)
25.10	-24.00	4398.64258	(88101324)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	1158.03833c	(88083008)	SRC1 :	275.00	170.00	1198.64673	(88021808)
SRC1 :	275.00	180.00	1201.51904c	(88100708)	SRC1 :	275.00	190.00	1118.28650	(90022008)
SRC1 :	275.00	200.00	860.35876	(89092408)	SRC1 :	275.00	210.00	971.49646c	(89032408)
SRC1 :	275.00	220.00	896.15527	(88103108)	SRC1 :	275.00	230.00	499.16385c	(90082608)
SRC1 :	275.00	240.00	1046.40393c	(87080208)	SRC1 :	275.00	250.00	783.53412	(87061608)
SRC1 :	275.00	260.00	2210.51758c	(87071808)	SRC1 :	275.00	270.00	1836.63660	(87121108)
SRC1 :	275.00	280.00	1151.04053c	(87083008)	SRC1 :	275.00	290.00	1494.83154	(87081508)
SRC1 :	275.00	300.00	1446.39160c	(87072908)	SRC1 :	275.00	310.00	828.32269	(87052708)
SRC1 :	275.00	320.00	1297.15845	(87052708)	SRC1 :	275.00	330.00	2460.41211	(87091508)
SRC1 :	275.00	340.00	1614.68750	(87052708)	SRC1 :	275.00	350.00	3433.11743	(87091508)
SRC1 :	275.00	360.00	5521.37939	(87051008)	SRC1 :	275.00	10.00	620.11755c	(90081624)
SRC1 :	275.00	20.00	10157.70410c	(87101208)	SRC1 :	275.00	30.00	6643.95508	(87021908)
SRC1 :	275.00	40.00	7996.13721c	(87042008)	SRC1 :	225.00	170.00	7597.05615c	(87090708)
SRC1 :	225.00	180.00	5795.36523c	(87083008)	SRC1 :	225.00	190.00	7513.18994c	(87101508)
SRC1 :	225.00	200.00	5625.73975c	(87071808)	SRC1 :	225.00	210.00	5071.54932c	(87071808)
SRC1 :	225.00	220.00	3864.41040c	(87071808)	SRC1 :	225.00	230.00	3154.93359c	(87080108)
SRC1 :	225.00	240.00	605.15192	(89072908)	SRC1 :	225.00	250.00	521.37073c	(89042108)
SRC1 :	225.00	260.00	397.44412c	(89102808)	SRC1 :	225.00	270.00	590.86438c	(90092708)
SRC1 :	225.00	280.00	707.47772c	(89102524)	SRC1 :	225.00	290.00	642.47821c	(88030608)
SRC1 :	225.00	300.00	609.10962c	(90092808)	SRC1 :	225.00	310.00	840.37775c	(87101508)
SRC1 :	225.00	320.00	2799.34448c	(87101908)	SRC1 :	225.00	330.00	526.69513	(90020808)
SRC1 :	225.00	340.00	839.26611	(87050608)	SRC1 :	225.00	350.00	1432.11584	(87020508)
SRC1 :	225.00	360.00	508.15442	(88101408)	SRC1 :	225.00	10.00	804.28131	(88101408)
SRC1 :	225.00	20.00	503.57837	(91091508)	SRC1 :	225.00	30.00	472.63892	(88061924)
SRC1 :	225.00	40.00	518.67725c	(89070424)	SRC1 :	175.00	170.00	4023.44629	(88021808)
SRC1 :	175.00	180.00	2638.31201	(88041308)	SRC1 :	175.00	190.00	2374.03809	(90101124)
SRC1 :	175.00	200.00	2021.39148c	(90080208)	SRC1 :	175.00	210.00	1563.99072	(89091824)
SRC1 :	175.00	220.00	982.27472	(91092108)	SRC1 :	175.00	230.00	2863.05420c	(87092624)
SRC1 :	175.00	240.00	2998.82422c	(87071808)	SRC1 :	175.00	250.00	3518.96899	(87101824)
SRC1 :	175.00	260.00	3260.42285	(87052624)	SRC1 :	175.00	270.00	1090.73425c	(89102208)
SRC1 :	175.00	280.00	1406.01953c	(88030608)	SRC1 :	175.00	290.00	1072.47656c	(87041908)
SRC1 :	175.00	300.00	802.85529c	(87010408)	SRC1 :	175.00	310.00	783.00031	(87042624)
SRC1 :	175.00	320.00	719.11615	(90020808)	SRC1 :	175.00	330.00	745.35083	(87022408)
SRC1 :	175.00	340.00	800.38519c	(88061908)	SRC1 :	175.00	350.00	761.44696c	(90101324)
SRC1 :	175.00	360.00	640.79230	(88101408)	SRC1 :	175.00	10.00	1064.91553	(88101408)
SRC1 :	175.00	20.00	633.39301	(89081508)	SRC1 :	175.00	30.00	802.14526c	(87101908)
SRC1 :	175.00	40.00	709.34424c	(88102624)	SRC1 :	125.00	160.00	9406.81934	(89041908)
SRC1 :	125.00	170.00	9326.91895	(88011008)	SRC1 :	125.00	180.00	6005.82666c	(90110624)
SRC1 :	125.00	190.00	4402.94727	(90032708)	SRC1 :	125.00	200.00	3040.46240	(89091824)
SRC1 :	125.00	210.00	1800.83240	(89091908)	SRC1 :	125.00	220.00	1563.48438	(89072908)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	1307.95825	(88112308)	SRC1	:	125.00	240.00	1234.25403	(90082508)
SRC1	:	125.00	250.00	1169.26489	(89102908)	SRC1	:	125.00	260.00	1530.64417c	(88030608)
SRC1	:	125.00	270.00	2042.58740c	(87040308)	SRC1	:	125.00	280.00	1410.60315c	(87092524)
SRC1	:	125.00	290.00	992.07208	(87082408)	SRC1	:	125.00	300.00	993.09741	(89012408)
SRC1	:	125.00	310.00	829.62183c	(90090108)	SRC1	:	125.00	320.00	1116.02625	(90020808)
SRC1	:	125.00	330.00	1059.26794c	(91102108)	SRC1	:	125.00	340.00	964.48236	(88010308)
SRC1	:	125.00	350.00	1096.23010c	(88042608)	SRC1	:	125.00	360.00	809.44171	(88101408)
SRC1	:	125.00	10.00	1335.67871	(88101324)	SRC1	:	125.00	20.00	1115.16833c	(90081624)
SRC1	:	125.00	30.00	957.62225c	(88081124)	SRC1	:	125.00	40.00	855.88995c	(87101424)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	5959.45264c	(87101908)	500.00	750.00	6414.85938c	(87101508)
-200.00	125.00	5337.84766c	(87101608)	-50.00	-300.00	4830.58838c	(87071808)
1350.00	0.00	4880.86865	(87101824)	-3.00	98.10	4308.91357	(87091424)
-450.00	-150.00	4535.70801	(87091508)	1350.00	-1000.00	5141.80664	(87051008)
17.30	98.10	5140.21289	(87012708)	-20.30	98.10	6201.11475c	(87073108)
-21.80	0.00	4507.74561c	(87040308)	-43.70	0.00	10442.32420	(88112208)
-43.70	98.10	13738.66990	(88010308)	-43.70	24.50	2846.94678	(87082408)
-43.70	49.10	2904.17285	(87082408)	37.60	98.10	10878.59570	(89041108)
37.60	49.10	3034.68677c	(87060508)	37.60	0.00	11766.94630c	(91030808)
37.60	24.50	3268.56421	(87080624)	37.60	-24.90	12918.78810c	(91072408)
37.60	-49.80	10354.37010	(89041908)	37.60	-81.30	8135.60693c	(90061108)
37.60	-112.80	6244.81836	(88011008)	15.70	-111.80	6794.56689c	(88092608)
6.10	-110.70	7080.11279c	(87101908)	-9.10	-92.50	7842.29053c	(87101508)
-11.20	-49.80	9464.93262c	(90042208)	-10.20	-71.10	8278.73535c	(88092608)
0.00	-49.80	9588.13477c	(90042208)	0.00	-37.30	11526.08590	(88011008)
0.00	-24.90	13926.65630c	(91060808)	0.00	-12.40	11865.23340c	(88092608)
-341.10	290.50	7529.56299c	(87072608)	-325.80	296.30	8238.98047c	(87072608)
-267.90	300.80	5665.86475c	(87040308)	-300.50	242.60	5608.25537c	(87040308)
-325.50	207.30	4864.45996c	(87040308)	-284.40	192.00	4391.11230	(87102508)
-266.70	115.50	3430.34326	(87032024)	-190.20	58.80	3932.48730	(88112308)
-82.00	-36.00	7042.10791	(88070408)	-397.20	-197.50	4047.99414c	(87060508)
-121.30	-124.40	4057.87817c	(89080208)	-80.50	-152.40	4394.20313	(87021908)
-230.10	-461.50	5234.67236	(87020508)	-26.50	-406.30	5453.48926	(87022408)
20.40	312.70	5726.70117	(87022408)	649.80	667.50	4704.48535	(87022408)
648.60	621.80	8632.54785c	(87101908)	550.50	524.00	8934.36328c	(87071508)
496.80	492.60	10033.49510c	(87101508)	368.80	460.90	10434.55570c	(87083008)
1424.00	473.70	11542.18550c	(87090708)	1358.20	117.70	12229.59280c	(87101508)
1418.20	130.80	10727.81540c	(87080108)	-29.10	-24.00	13226.83200c	(88092608)
-14.60	-24.00	13492.74510c	(87060608)	12.50	-24.00	12774.36720	(89041908)
25.10	-24.00	12352.72170	(89041908)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	3116.33008c	(89081024)	SRC1 :	275.00	170.00	3110.17725c	(91060808)
SRC1 :	275.00	180.00	5339.03662c	(87090708)	SRC1 :	275.00	190.00	2439.64771c	(88100708)
SRC1 :	275.00	200.00	2312.72729	(90091708)	SRC1 :	275.00	210.00	2713.11816	(88091008)
SRC1 :	275.00	220.00	2514.89966	(88070408)	SRC1 :	275.00	230.00	2434.02686c	(90080208)
SRC1 :	275.00	240.00	2646.56909	(91062508)	SRC1 :	275.00	250.00	2365.32178c	(90091108)
SRC1 :	275.00	260.00	2165.91724c	(88022724)	SRC1 :	275.00	270.00	10066.21090c	(87042008)
SRC1 :	275.00	280.00	12005.75490c	(87101508)	SRC1 :	275.00	290.00	2744.58154	(89031008)
SRC1 :	275.00	300.00	3092.83862c	(89102208)	SRC1 :	275.00	310.00	9940.47266	(87012708)
SRC1 :	275.00	320.00	4166.41650c	(88030608)	SRC1 :	275.00	330.00	9515.15039	(87081908)
SRC1 :	275.00	340.00	4337.33398	(89012308)	SRC1 :	275.00	350.00	11916.85450c	(87101208)
SRC1 :	275.00	360.00	8685.04590c	(87021308)	SRC1 :	275.00	10.00	6592.64404c	(87040308)
SRC1 :	275.00	20.00	5787.55420c	(87040308)	SRC1 :	275.00	30.00	5871.20654c	(87040308)
SRC1 :	275.00	40.00	5649.94385c	(87040308)	SRC1 :	225.00	170.00	7015.80420c	(87062508)
SRC1 :	225.00	180.00	9670.37207c	(87010408)	SRC1 :	225.00	190.00	7782.43799c	(87062508)
SRC1 :	225.00	200.00	9687.57813c	(87010408)	SRC1 :	225.00	210.00	10437.60450c	(87010408)
SRC1 :	225.00	220.00	11322.59770c	(87010408)	SRC1 :	225.00	230.00	11129.96880c	(87062508)
SRC1 :	225.00	240.00	3354.34448c	(87090708)	SRC1 :	225.00	250.00	3169.70898c	(87101508)
SRC1 :	225.00	260.00	3193.20532	(89091824)	SRC1 :	225.00	270.00	2995.63550c	(87101508)
SRC1 :	225.00	280.00	3409.01367c	(87101908)	SRC1 :	225.00	290.00	4043.67603c	(87101908)
SRC1 :	225.00	300.00	3958.80273	(90082508)	SRC1 :	225.00	310.00	4600.01904	(90060108)
SRC1 :	225.00	320.00	6302.50244	(87021908)	SRC1 :	225.00	330.00	5270.75244	(89031708)
SRC1 :	225.00	340.00	5696.92188	(89012308)	SRC1 :	225.00	350.00	5980.32031c	(90101324)
SRC1 :	225.00	360.00	6049.68115c	(90101324)	SRC1 :	225.00	10.00	5446.57959	(88101324)
SRC1 :	225.00	20.00	5606.42969	(90071808)	SRC1 :	225.00	30.00	6061.86621	(89041108)
SRC1 :	225.00	40.00	6942.10498c	(90090508)	SRC1 :	175.00	170.00	4725.53906	(88021808)
SRC1 :	175.00	180.00	5459.14551	(88021808)	SRC1 :	175.00	190.00	4018.32324	(89121308)
SRC1 :	175.00	200.00	3956.36646	(90091708)	SRC1 :	175.00	210.00	3489.41772	(88091008)
SRC1 :	175.00	220.00	4040.28662	(88070408)	SRC1 :	175.00	230.00	10578.51170c	(87062508)
SRC1 :	175.00	240.00	11370.43650c	(87010408)	SRC1 :	175.00	250.00	11431.92190c	(87010408)
SRC1 :	175.00	260.00	11488.51660c	(87010408)	SRC1 :	175.00	270.00	3479.14941	(89091824)
SRC1 :	175.00	280.00	4001.32739c	(87062508)	SRC1 :	175.00	290.00	4104.15723c	(90092708)
SRC1 :	175.00	300.00	5225.92285c	(90092708)	SRC1 :	175.00	310.00	6100.98877	(90042308)
SRC1 :	175.00	320.00	7632.94727	(89102908)	SRC1 :	175.00	330.00	7911.08447	(88010308)
SRC1 :	175.00	340.00	8657.86328c	(88092708)	SRC1 :	175.00	350.00	8040.25391	(88010308)
SRC1 :	175.00	360.00	8241.59277c	(88061908)	SRC1 :	175.00	10.00	7660.91260	(88101324)
SRC1 :	175.00	20.00	8267.61523c	(89121808)	SRC1 :	175.00	30.00	8301.51563	(89110108)
SRC1 :	175.00	40.00	8784.00098c	(90090508)	SRC1 :	125.00	160.00	6105.43018	(88011008)
SRC1 :	125.00	170.00	6495.54834c	(88092608)	SRC1 :	125.00	180.00	6425.86768	(88021808)
SRC1 :	125.00	190.00	5376.36377	(88041308)	SRC1 :	125.00	200.00	5075.51465c	(87083008)
SRC1 :	125.00	210.00	5138.79883	(91062008)	SRC1 :	125.00	220.00	5252.46240	(90091708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	5397.99365	(88070408)	SRC1	:	125.00	240.00	5279.20752	(90032708)
SRC1	:	125.00	250.00	5459.21191	(90032708)	SRC1	:	125.00	260.00	6122.78174c	(90080208)
SRC1	:	125.00	270.00	5264.02930	(89072908)	SRC1	:	125.00	280.00	5431.71924	(89072908)
SRC1	:	125.00	290.00	5332.51465	(90082508)	SRC1	:	125.00	300.00	7136.14160	(88112308)
SRC1	:	125.00	310.00	8563.32715	(89102908)	SRC1	:	125.00	320.00	10393.14450	(89102908)
SRC1	:	125.00	330.00	11361.48930c	(89102808)	SRC1	:	125.00	340.00	12215.48340	(88010308)
SRC1	:	125.00	350.00	12934.92970c	(90090108)	SRC1	:	125.00	360.00	12342.59380c	(90101324)
SRC1	:	125.00	10.00	12128.98240c	(89062208)	SRC1	:	125.00	20.00	14453.39260c	(88100908)
SRC1	:	125.00	30.00	13769.68750	(88010208)	SRC1	:	125.00	40.00	12217.12210	(89121708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	5959.45264c	(87101908)	500.00	750.00	6500.79932c	(87101508)
-200.00	125.00	5645.55127c	(87101608)	-50.00	-300.00	5113.22852c	(87071808)
1350.00	0.00	4939.60791	(87101824)	-3.00	98.10	4309.29297	(87091424)
-450.00	-150.00	4537.00977	(87091508)	1350.00	-1000.00	5432.43213c	(87110308)
17.30	98.10	5255.17627	(87012708)	-20.30	98.10	6201.11475c	(87073108)
-21.80	0.00	7871.29736c	(87040308)	-43.70	0.00	10442.32420	(88112208)
-43.70	98.10	15178.49900	(88010308)	-43.70	24.50	2894.29834	(87102508)
-43.70	49.10	2977.38281c	(87060508)	37.60	98.10	10878.59570	(89041108)
37.60	49.10	3133.02661c	(87121408)	37.60	0.00	11766.94630c	(91030808)
37.60	24.50	3269.14307	(87080624)	37.60	-24.90	12918.78810c	(91072408)
37.60	-49.80	10354.37010	(89041908)	37.60	-81.30	8135.60693c	(90061108)
37.60	-112.80	16128.96970c	(88092608)	15.70	-111.80	13557.76760	(88041308)
6.10	-110.70	12519.13670c	(90042208)	-9.10	-92.50	8334.42383c	(90092708)
-11.20	-49.80	9464.93262c	(90042208)	-10.20	-71.10	8495.91309c	(91060808)
0.00	-49.80	9588.13477c	(90042208)	0.00	-37.30	11526.08590	(88011008)
0.00	-24.90	13926.65630c	(91060808)	0.00	-12.40	11865.23340c	(88092608)
-341.10	290.50	7529.83643c	(87072608)	-325.80	296.30	8389.03809c	(87072608)
-267.90	300.80	12864.32130c	(87040308)	-300.50	242.60	13623.50390c	(87062508)
-325.50	207.30	7806.06836c	(87010408)	-284.40	192.00	4672.78174c	(87042008)
-266.70	115.50	3918.58081c	(87022008)	-190.20	58.80	3960.73950	(88112308)
-82.00	-36.00	7099.23389	(88070408)	-397.20	-197.50	4047.99414c	(87060508)
-121.30	-124.40	4143.26611	(88070408)	-80.50	-152.40	4394.20313	(87021908)
-230.10	-461.50	5234.67236	(87020508)	-26.50	-406.30	5453.48926	(87022408)
20.40	312.70	5726.70117	(87022408)	649.80	667.50	4704.48535	(87022408)
648.60	621.80	8632.54785c	(87101908)	550.50	524.00	9042.37891c	(87101508)
496.80	492.60	10099.75100c	(87101508)	368.80	460.90	10680.60640c	(87090708)
1424.00	473.70	11542.18550c	(87090708)	1358.20	117.70	12229.59280c	(87101508)
1418.20	130.80	11058.14550c	(87080108)	-29.10	-24.00	13226.83200c	(88092608)
-14.60	-24.00	13492.74510c	(87060608)	12.50	-24.00	12774.36720	(89041908)
25.10	-24.00	12352.72170	(89041908)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	4067.70996	(89041908)	SRC1 :	275.00	170.00	4178.80566c	(91060808)
SRC1 :	275.00	180.00	5339.92139c	(87090708)	SRC1 :	275.00	190.00	2725.88257c	(88100708)
SRC1 :	275.00	200.00	2593.75732	(90091708)	SRC1 :	275.00	210.00	2877.48389	(88091008)
SRC1 :	275.00	220.00	2648.01367	(88070408)	SRC1 :	275.00	230.00	2672.05029c	(90080208)
SRC1 :	275.00	240.00	2699.34131c	(90080208)	SRC1 :	275.00	250.00	2374.94751	(88103108)
SRC1 :	275.00	260.00	2230.52759c	(90101608)	SRC1 :	275.00	270.00	10066.21090c	(87042008)
SRC1 :	275.00	280.00	12326.88180c	(87090708)	SRC1 :	275.00	290.00	2744.65259	(89031008)
SRC1 :	275.00	300.00	3216.92847c	(88030608)	SRC1 :	275.00	310.00	10010.14450	(87051008)
SRC1 :	275.00	320.00	4476.78760c	(90090108)	SRC1 :	275.00	330.00	9515.15039	(87081908)
SRC1 :	275.00	340.00	4603.81982	(89012308)	SRC1 :	275.00	350.00	11916.85450c	(87101208)
SRC1 :	275.00	360.00	8721.90527c	(87101308)	SRC1 :	275.00	10.00	6592.64404c	(87040308)
SRC1 :	275.00	20.00	13846.85840c	(87040308)	SRC1 :	275.00	30.00	9638.81934c	(87030408)
SRC1 :	275.00	40.00	9885.57910c	(87010408)	SRC1 :	225.00	170.00	7689.87646c	(87101908)
SRC1 :	225.00	180.00	9670.37207c	(87010408)	SRC1 :	225.00	190.00	7782.43799c	(87062508)
SRC1 :	225.00	200.00	9687.57813c	(87010408)	SRC1 :	225.00	210.00	10437.60450c	(87010408)
SRC1 :	225.00	220.00	11322.59770c	(87010408)	SRC1 :	225.00	230.00	11131.96190c	(87062508)
SRC1 :	225.00	240.00	3354.34448c	(87090708)	SRC1 :	225.00	250.00	3193.05444c	(87101508)
SRC1 :	225.00	260.00	3193.22168	(89091824)	SRC1 :	225.00	270.00	3094.65820c	(87101508)
SRC1 :	225.00	280.00	3412.73804c	(87101908)	SRC1 :	225.00	290.00	4043.96997c	(87101908)
SRC1 :	225.00	300.00	3966.26514	(90082508)	SRC1 :	225.00	310.00	4858.75244	(89102908)
SRC1 :	225.00	320.00	6302.50244	(87021908)	SRC1 :	225.00	330.00	5361.04395	(88010308)
SRC1 :	225.00	340.00	6013.46826	(89012308)	SRC1 :	225.00	350.00	6266.10010	(88101408)
SRC1 :	225.00	360.00	6355.35156c	(90101324)	SRC1 :	225.00	10.00	6325.79785	(88101324)
SRC1 :	225.00	20.00	5827.01416	(90071808)	SRC1 :	225.00	30.00	6061.86621	(89041108)
SRC1 :	225.00	40.00	6942.10498c	(90090508)	SRC1 :	175.00	170.00	8748.98535	(88021808)
SRC1 :	175.00	180.00	6577.37012	(88041308)	SRC1 :	175.00	190.00	4575.55518	(88041308)
SRC1 :	175.00	200.00	4054.01855	(90022008)	SRC1 :	175.00	210.00	3716.78955	(88091008)
SRC1 :	175.00	220.00	4241.99072	(88070408)	SRC1 :	175.00	230.00	10578.51170c	(87062508)
SRC1 :	175.00	240.00	11370.43650c	(87010408)	SRC1 :	175.00	250.00	11456.78420c	(87091408)
SRC1 :	175.00	260.00	11488.51660c	(87010408)	SRC1 :	175.00	270.00	3943.08813c	(87040308)
SRC1 :	175.00	280.00	4606.67432c	(87040308)	SRC1 :	175.00	290.00	4184.66797c	(90092708)
SRC1 :	175.00	300.00	5251.04150	(88091108)	SRC1 :	175.00	310.00	6101.35303	(90042308)
SRC1 :	175.00	320.00	7813.46826	(89102908)	SRC1 :	175.00	330.00	8447.52832c	(90090108)
SRC1 :	175.00	340.00	8686.57324c	(88092708)	SRC1 :	175.00	350.00	8258.04395	(88010308)
SRC1 :	175.00	360.00	8331.44531	(88101324)	SRC1 :	175.00	10.00	8813.85352	(88101324)
SRC1 :	175.00	20.00	8647.20605c	(89121808)	SRC1 :	175.00	30.00	8384.04199	(88010208)
SRC1 :	175.00	40.00	8784.00098c	(90090508)	SRC1 :	125.00	160.00	15025.88870	(89041908)
SRC1 :	125.00	170.00	14534.25290c	(88092608)	SRC1 :	125.00	180.00	9060.88672c	(91060808)
SRC1 :	125.00	190.00	6214.35107c	(89080208)	SRC1 :	125.00	200.00	5412.16357c	(87083008)
SRC1 :	125.00	210.00	5182.69238	(90022008)	SRC1 :	125.00	220.00	5252.46240	(90091708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	125.00	230.00	5433.62305	(88070408)	SRC1 :	125.00	240.00	5418.89063	(90032708)
SRC1 :	125.00	250.00	5466.33496	(90032708)	SRC1 :	125.00	260.00	6122.80078c	(90080208)
SRC1 :	125.00	270.00	5778.84375c	(87040308)	SRC1 :	125.00	280.00	5431.71924	(89072908)
SRC1 :	125.00	290.00	5351.73486	(90082508)	SRC1 :	125.00	300.00	7136.14160	(88112308)
SRC1 :	125.00	310.00	8849.29102	(89102908)	SRC1 :	125.00	320.00	10599.15140	(89102908)
SRC1 :	125.00	330.00	11452.83890c	(89102808)	SRC1 :	125.00	340.00	13179.96680	(88010308)
SRC1 :	125.00	350.00	13102.67480c	(90101324)	SRC1 :	125.00	360.00	13116.13570c	(90101324)
SRC1 :	125.00	10.00	13023.01950	(88101324)	SRC1 :	125.00	20.00	14635.94630c	(88100908)
SRC1 :	125.00	30.00	13813.05860c	(91101608)	SRC1 :	125.00	40.00	12217.12210	(89121708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	274.16125	(87092724)	500.00	750.00	163.51773	(87081524)
-200.00	125.00	196.38817c	(89102524)	-50.00	-300.00	363.88443	(90101224)
1350.00	0.00	201.89619c	(87052624)	-3.00	98.10	440.75797	(91010124)
-450.00	-150.00	143.46941	(87012724)	1350.00	-1000.00	250.78853c	(87091424)
17.30	98.10	614.97186	(88101424)	-20.30	98.10	498.53101c	(91082724)
-21.80	0.00	1254.16150c	(87062524)	-43.70	0.00	1119.56921	(87082424)
-43.70	98.10	917.78961	(87042624)	-43.70	24.50	733.44385	(87080624)
-43.70	49.10	702.91235c	(87020524)	37.60	98.10	658.61371c	(88101324)
37.60	49.10	895.94757c	(88101324)	37.60	0.00	1355.31226c	(88101324)
37.60	24.50	1084.82275c	(88101324)	37.60	-24.90	2017.02771c	(88061924)
37.60	-49.80	3627.90601c	(88081124)	37.60	-81.30	601.41852c	(87090724)
37.60	-112.80	5732.59033	(90111724)	15.70	-111.80	4259.45703	(90101224)
6.10	-110.70	4912.12207c	(89091924)	-9.10	-92.50	3846.98022	(88112224)
-11.20	-49.80	2067.15283c	(89102524)	-10.20	-71.10	4294.82275c	(89102524)
0.00	-49.80	3021.81592c	(89102824)	0.00	-37.30	2489.70972	(89012324)
0.00	-24.90	2188.29980	(89012324)	0.00	-12.40	1424.29041	(89012324)
-341.10	290.50	363.37735	(87091524)	-325.80	296.30	286.98456c	(87060724)
-267.90	300.80	5793.54053c	(87101224)	-300.50	242.60	4192.67334c	(87040324)
-325.50	207.30	2923.98242	(87042624)	-284.40	192.00	1874.45862	(87080624)
-266.70	115.50	1525.38293c	(87020524)	-190.20	58.80	632.82654c	(87020524)
-82.00	-36.00	1090.63794c	(89102524)	-397.20	-197.50	502.53125	(87032224)
-121.30	-124.40	532.86987c	(87041924)	-80.50	-152.40	900.59369c	(89070524)
-230.10	-461.50	675.57062c	(87101924)	-26.50	-406.30	855.57190c	(87090724)
20.40	312.70	586.25623c	(87101424)	649.80	667.50	535.33008c	(87101424)
648.60	621.80	499.14771	(87092724)	550.50	524.00	318.09555	(87092724)
496.80	492.60	272.01425	(87121124)	368.80	460.90	351.48361c	(87083024)
1424.00	473.70	304.84634c	(87080124)	1358.20	117.70	321.08176	(87081624)
1418.20	130.80	407.53430c	(87071824)	-29.10	-24.00	1231.10181c	(89102824)
-14.60	-24.00	1646.71484	(88010324)	12.50	-24.00	1938.71838	(88101424)
25.10	-24.00	2107.73218	(88101424)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	580.20221	(89122324)	SRC1	:	275.00	170.00	656.19574c	(88092624)
SRC1	:	275.00	180.00	503.24118c	(88041324)	SRC1	:	275.00	190.00	468.85645	(90101224)
SRC1	:	275.00	200.00	335.63370	(88040924)	SRC1	:	275.00	210.00	412.77530c	(87071824)
SRC1	:	275.00	220.00	387.90210	(91062524)	SRC1	:	275.00	230.00	177.71742c	(89091924)
SRC1	:	275.00	240.00	465.48544c	(87071824)	SRC1	:	275.00	250.00	353.53418	(87081624)
SRC1	:	275.00	260.00	943.05981c	(87083024)	SRC1	:	275.00	270.00	922.26508	(87092724)
SRC1	:	275.00	280.00	375.46677c	(87080124)	SRC1	:	275.00	290.00	554.21906c	(87083024)
SRC1	:	275.00	300.00	632.62024c	(87083024)	SRC1	:	275.00	310.00	297.97998c	(87082024)
SRC1	:	275.00	320.00	575.61285c	(87091424)	SRC1	:	275.00	330.00	1202.40710c	(87091424)
SRC1	:	275.00	340.00	824.39490c	(87091424)	SRC1	:	275.00	350.00	1545.14661	(87011324)
SRC1	:	275.00	360.00	3058.35791c	(87110324)	SRC1	:	275.00	10.00	259.20547c	(88101324)
SRC1	:	275.00	20.00	6642.32178c	(87101224)	SRC1	:	275.00	30.00	3866.79956c	(87092524)
SRC1	:	275.00	40.00	4184.51758	(87021924)	SRC1	:	225.00	170.00	3233.92114	(87022424)
SRC1	:	225.00	180.00	2259.34058	(87092724)	SRC1	:	225.00	190.00	3188.03662c	(87101924)
SRC1	:	225.00	200.00	2125.54492	(87092824)	SRC1	:	225.00	210.00	1686.99670	(87071724)
SRC1	:	225.00	220.00	1373.32715	(87061424)	SRC1	:	225.00	230.00	1118.52039c	(87071824)
SRC1	:	225.00	240.00	239.68901c	(88112324)	SRC1	:	225.00	250.00	190.52075c	(88112324)
SRC1	:	225.00	260.00	165.99321c	(89102824)	SRC1	:	225.00	270.00	232.34383	(90082524)
SRC1	:	225.00	280.00	342.44620c	(89102524)	SRC1	:	225.00	290.00	255.64680	(89031724)
SRC1	:	225.00	300.00	254.58408c	(87090724)	SRC1	:	225.00	310.00	424.14569c	(87090724)
SRC1	:	225.00	320.00	1175.46912c	(87090724)	SRC1	:	225.00	330.00	227.05705	(88010324)
SRC1	:	225.00	340.00	376.10275c	(87061724)	SRC1	:	225.00	350.00	711.41425c	(87020524)
SRC1	:	225.00	360.00	198.03386	(88091824)	SRC1	:	225.00	10.00	358.53702c	(88101324)
SRC1	:	225.00	20.00	225.73138	(91091524)	SRC1	:	225.00	30.00	232.27792c	(88061924)
SRC1	:	225.00	40.00	230.07227c	(88011024)	SRC1	:	175.00	170.00	1839.03430c	(88092524)
SRC1	:	175.00	180.00	1417.11096	(90101224)	SRC1	:	175.00	190.00	918.54517c	(90101124)
SRC1	:	175.00	200.00	976.37616	(91122724)	SRC1	:	175.00	210.00	852.61267c	(89070524)
SRC1	:	175.00	220.00	464.19165c	(89091924)	SRC1	:	175.00	230.00	1251.11829	(87092724)
SRC1	:	175.00	240.00	1276.27161c	(87083024)	SRC1	:	175.00	250.00	1533.87317c	(87071824)
SRC1	:	175.00	260.00	1698.64734c	(87091424)	SRC1	:	175.00	270.00	553.04468c	(89102524)
SRC1	:	175.00	280.00	531.11908c	(87062524)	SRC1	:	175.00	290.00	410.71002c	(87092524)
SRC1	:	175.00	300.00	364.75351	(87082424)	SRC1	:	175.00	310.00	425.58798	(87042624)
SRC1	:	175.00	320.00	333.77460	(89012324)	SRC1	:	175.00	330.00	338.39633	(88010324)
SRC1	:	175.00	340.00	303.18472c	(91082724)	SRC1	:	175.00	350.00	285.11597c	(88042624)
SRC1	:	175.00	360.00	266.93539	(91010124)	SRC1	:	175.00	10.00	469.72070c	(88101324)
SRC1	:	175.00	20.00	271.11151	(91091524)	SRC1	:	175.00	30.00	327.83060c	(91062724)
SRC1	:	175.00	40.00	353.29501c	(88061924)	SRC1	:	125.00	160.00	4898.16553	(89122324)
SRC1	:	125.00	170.00	5135.04004c	(88092524)	SRC1	:	125.00	180.00	3196.90771c	(91110924)
SRC1	:	125.00	190.00	1976.10681c	(90032724)	SRC1	:	125.00	200.00	1613.14600c	(89091924)
SRC1	:	125.00	210.00	867.55518c	(89091924)	SRC1	:	125.00	220.00	801.16022c	(88112324)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)	ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	556.38855c	(88112324)	SRC1	:	125.00	240.00	568.74628	(89031024)
SRC1	:	125.00	250.00	533.69415c	(89102524)	SRC1	:	125.00	260.00	754.10492c	(89102524)
SRC1	:	125.00	270.00	822.96167c	(87062524)	SRC1	:	125.00	280.00	620.17969c	(87092524)
SRC1	:	125.00	290.00	498.15625	(87082424)	SRC1	:	125.00	300.00	538.11224	(87042624)
SRC1	:	125.00	310.00	429.26645	(87081124)	SRC1	:	125.00	320.00	432.10031	(87022424)
SRC1	:	125.00	330.00	499.55276	(88010324)	SRC1	:	125.00	340.00	422.79407c	(91082724)
SRC1	:	125.00	350.00	383.14087c	(91082724)	SRC1	:	125.00	360.00	378.88925	(91010124)
SRC1	:	125.00	10.00	545.49683	(88101424)	SRC1	:	125.00	20.00	515.39099c	(88101324)
SRC1	:	125.00	30.00	440.23590c	(91062724)	SRC1	:	125.00	40.00	514.03607c	(88061924)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	2390.45093c	(87101924)	500.00	750.00	2342.73535c	(87101324)
-200.00	125.00	1980.28418	(87092724)	-50.00	-300.00	1856.88245c	(87052624)
1350.00	0.00	2316.64893c	(87071824)	-3.00	98.10	2360.22852c	(87091424)
-450.00	-150.00	2237.92944	(87011324)	1350.00	-1000.00	2781.30493c	(87110324)
17.30	98.10	2654.83032	(87051024)	-20.30	98.10	3426.93359c	(87060624)
-21.80	0.00	1578.61633c	(87040324)	-43.70	0.00	6072.32568c	(89091924)
-43.70	98.10	7643.87354c	(89102824)	-43.70	24.50	1566.43225	(87082424)
-43.70	49.10	1465.99109	(87082424)	37.60	98.10	6753.83838	(90103124)
37.60	49.10	1422.01477	(87042624)	37.60	0.00	5069.74951	(89122324)
37.60	24.50	1626.98401	(87081124)	37.60	-24.90	7061.78760c	(88092524)
37.60	-49.80	5732.84229c	(88092524)	37.60	-81.30	4176.11475	(88100324)
37.60	-112.80	3156.64917c	(88092524)	15.70	-111.80	3789.32813c	(88092524)
6.10	-110.70	3845.74829c	(88092524)	-9.10	-92.50	3787.71094c	(88092524)
-11.20	-49.80	5715.36328c	(88092524)	-10.20	-71.10	4929.78564c	(88092524)
0.00	-49.80	5690.28369c	(88092524)	0.00	-37.30	6249.78271c	(88092524)
0.00	-24.90	6794.58398c	(88092524)	0.00	-12.40	7172.12354c	(88092524)
-341.10	290.50	4199.39014c	(87060624)	-325.80	296.30	4517.08984c	(87060624)
-267.90	300.80	2288.59839c	(87012624)	-300.50	242.60	2067.84741c	(87040324)
-325.50	207.30	2078.69458c	(87092524)	-284.40	192.00	2333.93237c	(87092524)
-266.70	115.50	2086.96094c	(87092524)	-190.20	58.80	2163.24585	(87042624)
-82.00	-36.00	3458.32544c	(91110924)	-397.20	-197.50	2000.28223	(87080624)
-121.30	-124.40	2516.05713	(87080624)	-80.50	-152.40	2509.28760	(87080624)
-230.10	-461.50	2499.21021c	(87020524)	-26.50	-406.30	2602.70996c	(87020524)
20.40	312.70	2901.69141	(87022424)	649.80	667.50	3068.70410c	(87041924)
648.60	621.80	3341.86548c	(87090724)	550.50	524.00	3741.27344c	(87101424)
496.80	492.60	4458.61230c	(87101924)	368.80	460.90	4808.56104c	(87101924)
1424.00	473.70	5774.96143	(87110224)	1358.20	117.70	6177.69922	(87052724)
1418.20	130.80	6639.16016c	(87080124)	-29.10	-24.00	7514.83398c	(87080124)
-14.60	-24.00	6983.33008c	(87060624)	12.50	-24.00	6660.83203c	(88092524)
25.10	-24.00	7563.42676c	(88092524)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	1579.27112c	(88092524)	SRC1	:	275.00	170.00	1406.30237c	(88092524)
SRC1	:	275.00	180.00	2011.53674c	(87101924)	SRC1	:	275.00	190.00	1130.86475c	(88041324)
SRC1	:	275.00	200.00	1453.88867	(90101224)	SRC1	:	275.00	210.00	1075.75977	(90091724)
SRC1	:	275.00	220.00	940.92969c	(90101124)	SRC1	:	275.00	230.00	1030.82739c	(89080224)
SRC1	:	275.00	240.00	1164.03271	(91122724)	SRC1	:	275.00	250.00	1258.93359c	(89070524)
SRC1	:	275.00	260.00	1075.74597c	(89091924)	SRC1	:	275.00	270.00	5130.56982	(87021924)
SRC1	:	275.00	280.00	5863.32666	(87110224)	SRC1	:	275.00	290.00	1007.87408	(89031024)
SRC1	:	275.00	300.00	1472.49097c	(89102524)	SRC1	:	275.00	310.00	6169.96240	(87051024)
SRC1	:	275.00	320.00	1745.19092c	(89102524)	SRC1	:	275.00	330.00	4288.72070c	(87081924)
SRC1	:	275.00	340.00	1999.85107	(89012324)	SRC1	:	275.00	350.00	7473.50293c	(87101224)
SRC1	:	275.00	360.00	4794.07129c	(87081924)	SRC1	:	275.00	10.00	3542.44556c	(87012624)
SRC1	:	275.00	20.00	2349.76196c	(87012624)	SRC1	:	275.00	30.00	2510.56616	(90103124)
SRC1	:	275.00	40.00	3077.48853	(90103124)	SRC1	:	225.00	170.00	3011.48975c	(87040324)
SRC1	:	225.00	180.00	4687.21680c	(87040324)	SRC1	:	225.00	190.00	3877.27051c	(87040324)
SRC1	:	225.00	200.00	4700.65137c	(87040324)	SRC1	:	225.00	210.00	5085.47217c	(87040324)
SRC1	:	225.00	220.00	5552.77539c	(87030824)	SRC1	:	225.00	230.00	4877.12842c	(87040324)
SRC1	:	225.00	240.00	1430.85950	(91122724)	SRC1	:	225.00	250.00	1445.39917c	(89070524)
SRC1	:	225.00	260.00	1511.21130c	(89091924)	SRC1	:	225.00	270.00	1448.26917c	(87090724)
SRC1	:	225.00	280.00	1336.59998c	(88112324)	SRC1	:	225.00	290.00	1546.14001c	(87101924)
SRC1	:	225.00	300.00	1713.85669c	(89102524)	SRC1	:	225.00	310.00	2671.90088c	(89102524)
SRC1	:	225.00	320.00	3222.79370c	(89102524)	SRC1	:	225.00	330.00	2026.66296c	(89102524)
SRC1	:	225.00	340.00	2614.44653	(89012324)	SRC1	:	225.00	350.00	2764.15625	(89012324)
SRC1	:	225.00	360.00	2724.49780	(88101424)	SRC1	:	225.00	10.00	2655.40210	(88101424)
SRC1	:	225.00	20.00	2496.86108	(90071824)	SRC1	:	225.00	30.00	3527.87622	(90103124)
SRC1	:	225.00	40.00	3765.60913	(90103124)	SRC1	:	175.00	170.00	2516.20508c	(88092524)
SRC1	:	175.00	180.00	2003.54126c	(91012524)	SRC1	:	175.00	190.00	1944.71179	(90101224)
SRC1	:	175.00	200.00	2086.48120	(90101224)	SRC1	:	175.00	210.00	1875.45789	(90101224)
SRC1	:	175.00	220.00	1606.33997	(90091724)	SRC1	:	175.00	230.00	5168.60938c	(87040324)
SRC1	:	175.00	240.00	5511.83643c	(87040324)	SRC1	:	175.00	250.00	5916.67822c	(87081924)
SRC1	:	175.00	260.00	5926.71045c	(87081924)	SRC1	:	175.00	270.00	1841.38538c	(89091924)
SRC1	:	175.00	280.00	1575.50244c	(88112324)	SRC1	:	175.00	290.00	1929.32495c	(88112324)
SRC1	:	175.00	300.00	2481.36865c	(88112324)	SRC1	:	175.00	310.00	3363.58496c	(89102524)
SRC1	:	175.00	320.00	4384.37109c	(89102524)	SRC1	:	175.00	330.00	4004.83032c	(89102524)
SRC1	:	175.00	340.00	3754.66357c	(89102824)	SRC1	:	175.00	350.00	4096.74121	(89012324)
SRC1	:	175.00	360.00	4349.25928c	(88061924)	SRC1	:	175.00	10.00	3770.92871	(88101424)
SRC1	:	175.00	20.00	4216.85791	(88010224)	SRC1	:	175.00	30.00	4839.40479	(90103124)
SRC1	:	175.00	40.00	4721.47656	(90010724)	SRC1	:	125.00	160.00	3024.80811c	(88092524)
SRC1	:	125.00	170.00	3270.68164c	(88092524)	SRC1	:	125.00	180.00	3066.69849c	(88092524)
SRC1	:	125.00	190.00	2847.05200	(90101224)	SRC1	:	125.00	200.00	2666.20923	(90101224)
SRC1	:	125.00	210.00	2572.13159	(90101224)	SRC1	:	125.00	220.00	2205.27930c	(91110924)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)	ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)
SRC1	:	125.00	230.00	2419.62354c (91110924)	SRC1	:	125.00	240.00	2673.20313 (89092124)
SRC1	:	125.00	250.00	2412.55835c (90032724)	SRC1	:	125.00	260.00	3085.72241c (89091924)
SRC1	:	125.00	270.00	2855.61865c (89091924)	SRC1	:	125.00	280.00	3116.46582 (88112224)
SRC1	:	125.00	290.00	2712.42407c (89091924)	SRC1	:	125.00	300.00	3638.93506c (88112324)
SRC1	:	125.00	310.00	4827.47754c (89102524)	SRC1	:	125.00	320.00	5869.32959c (89102524)
SRC1	:	125.00	330.00	6189.03320c (89102824)	SRC1	:	125.00	340.00	7163.36475c (89102824)
SRC1	:	125.00	350.00	6743.97510c (88061924)	SRC1	:	125.00	360.00	6584.70166 (89012324)
SRC1	:	125.00	10.00	7149.79297 (90010724)	SRC1	:	125.00	20.00	7512.16602 (88010224)
SRC1	:	125.00	30.00	7085.14844c (91101624)	SRC1	:	125.00	40.00	6682.32227c (91101624)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
-180.00	-150.00	2432.06372c (87101924)	500.00	750.00	2427.36719 (87092724)
-200.00	125.00	2015.79395c (87092624)	-50.00	-300.00	1904.04810c (87052624)
1350.00	0.00	2391.63867c (87071824)	-3.00	98.10	2360.54834c (87091424)
-450.00	-150.00	2339.58960 (87011324)	1350.00	-1000.00	2889.42529c (87110324)
17.30	98.10	2787.48267 (87051024)	-20.30	98.10	3444.11694c (87060624)
-21.80	0.00	2826.60229c (87062524)	-43.70	0.00	6072.32568c (89091924)
-43.70	98.10	7827.39844c (89102824)	-43.70	24.50	1759.50232 (87082424)
-43.70	49.10	1690.94397 (87082424)	37.60	98.10	6753.83838 (90103124)
37.60	49.10	1619.40979 (87021924)	37.60	0.00	5069.74951 (89122324)
37.60	24.50	1690.16736 (87081124)	37.60	-24.90	7061.78760c (88092524)
37.60	-49.80	5732.84229c (88092524)	37.60	-81.30	4176.11475 (88100324)
37.60	-112.80	8588.75293c (88092524)	15.70	-111.80	6229.35205 (90101224)
6.10	-110.70	6367.22021 (90101224)	-9.10	-92.50	4430.51123 (88112224)
-11.20	-49.80	5715.36328c (88092524)	-10.20	-71.10	4929.78564c (88092524)
0.00	-49.80	5690.28369c (88092524)	0.00	-37.30	6249.78271c (88092524)
0.00	-24.90	6794.58398c (88092524)	0.00	-12.40	7172.12354c (88092524)
-341.10	290.50	4218.13916c (87060624)	-325.80	296.30	4542.55127c (87060624)
-267.90	300.80	7170.12012c (87101224)	-300.50	242.60	6260.52051c (87040324)
-325.50	207.30	3853.78979c (87010424)	-284.40	192.00	2813.32983c (87010424)
-266.70	115.50	2384.05933 (87082424)	-190.20	58.80	2212.24707 (87042624)
-82.00	-36.00	3590.40186c (91110924)	-397.20	-197.50	2070.00806 (87080624)
-121.30	-124.40	2555.42114 (87080624)	-80.50	-152.40	2527.37012 (87080624)
-230.10	-461.50	2528.11865c (87020524)	-26.50	-406.30	2612.57349c (87020524)
20.40	312.70	2902.98047 (87022424)	649.80	667.50	3086.88428c (87041924)
648.60	621.80	3395.13647c (87101924)	550.50	524.00	3742.58350c (87101424)
496.80	492.60	4542.72021c (87101924)	368.80	460.90	4855.51172c (87101924)
1424.00	473.70	5974.13818 (87110224)	1358.20	117.70	6336.35400 (87071724)
1418.20	130.80	6796.31104c (87080124)	-29.10	-24.00	7612.73340c (87080124)
-14.60	-24.00	6991.09521c (87060624)	12.50	-24.00	6660.83203c (88092524)
25.10	-24.00	7563.42676c (88092524)			

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	2046.54895c	(89081024)	SRC1 :	275.00	170.00	1867.47778c	(88092524)
SRC1 :	275.00	180.00	2021.63220c	(87101924)	SRC1 :	275.00	190.00	1493.53320	(90101224)
SRC1 :	275.00	200.00	1522.16150	(90101224)	SRC1 :	275.00	210.00	1161.25818	(90091724)
SRC1 :	275.00	220.00	1053.85437	(89092124)	SRC1 :	275.00	230.00	1074.38831c	(89080224)
SRC1 :	275.00	240.00	1193.45569	(91122724)	SRC1 :	275.00	250.00	1263.19775c	(89070524)
SRC1 :	275.00	260.00	1075.75122c	(89091924)	SRC1 :	275.00	270.00	5130.56982	(87021924)
SRC1 :	275.00	280.00	6083.43701	(87110224)	SRC1 :	275.00	290.00	1061.38330	(89031024)
SRC1 :	275.00	300.00	1628.26611c	(89102524)	SRC1 :	275.00	310.00	6184.46240	(87051024)
SRC1 :	275.00	320.00	1771.05603c	(89102524)	SRC1 :	275.00	330.00	4288.72070c	(87081924)
SRC1 :	275.00	340.00	2142.20166	(89012324)	SRC1 :	275.00	350.00	7473.50293c	(87101224)
SRC1 :	275.00	360.00	4794.07129c	(87081924)	SRC1 :	275.00	10.00	3542.44556c	(87012624)
SRC1 :	275.00	20.00	7985.35449c	(87101224)	SRC1 :	275.00	30.00	6008.28418c	(87092524)
SRC1 :	275.00	40.00	5584.97754c	(87010424)	SRC1 :	225.00	170.00	4125.30957c	(87041924)
SRC1 :	225.00	180.00	4687.21680c	(87040324)	SRC1 :	225.00	190.00	3877.27051c	(87040324)
SRC1 :	225.00	200.00	4700.65137c	(87040324)	SRC1 :	225.00	210.00	5085.47217c	(87040324)
SRC1 :	225.00	220.00	5552.77539c	(87030824)	SRC1 :	225.00	230.00	4877.12842c	(87040324)
SRC1 :	225.00	240.00	1461.23486	(91122724)	SRC1 :	225.00	250.00	1452.81091c	(89070524)
SRC1 :	225.00	260.00	1516.17114c	(89091924)	SRC1 :	225.00	270.00	1454.51355c	(87090724)
SRC1 :	225.00	280.00	1491.60706c	(88112324)	SRC1 :	225.00	290.00	1553.68945c	(87101924)
SRC1 :	225.00	300.00	1919.18494c	(89102524)	SRC1 :	225.00	310.00	2834.54102c	(89102524)
SRC1 :	225.00	320.00	3255.53857c	(89102524)	SRC1 :	225.00	330.00	2067.33276c	(88092724)
SRC1 :	225.00	340.00	2791.30737	(88010324)	SRC1 :	225.00	350.00	2904.76855	(89012324)
SRC1 :	225.00	360.00	2914.46851	(88101424)	SRC1 :	225.00	10.00	2960.94653	(88101424)
SRC1 :	225.00	20.00	2619.65967	(90071824)	SRC1 :	225.00	30.00	3528.13672	(90103124)
SRC1 :	225.00	40.00	3780.64648	(90103124)	SRC1 :	175.00	170.00	4355.23926c	(88092524)
SRC1 :	175.00	180.00	2904.33472	(90101224)	SRC1 :	175.00	190.00	2463.27124	(90101224)
SRC1 :	175.00	200.00	2169.68164	(90101224)	SRC1 :	175.00	210.00	2019.30652	(90101224)
SRC1 :	175.00	220.00	1735.99475	(90091724)	SRC1 :	175.00	230.00	5168.60938c	(87040324)
SRC1 :	175.00	240.00	5511.83643c	(87040324)	SRC1 :	175.00	250.00	5916.67822c	(87081924)
SRC1 :	175.00	260.00	5926.71045c	(87081924)	SRC1 :	175.00	270.00	1913.00623c	(89091924)
SRC1 :	175.00	280.00	1744.94629c	(87062524)	SRC1 :	175.00	290.00	2075.26978c	(88112324)
SRC1 :	175.00	300.00	2559.15918c	(88112324)	SRC1 :	175.00	310.00	3522.08618c	(89102524)
SRC1 :	175.00	320.00	4428.45605c	(89102524)	SRC1 :	175.00	330.00	4031.54126c	(89102524)
SRC1 :	175.00	340.00	3901.73389c	(89102824)	SRC1 :	175.00	350.00	4279.18311	(89012324)
SRC1 :	175.00	360.00	4375.45215c	(88061924)	SRC1 :	175.00	10.00	4175.92725	(88101424)
SRC1 :	175.00	20.00	4357.16357	(90071824)	SRC1 :	175.00	30.00	4839.50049	(90103124)
SRC1 :	175.00	40.00	4731.97656	(90010724)	SRC1 :	125.00	160.00	7520.91748	(88100324)
SRC1 :	125.00	170.00	8405.72168c	(88092524)	SRC1 :	125.00	180.00	5173.12695	(90101224)
SRC1 :	125.00	190.00	3268.69946	(90101224)	SRC1 :	125.00	200.00	2880.05371	(90101224)
SRC1 :	125.00	210.00	2573.14697	(90101224)	SRC1 :	125.00	220.00	2357.17651c	(91110924)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	2535.01758c	(91110924)	SRC1	:	125.00	240.00	2774.39258	(89092124)
SRC1	:	125.00	250.00	2621.76294c	(90032724)	SRC1	:	125.00	260.00	3204.90747c	(89091924)
SRC1	:	125.00	270.00	2856.24390c	(89091924)	SRC1	:	125.00	280.00	3175.68530	(88112224)
SRC1	:	125.00	290.00	2712.42407c	(89091924)	SRC1	:	125.00	300.00	3749.49634c	(88112324)
SRC1	:	125.00	310.00	4959.11328c	(89102524)	SRC1	:	125.00	320.00	5928.69775c	(89102524)
SRC1	:	125.00	330.00	6241.45703c	(89102824)	SRC1	:	125.00	340.00	7392.19531c	(89102824)
SRC1	:	125.00	350.00	6818.52637c	(88061924)	SRC1	:	125.00	360.00	6813.26514	(89012324)
SRC1	:	125.00	10.00	7256.20850	(90010724)	SRC1	:	125.00	20.00	7722.21289	(88010224)
SRC1	:	125.00	30.00	7182.72266	(89121724)	SRC1	:	125.00	40.00	6697.95605c	(91101624)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	248.76453c	(89091924)	500.00	750.00	151.88585c	(87041024)
-200.00	125.00	190.53964c	(91082824)	-50.00	-300.00	304.82437	(90022024)
1350.00	0.00	201.05566	(87081624)	-3.00	98.10	395.27188c	(88042624)
-450.00	-150.00	129.12831	(87020124)	1350.00	-1000.00	210.60861c	(87100424)
17.30	98.10	567.06934c	(88101324)	-20.30	98.10	425.60892c	(90101324)
-21.80	0.00	1228.17871c	(87040324)	-43.70	0.00	1039.41272c	(87092524)
-43.70	98.10	797.14874	(87050524)	-43.70	24.50	697.50195	(89012324)
-43.70	49.10	698.52954	(87022424)	37.60	98.10	574.87720	(88101424)
37.60	49.10	848.16949	(88101424)	37.60	0.00	1348.67834	(88101424)
37.60	24.50	1052.76379	(88101424)	37.60	-24.90	1907.29150	(88101424)
37.60	-49.80	3395.09985c	(89062224)	37.60	-81.30	363.54410c	(87101324)
37.60	-112.80	5463.97510c	(88100624)	15.70	-111.80	3819.39941c	(90083024)
6.10	-110.70	4592.33740	(89092124)	-9.10	-92.50	3375.82788	(91082524)
-11.20	-49.80	2039.87500c	(90042324)	-10.20	-71.10	3225.61475c	(89102824)
0.00	-49.80	2780.97656	(89012324)	0.00	-37.30	2121.04932	(88010324)
0.00	-24.90	1501.26672	(88010324)	0.00	-12.40	1353.57605	(88010324)
-341.10	290.50	330.00412c	(87091424)	-325.80	296.30	242.80762	(87091524)
-267.90	300.80	4541.51904c	(87060424)	-300.50	242.60	3371.73120	(87062324)
-325.50	207.30	2678.59766	(87080624)	-284.40	192.00	1727.85754	(87081124)
-266.70	115.50	1435.18347	(87022424)	-190.20	58.80	631.68097	(87022424)
-82.00	-36.00	870.72852c	(90111924)	-397.20	-197.50	475.50229	(87032324)
-121.30	-124.40	502.34943c	(89091924)	-80.50	-152.40	777.73334	(91062524)
-230.10	-461.50	631.10077	(87120624)	-26.50	-406.30	506.91879c	(87101324)
20.40	312.70	510.33127c	(87090724)	649.80	667.50	533.57471c	(87092624)
648.60	621.80	398.74097c	(87092624)	550.50	524.00	279.53641c	(87041024)
496.80	492.60	269.49307c	(87083024)	368.80	460.90	323.56174c	(87080124)
1424.00	473.70	261.14340	(87081424)	1358.20	117.70	307.94955c	(87052624)
1418.20	130.80	309.97592c	(87121824)	-29.10	-24.00	1134.70337c	(90042324)
-14.60	-24.00	1521.10315	(89012324)	12.50	-24.00	1910.36938c	(91082724)
25.10	-24.00	1911.87463c	(88101324)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)	ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)
SRC1	:	275.00	160.00	532.49121c (89081024)	SRC1	:	275.00	170.00	540.15570c (88100624)
SRC1	:	275.00	180.00	368.78354c (89091724)	SRC1	:	275.00	190.00	412.27396 (90091724)
SRC1	:	275.00	200.00	307.96249c (88070424)	SRC1	:	275.00	210.00	349.50696c (90080224)
SRC1	:	275.00	220.00	370.24792c (89070524)	SRC1	:	275.00	230.00	173.05472c (90101624)
SRC1	:	275.00	240.00	375.44821c (87121824)	SRC1	:	275.00	250.00	342.93338c (87052624)
SRC1	:	275.00	260.00	668.44391 (87121124)	SRC1	:	275.00	270.00	707.00879 (87121124)
SRC1	:	275.00	280.00	332.70511c (89102524)	SRC1	:	275.00	290.00	520.96692c (87052824)
SRC1	:	275.00	300.00	421.82953c (87072924)	SRC1	:	275.00	310.00	289.88004 (87052724)
SRC1	:	275.00	320.00	502.77310 (87011324)	SRC1	:	275.00	330.00	1034.42969 (87011324)
SRC1	:	275.00	340.00	740.60968 (87011324)	SRC1	:	275.00	350.00	1509.81970c (87091424)
SRC1	:	275.00	360.00	3020.55859 (87011324)	SRC1	:	275.00	10.00	242.35262c (90081624)
SRC1	:	275.00	20.00	5498.58545c (87081924)	SRC1	:	275.00	30.00	3718.70605 (87042624)
SRC1	:	275.00	40.00	4108.09326 (87042624)	SRC1	:	225.00	170.00	3099.20215c (87041924)
SRC1	:	225.00	180.00	2222.41284c (87101324)	SRC1	:	225.00	190.00	2883.34424c (87101324)
SRC1	:	225.00	200.00	2079.78198 (87092724)	SRC1	:	225.00	210.00	1618.43237c (87052624)
SRC1	:	225.00	220.00	1362.40625c (87071824)	SRC1	:	225.00	230.00	1098.22754 (87110224)
SRC1	:	225.00	240.00	204.56927 (89072924)	SRC1	:	225.00	250.00	170.94984 (91080724)
SRC1	:	225.00	260.00	159.48224c (88083124)	SRC1	:	225.00	270.00	208.26738c (91042824)
SRC1	:	225.00	280.00	251.00839c (88030624)	SRC1	:	225.00	290.00	234.19469c (89102624)
SRC1	:	225.00	300.00	220.69266c (89102724)	SRC1	:	225.00	310.00	284.25592c (87101324)
SRC1	:	225.00	320.00	1115.82788c (87101924)	SRC1	:	225.00	330.00	187.02574 (90020824)
SRC1	:	225.00	340.00	320.20627c (87121424)	SRC1	:	225.00	350.00	675.21722 (87022424)
SRC1	:	225.00	360.00	189.97070 (88101424)	SRC1	:	225.00	10.00	305.54449 (88101424)
SRC1	:	225.00	20.00	208.92911c (91062724)	SRC1	:	225.00	30.00	182.43805c (90071924)
SRC1	:	225.00	40.00	217.24170 (90071824)	SRC1	:	175.00	170.00	1748.65564c (91012524)
SRC1	:	175.00	180.00	1157.65625 (90022824)	SRC1	:	175.00	190.00	906.24261c (88070424)
SRC1	:	175.00	200.00	800.51892c (91060724)	SRC1	:	175.00	210.00	743.05426 (91062524)
SRC1	:	175.00	220.00	379.66788c (89091824)	SRC1	:	175.00	230.00	1170.06482c (87092624)
SRC1	:	175.00	240.00	1203.20203 (87092724)	SRC1	:	175.00	250.00	1419.97229c (87080124)
SRC1	:	175.00	260.00	1547.23816 (87011324)	SRC1	:	175.00	270.00	390.22324 (87041824)
SRC1	:	175.00	280.00	447.19534c (87040324)	SRC1	:	175.00	290.00	326.45917c (87041924)
SRC1	:	175.00	300.00	304.16302c (87010424)	SRC1	:	175.00	310.00	287.47339 (88112424)
SRC1	:	175.00	320.00	257.89056 (90020824)	SRC1	:	175.00	330.00	277.50925c (87020524)
SRC1	:	175.00	340.00	274.93094c (91102124)	SRC1	:	175.00	350.00	255.37717c (91082724)
SRC1	:	175.00	360.00	256.34164 (88091824)	SRC1	:	175.00	10.00	404.99850 (88101424)
SRC1	:	175.00	20.00	260.61487c (89081524)	SRC1	:	175.00	30.00	289.31808c (88061924)
SRC1	:	175.00	40.00	347.96326c (87090724)	SRC1	:	125.00	160.00	4603.54248 (88100324)
SRC1	:	125.00	170.00	4717.85156c (91012524)	SRC1	:	125.00	180.00	3081.35840 (89092124)
SRC1	:	125.00	190.00	1975.07935c (89091924)	SRC1	:	125.00	200.00	1458.31250 (88112224)
SRC1	:	125.00	210.00	718.97583c (88112324)	SRC1	:	125.00	220.00	569.82941c (90072624)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	495.72217	(89093024)	SRC1	:	125.00	240.00	462.58676c	(90082424)
SRC1	:	125.00	250.00	530.72040	(90082524)	SRC1	:	125.00	260.00	490.84787c	(89102224)
SRC1	:	125.00	270.00	701.85034c	(87040324)	SRC1	:	125.00	280.00	479.90610	(87102524)
SRC1	:	125.00	290.00	449.02151c	(87020424)	SRC1	:	125.00	300.00	433.99063	(87050524)
SRC1	:	125.00	310.00	370.57935	(88112424)	SRC1	:	125.00	320.00	399.17798	(90020824)
SRC1	:	125.00	330.00	304.41586c	(89090524)	SRC1	:	125.00	340.00	363.95154c	(91102124)
SRC1	:	125.00	350.00	354.33957c	(90101324)	SRC1	:	125.00	360.00	329.05347	(88091824)
SRC1	:	125.00	10.00	545.49280c	(88101324)	SRC1	:	125.00	20.00	470.27637	(88101424)
SRC1	:	125.00	30.00	393.51843	(91091524)	SRC1	:	125.00	40.00	370.25220c	(91062724)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	2278.51196c	(87090724)	500.00	750.00	2331.39160	(87092724)
-200.00	125.00	1960.16858c	(87092624)	-50.00	-300.00	1787.44849c	(87083024)
1350.00	0.00	1913.21021c	(87083024)	-3.00	98.10	2203.05688	(87011324)
-450.00	-150.00	1995.90698c	(87110324)	1350.00	-1000.00	2472.94312	(87051024)
17.30	98.10	2526.37915	(87122124)	-20.30	98.10	3164.01880c	(87072024)
-21.80	0.00	1572.44080c	(87062524)	-43.70	0.00	5670.36914	(89092124)
-43.70	98.10	7110.81396c	(89102524)	-43.70	24.50	1416.56152c	(87092524)
-43.70	49.10	1457.51660	(87042624)	37.60	98.10	5898.06494	(90010724)
37.60	49.10	1389.56592	(87021924)	37.60	0.00	4785.05420	(90111724)
37.60	24.50	1596.35583	(87080624)	37.60	-24.90	6445.16553	(88100324)
37.60	-49.80	5561.28516	(88100324)	37.60	-81.30	3681.38867	(90111724)
37.60	-112.80	3083.83789	(88100324)	15.70	-111.80	3168.93970c	(91012524)
6.10	-110.70	3222.79907c	(91012524)	-9.10	-92.50	3688.90698	(90101224)
-11.20	-49.80	5040.07764	(91081124)	-10.20	-71.10	4163.33057	(90101224)
0.00	-49.80	5058.88135c	(91012524)	0.00	-37.30	5787.10156c	(91012524)
0.00	-24.90	6280.89893c	(91012524)	0.00	-12.40	5696.94873	(90101224)
-341.10	290.50	3867.44727	(87051024)	-325.80	296.30	4311.19385c	(87072024)
-267.90	300.80	1978.75256	(87062324)	-300.50	242.60	1855.85193c	(87062524)
-325.50	207.30	1931.15710c	(87040324)	-284.40	192.00	1697.27820c	(87040324)
-266.70	115.50	1937.04749	(87082424)	-190.20	58.80	1941.85498	(87082424)
-82.00	-36.00	3374.93628	(89092124)	-397.20	-197.50	1955.93884	(87050524)
-121.30	-124.40	2143.26587	(87042624)	-80.50	-152.40	2191.70581c	(87062424)
-230.10	-461.50	2365.32422	(87080624)	-26.50	-406.30	2433.72241	(87081124)
20.40	312.70	2711.16626c	(87020524)	649.80	667.50	2740.86792	(87022424)
648.60	621.80	3323.30054c	(87101924)	550.50	524.00	3715.79614c	(87090724)
496.80	492.60	3858.15186c	(87101324)	368.80	460.90	4468.60107c	(87101524)
1424.00	473.70	5344.72217c	(87101424)	1358.20	117.70	6153.02686c	(87101524)
1418.20	130.80	6207.12549c	(87083024)	-29.10	-24.00	7291.66748c	(87101824)
-14.60	-24.00	6888.91357c	(88092524)	12.50	-24.00	6488.33936c	(87060624)
25.10	-24.00	6813.74756	(88100324)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	1514.05798c	(89081024)	SRC1	:	275.00	170.00	1247.58459c	(91012524)
SRC1	:	275.00	180.00	1831.86121c	(87090724)	SRC1	:	275.00	190.00	1024.67725	(90101224)
SRC1	:	275.00	200.00	938.76593	(91081124)	SRC1	:	275.00	210.00	1005.95898	(90101224)
SRC1	:	275.00	220.00	897.30188c	(88070424)	SRC1	:	275.00	230.00	954.47174c	(91060724)
SRC1	:	275.00	240.00	998.98718c	(89030924)	SRC1	:	275.00	250.00	1074.19153	(91062524)
SRC1	:	275.00	260.00	862.94110c	(89091824)	SRC1	:	275.00	270.00	4966.01465	(87042624)
SRC1	:	275.00	280.00	5553.73145c	(87101924)	SRC1	:	275.00	290.00	892.50067c	(91051124)
SRC1	:	275.00	300.00	1287.13843c	(90082424)	SRC1	:	275.00	310.00	4901.00000	(87122124)
SRC1	:	275.00	320.00	1592.42468	(89031724)	SRC1	:	275.00	330.00	3787.09058c	(87101224)
SRC1	:	275.00	340.00	1566.10486	(88010324)	SRC1	:	275.00	350.00	6154.21826c	(87012624)
SRC1	:	275.00	360.00	4296.99072c	(87012624)	SRC1	:	275.00	10.00	3325.74219c	(87081924)
SRC1	:	275.00	20.00	2018.21045c	(87040324)	SRC1	:	275.00	30.00	2255.52295	(90010724)
SRC1	:	275.00	40.00	2594.08374	(90010724)	SRC1	:	225.00	170.00	2735.28076c	(87092524)
SRC1	:	225.00	180.00	3612.02612	(87101024)	SRC1	:	225.00	190.00	3116.95850c	(87092524)
SRC1	:	225.00	200.00	3626.38086	(87101024)	SRC1	:	225.00	210.00	4862.43701c	(87012624)
SRC1	:	225.00	220.00	5522.75830c	(87040324)	SRC1	:	225.00	230.00	4536.92480c	(87092524)
SRC1	:	225.00	240.00	1359.97156c	(90032724)	SRC1	:	225.00	250.00	1329.32874c	(89091824)
SRC1	:	225.00	260.00	1388.67639	(88112224)	SRC1	:	225.00	270.00	1170.46973c	(89091924)
SRC1	:	225.00	280.00	1258.12451c	(87101924)	SRC1	:	225.00	290.00	1477.13269c	(87090724)
SRC1	:	225.00	300.00	1580.30261c	(90082424)	SRC1	:	225.00	310.00	2063.89600c	(89102624)
SRC1	:	225.00	320.00	3163.35962	(87080624)	SRC1	:	225.00	330.00	1978.58374c	(90042324)
SRC1	:	225.00	340.00	2602.29785	(88010324)	SRC1	:	225.00	350.00	2405.23901c	(91082724)
SRC1	:	225.00	360.00	2596.32007	(91010124)	SRC1	:	225.00	10.00	2642.23315c	(88061924)
SRC1	:	225.00	20.00	2490.32080	(88081424)	SRC1	:	225.00	30.00	3231.21606	(90010724)
SRC1	:	225.00	40.00	3514.53320	(90010724)	SRC1	:	175.00	170.00	2192.21997c	(91012524)
SRC1	:	175.00	180.00	1842.23169c	(88092524)	SRC1	:	175.00	190.00	1789.52649	(90022824)
SRC1	:	175.00	200.00	1546.12659	(90022824)	SRC1	:	175.00	210.00	1591.70898	(88040824)
SRC1	:	175.00	220.00	1444.00952c	(88070424)	SRC1	:	175.00	230.00	5044.65332c	(87010424)
SRC1	:	175.00	240.00	4661.07373	(87101024)	SRC1	:	175.00	250.00	5610.11572c	(87040324)
SRC1	:	175.00	260.00	5826.40918c	(87012624)	SRC1	:	175.00	270.00	1705.71375	(88112224)
SRC1	:	175.00	280.00	1350.77319c	(89091924)	SRC1	:	175.00	290.00	1480.48169c	(90082424)
SRC1	:	175.00	300.00	2280.35962c	(90082424)	SRC1	:	175.00	310.00	2629.35400c	(89102624)
SRC1	:	175.00	320.00	3201.34351c	(89102224)	SRC1	:	175.00	330.00	3116.43164	(88112424)
SRC1	:	175.00	340.00	3560.47681	(89012324)	SRC1	:	175.00	350.00	3540.96094	(91101724)
SRC1	:	175.00	360.00	3870.27808	(88101424)	SRC1	:	175.00	10.00	3488.91504	(88091824)
SRC1	:	175.00	20.00	4154.53076	(90071824)	SRC1	:	175.00	30.00	4705.63916	(90010724)
SRC1	:	175.00	40.00	4717.06494	(90103124)	SRC1	:	125.00	160.00	2917.37378	(88100324)
SRC1	:	125.00	170.00	2799.72217c	(91012524)	SRC1	:	125.00	180.00	2917.03003c	(91012524)
SRC1	:	125.00	190.00	2738.68042	(90022824)	SRC1	:	125.00	200.00	2346.12671	(90022824)
SRC1	:	125.00	210.00	2148.73267	(89051424)	SRC1	:	125.00	220.00	2186.60962	(90101224)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	2261.39551	(91122724)	SRC1	:	125.00	240.00	2535.23169c	(91060724)
SRC1	:	125.00	250.00	2401.78906	(89092124)	SRC1	:	125.00	260.00	2530.39673c	(89091824)
SRC1	:	125.00	270.00	2644.72705	(88112224)	SRC1	:	125.00	280.00	2649.53760c	(89091924)
SRC1	:	125.00	290.00	2495.90186c	(88112324)	SRC1	:	125.00	300.00	3048.37793c	(90082424)
SRC1	:	125.00	310.00	4656.14404c	(88112324)	SRC1	:	125.00	320.00	4743.97070c	(88112324)
SRC1	:	125.00	330.00	6165.08008c	(89102524)	SRC1	:	125.00	340.00	7106.62354c	(89102524)
SRC1	:	125.00	350.00	6462.49512c	(89102824)	SRC1	:	125.00	360.00	6202.24023c	(88061924)
SRC1	:	125.00	10.00	6789.29541	(88010224)	SRC1	:	125.00	20.00	7312.62695	(90010724)
SRC1	:	125.00	30.00	7052.39648	(89121724)	SRC1	:	125.00	40.00	6637.49951c	(88100824)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
-180.00	-150.00	2283.44604c (87090724)	500.00	750.00	2403.16187c (87101324)
-200.00	125.00	1985.03259 (87092724)	-50.00	-300.00	1902.26135c (87083024)
1350.00	0.00	2004.65479 (87081624)	-3.00	98.10	2330.76440 (87011324)
-450.00	-150.00	2045.18506c (87091424)	1350.00	-1000.00	2526.52515 (87051024)
17.30	98.10	2537.62378 (87122124)	-20.30	98.10	3165.26392c (87072024)
-21.80	0.00	2806.79517c (87040324)	-43.70	0.00	5670.36914 (89092124)
-43.70	98.10	7124.22510c (89102524)	-43.70	24.50	1451.53638c (87092524)
-43.70	49.10	1668.15796c (87010424)	37.60	98.10	5976.97900 (90010724)
37.60	49.10	1460.78210 (87080624)	37.60	0.00	4785.05420 (90111724)
37.60	24.50	1621.34766 (87080624)	37.60	-24.90	6445.16553 (88100324)
37.60	-49.80	5561.28516 (88100324)	37.60	-81.30	3681.38867 (90111724)
37.60	-112.80	8309.01465 (88100324)	15.70	-111.80	6228.57520c (88092524)
6.10	-110.70	6311.78613c (88092524)	-9.10	-92.50	4193.51318 (88030524)
-11.20	-49.80	5056.23926c (91012524)	-10.20	-71.10	4294.82275c (89102524)
0.00	-49.80	5353.84131c (91012524)	0.00	-37.30	6006.54785c (91012524)
0.00	-24.90	6437.92188c (91012524)	0.00	-12.40	5707.98389c (91012524)
-341.10	290.50	4039.33398 (87051024)	-325.80	296.30	4311.86230c (87072024)
-267.90	300.80	6538.26904c (87012624)	-300.50	242.60	5130.64307c (87012624)
-325.50	207.30	3608.26978 (87042624)	-284.40	192.00	2587.33740c (87092524)
-266.70	115.50	2379.57544c (87092524)	-190.20	58.80	2109.48462 (87082424)
-82.00	-36.00	3547.89648 (89092124)	-397.20	-197.50	2017.48621 (87050524)
-121.30	-124.40	2294.62378 (87042624)	-80.50	-152.40	2257.38257c (87062424)
-230.10	-461.50	2371.83398 (87080624)	-26.50	-406.30	2450.20117 (87081124)
20.40	312.70	2713.82544c (87020524)	649.80	667.50	2740.90332 (87022424)
648.60	621.80	3357.45532c (87090724)	550.50	524.00	3719.94141c (87090724)
496.80	492.60	3908.39917 (87092724)	368.80	460.90	4600.36426c (87101524)
1424.00	473.70	5369.72266c (87101424)	1358.20	117.70	6297.58447c (87101524)
1418.20	130.80	6270.27295c (87083024)	-29.10	-24.00	7566.27246c (87101824)
-14.60	-24.00	6888.91357c (88092524)	12.50	-24.00	6565.36768c (87030724)
25.10	-24.00	6813.74756 (88100324)			

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	1829.06152c	(88092524)	SRC1 :	275.00	170.00	1826.42859c	(88092624)
SRC1 :	275.00	180.00	1849.48816c	(87090724)	SRC1 :	275.00	190.00	1261.08252	(90022824)
SRC1 :	275.00	200.00	1045.18005	(89051424)	SRC1 :	275.00	210.00	1041.24768c	(91110924)
SRC1 :	275.00	220.00	997.97620c	(90082324)	SRC1 :	275.00	230.00	984.72162c	(91060724)
SRC1 :	275.00	240.00	1001.87317c	(89030924)	SRC1 :	275.00	250.00	1126.75110	(88112224)
SRC1 :	275.00	260.00	943.05981c	(87083024)	SRC1 :	275.00	270.00	4966.01465	(87042624)
SRC1 :	275.00	280.00	5576.35791c	(87101924)	SRC1 :	275.00	290.00	918.22064c	(91051124)
SRC1 :	275.00	300.00	1290.26770c	(90082424)	SRC1 :	275.00	310.00	4959.31494	(87122124)
SRC1 :	275.00	320.00	1664.49658	(89031724)	SRC1 :	275.00	330.00	3787.09058c	(87101224)
SRC1 :	275.00	340.00	1721.27454	(88010324)	SRC1 :	275.00	350.00	6154.21826c	(87012624)
SRC1 :	275.00	360.00	4593.30859c	(87091424)	SRC1 :	275.00	10.00	3325.74219c	(87081924)
SRC1 :	275.00	20.00	7638.81543c	(87012624)	SRC1 :	275.00	30.00	4920.45117c	(87040324)
SRC1 :	275.00	40.00	5516.93262c	(87092524)	SRC1 :	225.00	170.00	3866.72144c	(87010424)
SRC1 :	225.00	180.00	4240.62402c	(87092624)	SRC1 :	225.00	190.00	3809.25708c	(87092624)
SRC1 :	225.00	200.00	4009.15698c	(87092624)	SRC1 :	225.00	210.00	4862.43701c	(87012624)
SRC1 :	225.00	220.00	5522.75830c	(87040324)	SRC1 :	225.00	230.00	4536.92480c	(87092524)
SRC1 :	225.00	240.00	1407.13708c	(90032724)	SRC1 :	225.00	250.00	1339.93665c	(89091824)
SRC1 :	225.00	260.00	1444.49316	(88112224)	SRC1 :	225.00	270.00	1276.48547c	(89091924)
SRC1 :	225.00	280.00	1272.77673c	(87101924)	SRC1 :	225.00	290.00	1489.73877c	(88112324)
SRC1 :	225.00	300.00	1582.81714c	(90082424)	SRC1 :	225.00	310.00	2094.55078c	(89102624)
SRC1 :	225.00	320.00	3172.15063	(87080624)	SRC1 :	225.00	330.00	2060.13989c	(90042324)
SRC1 :	225.00	340.00	2788.04370	(89012324)	SRC1 :	225.00	350.00	2584.71826c	(91082724)
SRC1 :	225.00	360.00	2776.69897	(91010124)	SRC1 :	225.00	10.00	2716.23779c	(88101324)
SRC1 :	225.00	20.00	2598.64990c	(88081124)	SRC1 :	225.00	30.00	3231.22729	(90010724)
SRC1 :	225.00	40.00	3553.33862	(90010724)	SRC1 :	175.00	170.00	3940.87622c	(91012524)
SRC1 :	175.00	180.00	2659.32397	(91081124)	SRC1 :	175.00	190.00	2042.55420	(90022824)
SRC1 :	175.00	200.00	1843.06458c	(91110924)	SRC1 :	175.00	210.00	1696.74219	(88040824)
SRC1 :	175.00	220.00	1590.93640	(88040924)	SRC1 :	175.00	230.00	5044.65332c	(87010424)
SRC1 :	175.00	240.00	4662.02588	(87101024)	SRC1 :	175.00	250.00	5610.11572c	(87040324)
SRC1 :	175.00	260.00	5826.40918c	(87012624)	SRC1 :	175.00	270.00	1822.75964	(88112224)
SRC1 :	175.00	280.00	1744.08875c	(88112324)	SRC1 :	175.00	290.00	1562.04358	(89031024)
SRC1 :	175.00	300.00	2363.58252c	(89102524)	SRC1 :	175.00	310.00	2660.53174c	(89102624)
SRC1 :	175.00	320.00	3252.58472	(89102924)	SRC1 :	175.00	330.00	3219.33789	(88010324)
SRC1 :	175.00	340.00	3779.31177	(89012324)	SRC1 :	175.00	350.00	3685.99780	(91101724)
SRC1 :	175.00	360.00	4106.73730	(88101424)	SRC1 :	175.00	10.00	3804.08154c	(88101324)
SRC1 :	175.00	20.00	4339.79395	(88010224)	SRC1 :	175.00	30.00	4705.63965	(90010724)
SRC1 :	175.00	40.00	4723.88721	(90103124)	SRC1 :	125.00	160.00	7061.35938c	(88092524)
SRC1 :	125.00	170.00	7517.57275c	(91012524)	SRC1 :	125.00	180.00	4666.44629	(91081124)
SRC1 :	125.00	190.00	3085.74878	(88021824)	SRC1 :	125.00	200.00	2346.14722	(90022824)
SRC1 :	125.00	210.00	2259.40479	(89051424)	SRC1 :	125.00	220.00	2230.72583	(90091724)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	2275.12598	(91122724)	SRC1	:	125.00	240.00	2582.14868c	(90032724)
SRC1	:	125.00	250.00	2546.89941	(89092124)	SRC1	:	125.00	260.00	2648.84473	(88112224)
SRC1	:	125.00	270.00	2776.04224	(88112224)	SRC1	:	125.00	280.00	2649.53760c	(89091924)
SRC1	:	125.00	290.00	2635.98267c	(88112324)	SRC1	:	125.00	300.00	3068.06079c	(89102524)
SRC1	:	125.00	310.00	4700.84326c	(88112324)	SRC1	:	125.00	320.00	4756.69580c	(88112324)
SRC1	:	125.00	330.00	6195.94873c	(89102524)	SRC1	:	125.00	340.00	7112.09521c	(89102524)
SRC1	:	125.00	350.00	6787.76855c	(89102824)	SRC1	:	125.00	360.00	6333.68457c	(89102824)
SRC1	:	125.00	10.00	6923.05225	(88010224)	SRC1	:	125.00	20.00	7352.56055	(90010724)
SRC1	:	125.00	30.00	7162.54932	(88010224)	SRC1	:	125.00	40.00	6637.51123c	(88100824)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	11427.75290c	(90072508)	AT	(37.60, -112.80)	DC	16.	9434.69141c	(88092608)	AT	(37.60, -112.80)	DC
2.	11141.98140c	(87021308)	AT	(94.06, 258.42)	DP	17.	9406.81934	(89041908)	AT	(42.75, -117.46)	DP
3.	10968.17090c	(91030808)	AT	(37.60, -112.80)	DC	18.	9326.91895	(88011008)	AT	(21.71, -123.10)	DP
4.	10596.30270	(89041908)	AT	(37.60, -112.80)	DC	19.	9319.78711c	(88083008)	AT	(37.60, -112.80)	DC
5.	10407.55470c	(90081008)	AT	(37.60, -112.80)	DC	20.	9274.33496c	(87040308)	AT	(-300.50, 242.60)	DC
6.	10157.70410c	(87101208)	AT	(94.06, 258.42)	DP	21.	9211.79102c	(88052608)	AT	(37.60, -112.80)	DC
7.	9874.00879c	(88070808)	AT	(37.60, -112.80)	DC	22.	8866.62793c	(91071708)	AT	(42.75, -117.46)	DP
8.	9840.39941c	(89100408)	AT	(37.60, -112.80)	DC	23.	8862.07910c	(87101208)	AT	(-267.90, 300.80)	DC
9.	9816.38281c	(88100608)	AT	(37.60, -112.80)	DC	24.	8852.70410c	(90081008)	AT	(42.75, -117.46)	DP
10.	9805.86523c	(90052408)	AT	(21.71, -123.10)	DP	25.	8821.75586c	(89100908)	AT	(15.70, -111.80)	DC
11.	9787.82715c	(87021308)	AT	(-267.90, 300.80)	DC	26.	8804.26660	(90102608)	AT	(37.60, -112.80)	DC
12.	9746.92480c	(91072408)	AT	(37.60, -112.80)	DC	27.	8754.64648c	(87062508)	AT	(94.06, 258.42)	DP
13.	9627.80762c	(91030808)	AT	(42.75, -117.46)	DP	28.	8743.94043c	(87103108)	AT	(176.77, 210.66)	DP
14.	9598.06348c	(89080208)	AT	(6.10, -110.70)	DC	29.	8727.47559c	(88070808)	AT	(42.75, -117.46)	DP
15.	9577.06445	(88010808)	AT	(37.60, -112.80)	DC	30.	8722.60938c	(88101308)	AT	(37.60, -112.80)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	15612.23340	c(90052408)	AT	(0.00, -24.90)	DC	16.	13445.10640	c(89102808)	AT	(-42.75, 117.46)	DP
2.	14826.97170	c(89102808)	AT	(-43.70, 98.10)	DC	17.	13329.18070	(89121708)	AT	(42.75, 117.46)	DP
3.	14542.82810	c(89121808)	AT	(42.75, 117.46)	DP	18.	13319.38480	(90010808)	AT	(42.75, 117.46)	DP
4.	14453.39260	c(88100908)	AT	(42.75, 117.46)	DP	19.	13288.61130	(88010308)	AT	(0.00, 125.00)	DP
5.	14321.33890	c(90081008)	AT	(12.50, -24.00)	DC	20.	13226.83200	c(88092608)	AT	(-29.10, -24.00)	DC
6.	13963.10940	(88010208)	AT	(42.75, 117.46)	DP	21.	13141.70210	c(90052408)	AT	(0.00, -37.30)	DC
7.	13926.65630	c(91060808)	AT	(0.00, -24.90)	DC	22.	13139.16800	c(90072508)	AT	(37.60, -24.90)	DC
8.	13888.73140	c(91060808)	AT	(-14.60, -24.00)	DC	23.	13053.68070	c(87072608)	AT	(-14.60, -24.00)	DC
9.	13813.05860	c(91101608)	AT	(62.50, 108.25)	DP	24.	12990.43160	(89050808)	AT	(42.75, 117.46)	DP
10.	13810.56840	c(91060808)	AT	(-29.10, -24.00)	DC	25.	12953.57520	c(90061108)	AT	(-14.60, -24.00)	DC
11.	13769.68750	(88010208)	AT	(62.50, 108.25)	DP	26.	12951.73540	c(87021308)	AT	(-47.75, 270.82)	DP
12.	13767.74120	c(88061908)	AT	(-21.71, 123.10)	DP	27.	12934.92970	c(90090108)	AT	(-21.71, 123.10)	DP
13.	13738.66990	(88010308)	AT	(-43.70, 98.10)	DC	28.	12918.78810	c(91072408)	AT	(37.60, -24.90)	DC
14.	13528.67190	c(91030808)	AT	(25.10, -24.00)	DC	29.	12865.96290	c(87090708)	AT	(1358.20, 117.70)	DC
15.	13492.74510	c(87060608)	AT	(-14.60, -24.00)	DC	30.	12858.13570	c(91101608)	AT	(80.35, 95.76)	DP

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	16315.58300	(89041908)	AT (	37.60, -112.80)	DC	16.	14635.94630c	(88100908)	AT (	42.75, 117.46)	DP
2.	16128.96970c	(88092608)	AT (	37.60, -112.80)	DC	17.	14562.37300	(88010208)	AT (	42.75, 117.46)	DP
3.	15933.88180c	(90072508)	AT (	37.60, -112.80)	DC	18.	14545.84470c	(90081008)	AT (	37.60, -112.80)	DC
4.	15612.23340c	(90052408)	AT (	0.00, -24.90)	DC	19.	14534.25290c	(88092608)	AT (	21.71, -123.10)	DP
5.	15363.23730	(88010808)	AT (	37.60, -112.80)	DC	20.	14518.06930c	(89100408)	AT (	37.60, -112.80)	DC
6.	15225.73140c	(89102808)	AT (	-43.70, 98.10)	DC	21.	14428.22360	(88010808)	AT (	42.75, -117.46)	DP
7.	15203.63280c	(89121808)	AT (	42.75, 117.46)	DP	22.	14420.72270	(88010208)	AT (	62.50, 108.25)	DP
8.	15178.49900	(88010308)	AT (	-43.70, 98.10)	DC	23.	14402.83590c	(91072408)	AT (	37.60, -112.80)	DC
9.	15039.17580c	(88070808)	AT (	37.60, -112.80)	DC	24.	14366.03030c	(90061108)	AT (	37.60, -112.80)	DC
10.	15030.54200c	(88092608)	AT (	42.75, -117.46)	DP	25.	14354.10250	(88021808)	AT (	21.71, -123.10)	DP
11.	15025.88870	(89041908)	AT (	42.75, -117.46)	DP	26.	14321.33890c	(90081008)	AT (	12.50, -24.00)	DC
12.	15005.33690c	(87062508)	AT (	94.06, 258.42)	DP	27.	14245.70700	(89092008)	AT (	37.60, -112.80)	DC
13.	14995.64940c	(91060808)	AT (	21.71, -123.10)	DP	28.	14236.10450c	(90052408)	AT (	21.71, -123.10)	DP
14.	14882.58980c	(87040308)	AT (	-300.50, 242.60)	DC	29.	14231.65530	(91012508)	AT (	37.60, -112.80)	DC
15.	14809.46290	(88011008)	AT (	37.60, -112.80)	DC	30.	13969.26660c	(87062508)	AT (	-267.90, 300.80)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH) AT	RECEPTOR (XR,YR) OF TYPE	RANK	CONC	(YYMMDDHH) AT	RECEPTOR (XR,YR) OF TYPE
1.	6642.32178c	(87101224) AT	(94.06, 258.42) DP	16.	4717.85156c	(91012524) AT	(21.71, -123.10) DP
2.	5793.54053c	(87101224) AT	(-267.90, 300.80) DC	17.	4674.28125c	(90081424) AT	(37.60, -112.80) DC
3.	5732.59033	(90111724) AT	(37.60, -112.80) DC	18.	4653.22412c	(91101524) AT	(37.60, -112.80) DC
4.	5498.58545c	(87081924) AT	(94.06, 258.42) DP	19.	4648.51514c	(88070824) AT	(37.60, -112.80) DC
5.	5463.97510c	(88100624) AT	(37.60, -112.80) DC	20.	4603.54248	(88100324) AT	(42.75, -117.46) DP
6.	5432.10449c	(88092524) AT	(37.60, -112.80) DC	21.	4592.33740	(89092124) AT	(6.10, -110.70) DC
7.	5389.20361	(89122324) AT	(37.60, -112.80) DC	22.	4570.83936	(90111724) AT	(42.75, -117.46) DP
8.	5289.05273c	(87012624) AT	(94.06, 258.42) DP	23.	4560.74121	(88100324) AT	(21.71, -123.10) DP
9.	5247.09180c	(87060424) AT	(94.06, 258.42) DP	24.	4541.51904c	(87060424) AT	(-267.90, 300.80) DC
10.	5228.53418c	(90081024) AT	(37.60, -112.80) DC	25.	4539.13037c	(91110924) AT	(6.10, -110.70) DC
11.	5225.17627	(88100324) AT	(37.60, -112.80) DC	26.	4530.57520	(91081124) AT	(21.71, -123.10) DP
12.	5135.04004c	(88092524) AT	(21.71, -123.10) DP	27.	4517.95508c	(88100624) AT	(42.75, -117.46) DP
13.	4912.12207c	(89091924) AT	(6.10, -110.70) DC	28.	4488.06836c	(90081024) AT	(42.75, -117.46) DP
14.	4907.19922c	(89041924) AT	(37.60, -112.80) DC	29.	4446.93701c	(88072724) AT	(37.60, -112.80) DC
15.	4898.16553	(89122324) AT	(42.75, -117.46) DP	30.	4434.05908c	(87081924) AT	(-267.90, 300.80) DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	7643.87354	c(89102824)	AT (	-43.70, 98.10)	DC	16.	7061.78760	c(88092524)	AT (	37.60, -24.90)	DC
2.	7563.42676	c(88092524)	AT (	25.10, -24.00)	DC	17.	7052.39648	(89121724)	AT (	62.50, 108.25)	DP
3.	7514.83398	c(87080124)	AT (	-29.10, -24.00)	DC	18.	6993.37793	c(88081124)	AT (	42.75, 117.46)	DP
4.	7512.16602	(88010224)	AT (	42.75, 117.46)	DP	19.	6983.33008	c(87060624)	AT (	-14.60, -24.00)	DC
5.	7473.50293	c(87101224)	AT (	-47.75, 270.82)	DP	20.	6975.79688	c(88100824)	AT (	62.50, 108.25)	DP
6.	7312.62695	(90010724)	AT (	42.75, 117.46)	DP	21.	6941.67969	c(91101624)	AT (	42.75, 117.46)	DP
7.	7291.66748	c(87101824)	AT (	-29.10, -24.00)	DC	22.	6929.49365	(88010224)	AT (	62.50, 108.25)	DP
8.	7275.82324	c(88100924)	AT (	42.75, 117.46)	DP	23.	6895.87012	c(89031624)	AT (	42.75, 117.46)	DP
9.	7185.23877	(89121724)	AT (	42.75, 117.46)	DP	24.	6888.91357	c(88092524)	AT (	-14.60, -24.00)	DC
10.	7172.12354	c(88092524)	AT (	0.00, -12.40)	DC	25.	6887.65479	(90120924)	AT (	42.75, 117.46)	DP
11.	7163.36475	c(89102824)	AT (	-42.75, 117.46)	DP	26.	6813.74756	(88100324)	AT (	25.10, -24.00)	DC
12.	7149.79297	(90010724)	AT (	21.71, 123.10)	DP	27.	6794.58398	c(88092524)	AT (	0.00, -24.90)	DC
13.	7110.81396	c(89102524)	AT (	-43.70, 98.10)	DC	28.	6789.29541	(88010224)	AT (	21.71, 123.10)	DP
14.	7106.62354	c(89102524)	AT (	-42.75, 117.46)	DP	29.	6753.83838	(90103124)	AT (	37.60, 98.10)	DC
15.	7085.14844	c(91101624)	AT (	62.50, 108.25)	DP	30.	6752.95459	(87061424)	AT (	-29.10, -24.00)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	8588.75293c	(88092524)	AT	(37.60, -112.80)	DC	16.	7394.29346	(89122324)	AT	(37.60, -112.80)	DC
2.	8405.72168c	(88092524)	AT	(21.71, -123.10)	DP	17.	7392.19531c	(89102824)	AT	(-42.75, 117.46)	DP
3.	8309.01465	(88100324)	AT	(37.60, -112.80)	DC	18.	7352.56055	(90010724)	AT	(42.75, 117.46)	DP
4.	8127.55957c	(88100624)	AT	(37.60, -112.80)	DC	19.	7344.97314c	(87081924)	AT	(94.06, 258.42)	DP
5.	7985.35449c	(87101224)	AT	(94.06, 258.42)	DP	20.	7339.48242c	(88100924)	AT	(42.75, 117.46)	DP
6.	7841.32813	(90111724)	AT	(37.60, -112.80)	DC	21.	7326.66797	(88100324)	AT	(21.71, -123.10)	DP
7.	7827.39844c	(89102824)	AT	(-43.70, 98.10)	DC	22.	7314.05957c	(89041924)	AT	(37.60, -112.80)	DC
8.	7722.21289	(88010224)	AT	(42.75, 117.46)	DP	23.	7275.36865	(89121724)	AT	(42.75, 117.46)	DP
9.	7638.81543c	(87012624)	AT	(94.06, 258.42)	DP	24.	7256.20850	(90010724)	AT	(21.71, 123.10)	DP
10.	7612.73340c	(87080124)	AT	(-29.10, -24.00)	DC	25.	7204.72607c	(91012524)	AT	(37.60, -112.80)	DC
11.	7566.27246c	(87101824)	AT	(-29.10, -24.00)	DC	26.	7182.72266	(89121724)	AT	(62.50, 108.25)	DP
12.	7563.42676c	(88092524)	AT	(25.10, -24.00)	DC	27.	7172.12354c	(88092524)	AT	(0.00, -12.40)	DC
13.	7520.91748	(88100324)	AT	(42.75, -117.46)	DP	28.	7170.12012c	(87101224)	AT	(-267.90, 300.80)	DC
14.	7517.57275c	(91012524)	AT	(21.71, -123.10)	DP	29.	7162.54932	(88010224)	AT	(62.50, 108.25)	DP
15.	7473.50293c	(87101224)	AT	(-47.75, 270.82)	DP	30.	7124.22510c	(89102524)	AT	(-43.70, 98.10)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	NETWORK RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE GRID-ID
GROUP1 HIGH 1ST HIGH VALUE IS	11427.75290c	ON 90072508:	AT (37.60, -112.80, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	10968.17090c	ON 91030808:	AT (37.60, -112.80, 275.00, 0.00)	DC
GROUP2 HIGH 1ST HIGH VALUE IS	15612.23340c	ON 90052408:	AT (0.00, -24.90, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	14453.39260c	ON 88100908:	AT (42.75, 117.46, 269.70, 0.00)	DP
GROUP3 HIGH 1ST HIGH VALUE IS	16315.58300	ON 89041908:	AT (37.60, -112.80, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	16128.96970c	ON 88092608:	AT (37.60, -112.80, 275.00, 0.00)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	NETWORK RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE GRID-ID
GROUP1 HIGH 1ST HIGH VALUE IS	6642.32178c	ON 87101224:	AT (94.06, 258.42, 271.90, 0.00)	DP
HIGH 2ND HIGH VALUE IS	5498.58545c	ON 87081924:	AT (94.06, 258.42, 271.90, 0.00)	DP
GROUP2 HIGH 1ST HIGH VALUE IS	7643.87354c	ON 89102824:	AT (-43.70, 98.10, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	7312.62695	ON 90010724:	AT (42.75, 117.46, 269.70, 0.00)	DP
GROUP3 HIGH 1ST HIGH VALUE IS	8588.75293c	ON 88092524:	AT (37.60, -112.80, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	8309.01465	ON 88100324:	AT (37.60, -112.80, 275.00, 0.00)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** Message Summary For ISC2 Model Execution ***

——— Summary of Total Messages ———

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 508 Informational Message(s)

A Total of 190 Calm Hours Identified

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

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

****
*** ISCST2 Finishes Successfully ***
****

Filename:	ECC91ADM.LST
Directory:	B:
Template:	C:\WINWORD\TEMPLATE\NORMAL.DOT
Title:	
Subject:	
Author:	Authorized Gateway Customer
Keywords:	
Comments:	
Creation Date:	04/10/95 12:18 PM
Revision Number:	2
Last Saved On:	04/10/95 3:34 PM
Last Saved By:	Authorized Gateway Customer
Total Editing Time:	9 Minutes
Last Printed On:	04/24/95 10:21 AM
As of Last Complete Printing	
Number of Pages:	59
Number of Words:	34,094 (approx.)
Number of Characters:	194,340 (approx.)

ISCST2 - (DATED 93109)

IBM-PC VERSION (2.1) ISCST2F
(C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 10634 SOLD TO AWD TECHNOLOGIES

Run Began on 4/10/1995 at 12:15:55

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*** TRINITY SOURCE FILE NAME: C:\MODELS\ECCMET\ECC2.PNT
*** TRINITY RECEPTOR FILE NAME: C:\MODELS\ECCMET\WCC.REC
CO STARTING
CO TITLEONE ECC, Zionsville, Indiana, 1987-1991
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 8 24
CO POLLUTID PM10
CO TERRHGTS ELEV
CO ELEVUNIT METERS
CO RUNORNOT RUN
CO MULTYEAR C:\MODELS\ECCMET\ECC91.SV1 C:\MODELS\ECCMET\ECC90.SV1
CO FINISHED
SO STARTING
SO LOCATION SRC1 AREA     0.00     0.00    271.30
SO SRCPARAM SRC1 0.000001     0.00     0.01
SO LOCATION SRC2 AREA    -43.30    -0.60    271.30
SO SRCPARAM SRC2 0.001000     0.00    98.24
SO LOCATION SRC3 AREA     7.30   -109.10    271.30
SO SRCPARAM SRC3 0.001000     0.00    34.33
SO EMISUNIT 1000000.000000 GRAMS/SEC MICROGRAMS/M**3
SO SRCGROUP GROUP1 SRC1 SRC3
SO SRCGROUP GROUP2 SRC1 SRC2
SO SRCGROUP GROUP3 SRC1 SRC2 SRC3
SO FINISHED
RE STARTING
RE DISCPOLR SRC1 275.00 160.00  272.80
RE DISCPOLR SRC1 275.00 170.00  272.80
RE DISCPOLR SRC1 275.00 180.00  272.80
RE DISCPOLR SRC1 275.00 190.00  271.60
RE DISCPOLR SRC1 275.00 200.00  270.70
RE DISCPOLR SRC1 275.00 210.00  270.10
RE DISCPOLR SRC1 275.00 220.00  269.40
RE DISCPOLR SRC1 275.00 230.00  270.10
RE DISCPOLR SRC1 275.00 240.00  271.30
RE DISCPOLR SRC1 275.00 250.00  272.50
RE DISCPOLR SRC1 275.00 260.00  273.10
RE DISCPOLR SRC1 275.00 270.00  273.70
RE DISCPOLR SRC1 275.00 280.00  274.30
RE DISCPOLR SRC1 275.00 290.00  274.90
RE DISCPOLR SRC1 275.00 300.00  274.90
RE DISCPOLR SRC1 275.00 310.00  272.80
RE DISCPOLR SRC1 275.00 320.00  272.80
RE DISCPOLR SRC1 275.00 330.00  271.60
RE DISCPOLR SRC1 275.00 340.00  270.70
RE DISCPOLR SRC1 275.00 350.00  271.60
RE DISCPOLR SRC1 275.00 360.00  271.30
RE DISCPOLR SRC1 275.00 10.00  268.80
RE DISCPOLR SRC1 275.00 20.00  271.90
RE DISCPOLR SRC1 275.00 30.00  271.90
RE DISCPOLR SRC1 275.00 40.00  271.90
RE DISCPOLR SRC1 225.00 170.00  272.80
RE DISCPOLR SRC1 225.00 180.00  272.80
RE DISCPOLR SRC1 225.00 190.00  271.90
RE DISCPOLR SRC1 225.00 200.00  269.70
RE DISCPOLR SRC1 225.00 210.00  270.10
RE DISCPOLR SRC1 225.00 220.00  270.10
RE DISCPOLR SRC1 225.00 230.00  270.40
RE DISCPOLR SRC1 225.00 240.00  270.40
RE DISCPOLR SRC1 225.00 250.00  270.70
RE DISCPOLR SRC1 225.00 260.00  271.30
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RE DISCPOLR SRC1 225.00 270.00  271.90
RE DISCPOLR SRC1 225.00 280.00  272.50
RE DISCPOLR SRC1 225.00 290.00  273.10
RE DISCPOLR SRC1 225.00 300.00  273.70
RE DISCPOLR SRC1 225.00 310.00  272.80
RE DISCPOLR SRC1 225.00 320.00  271.00
RE DISCPOLR SRC1 225.00 330.00  271.00
RE DISCPOLR SRC1 225.00 340.00  270.70
RE DISCPOLR SRC1 225.00 350.00  270.70
RE DISCPOLR SRC1 225.00 360.00  269.40
RE DISCPOLR SRC1 225.00 10.00  270.40
RE DISCPOLR SRC1 225.00 20.00  271.60
RE DISCPOLR SRC1 225.00 30.00  271.30
RE DISCPOLR SRC1 225.00 40.00  271.30
RE DISCPOLR SRC1 175.00 170.00  271.30
RE DISCPOLR SRC1 175.00 180.00  265.80
RE DISCPOLR SRC1 175.00 190.00  265.80
RE DISCPOLR SRC1 175.00 200.00  264.60
RE DISCPOLR SRC1 175.00 210.00  265.20
RE DISCPOLR SRC1 175.00 220.00  266.70
RE DISCPOLR SRC1 175.00 230.00  267.30
RE DISCPOLR SRC1 175.00 240.00  267.90
RE DISCPOLR SRC1 175.00 250.00  268.80
RE DISCPOLR SRC1 175.00 260.00  269.70
RE DISCPOLR SRC1 175.00 270.00  270.40
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RE DISCPOLR SRC1 175.00 310.00  271.90
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RE DISCPOLR SRC1 175.00 330.00  271.30
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RE DISCPOLR SRC1 175.00 360.00  270.70
RE DISCPOLR SRC1 175.00 10.00  270.70
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RE DISCPOLR SRC1 125.00 170.00  266.70
RE DISCPOLR SRC1 125.00 180.00  266.40
RE DISCPOLR SRC1 125.00 190.00  265.20
RE DISCPOLR SRC1 125.00 200.00  268.20
RE DISCPOLR SRC1 125.00 210.00  266.70
RE DISCPOLR SRC1 125.00 220.00  268.20
RE DISCPOLR SRC1 125.00 230.00  268.20
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RE DISCPOLR SRC1 125.00 250.00  268.50
RE DISCPOLR SRC1 125.00 260.00  268.80
RE DISCPOLR SRC1 125.00 270.00  268.80
RE DISCPOLR SRC1 125.00 280.00  269.10
RE DISCPOLR SRC1 125.00 290.00  270.70
RE DISCPOLR SRC1 125.00 300.00  271.30
RE DISCPOLR SRC1 125.00 310.00  271.60
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RE DISCPOLR SRC1 125.00 350.00  270.10
RE DISCPOLR SRC1 125.00 360.00  270.40
RE DISCPOLR SRC1 125.00 10.00  270.10
RE DISCPOLR SRC1 125.00 20.00  269.70
RE DISCPOLR SRC1 125.00 30.00  267.90
RE DISCPOLR SRC1 125.00 40.00  270.70
RE DISCCART -180.00 -150.00  272.00
RE DISCCART 500.00 750.00  280.00
RE DISCCART -200.00 125.00  273.00
RE DISCCART -50.00 -300.00  274.00
RE DISCCART 1350.00 0.00  279.00
RE DISCCART -3.00 98.10  275.00
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RE DISCCART 1350.00 -1000.00  280.00
RE DISCCART 17.30 98.10  275.00
RE DISCCART -20.30 98.10  275.00
RE DISCCART -21.80 0.00  275.00
RE DISCCART -43.70 0.00  275.00
RE DISCCART -43.70 98.10  275.00
RE DISCCART -43.70 24.50  275.00
RE DISCCART -43.70 49.10  275.00
RE DISCCART 37.60 98.10  275.00
RE DISCCART 37.60 49.10  275.00
RE DISCCART 37.60 0.00  275.00
RE DISCCART 37.60 24.50  275.00
RE DISCCART 37.60 -24.90  275.00
RE DISCCART 37.60 -49.80  275.00
RE DISCCART 37.60 -81.30  275.00
RE DISCCART 37.60 -112.80  275.00
RE DISCCART 15.70 -111.80  275.00
RE DISCCART 6.10 -110.70  275.00
RE DISCCART -9.10 -92.50  275.00
RE DISCCART -11.20 -49.80  275.00
RE DISCCART -10.20 -71.10  275.00
RE DISCCART 0.00 -49.80  275.00
RE DISCCART 0.00 -37.30  275.00
RE DISCCART 0.00 -24.90  275.00
RE DISCCART 0.00 -12.40  275.00
RE DISCCART -341.10 290.50  278.00
RE DISCCART -325.80 296.30  277.70
RE DISCCART -267.90 300.80  276.10
RE DISCCART -300.50 242.60  277.10
RE DISCCART -325.50 207.30  277.10
RE DISCCART -284.40 192.00  276.10
RE DISCCART -266.70 115.50  274.90
RE DISCCART -190.20 58.80  273.40
RE DISCCART -82.00 -36.00  270.40
RE DISCCART -397.20 -197.50  271.90
RE DISCCART -121.30 -124.40  270.10
RE DISCCART -80.50 -152.40  269.70
RE DISCCART -230.10 -461.50  269.40
RE DISCCART -26.50 -406.30  271.60
RE DISCCART 20.40 312.70  271.90
RE DISCCART 649.80 667.50  284.10
RE DISCCART 648.60 621.80  283.80
RE DISCCART 550.50 524.00  281.60
RE DISCCART 496.80 492.60  281.00
RE DISCCART 368.80 460.90  278.30
RE DISCCART 1424.00 473.70  277.70
RE DISCCART 1358.20 117.70  277.40
RE DISCCART 1418.20 130.80  279.20
RE DISCCART -29.10 -24.00  275.00
RE DISCCART -14.60 -24.00  275.00
RE DISCCART 12.50 -24.00  275.00
RE DISCCART 25.10 -24.00  275.00
RE FINISHED
ME STARTING
ME INPUTFIL A:\ECCMET91.BIN UNFORM
ME ANEMHGHT  10.000 METERS
ME SURFDATA 93819 1991 INDIANAPOLIS
ME UAIRDATA 13840 1991 DAYTON
ME STARTEND 1991 1 1 1 1991 12 31 24
ME FINISHED
OU STARTING
OU RECTABLE 8 FIRST SECOND
OU RECTABLE 24 FIRST SECOND
OU MAXTABLE 8 30
OU MAXTABLE 24 30
OU FINISHED

**********
```

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** MODEL SETUP OPTIONS SUMMARY ***

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

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Accepts Receptors on ELEV Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates 2 Short Term Average(s) of: 8-HR 24-HR

**This Run Includes: 3 Source(s); 3 Source Group(s); and 157 Receptor(s)

**The Model Assumes A Pollutant Type of: PM10

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Input Runstream File: C:\MODELS\ECCMET\ECC91.DAT ; **Output Print File: C:\MODELS\ECCMET\ECC91.LST
**This Run is Part of a Multi-year Run.
NOTE: PERIOD Results Are for Current Period Only.
Short Term Results Are Cumulative Across All Years Processed.
**File for Saving Result Arrays: C:\MODELS\ECCMET\ECC91.SV1
**File for Initializing Result Arrays: C:\MODELS\ECCMET\ECC90.SV1

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** AREA SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS /METER**2)	COORD (SW CORNER) X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	WIDTH OF AREA (METERS)	EMISSION RATE SCALAR VARY BY
SRC1	0	0.10000E-05	0.0	0.0	271.3	0.00	0.01	
SRC2	0	0.10000E-02	-43.3	-0.6	271.3	0.00	98.24	
SRC3	0	0.10000E-02	7.3	-109.1	271.3	0.00	34.33	

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
GROUP1	SRC1 , SRC3 ,
GROUP2	SRC1 , SRC2 ,
GROUP3	SRC1 , SRC2 , SRC3 ,

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

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

(-180.0,	-150.0,	272.0,	0.0);	(500.0,	750.0,	280.0,	0.0);
(-200.0,	125.0,	273.0,	0.0);	(-50.0,	-300.0,	274.0,	0.0);
(1350.0,	0.0,	279.0,	0.0);	(-3.0,	98.1,	275.0,	0.0);
(-450.0,	-150.0,	281.0,	0.0);	(1350.0,	-1000.0,	280.0,	0.0);
(17.3,	98.1,	275.0,	0.0);	(-20.3,	98.1,	275.0,	0.0);
(-21.8,	0.0,	275.0,	0.0);	(-43.7,	0.0,	275.0,	0.0);
(-43.7,	98.1,	275.0,	0.0);	(-43.7,	24.5,	275.0,	0.0);
(-43.7,	49.1,	275.0,	0.0);	(37.6,	98.1,	275.0,	0.0);
(37.6,	49.1,	275.0,	0.0);	(37.6,	0.0,	275.0,	0.0);
(37.6,	24.5,	275.0,	0.0);	(37.6,	-24.9,	275.0,	0.0);
(37.6,	-49.8,	275.0,	0.0);	(37.6,	-81.3,	275.0,	0.0);
(37.6,	-112.8,	275.0,	0.0);	(15.7,	-111.8,	275.0,	0.0);
(6.1,	-110.7,	275.0,	0.0);	(-9.1,	-92.5,	275.0,	0.0);
(-11.2,	-49.8,	275.0,	0.0);	(-10.2,	-71.1,	275.0,	0.0);
(0.0,	-49.8,	275.0,	0.0);	(0.0,	-37.3,	275.0,	0.0);
(0.0,	-24.9,	275.0,	0.0);	(0.0,	-12.4,	275.0,	0.0);
(-341.1,	290.5,	278.0,	0.0);	(-325.8,	296.3,	277.7,	0.0);
(-267.9,	300.8,	276.1,	0.0);	(-300.5,	242.6,	277.1,	0.0);
(-325.5,	207.3,	277.1,	0.0);	(-284.4,	192.0,	276.1,	0.0);
(-266.7,	115.5,	274.9,	0.0);	(-190.2,	58.8,	273.4,	0.0);
(-82.0,	-36.0,	270.4,	0.0);	(-397.2,	-197.5,	271.9,	0.0);
(-121.3,	-124.4,	270.1,	0.0);	(-80.5,	-152.4,	269.7,	0.0);
(-230.1,	-461.5,	269.4,	0.0);	(-26.5,	-406.3,	271.6,	0.0);
(20.4,	312.7,	271.9,	0.0);	(649.8,	667.5,	284.1,	0.0);
(648.6,	621.8,	283.8,	0.0);	(550.5,	524.0,	281.6,	0.0);
(496.8,	492.6,	281.0,	0.0);	(368.8,	460.9,	278.3,	0.0);
(1424.0,	473.7,	277.7,	0.0);	(1358.2,	117.7,	277.4,	0.0);
(1418.2,	130.8,	279.2,	0.0);	(-29.1,	-24.0,	275.0,	0.0);
(-14.6,	-24.0,	275.0,	0.0);	(12.5,	-24.0,	275.0,	0.0);
(25.1,	-24.0,	275.0,	0.0);				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** DISCRETE POLAR RECEPTORS ***
ORIGIN: (DIST, DIR, ZELEV, ZFLAG)
SRCID: (METERS,DEG,METERS,METERS)

SRC1	: (	275.0,	160.0,	272.8,	0.0);	SRC1	: (	275.0,	170.0,	272.8,	0.0);
SRC1	: (	275.0,	180.0,	272.8,	0.0);	SRC1	: (	275.0,	190.0,	271.6,	0.0);
SRC1	: (	275.0,	200.0,	270.7,	0.0);	SRC1	: (	275.0,	210.0,	270.1,	0.0);
SRC1	: (	275.0,	220.0,	269.4,	0.0);	SRC1	: (	275.0,	230.0,	270.1,	0.0);
SRC1	: (	275.0,	240.0,	271.3,	0.0);	SRC1	: (	275.0,	250.0,	272.5,	0.0);
SRC1	: (	275.0,	260.0,	273.1,	0.0);	SRC1	: (	275.0,	270.0,	273.7,	0.0);
SRC1	: (	275.0,	280.0,	274.3,	0.0);	SRC1	: (	275.0,	290.0,	274.9,	0.0);
SRC1	: (	275.0,	300.0,	274.9,	0.0);	SRC1	: (	275.0,	310.0,	272.8,	0.0);
SRC1	: (	275.0,	320.0,	272.8,	0.0);	SRC1	: (	275.0,	330.0,	271.6,	0.0);
SRC1	: (	275.0,	340.0,	270.7,	0.0);	SRC1	: (	275.0,	350.0,	271.6,	0.0);
SRC1	: (	275.0,	360.0,	271.3,	0.0);	SRC1	: (	275.0,	10.0,	268.8,	0.0);
SRC1	: (	275.0,	20.0,	271.9,	0.0);	SRC1	: (	275.0,	30.0,	271.9,	0.0);
SRC1	: (	275.0,	40.0,	271.9,	0.0);	SRC1	: (	225.0,	170.0,	272.8,	0.0);
SRC1	: (	225.0,	180.0,	272.8,	0.0);	SRC1	: (	225.0,	190.0,	271.9,	0.0);
SRC1	: (	225.0,	200.0,	269.7,	0.0);	SRC1	: (	225.0,	210.0,	270.1,	0.0);
SRC1	: (	225.0,	220.0,	270.1,	0.0);	SRC1	: (	225.0,	230.0,	270.4,	0.0);
SRC1	: (	225.0,	240.0,	270.4,	0.0);	SRC1	: (	225.0,	250.0,	270.7,	0.0);
SRC1	: (	225.0,	260.0,	271.3,	0.0);	SRC1	: (	225.0,	270.0,	271.9,	0.0);
SRC1	: (	225.0,	280.0,	272.5,	0.0);	SRC1	: (	225.0,	290.0,	273.1,	0.0);
SRC1	: (	225.0,	300.0,	273.7,	0.0);	SRC1	: (	225.0,	310.0,	272.8,	0.0);
SRC1	: (	225.0,	320.0,	271.0,	0.0);	SRC1	: (	225.0,	330.0,	271.0,	0.0);
SRC1	: (	225.0,	340.0,	270.7,	0.0);	SRC1	: (	225.0,	350.0,	270.7,	0.0);
SRC1	: (	225.0,	360.0,	269.4,	0.0);	SRC1	: (	225.0,	10.0,	270.4,	0.0);
SRC1	: (	225.0,	20.0,	271.6,	0.0);	SRC1	: (	225.0,	30.0,	271.3,	0.0);
SRC1	: (	225.0,	40.0,	271.3,	0.0);	SRC1	: (	175.0,	170.0,	271.3,	0.0);
SRC1	: (	175.0,	180.0,	265.8,	0.0);	SRC1	: (	175.0,	190.0,	265.8,	0.0);
SRC1	: (	175.0,	200.0,	264.6,	0.0);	SRC1	: (	175.0,	210.0,	265.2,	0.0);
SRC1	: (	175.0,	220.0,	266.7,	0.0);	SRC1	: (	175.0,	230.0,	267.3,	0.0);
SRC1	: (	175.0,	240.0,	267.9,	0.0);	SRC1	: (	175.0,	250.0,	268.8,	0.0);
SRC1	: (	175.0,	260.0,	269.7,	0.0);	SRC1	: (	175.0,	270.0,	270.4,	0.0);
SRC1	: (	175.0,	280.0,	271.6,	0.0);	SRC1	: (	175.0,	290.0,	271.6,	0.0);
SRC1	: (	175.0,	300.0,	271.9,	0.0);	SRC1	: (	175.0,	310.0,	271.9,	0.0);
SRC1	: (	175.0,	320.0,	271.3,	0.0);	SRC1	: (	175.0,	330.0,	271.3,	0.0);
SRC1	: (	175.0,	340.0,	271.3,	0.0);	SRC1	: (	175.0,	350.0,	270.7,	0.0);
SRC1	: (	175.0,	360.0,	270.7,	0.0);	SRC1	: (	175.0,	10.0,	270.7,	0.0);
SRC1	: (	175.0,	20.0,	269.7,	0.0);	SRC1	: (	175.0,	30.0,	270.7,	0.0);
SRC1	: (	175.0,	40.0,	270.7,	0.0);	SRC1	: (	125.0,	160.0,	266.7,	0.0);
SRC1	: (	125.0,	170.0,	266.7,	0.0);	SRC1	: (	125.0,	180.0,	266.4,	0.0);
SRC1	: (	125.0,	190.0,	265.2,	0.0);	SRC1	: (	125.0,	200.0,	268.2,	0.0);
SRC1	: (	125.0,	210.0,	266.7,	0.0);	SRC1	: (	125.0,	220.0,	268.2,	0.0);
SRC1	: (	125.0,	230.0,	268.2,	0.0);	SRC1	: (	125.0,	240.0,	268.2,	0.0);
SRC1	: (	125.0,	250.0,	268.5,	0.0);	SRC1	: (	125.0,	260.0,	268.8,	0.0);
SRC1	: (	125.0,	270.0,	268.8,	0.0);	SRC1	: (	125.0,	280.0,	269.1,	0.0);
SRC1	: (	125.0,	290.0,	270.7,	0.0);	SRC1	: (	125.0,	300.0,	271.3,	0.0);
SRC1	: (	125.0,	310.0,	271.6,	0.0);	SRC1	: (	125.0,	320.0,	271.9,	0.0);

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** DISCRETE POLAR RECEPTORS ***
ORIGIN: (DIST, DIR, ZELEV, ZFLAG)
SRCID: (METERS,DEG,METERS,METERS)

SRC1	: (	125.0,	330.0,	271.3,	0.0);	SRC1	: (	125.0,	340.0,	271.0,	0.0);
SRC1	: (	125.0,	350.0,	270.1,	0.0);	SRC1	: (	125.0,	360.0,	270.4,	0.0);
SRC1	: (	125.0,	10.0,	270.1,	0.0);	SRC1	: (	125.0,	20.0,	269.7,	0.0);
SRC1	: (	125.0,	30.0,	267.9,	0.0);	SRC1	: (	125.0,	40.0,	270.7,	0.0);

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 1.0 METER OR 3*ZLB *
IN DISTANCE. CALCULATIONS MAY NOT BE PERFORMED.

SOURCE ID	-- RECEPTOR LOCATION -- XR (METERS)	YR (METERS)	DISTANCE (METERS)
SRC2	-3.0	98.1	-5.07
SRC2	17.3	98.1	-4.53
SRC2	-20.3	98.1	0.61
SRC2	-21.8	0.0	0.40
SRC2	-43.7	24.5	-0.39
SRC2	-43.7	49.1	-5.90
SRC2	37.6	49.1	-23.64
SRC2	37.6	24.5	-15.59
SRC3	37.6	-81.3	-2.47

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

```
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
```

METEOROLOGICAL DATA PROCESSED BETWEEN START DATE: 91 1 1 1
AND END DATE: 91 12 31 24

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

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

FILE: A:\ECCMET91.BIN FORMAT: UNFORM
SURFACE STATION NO.: 93819 UPPER AIR STATION NO.: 13840
NAME: INDIANAPOLIS NAME: DAYTON
YEAR: 1991 YEAR: 1991

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN
91	1	1	1	351.0	2.57	264.8	6	519.2	398.0
91	1	1	2	348.0	5.66	265.4	5	517.7	398.0
91	1	1	3	354.0	3.09	264.8	6	516.1	398.0
91	1	1	4	353.0	3.09	264.8	6	514.6	398.0
91	1	1	5	353.0	4.63	265.4	5	513.0	398.0
91	1	1	6	352.0	4.12	265.4	4	511.4	511.4
91	1	1	7	355.0	3.09	265.4	4	509.9	509.9
91	1	1	8	353.0	3.09	265.4	5	508.3	398.0
91	1	1	9	347.0	3.60	265.4	4	69.5	412.1
91	1	1	10	1.0	3.60	267.0	3	155.4	429.5
91	1	1	11	4.0	4.12	268.7	3	241.3	446.8
91	1	1	12	356.0	4.63	270.4	3	327.2	464.2
91	1	1	13	13.0	5.66	271.5	4	413.1	481.6
91	1	1	14	9.0	4.12	273.1	3	499.0	499.0
91	1	1	15	22.0	3.60	274.8	3	499.0	499.0
91	1	1	16	4.0	3.60	275.4	4	499.0	499.0
91	1	1	17	1.0	4.12	274.3	4	499.0	499.0
91	1	1	18	17.0	3.09	272.0	5	494.8	481.2
91	1	1	19	4.0	2.57	272.6	6	487.6	450.4
91	1	1	20	327.0	3.09	272.0	6	480.4	419.5
91	1	1	21	340.0	3.09	271.5	6	473.1	388.6
91	1	1	22	342.0	2.57	270.9	6	465.9	357.7
91	1	1	23	30.0	2.57	270.4	6	458.6	326.9
91	1	1	24	10.0	2.57	270.4	6	451.4	296.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	692.02594	(87092708)	500.00	750.00	525.01947c	(87041008)
-200.00	125.00	654.00201c	(87072908)	-50.00	-300.00	914.46985	(90022008)
1350.00	0.00	555.15289	(87052624)	-3.00	98.10	1214.45569c	(88042608)
-450.00	-150.00	370.91312c	(87121024)	1350.00	-1000.00	595.62274	(87091424)
17.30	98.10	1640.97424	(88101408)	-20.30	98.10	1347.76160c	(90101324)
-21.80	0.00	4109.26904c	(87062508)	-43.70	0.00	2217.11914	(87102508)
-43.70	98.10	2307.64282c	(87060508)	-43.70	24.50	1756.03821	(90020808)
-43.70	49.10	2011.59949	(87022408)	37.60	98.10	1595.58032	(88101324)
37.60	49.10	2142.59497	(88101324)	37.60	0.00	3159.26563	(88101324)
37.60	24.50	2566.77905	(88101324)	37.60	-24.90	4084.93945	(88101324)
37.60	-49.80	7309.88672c	(89062208)	37.60	-81.30	1848.66687c	(87090708)
37.60	-112.80	11427.75290c	(90072508)	15.70	-111.80	8821.75586c	(89100908)
6.10	-110.70	9598.06348c	(89080208)	-9.10	-92.50	6789.10986c	(88030608)
-11.20	-49.80	5708.17725c	(88092708)	-10.20	-71.10	8114.72021c	(90090108)
0.00	-49.80	7471.88379	(88010308)	0.00	-37.30	5845.92334	(88010308)
0.00	-24.90	4585.08691	(89012308)	0.00	-12.40	3914.77539	(88010308)
-341.10	290.50	1010.99078	(87091508)	-325.80	296.30	907.18280c	(87060708)
-267.90	300.80	9787.82715c	(87021308)	-300.50	242.60	9274.33496c	(87040308)
-325.50	207.30	5320.60352	(87021908)	-284.40	192.00	4143.55957	(87022408)
-266.70	115.50	3483.14844	(87020508)	-190.20	58.80	1758.54297	(87050608)
-82.00	-36.00	2834.44507c	(88030608)	-397.20	-197.50	944.30530	(87102524)
-121.30	-124.40	1065.72314	(89091908)	-80.50	-152.40	2316.80493	(91062508)
-230.10	-461.50	1888.10315c	(87101908)	-26.50	-406.30	2612.55298c	(87090708)
20.40	312.70	1473.61621c	(87090708)	649.80	667.50	1420.37195c	(87101424)
648.60	621.80	1227.39001	(87092708)	550.50	524.00	958.61932c	(87041008)
496.80	492.60	988.14130c	(87083008)	368.80	460.90	1288.77332c	(87083008)
1424.00	473.70	963.84650c	(87080108)	1358.20	117.70	826.61292	(87052624)
1418.20	130.80	767.74451	(87071824)	-29.10	-24.00	3149.18164c	(88092708)
-14.60	-24.00	4573.29297	(88010308)	12.50	-24.00	5270.05664	(88101408)
25.10	-24.00	4801.38672	(88101408)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	1232.86646c	(89081024)	SRC1 :	275.00	170.00	2406.05103c	(88092608)
SRC1 :	275.00	180.00	1383.91272	(88041308)	SRC1 :	275.00	190.00	1216.85181	(90091708)
SRC1 :	275.00	200.00	865.00690	(88070408)	SRC1 :	275.00	210.00	1052.48730c	(90080208)
SRC1 :	275.00	220.00	1160.02258	(91062508)	SRC1 :	275.00	230.00	576.84906c	(90101608)
SRC1 :	275.00	240.00	1064.41785	(87071824)	SRC1 :	275.00	250.00	901.46960	(87052624)
SRC1 :	275.00	260.00	3457.88599c	(87083008)	SRC1 :	275.00	270.00	2347.15015	(87092708)
SRC1 :	275.00	280.00	1188.41431c	(87080108)	SRC1 :	275.00	290.00	2032.13660c	(87083008)
SRC1 :	275.00	300.00	2319.60767c	(87083008)	SRC1 :	275.00	310.00	835.90851c	(87082024)
SRC1 :	275.00	320.00	1367.08057	(87091424)	SRC1 :	275.00	330.00	2855.71680	(87091424)
SRC1 :	275.00	340.00	1957.93787	(87091424)	SRC1 :	275.00	350.00	3585.82178	(87091424)
SRC1 :	275.00	360.00	6471.42432	(87091508)	SRC1 :	275.00	10.00	633.97723	(88101324)
SRC1 :	275.00	20.00	11141.98140c	(87021308)	SRC1 :	275.00	30.00	6751.46631	(87050108)
SRC1 :	275.00	40.00	8743.94043c	(87103108)	SRC1 :	225.00	170.00	7689.87646c	(87101908)
SRC1 :	225.00	180.00	5907.40283c	(87101508)	SRC1 :	225.00	190.00	7591.27100c	(87090708)
SRC1 :	225.00	200.00	6451.74365c	(87083008)	SRC1 :	225.00	210.00	5667.28662c	(87083008)
SRC1 :	225.00	220.00	4601.66162c	(87083008)	SRC1 :	225.00	230.00	3456.00220c	(87083008)
SRC1 :	225.00	240.00	657.21204	(88112308)	SRC1 :	225.00	250.00	521.37097c	(90092708)
SRC1 :	225.00	260.00	415.05258	(89031008)	SRC1 :	225.00	270.00	696.87262	(90082508)
SRC1 :	225.00	280.00	920.36407c	(88030608)	SRC1 :	225.00	290.00	766.94043	(89031708)
SRC1 :	225.00	300.00	769.76471c	(87090708)	SRC1 :	225.00	310.00	1281.10315c	(87090708)
SRC1 :	225.00	320.00	3542.09253c	(87090708)	SRC1 :	225.00	330.00	680.73242	(88010308)
SRC1 :	225.00	340.00	1127.57629c	(87061708)	SRC1 :	225.00	350.00	1970.18518	(87022408)
SRC1 :	225.00	360.00	516.91412	(91052724)	SRC1 :	225.00	10.00	879.21765	(88101324)
SRC1 :	225.00	20.00	542.40363c	(88081124)	SRC1 :	225.00	30.00	611.63544c	(91052908)
SRC1 :	225.00	40.00	592.71057	(88011024)	SRC1 :	175.00	170.00	4392.52539c	(88092608)
SRC1 :	175.00	180.00	3044.33179	(90022008)	SRC1 :	175.00	190.00	2533.41162	(88070408)
SRC1 :	175.00	200.00	2697.07544c	(89080208)	SRC1 :	175.00	210.00	2215.77319	(91062508)
SRC1 :	175.00	220.00	1164.56262c	(88022724)	SRC1 :	175.00	230.00	2898.98315	(87092708)
SRC1 :	175.00	240.00	4679.66260c	(87083008)	SRC1 :	175.00	250.00	3604.59277c	(87080108)
SRC1 :	175.00	260.00	3580.82104c	(87080208)	SRC1 :	175.00	270.00	1170.66968	(87041808)
SRC1 :	175.00	280.00	1756.66516c	(87062508)	SRC1 :	175.00	290.00	1080.69177c	(87092524)
SRC1 :	175.00	300.00	817.32471	(87082408)	SRC1 :	175.00	310.00	785.37244	(87021908)
SRC1 :	175.00	320.00	920.35797	(89012308)	SRC1 :	175.00	330.00	1014.18805	(88010308)
SRC1 :	175.00	340.00	953.17596c	(91102108)	SRC1 :	175.00	350.00	891.37451c	(88042608)
SRC1 :	175.00	360.00	719.15179	(91010108)	SRC1 :	175.00	10.00	1152.93994	(88101324)
SRC1 :	175.00	20.00	641.17462	(91091508)	SRC1 :	175.00	30.00	843.47235c	(91052908)
SRC1 :	175.00	40.00	1070.82629c	(87090708)	SRC1 :	125.00	160.00	9627.80762c	(91030808)
SRC1 :	125.00	170.00	9805.86523c	(90052408)	SRC1 :	125.00	180.00	6641.34424c	(89080208)
SRC1 :	125.00	190.00	6214.35107c	(89080208)	SRC1 :	125.00	200.00	3389.47900	(91062508)
SRC1 :	125.00	210.00	1969.11572	(88112308)	SRC1 :	125.00	220.00	2109.97217	(88112308)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	1318.11865	(89093024)	SRC1	:	125.00	240.00	1537.69897	(89031008)
SRC1	:	125.00	250.00	1591.66040	(90082508)	SRC1	:	125.00	260.00	1607.50781c	(89102208)
SRC1	:	125.00	270.00	2722.75415c	(87062508)	SRC1	:	125.00	280.00	1439.71826	(87102508)
SRC1	:	125.00	290.00	1180.28589	(87020424)	SRC1	:	125.00	300.00	1022.62946	(91012708)
SRC1	:	125.00	310.00	941.10352	(89012308)	SRC1	:	125.00	320.00	1238.18311	(87022408)
SRC1	:	125.00	330.00	1495.86047	(88010308)	SRC1	:	125.00	340.00	1182.42542c	(91102108)
SRC1	:	125.00	350.00	1122.07532c	(90101324)	SRC1	:	125.00	360.00	1024.28442	(91010108)
SRC1	:	125.00	10.00	1445.22888	(88101408)	SRC1	:	125.00	20.00	1242.98291	(88101324)
SRC1	:	125.00	30.00	1029.88745c	(87090708)	SRC1	:	125.00	40.00	1042.99561c	(91052908)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	6505.29688c	(87090708)	500.00	750.00	6693.43750c	(87090708)
-200.00	125.00	5618.06396c	(87071508)	-50.00	-300.00	6553.96729c	(87083008)
1350.00	0.00	6357.00342c	(87083008)	-3.00	98.10	4817.94678c	(87080208)
-450.00	-150.00	4670.58496	(87091424)	1350.00	-1000.00	5979.23730	(87091508)
17.30	98.10	5724.66943c	(87073108)	-20.30	98.10	6674.84766c	(87060608)
-21.80	0.00	5158.38037c	(87062508)	-43.70	0.00	12130.76860c	(89080208)
-43.70	98.10	14826.97170c	(89102808)	-43.70	24.50	2894.29834	(87102508)
-43.70	49.10	2977.38281c	(87060508)	37.60	98.10	11716.32420	(89121708)
37.60	49.10	3846.03247	(87021908)	37.60	0.00	12449.45610c	(88083008)
37.60	24.50	4198.36719	(87022408)	37.60	-24.90	13139.16800c	(90072508)
37.60	-49.80	10382.44240c	(90061108)	37.60	-81.30	8480.18066c	(90081008)
37.60	-112.80	6694.27930c	(88092608)	15.70	-111.80	7036.04346c	(91060808)
6.10	-110.70	7769.60303c	(87090708)	-9.10	-92.50	8006.30908c	(87090708)
-11.20	-49.80	9647.77441c	(91060808)	-10.20	-71.10	8495.91309c	(91060808)
0.00	-49.80	10696.37890	(88011008)	0.00	-37.30	13141.70210c	(90052408)
0.00	-24.90	15612.23340c	(90052408)	0.00	-12.40	12215.31050c	(91060808)
-341.10	290.50	7793.10596c	(87073108)	-325.80	296.30	8994.30957c	(87060608)
-267.90	300.80	6124.87109c	(87062508)	-300.50	242.60	6078.08545c	(87062508)
-325.50	207.30	6098.84766c	(87062508)	-284.40	192.00	5012.80713c	(87010408)
-266.70	115.50	3515.43750c	(87010408)	-190.20	58.80	3947.83862c	(87060508)
-82.00	-36.00	8876.80078c	(89080208)	-397.20	-197.50	4882.04492	(87021908)
-121.30	-124.40	5309.73682	(87021908)	-80.50	-152.40	5150.90381	(87022408)
-230.10	-461.50	5269.68701	(87022408)	-26.50	-406.30	5627.97412	(87020508)
20.40	312.70	5870.07275	(87020508)	649.80	667.50	4967.99365	(87041924)
648.60	621.80	9417.57324c	(87090708)	550.50	524.00	9856.62402c	(87090708)
496.80	492.60	10142.85160c	(87090708)	368.80	460.90	10680.60640c	(87090708)
1424.00	473.70	11629.39750c	(87083008)	1358.20	117.70	12865.96290c	(87090708)
1418.20	130.80	12554.89750c	(87083008)	-29.10	-24.00	13810.56840c	(91060808)
-14.60	-24.00	13888.73140c	(91060808)	12.50	-24.00	14321.33890c	(90081008)
25.10	-24.00	13528.67190c	(91030808)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	3177.38257c	(88092608)	SRC1 :	275.00	170.00	4290.85352c	(88092608)
SRC1 :	275.00	180.00	5405.00342c	(87101908)	SRC1 :	275.00	190.00	3109.87793	(88041308)
SRC1 :	275.00	200.00	2656.59644	(90022008)	SRC1 :	275.00	210.00	3192.74341	(90091708)
SRC1 :	275.00	220.00	2573.91577	(89092408)	SRC1 :	275.00	230.00	3779.08911c	(89080208)
SRC1 :	275.00	240.00	2752.24756c	(89030908)	SRC1 :	275.00	250.00	3204.55786	(91062508)
SRC1 :	275.00	260.00	2220.60083c	(90101608)	SRC1 :	275.00	270.00	11017.64940c	(87103108)
SRC1 :	275.00	280.00	12326.88180c	(87090708)	SRC1 :	275.00	290.00	2920.41235c	(90092708)
SRC1 :	275.00	300.00	3350.89478	(90082508)	SRC1 :	275.00	310.00	10006.53610	(87051008)
SRC1 :	275.00	320.00	4757.78076	(89031708)	SRC1 :	275.00	330.00	11269.25100c	(87101308)
SRC1 :	275.00	340.00	4585.46924	(88010308)	SRC1 :	275.00	350.00	12951.73540c	(87021308)
SRC1 :	275.00	360.00	8721.90527c	(87101308)	SRC1 :	275.00	10.00	7128.52686c	(87062508)
SRC1 :	275.00	20.00	6250.69092c	(87062508)	SRC1 :	275.00	30.00	6361.72656c	(87062508)
SRC1 :	275.00	40.00	6429.48828c	(87062508)	SRC1 :	225.00	170.00	7553.58545c	(87040308)
SRC1 :	225.00	180.00	10639.33890c	(87040308)	SRC1 :	225.00	190.00	8840.19531c	(87040308)
SRC1 :	225.00	200.00	10595.99320c	(87040308)	SRC1 :	225.00	210.00	11422.77640c	(87040308)
SRC1 :	225.00	220.00	12399.38960c	(87040308)	SRC1 :	225.00	230.00	11976.48730c	(87040308)
SRC1 :	225.00	240.00	4307.36572c	(89080208)	SRC1 :	225.00	250.00	3628.20874	(91062508)
SRC1 :	225.00	260.00	3229.75293	(91062508)	SRC1 :	225.00	270.00	4356.97168c	(87090708)
SRC1 :	225.00	280.00	3431.96582	(88112308)	SRC1 :	225.00	290.00	4460.03271c	(87090708)
SRC1 :	225.00	300.00	3965.79956c	(89092808)	SRC1 :	225.00	310.00	5996.34180c	(88030608)
SRC1 :	225.00	320.00	6507.64258c	(90090108)	SRC1 :	225.00	330.00	6179.89307c	(88092708)
SRC1 :	225.00	340.00	7185.62207	(88010308)	SRC1 :	225.00	350.00	6108.56250	(88101408)
SRC1 :	225.00	360.00	6244.92725	(88101408)	SRC1 :	225.00	10.00	5556.22949	(88101408)
SRC1 :	225.00	20.00	6095.81250c	(89062208)	SRC1 :	225.00	30.00	6242.56982	(89121708)
SRC1 :	225.00	40.00	7385.01123	(89121708)	SRC1 :	175.00	170.00	5514.25635c	(88092608)
SRC1 :	175.00	180.00	5480.66797c	(88092608)	SRC1 :	175.00	190.00	4118.06543	(88041308)
SRC1 :	175.00	200.00	4037.84741	(90022008)	SRC1 :	175.00	210.00	4240.76660	(90091708)
SRC1 :	175.00	220.00	4314.58203	(90091708)	SRC1 :	175.00	230.00	11086.35160c	(87040308)
SRC1 :	175.00	240.00	12572.15140c	(87040308)	SRC1 :	175.00	250.00	12417.09280c	(87040308)
SRC1 :	175.00	260.00	12376.01270c	(87040308)	SRC1 :	175.00	270.00	3593.82104c	(87040308)
SRC1 :	175.00	280.00	4015.50586	(88112308)	SRC1 :	175.00	290.00	4638.50586	(88112308)
SRC1 :	175.00	300.00	5263.20313c	(88030608)	SRC1 :	175.00	310.00	7197.22900c	(88030608)
SRC1 :	175.00	320.00	8391.59863c	(90090108)	SRC1 :	175.00	330.00	8445.35938c	(90090108)
SRC1 :	175.00	340.00	9327.06348	(88010308)	SRC1 :	175.00	350.00	8694.44238	(88101408)
SRC1 :	175.00	360.00	8896.11816	(88101408)	SRC1 :	175.00	10.00	7781.66162	(88101408)
SRC1 :	175.00	20.00	9084.14746	(90071808)	SRC1 :	175.00	30.00	8789.79980	(89121708)
SRC1 :	175.00	40.00	9389.20020	(89121708)	SRC1 :	125.00	160.00	6562.81104c	(88092608)
SRC1 :	125.00	170.00	6714.70752c	(91060808)	SRC1 :	125.00	180.00	6519.10693c	(88092608)
SRC1 :	125.00	190.00	6311.48096	(88021808)	SRC1 :	125.00	200.00	5673.42480	(88041308)
SRC1 :	125.00	210.00	5182.69238	(90022008)	SRC1 :	125.00	220.00	5330.79199	(88082108)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	6016.80518c	(89080208)	SRC1	:	125.00	240.00	7213.56250c	(89080208)
SRC1	:	125.00	250.00	7714.45557c	(89080208)	SRC1	:	125.00	260.00	7324.83008c	(89080208)
SRC1	:	125.00	270.00	5412.01025	(91062508)	SRC1	:	125.00	280.00	6006.22803	(91062508)
SRC1	:	125.00	290.00	5947.53223	(88112308)	SRC1	:	125.00	300.00	7529.42334c	(88030608)
SRC1	:	125.00	310.00	9138.00098c	(88030608)	SRC1	:	125.00	320.00	10791.46580c	(90090108)
SRC1	:	125.00	330.00	11377.48050	(88010308)	SRC1	:	125.00	340.00	13445.10640c	(89102808)
SRC1	:	125.00	350.00	13767.74120c	(88061908)	SRC1	:	125.00	360.00	13288.61130	(88010308)
SRC1	:	125.00	10.00	12494.31250	(90071808)	SRC1	:	125.00	20.00	14542.82810c	(89121808)
SRC1	:	125.00	30.00	13813.05860c	(91101608)	SRC1	:	125.00	40.00	12858.13570c	(91101608)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	6505.29688c	(87090708)	500.00	750.00	6693.43750c	(87090708)
-200.00	125.00	5749.35986c	(87071508)	-50.00	-300.00	6974.94775c	(87083008)
1350.00	0.00	6365.41797c	(87083008)	-3.00	98.10	5276.13232c	(87080208)
-450.00	-150.00	4857.30762	(87091424)	1350.00	-1000.00	6230.30859	(87091508)
17.30	98.10	5724.66943c	(87073108)	-20.30	98.10	6674.84766c	(87060608)
-21.80	0.00	9267.64844c	(87062508)	-43.70	0.00	12134.35840c	(89080208)
-43.70	98.10	15225.73140c	(89102808)	-43.70	24.50	2984.02661	(87082408)
-43.70	49.10	3113.46777	(87082408)	37.60	98.10	11716.32420	(89121708)
37.60	49.10	3846.03247	(87021908)	37.60	0.00	12449.45610c	(88083008)
37.60	24.50	4198.36719	(87022408)	37.60	-24.90	13139.16800c	(90072508)
37.60	-49.80	10382.44240c	(90061108)	37.60	-81.30	8480.18066c	(90081008)
37.60	-112.80	16315.58300	(89041908)	15.70	-111.80	13821.81450c	(91060808)
6.10	-110.70	13589.17290	(88041308)	-9.10	-92.50	8901.51563c	(88092608)
-11.20	-49.80	9647.77441c	(91060808)	-10.20	-71.10	8688.27148c	(87083008)
0.00	-49.80	10696.37890	(88011008)	0.00	-37.30	13141.70210c	(90052408)
0.00	-24.90	15612.23340c	(90052408)	0.00	-12.40	12215.31050c	(91060808)
-341.10	290.50	7793.10596c	(87073108)	-325.80	296.30	8994.30957c	(87060608)
-267.90	300.80	13969.26660c	(87062508)	-300.50	242.60	14882.58980c	(87040308)
-325.50	207.30	8091.86426	(87102508)	-284.40	192.00	5012.80713c	(87010408)
-266.70	115.50	4032.15430c	(87072808)	-190.20	58.80	4344.87646c	(87022008)
-82.00	-36.00	9002.93066c	(89080208)	-397.20	-197.50	4882.04492	(87021908)
-121.30	-124.40	5309.73682	(87021908)	-80.50	-152.40	5150.90381	(87022408)
-230.10	-461.50	5269.68701	(87022408)	-26.50	-406.30	5627.97412	(87020508)
20.40	312.70	5870.07275	(87020508)	649.80	667.50	4986.98682	(87041924)
648.60	621.80	9417.57520c	(87090708)	550.50	524.00	9856.62402c	(87090708)
496.80	492.60	10142.85160c	(87090708)	368.80	460.90	11723.32810c	(87083008)
1424.00	473.70	12380.72360c	(87083008)	1358.20	117.70	12865.96290c	(87090708)
1418.20	130.80	12711.70210c	(87083008)	-29.10	-24.00	13810.56840c	(91060808)
-14.60	-24.00	13888.73140c	(91060808)	12.50	-24.00	14321.33890c	(90081008)
25.10	-24.00	13528.67190c	(91030808)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	4349.19678c	(89081024)	SRC1 :	275.00	170.00	6696.90479c	(88092608)
SRC1 :	275.00	180.00	5405.16602c	(87101908)	SRC1 :	275.00	190.00	3354.25854	(88041308)
SRC1 :	275.00	200.00	2791.64795	(90022008)	SRC1 :	275.00	210.00	3217.39697	(90091708)
SRC1 :	275.00	220.00	2697.26514c	(89080208)	SRC1 :	275.00	230.00	3918.71680c	(89080208)
SRC1 :	275.00	240.00	2752.25024c	(89030908)	SRC1 :	275.00	250.00	3215.74609	(91062508)
SRC1 :	275.00	260.00	3457.88599c	(87083008)	SRC1 :	275.00	270.00	11017.64940c	(87103108)
SRC1 :	275.00	280.00	12931.26270c	(87083008)	SRC1 :	275.00	290.00	3100.55151c	(90092708)
SRC1 :	275.00	300.00	3361.96313	(90082508)	SRC1 :	275.00	310.00	10398.24020	(87012708)
SRC1 :	275.00	320.00	4950.60986	(89031708)	SRC1 :	275.00	330.00	11269.25100c	(87101308)
SRC1 :	275.00	340.00	5047.14209	(88010308)	SRC1 :	275.00	350.00	12951.73540c	(87021308)
SRC1 :	275.00	360.00	9252.55371c	(87062508)	SRC1 :	275.00	10.00	7128.52686c	(87062508)
SRC1 :	275.00	20.00	15005.33690c	(87062508)	SRC1 :	275.00	30.00	9739.72852	(87032024)
SRC1 :	275.00	40.00	11364.10350c	(87042008)	SRC1 :	225.00	170.00	7927.84961c	(88092608)
SRC1 :	225.00	180.00	10639.33890c	(87040308)	SRC1 :	225.00	190.00	8840.19531c	(87040308)
SRC1 :	225.00	200.00	10595.99320c	(87040308)	SRC1 :	225.00	210.00	11422.77640c	(87040308)
SRC1 :	225.00	220.00	12399.38960c	(87040308)	SRC1 :	225.00	230.00	11976.48730c	(87040308)
SRC1 :	225.00	240.00	4307.36572c	(89080208)	SRC1 :	225.00	250.00	3663.12329	(91062508)
SRC1 :	225.00	260.00	3289.15137	(91062508)	SRC1 :	225.00	270.00	4356.97363c	(87090708)
SRC1 :	225.00	280.00	3597.90942	(88112308)	SRC1 :	225.00	290.00	4461.53076c	(87090708)
SRC1 :	225.00	300.00	4071.17993c	(88030608)	SRC1 :	225.00	310.00	5997.00391c	(88030608)
SRC1 :	225.00	320.00	6844.99561c	(90090108)	SRC1 :	225.00	330.00	6672.29834c	(88092708)
SRC1 :	225.00	340.00	7747.13135	(88010308)	SRC1 :	225.00	350.00	6522.40869c	(90101324)
SRC1 :	225.00	360.00	6753.08203	(88101408)	SRC1 :	225.00	10.00	6360.51074	(88101408)
SRC1 :	225.00	20.00	6316.83984c	(89062208)	SRC1 :	225.00	30.00	6242.56982	(89121708)
SRC1 :	225.00	40.00	7386.95557	(89121708)	SRC1 :	175.00	170.00	9906.78125c	(88092608)
SRC1 :	175.00	180.00	6858.69336	(88021808)	SRC1 :	175.00	190.00	4736.36914c	(90042208)
SRC1 :	175.00	200.00	4056.42578	(90091708)	SRC1 :	175.00	210.00	4240.80811	(90091708)
SRC1 :	175.00	220.00	4314.58203	(90091708)	SRC1 :	175.00	230.00	11086.35160c	(87040308)
SRC1 :	175.00	240.00	12572.15140c	(87040308)	SRC1 :	175.00	250.00	12417.09280c	(87040308)
SRC1 :	175.00	260.00	12376.01270c	(87040308)	SRC1 :	175.00	270.00	4262.25244	(87041808)
SRC1 :	175.00	280.00	5757.99268c	(87062508)	SRC1 :	175.00	290.00	4643.23730	(88112308)
SRC1 :	175.00	300.00	5409.22021c	(88030608)	SRC1 :	175.00	310.00	7197.31299c	(88030608)
SRC1 :	175.00	320.00	8684.44629c	(90090108)	SRC1 :	175.00	330.00	8925.27148	(88010308)
SRC1 :	175.00	340.00	10037.38770	(88010308)	SRC1 :	175.00	350.00	8895.63574	(88101408)
SRC1 :	175.00	360.00	9536.91113	(88101408)	SRC1 :	175.00	10.00	8846.57715	(88101408)
SRC1 :	175.00	20.00	9438.70898	(90071808)	SRC1 :	175.00	30.00	8789.79980	(89121708)
SRC1 :	175.00	40.00	9389.24316	(89121708)	SRC1 :	125.00	160.00	15030.54200c	(88092608)
SRC1 :	125.00	170.00	14995.64940c	(91060808)	SRC1 :	125.00	180.00	9152.66602c	(90052408)
SRC1 :	125.00	190.00	6683.53857	(88021808)	SRC1 :	125.00	200.00	5673.42480	(88041308)
SRC1 :	125.00	210.00	5601.04004	(91062008)	SRC1 :	125.00	220.00	5330.79199	(88082108)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	6016.97852c	(89080208)	SRC1	:	125.00	240.00	7217.64307c	(89080208)
SRC1	:	125.00	250.00	7739.19678c	(89080208)	SRC1	:	125.00	260.00	7387.73584c	(89080208)
SRC1	:	125.00	270.00	7226.23242c	(87062508)	SRC1	:	125.00	280.00	6006.58545	(91062508)
SRC1	:	125.00	290.00	5947.73682	(88112308)	SRC1	:	125.00	300.00	7557.16211c	(88030608)
SRC1	:	125.00	310.00	9138.00293c	(88030608)	SRC1	:	125.00	320.00	10993.38180c	(90090108)
SRC1	:	125.00	330.00	12873.34180	(88010308)	SRC1	:	125.00	340.00	13964.97750c	(89102808)
SRC1	:	125.00	350.00	13948.45610c	(88061908)	SRC1	:	125.00	360.00	13442.88380	(88010308)
SRC1	:	125.00	10.00	13543.91890	(88101408)	SRC1	:	125.00	20.00	15203.63280c	(89121808)
SRC1	:	125.00	30.00	14420.72270	(88010208)	SRC1	:	125.00	40.00	12858.13570c	(91101608)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	636.19531c	(88022724)	500.00	750.00	490.55313	(87081508)
-200.00	125.00	617.41193c	(90092808)	-50.00	-300.00	831.67627	(91110908)
1350.00	0.00	465.45270	(87081608)	-3.00	98.10	1185.35229	(91010108)
-450.00	-150.00	352.59540c	(87082024)	1350.00	-1000.00	472.67166	(87100424)
17.30	98.10	1383.57312	(88101324)	-20.30	98.10	1170.29175c	(88042608)
-21.80	0.00	3363.55176c	(87040308)	-43.70	0.00	2100.98560c	(87010408)
-43.70	98.10	1858.48889	(87021906)	-43.70	24.50	1705.46423	(89012308)
-43.70	49.10	1919.58557	(88010308)	37.60	98.10	1369.03076	(88101408)
37.60	49.10	1837.89014	(88101408)	37.60	0.00	2820.09766	(88101408)
37.60	24.50	2226.35376	(88101408)	37.60	-24.90	3894.29102	(88101408)
37.60	-49.80	7246.38086c	(89121808)	37.60	-81.30	1198.50525c	(87101508)
37.60	-112.80	10968.17090c	(91030808)	15.70	-111.80	8526.87598	(88041308)
6.10	-110.70	8465.19824	(88041308)	-9.10	-92.50	6641.12939c	(89102208)
-11.20	-49.80	5644.58936	(89031708)	-10.20	-71.10	7560.24121	(89102908)
0.00	-49.80	6643.13281c	(88092708)	0.00	-37.30	5212.54688	(89012308)
0.00	-24.90	4347.23877	(88010308)	0.00	-12.40	3068.34937c	(90101324)
-341.10	290.50	783.75977	(87091424)	-325.80	296.30	597.26459	(87050924)
-267.90	300.80	8862.07910c	(87101208)	-300.50	242.60	8452.33105c	(87010408)
-325.50	207.30	4577.08887	(87042608)	-284.40	192.00	3192.20313c	(87042008)
-266.70	115.50	3448.52051	(87022408)	-190.20	58.80	1645.51501c	(87061708)
-82.00	-36.00	2473.21362c	(89102208)	-397.20	-197.50	864.25983	(87030608)
-121.30	-124.40	971.92316c	(88022724)	-80.50	-152.40	2097.93506c	(87101908)
-230.10	-461.50	1494.26160c	(87090708)	-26.50	-406.30	1583.22461c	(87101508)
20.40	312.70	1454.32361c	(87101508)	649.80	667.50	1352.49048c	(87071508)
648.60	621.80	1006.00848c	(87092624)	550.50	524.00	913.00781	(87092708)
496.80	492.60	846.51709c	(87072908)	368.80	460.90	1024.59888c	(87080108)
1424.00	473.70	751.32690c	(87083008)	1358.20	117.70	715.79578	(87081608)
1418.20	130.80	749.36328	(87071724)	-29.10	-24.00	2514.26733c	(89102808)
-14.60	-24.00	3402.67310	(89012308)	12.50	-24.00	4630.74951c	(90101324)
25.10	-24.00	4398.64258	(88101324)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	1158.03833c	(88083008)	SRC1	:	275.00	170.00	1198.64673	(88021808)
SRC1	:	275.00	180.00	1201.51904c	(88100708)	SRC1	:	275.00	190.00	1118.28650	(90022008)
SRC1	:	275.00	200.00	860.35876	(89092408)	SRC1	:	275.00	210.00	971.49646c	(89032408)
SRC1	:	275.00	220.00	896.15527	(88103108)	SRC1	:	275.00	230.00	499.16385c	(90082608)
SRC1	:	275.00	240.00	1046.40393c	(87080208)	SRC1	:	275.00	250.00	783.53412	(87081608)
SRC1	:	275.00	260.00	2210.51758c	(87071808)	SRC1	:	275.00	270.00	1836.63660	(87121108)
SRC1	:	275.00	280.00	1151.04053c	(87083008)	SRC1	:	275.00	290.00	1494.83154	(87081508)
SRC1	:	275.00	300.00	1446.39160c	(87072908)	SRC1	:	275.00	310.00	828.32269	(87052708)
SRC1	:	275.00	320.00	1297.15845	(87052708)	SRC1	:	275.00	330.00	2460.41211	(87091508)
SRC1	:	275.00	340.00	1614.68750	(87052708)	SRC1	:	275.00	350.00	3433.11743	(87091508)
SRC1	:	275.00	360.00	5521.37939	(87051008)	SRC1	:	275.00	10.00	620.11755c	(90081624)
SRC1	:	275.00	20.00	10157.70410c	(87101208)	SRC1	:	275.00	30.00	6643.95508	(87021908)
SRC1	:	275.00	40.00	7996.13721c	(87042008)	SRC1	:	225.00	170.00	7597.05615c	(87090708)
SRC1	:	225.00	180.00	5795.36523c	(87083008)	SRC1	:	225.00	190.00	7513.18994c	(87101508)
SRC1	:	225.00	200.00	5625.73975c	(87071808)	SRC1	:	225.00	210.00	5071.54932c	(87071808)
SRC1	:	225.00	220.00	3864.41040c	(87071808)	SRC1	:	225.00	230.00	3154.93359c	(87080108)
SRC1	:	225.00	240.00	605.15192	(89072908)	SRC1	:	225.00	250.00	521.37073c	(89042108)
SRC1	:	225.00	260.00	397.44412c	(89102808)	SRC1	:	225.00	270.00	590.86438c	(90092708)
SRC1	:	225.00	280.00	707.47772c	(89102524)	SRC1	:	225.00	290.00	642.47821c	(88030608)
SRC1	:	225.00	300.00	609.10962c	(90092808)	SRC1	:	225.00	310.00	840.37775c	(87101508)
SRC1	:	225.00	320.00	2799.34448c	(87101908)	SRC1	:	225.00	330.00	526.69513	(90020808)
SRC1	:	225.00	340.00	839.26611	(87050608)	SRC1	:	225.00	350.00	1432.11584	(87020508)
SRC1	:	225.00	360.00	508.15442	(88101408)	SRC1	:	225.00	10.00	804.28131	(88101408)
SRC1	:	225.00	20.00	503.57837	(91091508)	SRC1	:	225.00	30.00	472.63892	(88061924)
SRC1	:	225.00	40.00	518.67725c	(89070424)	SRC1	:	175.00	170.00	4023.44629	(88021808)
SRC1	:	175.00	180.00	2638.31201	(88041308)	SRC1	:	175.00	190.00	2374.03809	(90101124)
SRC1	:	175.00	200.00	2021.39148c	(90080208)	SRC1	:	175.00	210.00	1563.99072	(89091824)
SRC1	:	175.00	220.00	982.27472	(91092108)	SRC1	:	175.00	230.00	2863.05420c	(87092624)
SRC1	:	175.00	240.00	2998.82422c	(87071808)	SRC1	:	175.00	250.00	3518.96899	(87101824)
SRC1	:	175.00	260.00	3260.42285	(87052624)	SRC1	:	175.00	270.00	1090.73425c	(89102208)
SRC1	:	175.00	280.00	1406.01953c	(88030608)	SRC1	:	175.00	290.00	1072.47656c	(87041908)
SRC1	:	175.00	300.00	802.85529c	(87010408)	SRC1	:	175.00	310.00	783.00031	(87042624)
SRC1	:	175.00	320.00	719.11615	(90020808)	SRC1	:	175.00	330.00	745.35083	(87022408)
SRC1	:	175.00	340.00	800.38519c	(88061908)	SRC1	:	175.00	350.00	761.44696c	(90101324)
SRC1	:	175.00	360.00	640.79230	(88101408)	SRC1	:	175.00	10.00	1064.91553	(88101408)
SRC1	:	175.00	20.00	633.39301	(89081508)	SRC1	:	175.00	30.00	802.14526c	(87101908)
SRC1	:	175.00	40.00	709.34424c	(88102624)	SRC1	:	125.00	160.00	9406.81934	(89041908)
SRC1	:	125.00	170.00	9326.91895	(88011008)	SRC1	:	125.00	180.00	6005.82666c	(90110624)
SRC1	:	125.00	190.00	4402.94727	(90032708)	SRC1	:	125.00	200.00	3040.46240	(89091824)
SRC1	:	125.00	210.00	1800.83240	(89091908)	SRC1	:	125.00	220.00	1563.48438	(89072908)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	1307.95825	(88112308)	SRC1	:	125.00	240.00	1234.25403	(90082508)
SRC1	:	125.00	250.00	1169.26489	(89102908)	SRC1	:	125.00	260.00	1530.64417c	(88030608)
SRC1	:	125.00	270.00	2042.58740c	(87040306)	SRC1	:	125.00	280.00	1410.60315c	(87092524)
SRC1	:	125.00	290.00	992.07206	(87082408)	SRC1	:	125.00	300.00	993.09741	(89012408)
SRC1	:	125.00	310.00	829.62183c	(90090108)	SRC1	:	125.00	320.00	1116.02625	(90020808)
SRC1	:	125.00	330.00	1059.26794c	(91102108)	SRC1	:	125.00	340.00	964.48236	(88010308)
SRC1	:	125.00	350.00	1096.23010c	(88042608)	SRC1	:	125.00	360.00	809.44171	(88101408)
SRC1	:	125.00	10.00	1335.67871	(88101324)	SRC1	:	125.00	20.00	1115.16833c	(90081624)
SRC1	:	125.00	30.00	957.62225c	(88081124)	SRC1	:	125.00	40.00	855.88995c	(87101424)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
-180.00	-150.00	5959.45264c (87101908)	500.00	750.00	6414.85938c (87101508)
-200.00	125.00	5337.84766c (87101608)	-50.00	-300.00	4830.58838c (87071808)
1350.00	0.00	4880.86865 (87101824)	-3.00	98.10	4308.91357 (87091424)
-450.00	-150.00	4535.70801 (87091508)	1350.00	-1000.00	5141.80664 (87051008)
17.30	98.10	5140.21289 (87012708)	-20.30	98.10	6201.11475c (87073108)
-21.80	0.00	4507.74561c (87040308)	-43.70	0.00	10442.32420 (88112208)
-43.70	98.10	13738.66990 (88010308)	-43.70	24.50	2846.94678 (87082408)
-43.70	49.10	2904.17285 (87082408)	37.60	98.10	10878.59570 (89041108)
37.60	49.10	3034.68677c (87060508)	37.60	0.00	11766.94630c (91030808)
37.60	24.50	3268.56421 (87080624)	37.60	-24.90	12918.78810c (91072408)
37.60	-49.80	10354.37010 (89041908)	37.60	-81.30	8135.60693c (90061108)
37.60	-112.80	6244.81836 (88011008)	15.70	-111.80	6794.56689c (88092608)
6.10	-110.70	7080.11279c (87101908)	-9.10	-92.50	7842.29053c (87101508)
-11.20	-49.80	9464.93262c (90042208)	-10.20	-71.10	8278.73535c (88092608)
0.00	-49.80	9588.13477c (90042208)	0.00	-37.30	11526.08590 (88011008)
0.00	-24.90	13926.65630c (91060608)	0.00	-12.40	11865.23340c (88092608)
-341.10	290.50	7529.56299c (87072608)	-325.80	296.30	8238.98047c (87072608)
-267.90	300.80	5665.86475c (87040308)	-300.50	242.60	5608.25537c (87040308)
-325.50	207.30	4864.45998c (87040308)	-284.40	192.00	4391.11230 (87102508)
-266.70	115.50	3430.34326 (87032024)	-190.20	58.80	3932.48730 (88112308)
-82.00	-36.00	7042.10791 (88070408)	-397.20	-197.50	4047.99414c (87060508)
-121.30	-124.40	4057.87817c (89080208)	-80.50	-152.40	4394.20313 (87021908)
-230.10	-461.50	5234.67236 (87020508)	-26.50	-406.30	5453.48926 (87022408)
20.40	312.70	5726.70117 (87022408)	649.80	667.50	4704.48535 (87022408)
648.60	621.80	8632.54785c (87101908)	550.50	524.00	8934.36328c (87071508)
496.80	492.60	10033.49510c (87101508)	368.80	460.90	10434.55570c (87083008)
1424.00	473.70	11542.18550c (87090708)	1358.20	117.70	12229.59280c (87101508)
1418.20	130.80	10727.81540c (87080108)	-29.10	-24.00	13226.83200c (88092608)
-14.60	-24.00	13492.74510c (87060608)	12.50	-24.00	12774.36720 (89041908)
25.10	-24.00	12352.72170 (89041908)			

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	3116.33008c	(89081024)	SRC1 :	275.00	170.00	3110.17725c	(91060808)
SRC1 :	275.00	180.00	5339.03662c	(87090708)	SRC1 :	275.00	190.00	2439.64771c	(88100708)
SRC1 :	275.00	200.00	2312.72729	(90091708)	SRC1 :	275.00	210.00	2713.11816	(88091008)
SRC1 :	275.00	220.00	2514.89966	(88070408)	SRC1 :	275.00	230.00	2434.02686c	(90080208)
SRC1 :	275.00	240.00	2646.56909	(91062508)	SRC1 :	275.00	250.00	2365.32178c	(90091108)
SRC1 :	275.00	260.00	2165.91724c	(88022724)	SRC1 :	275.00	270.00	10066.21090c	(87042008)
SRC1 :	275.00	280.00	12005.75490c	(87101508)	SRC1 :	275.00	290.00	2744.58154	(89031008)
SRC1 :	275.00	300.00	3092.83862c	(89102208)	SRC1 :	275.00	310.00	9940.47266	(87012708)
SRC1 :	275.00	320.00	4166.41650c	(88030608)	SRC1 :	275.00	330.00	9515.15039	(87081908)
SRC1 :	275.00	340.00	4337.33398	(89012308)	SRC1 :	275.00	350.00	11916.85450c	(87101208)
SRC1 :	275.00	360.00	8685.04590c	(87021308)	SRC1 :	275.00	10.00	6592.64404c	(87040308)
SRC1 :	275.00	20.00	5787.55420c	(87040308)	SRC1 :	275.00	30.00	5871.20654c	(87040308)
SRC1 :	275.00	40.00	5649.94385c	(87040308)	SRC1 :	225.00	170.00	7015.80420c	(87062508)
SRC1 :	225.00	180.00	9670.37207c	(87010408)	SRC1 :	225.00	190.00	7782.43799c	(87062508)
SRC1 :	225.00	200.00	9687.57813c	(87010408)	SRC1 :	225.00	210.00	10437.60450c	(87010408)
SRC1 :	225.00	220.00	11322.59770c	(87010408)	SRC1 :	225.00	230.00	11129.96880c	(87062508)
SRC1 :	225.00	240.00	3354.34448c	(87090708)	SRC1 :	225.00	250.00	3169.70898c	(87101508)
SRC1 :	225.00	260.00	3193.20532	(89091824)	SRC1 :	225.00	270.00	2995.63550c	(87101508)
SRC1 :	225.00	280.00	3409.01367c	(87101908)	SRC1 :	225.00	290.00	4043.67603c	(87101908)
SRC1 :	225.00	300.00	3958.80273	(90082508)	SRC1 :	225.00	310.00	4600.01904	(90060108)
SRC1 :	225.00	320.00	6302.50244	(87021908)	SRC1 :	225.00	330.00	5270.75244	(89031708)
SRC1 :	225.00	340.00	5696.92188	(89012308)	SRC1 :	225.00	350.00	5980.32031c	(90101324)
SRC1 :	225.00	360.00	6049.68115c	(90101324)	SRC1 :	225.00	10.00	5446.57959	(88101324)
SRC1 :	225.00	20.00	5606.42969	(90071808)	SRC1 :	225.00	30.00	6061.86621	(89041108)
SRC1 :	225.00	40.00	6942.10498c	(90090508)	SRC1 :	175.00	170.00	4725.53906	(88021808)
SRC1 :	175.00	180.00	5459.14551	(88021808)	SRC1 :	175.00	190.00	4018.32324	(89121308)
SRC1 :	175.00	200.00	3956.36646	(90091708)	SRC1 :	175.00	210.00	3489.41772	(88091008)
SRC1 :	175.00	220.00	4040.28662	(88070408)	SRC1 :	175.00	230.00	10578.51170c	(87062508)
SRC1 :	175.00	240.00	11370.43650c	(87010408)	SRC1 :	175.00	250.00	11431.92190c	(87010408)
SRC1 :	175.00	260.00	11488.51660c	(87010408)	SRC1 :	175.00	270.00	3479.14941	(89091824)
SRC1 :	175.00	280.00	4001.32739c	(87062508)	SRC1 :	175.00	290.00	4104.15723c	(90092708)
SRC1 :	175.00	300.00	5225.92285c	(90092708)	SRC1 :	175.00	310.00	6100.98877	(90042308)
SRC1 :	175.00	320.00	7632.94727	(89102908)	SRC1 :	175.00	330.00	7911.08447	(88010308)
SRC1 :	175.00	340.00	8657.86328c	(88092708)	SRC1 :	175.00	350.00	8040.25391	(88010308)
SRC1 :	175.00	360.00	8241.59277c	(88061908)	SRC1 :	175.00	10.00	7660.91260	(88101324)
SRC1 :	175.00	20.00	8267.61523c	(89121808)	SRC1 :	175.00	30.00	8301.51563	(89110108)
SRC1 :	175.00	40.00	8784.00098c	(90090508)	SRC1 :	125.00	160.00	6105.43018	(88011008)
SRC1 :	125.00	170.00	6495.54834c	(88092608)	SRC1 :	125.00	180.00	6425.86768	(88021808)
SRC1 :	125.00	190.00	5376.36377	(88041308)	SRC1 :	125.00	200.00	5075.51465c	(87083008)
SRC1 :	125.00	210.00	5138.79883	(91062008)	SRC1 :	125.00	220.00	5252.46240	(90091708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	125.00	230.00	5397.99365	(88070408)	SRC1 :	125.00	240.00	5279.20752	(90032708)
SRC1 :	125.00	250.00	5459.21191	(90032708)	SRC1 :	125.00	260.00	6122.78174c	(90080208)
SRC1 :	125.00	270.00	5264.02930	(89072908)	SRC1 :	125.00	280.00	5431.71924	(89072908)
SRC1 :	125.00	290.00	5332.51465	(90082508)	SRC1 :	125.00	300.00	7136.14160	(88112308)
SRC1 :	125.00	310.00	8563.32715	(89102908)	SRC1 :	125.00	320.00	10393.14450	(89102908)
SRC1 :	125.00	330.00	11361.48930c	(89102808)	SRC1 :	125.00	340.00	12215.48340	(88010308)
SRC1 :	125.00	350.00	12934.92970c	(90090108)	SRC1 :	125.00	360.00	12342.59380c	(90101324)
SRC1 :	125.00	10.00	12128.98240c	(89062208)	SRC1 :	125.00	20.00	14453.39260c	(88100908)
SRC1 :	125.00	30.00	13769.68750	(88010208)	SRC1 :	125.00	40.00	12217.12210	(89121708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	5959.45264c	(87101908)	500.00	750.00	6500.79932c	(87101508)
-200.00	125.00	5645.55127c	(87101608)	-50.00	-300.00	5113.22852c	(87071808)
1350.00	0.00	4939.60791	(87101824)	-3.00	98.10	4309.29297	(87091424)
-450.00	-150.00	4537.00977	(87091508)	1350.00	-1000.00	5432.43213c	(87110308)
17.30	98.10	5255.17627	(87012708)	-20.30	98.10	6201.11475c	(87073108)
-21.80	0.00	7871.29736c	(87040308)	-43.70	0.00	10442.32420	(88112208)
-43.70	98.10	15178.49900	(88010308)	-43.70	24.50	2894.29834	(87102508)
-43.70	49.10	2977.38281c	(87060508)	37.60	98.10	10878.59570	(89041108)
37.60	49.10	3133.02661c	(87121408)	37.60	0.00	11766.94630c	(91030808)
37.60	24.50	3269.14307	(87080624)	37.60	-24.90	12918.78810c	(91072408)
37.60	-49.80	10354.37010	(89041908)	37.60	-81.30	8135.60693c	(90061108)
37.60	-112.80	16128.96970c	(88092608)	15.70	-111.80	13557.76760	(88041308)
6.10	-110.70	12519.13670c	(90042208)	-9.10	-92.50	8334.42383c	(90092708)
-11.20	-49.80	9464.93262c	(90042208)	-10.20	-71.10	8495.91309c	(91060808)
0.00	-49.80	9588.13477c	(90042208)	0.00	-37.30	11526.08590	(88011008)
0.00	-24.90	13926.65630c	(91060808)	0.00	-12.40	11865.23340c	(88092608)
-341.10	290.50	7529.83643c	(87072608)	-325.80	296.30	8389.03809c	(87072608)
-267.90	300.80	12864.32130c	(87040308)	-300.50	242.60	13623.50390c	(87062508)
-325.50	207.30	7806.06836c	(87010408)	-284.40	192.00	4672.78174c	(87042008)
-266.70	115.50	3918.58081c	(87022008)	-190.20	58.80	3960.73950	(88112308)
-82.00	-36.00	7099.23389	(88070408)	-397.20	-197.50	4047.99414c	(87060508)
-121.30	-124.40	4143.26611	(88070408)	-80.50	-152.40	4394.20313	(87021908)
-230.10	-461.50	5234.67236	(87020508)	-26.50	-406.30	5453.48926	(87022408)
20.40	312.70	5726.70117	(87022408)	649.80	667.50	4704.48535	(87022408)
648.60	621.80	8632.54785c	(87101908)	550.50	524.00	9042.37891c	(87101508)
496.80	492.60	10099.75100c	(87101508)	368.80	460.90	10680.60640c	(87090708)
1424.00	473.70	11542.18550c	(87090708)	1358.20	117.70	12229.59280c	(87101508)
1418.20	130.80	11058.14550c	(87080108)	-29.10	-24.00	13226.83200c	(88092608)
-14.60	-24.00	13492.74510c	(87060608)	12.50	-24.00	12774.36720	(89041908)
25.10	-24.00	12352.72170	(89041908)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	4067.70996	(89041908)	SRC1 :	275.00	170.00	4178.80566c	(91060808)
SRC1 :	275.00	180.00	5339.92139c	(87090708)	SRC1 :	275.00	190.00	2725.88257c	(88100708)
SRC1 :	275.00	200.00	2593.75732	(90091708)	SRC1 :	275.00	210.00	2877.48389	(88091008)
SRC1 :	275.00	220.00	2648.01367	(88070408)	SRC1 :	275.00	230.00	2672.05029c	(90080208)
SRC1 :	275.00	240.00	2699.34131c	(90080208)	SRC1 :	275.00	250.00	2374.94751	(88103108)
SRC1 :	275.00	260.00	2230.52759c	(90101608)	SRC1 :	275.00	270.00	10066.21090c	(87042008)
SRC1 :	275.00	280.00	12326.88180c	(87090708)	SRC1 :	275.00	290.00	2744.65259	(89031008)
SRC1 :	275.00	300.00	3216.92847c	(88030608)	SRC1 :	275.00	310.00	10010.14450	(87051008)
SRC1 :	275.00	320.00	4476.78760c	(90090108)	SRC1 :	275.00	330.00	9515.15039	(87081908)
SRC1 :	275.00	340.00	4603.81982	(89012308)	SRC1 :	275.00	350.00	11916.85450c	(87101208)
SRC1 :	275.00	360.00	8721.90527c	(87101308)	SRC1 :	275.00	10.00	6592.64404c	(87040308)
SRC1 :	275.00	20.00	13846.85840c	(87040308)	SRC1 :	275.00	30.00	9638.81934c	(87030408)
SRC1 :	275.00	40.00	9885.57910c	(87010408)	SRC1 :	225.00	170.00	7689.87646c	(87101908)
SRC1 :	225.00	180.00	9670.37207c	(87010408)	SRC1 :	225.00	190.00	7782.43799c	(87062508)
SRC1 :	225.00	200.00	9687.57813c	(87010408)	SRC1 :	225.00	210.00	10437.60450c	(87010408)
SRC1 :	225.00	220.00	11322.59770c	(87010408)	SRC1 :	225.00	230.00	11131.96190c	(87062508)
SRC1 :	225.00	240.00	3354.34448c	(87090708)	SRC1 :	225.00	250.00	3193.05444c	(87101508)
SRC1 :	225.00	260.00	3193.22168	(89091824)	SRC1 :	225.00	270.00	3094.65820c	(87101508)
SRC1 :	225.00	280.00	3412.73804c	(87101908)	SRC1 :	225.00	290.00	4043.96997c	(87101908)
SRC1 :	225.00	300.00	3966.26514	(90082508)	SRC1 :	225.00	310.00	4858.75244	(89102908)
SRC1 :	225.00	320.00	6302.50244	(87021908)	SRC1 :	225.00	330.00	5361.04395	(88010308)
SRC1 :	225.00	340.00	6013.46826	(89012308)	SRC1 :	225.00	350.00	6266.10010	(88101408)
SRC1 :	225.00	360.00	6355.35156c	(90101324)	SRC1 :	225.00	10.00	6325.79785	(88101324)
SRC1 :	225.00	20.00	5827.01416	(90071808)	SRC1 :	225.00	30.00	6061.86621	(89041108)
SRC1 :	225.00	40.00	6942.10498c	(90090508)	SRC1 :	175.00	170.00	8748.98535	(88021808)
SRC1 :	175.00	180.00	6577.37012	(88041308)	SRC1 :	175.00	190.00	4575.55518	(88041308)
SRC1 :	175.00	200.00	4054.01855	(90022008)	SRC1 :	175.00	210.00	3716.78955	(88091008)
SRC1 :	175.00	220.00	4241.99072	(88070408)	SRC1 :	175.00	230.00	10578.51170c	(87062508)
SRC1 :	175.00	240.00	11370.43650c	(87010408)	SRC1 :	175.00	250.00	11456.78420c	(87091408)
SRC1 :	175.00	260.00	11488.51660c	(87010408)	SRC1 :	175.00	270.00	3943.08813c	(87040308)
SRC1 :	175.00	280.00	4606.67432c	(87040308)	SRC1 :	175.00	290.00	4184.66797c	(90092708)
SRC1 :	175.00	300.00	5251.04150	(88091108)	SRC1 :	175.00	310.00	6101.35303	(90042308)
SRC1 :	175.00	320.00	7813.46826	(89102908)	SRC1 :	175.00	330.00	8447.52832c	(90090108)
SRC1 :	175.00	340.00	8686.57324c	(88092708)	SRC1 :	175.00	350.00	8258.04395	(88010308)
SRC1 :	175.00	360.00	8331.44531	(88101324)	SRC1 :	175.00	10.00	8813.85352	(88101324)
SRC1 :	175.00	20.00	8647.20605c	(89121808)	SRC1 :	175.00	30.00	8384.04199	(88010208)
SRC1 :	175.00	40.00	8784.00098c	(90090508)	SRC1 :	125.00	160.00	15025.88870	(89041908)
SRC1 :	125.00	170.00	14534.25290c	(88092608)	SRC1 :	125.00	180.00	9060.88672c	(91060808)
SRC1 :	125.00	190.00	6214.35107c	(89080208)	SRC1 :	125.00	200.00	5412.16357c	(87083008)
SRC1 :	125.00	210.00	5182.69238	(90022008)	SRC1 :	125.00	220.00	5252.46240	(90091708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	125.00	230.00	5433.62305	(88070408)	SRC1 :	125.00	240.00	5418.89063	(90032708)
SRC1 :	125.00	250.00	5466.33496	(90032708)	SRC1 :	125.00	260.00	6122.80078c	(90080208)
SRC1 :	125.00	270.00	5778.84375c	(87040308)	SRC1 :	125.00	280.00	5431.71924	(89072908)
SRC1 :	125.00	290.00	5351.73486	(90082508)	SRC1 :	125.00	300.00	7136.14160	(88112308)
SRC1 :	125.00	310.00	8849.29102	(89102908)	SRC1 :	125.00	320.00	10599.15140	(89102908)
SRC1 :	125.00	330.00	11452.83890c	(89102808)	SRC1 :	125.00	340.00	13179.96680	(88010308)
SRC1 :	125.00	350.00	13102.67480c	(90101324)	SRC1 :	125.00	360.00	13116.13570c	(90101324)
SRC1 :	125.00	10.00	13023.01950	(88101324)	SRC1 :	125.00	20.00	14635.94630c	(88100908)
SRC1 :	125.00	30.00	13813.05860c	(91101608)	SRC1 :	125.00	40.00	12217.12210	(89121708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	274.16125	(87092724)	500.00	750.00	163.51773	(87081524)
-200.00	125.00	196.38817c	(89102524)	-50.00	-300.00	363.88443	(90101224)
1350.00	0.00	201.89619c	(87052624)	-3.00	98.10	440.75797	(91010124)
-450.00	-150.00	143.46941	(87012724)	1350.00	-1000.00	250.78853c	(87091424)
17.30	98.10	614.97186	(88101424)	-20.30	98.10	498.53101c	(91082724)
-21.80	0.00	1254.16150c	(87062524)	-43.70	0.00	1119.56921	(87082424)
-43.70	98.10	917.78961	(87042624)	-43.70	24.50	733.44385	(87080624)
-43.70	49.10	702.91235c	(87020524)	37.60	98.10	658.61371c	(88101324)
37.60	49.10	895.94757c	(88101324)	37.60	0.00	1355.31226c	(88101324)
37.60	24.50	1084.82275c	(88101324)	37.60	-24.90	2017.02771c	(88061924)
37.60	-49.80	3627.90601c	(88081124)	37.60	-81.30	601.41852c	(87090724)
37.60	-112.80	5732.59033	(90111724)	15.70	-111.80	4259.45703	(90101224)
6.10	-110.70	4912.12207c	(89091924)	-9.10	-92.50	3846.98022	(88112224)
-11.20	-49.80	2067.15283c	(89102524)	-10.20	-71.10	4294.82275c	(89102524)
0.00	-49.80	3021.81592c	(89102824)	0.00	-37.30	2489.70972	(89012324)
0.00	-24.90	2188.29980	(89012324)	0.00	-12.40	1424.29041	(89012324)
-341.10	290.50	363.37735	(87091524)	-325.80	296.30	286.98456c	(87060724)
-267.90	300.80	5793.54053c	(87101224)	-300.50	242.60	4192.67334c	(87040324)
-325.50	207.30	2923.98242	(87042624)	-284.40	192.00	1874.45862	(87080624)
-266.70	115.50	1525.38293c	(87020524)	-190.20	58.80	632.82654c	(87020524)
-82.00	-36.00	1090.63794c	(89102524)	-397.20	-197.50	502.53125	(87032224)
-121.30	-124.40	532.86987c	(87041924)	-80.50	-152.40	900.59369c	(89070524)
-230.10	-461.50	675.57062c	(87101924)	-26.50	-406.30	855.57190c	(87090724)
20.40	312.70	586.25623c	(87101424)	649.80	667.50	535.33008c	(87101424)
648.60	621.80	499.14771	(87092724)	550.50	524.00	318.09555	(87092724)
496.80	492.60	272.01425	(87121124)	368.80	460.90	351.48361c	(87083024)
1424.00	473.70	304.84634c	(87080124)	1358.20	117.70	321.08176	(87081624)
1418.20	130.80	407.53430c	(87071824)	-29.10	-24.00	1231.10181c	(89102824)
-14.60	-24.00	1646.71484	(88010324)	12.50	-24.00	1938.71838	(88101424)
25.10	-24.00	2107.73218	(88101424)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)	ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	580.20221	(89122324)	SRC1	:	275.00	170.00	656.19574c	(88092624)
SRC1	:	275.00	180.00	503.24118c	(88041324)	SRC1	:	275.00	190.00	468.85645	(90101224)
SRC1	:	275.00	200.00	335.63370	(88040924)	SRC1	:	275.00	210.00	412.77530c	(87071824)
SRC1	:	275.00	220.00	387.90210	(91062524)	SRC1	:	275.00	230.00	177.71742c	(89091924)
SRC1	:	275.00	240.00	465.48544c	(87071824)	SRC1	:	275.00	250.00	353.53418	(87081624)
SRC1	:	275.00	260.00	943.05981c	(87083024)	SRC1	:	275.00	270.00	922.26508	(87092724)
SRC1	:	275.00	280.00	375.46677c	(87080124)	SRC1	:	275.00	290.00	554.21906c	(87083024)
SRC1	:	275.00	300.00	632.62024c	(87083024)	SRC1	:	275.00	310.00	297.97998c	(87082024)
SRC1	:	275.00	320.00	575.61285c	(87091424)	SRC1	:	275.00	330.00	1202.40710c	(87091424)
SRC1	:	275.00	340.00	824.39490c	(87091424)	SRC1	:	275.00	350.00	1545.14661	(87011324)
SRC1	:	275.00	360.00	3058.35791c	(87110324)	SRC1	:	275.00	10.00	259.20547c	(88101324)
SRC1	:	275.00	20.00	6642.32178c	(87101224)	SRC1	:	275.00	30.00	3866.79956c	(87092524)
SRC1	:	275.00	40.00	4184.51758	(87021924)	SRC1	:	225.00	170.00	3233.92114	(87022424)
SRC1	:	225.00	180.00	2259.34058	(87092724)	SRC1	:	225.00	190.00	3188.03662c	(87101924)
SRC1	:	225.00	200.00	2125.54492	(87092824)	SRC1	:	225.00	210.00	1686.99670	(87071724)
SRC1	:	225.00	220.00	1373.32715	(87061424)	SRC1	:	225.00	230.00	1118.52039c	(87071824)
SRC1	:	225.00	240.00	239.68901c	(88112324)	SRC1	:	225.00	250.00	190.52075c	(88112324)
SRC1	:	225.00	260.00	165.99321c	(89102824)	SRC1	:	225.00	270.00	232.34383	(90082524)
SRC1	:	225.00	280.00	342.44620c	(89102524)	SRC1	:	225.00	290.00	255.64680	(89031724)
SRC1	:	225.00	300.00	254.58408c	(87090724)	SRC1	:	225.00	310.00	424.14569c	(87090724)
SRC1	:	225.00	320.00	1175.46912c	(87090724)	SRC1	:	225.00	330.00	227.05705	(88010324)
SRC1	:	225.00	340.00	376.10275c	(87061724)	SRC1	:	225.00	350.00	711.41425c	(87020524)
SRC1	:	225.00	360.00	198.03386	(88091824)	SRC1	:	225.00	10.00	358.53702c	(88101324)
SRC1	:	225.00	20.00	225.73138	(91091524)	SRC1	:	225.00	30.00	232.27792c	(88061924)
SRC1	:	225.00	40.00	230.07227c	(88011024)	SRC1	:	175.00	170.00	1839.03430c	(88092524)
SRC1	:	175.00	180.00	1417.11096	(90101224)	SRC1	:	175.00	190.00	918.54517c	(90101124)
SRC1	:	175.00	200.00	976.37616	(91122724)	SRC1	:	175.00	210.00	852.61267c	(89070524)
SRC1	:	175.00	220.00	464.19165c	(89091924)	SRC1	:	175.00	230.00	1251.11829	(87092724)
SRC1	:	175.00	240.00	1276.27161c	(87083024)	SRC1	:	175.00	250.00	1533.87317c	(87071824)
SRC1	:	175.00	260.00	1696.64734c	(87091424)	SRC1	:	175.00	270.00	553.04468c	(89102524)
SRC1	:	175.00	280.00	531.11908c	(87062524)	SRC1	:	175.00	290.00	410.71002c	(87092524)
SRC1	:	175.00	300.00	364.75351	(87082424)	SRC1	:	175.00	310.00	425.58798	(87042624)
SRC1	:	175.00	320.00	333.77460	(89012324)	SRC1	:	175.00	330.00	338.39633	(88010324)
SRC1	:	175.00	340.00	303.18472c	(91082724)	SRC1	:	175.00	350.00	285.11597c	(88042624)
SRC1	:	175.00	360.00	266.93539	(91010124)	SRC1	:	175.00	10.00	469.72070c	(88101324)
SRC1	:	175.00	20.00	271.11151	(91091524)	SRC1	:	175.00	30.00	327.83060c	(91062724)
SRC1	:	175.00	40.00	353.29501c	(88061924)	SRC1	:	125.00	160.00	4898.16553	(89122324)
SRC1	:	125.00	170.00	5135.04004c	(88092524)	SRC1	:	125.00	180.00	3196.90771c	(91110924)
SRC1	:	125.00	190.00	1976.10681c	(90032724)	SRC1	:	125.00	200.00	1613.14600c	(89091924)
SRC1	:	125.00	210.00	867.55518c	(89091924)	SRC1	:	125.00	220.00	801.16022c	(88112324)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	556.38855c	(88112324)	SRC1	:	125.00	240.00	568.74628	(89031024)
SRC1	:	125.00	250.00	533.69415c	(89102524)	SRC1	:	125.00	260.00	754.10492c	(89102524)
SRC1	:	125.00	270.00	822.96167c	(87062524)	SRC1	:	125.00	280.00	620.17969c	(87092524)
SRC1	:	125.00	290.00	498.15625	(87082424)	SRC1	:	125.00	300.00	538.11224	(87042624)
SRC1	:	125.00	310.00	429.26645	(87081124)	SRC1	:	125.00	320.00	432.10031	(87022424)
SRC1	:	125.00	330.00	499.55276	(88010324)	SRC1	:	125.00	340.00	422.79407c	(91082724)
SRC1	:	125.00	350.00	383.14087c	(91082724)	SRC1	:	125.00	360.00	378.88925	(91010124)
SRC1	:	125.00	10.00	545.49683	(88101424)	SRC1	:	125.00	20.00	515.39099c	(88101324)
SRC1	:	125.00	30.00	440.23590c	(91062724)	SRC1	:	125.00	40.00	514.03607c	(88061924)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	2390.45093c	(87101924)	500.00	750.00	2342.73535c	(87101324)
-200.00	125.00	1980.28418	(87092724)	-50.00	-300.00	1856.88245c	(87052624)
1350.00	0.00	2316.64893c	(87071824)	-3.00	98.10	2360.22852c	(87091424)
-450.00	-150.00	2237.92944	(87011324)	1350.00	-1000.00	2781.30493c	(87110324)
17.30	98.10	2654.83032	(87051024)	-20.30	98.10	3426.93359c	(87060624)
-21.80	0.00	1578.61633c	(87040324)	-43.70	0.00	6072.32568c	(89091924)
-43.70	98.10	7643.87354c	(89102824)	-43.70	24.50	1566.43225	(87082424)
-43.70	49.10	1465.99109	(87082424)	37.60	98.10	6753.83838	(90103124)
37.60	49.10	1422.01477	(87042624)	37.60	0.00	5069.74951	(89122324)
37.60	24.50	1626.98401	(87081124)	37.60	-24.90	7061.78760c	(88092524)
37.60	-49.80	5732.84229c	(88092524)	37.60	-81.30	4176.11475	(88100324)
37.60	-112.80	3156.64917c	(88092524)	15.70	-111.80	3789.32813c	(88092524)
6.10	-110.70	3845.74829c	(88092524)	-9.10	-92.50	3787.71094c	(88092524)
-11.20	-49.80	5715.36328c	(88092524)	-10.20	-71.10	4929.78564c	(88092524)
0.00	-49.80	5690.28369c	(88092524)	0.00	-37.30	6249.78271c	(88092524)
0.00	-24.90	6794.58398c	(88092524)	0.00	-12.40	7172.12354c	(88092524)
-341.10	290.50	4199.39014c	(87060624)	-325.80	296.30	4517.08984c	(87060624)
-267.90	300.80	2288.59839c	(87012624)	-300.50	242.60	2067.84741c	(87040324)
-325.50	207.30	2078.69458c	(87092524)	-284.40	192.00	2333.93237c	(87092524)
-266.70	115.50	2086.96094c	(87092524)	-190.20	58.80	2163.24585	(87042624)
-82.00	-36.00	3458.32544c	(91110924)	-397.20	-197.50	2000.28223	(87080624)
-121.30	-124.40	2516.05713	(87080624)	-80.50	-152.40	2509.28760	(87080624)
-230.10	-461.50	2499.21021c	(87020524)	-26.50	-406.30	2602.70996c	(87020524)
20.40	312.70	2901.69141	(87022424)	649.80	667.50	3068.70410c	(87041924)
648.60	621.80	3341.86548c	(87090724)	550.50	524.00	3741.27344c	(87101424)
496.80	492.60	4458.61230c	(87101924)	368.80	460.90	4808.56104c	(87101924)
1424.00	473.70	5774.96143	(87110224)	1358.20	117.70	6177.69922	(87052724)
1418.20	130.80	6639.16016c	(87080124)	-29.10	-24.00	7514.83398c	(87080124)
-14.60	-24.00	6983.33008c	(87060624)	12.50	-24.00	6660.83203c	(88092524)
25.10	-24.00	7563.42676c	(88092524)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)	ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)
SRC1	:	275.00	160.00	1579.27112c (88092524)	SRC1	:	275.00	170.00	1406.30237c (88092524)
SRC1	:	275.00	180.00	2011.53674c (87101924)	SRC1	:	275.00	190.00	1130.86475c (88041324)
SRC1	:	275.00	200.00	1453.88867 (90101224)	SRC1	:	275.00	210.00	1075.75977 (90091724)
SRC1	:	275.00	220.00	940.92969c (90101124)	SRC1	:	275.00	230.00	1030.82739c (89080224)
SRC1	:	275.00	240.00	1164.03271 (91122724)	SRC1	:	275.00	250.00	1258.93359c (89070524)
SRC1	:	275.00	260.00	1075.74597c (89091924)	SRC1	:	275.00	270.00	5130.56982 (87021924)
SRC1	:	275.00	280.00	5863.32666 (87110224)	SRC1	:	275.00	290.00	1007.87408 (89031024)
SRC1	:	275.00	300.00	1472.49097c (89102524)	SRC1	:	275.00	310.00	6169.96240 (87051024)
SRC1	:	275.00	320.00	1745.19092c (89102524)	SRC1	:	275.00	330.00	4288.72070c (87081924)
SRC1	:	275.00	340.00	1999.85107 (89012324)	SRC1	:	275.00	350.00	7473.50293c (87101224)
SRC1	:	275.00	360.00	4794.07129c (87081924)	SRC1	:	275.00	10.00	3542.44556c (87012624)
SRC1	:	275.00	20.00	2349.76196c (87012624)	SRC1	:	275.00	30.00	2510.56616 (90103124)
SRC1	:	275.00	40.00	3077.48853 (90103124)	SRC1	:	225.00	170.00	3011.48975c (87040324)
SRC1	:	225.00	180.00	4687.21680c (87040324)	SRC1	:	225.00	190.00	3877.27051c (87040324)
SRC1	:	225.00	200.00	4700.65137c (87040324)	SRC1	:	225.00	210.00	5085.47217c (87040324)
SRC1	:	225.00	220.00	5552.77539c (87030824)	SRC1	:	225.00	230.00	4877.12842c (87040324)
SRC1	:	225.00	240.00	1430.85950 (91122724)	SRC1	:	225.00	250.00	1445.39917c (89070524)
SRC1	:	225.00	260.00	1511.21130c (89091924)	SRC1	:	225.00	270.00	1448.26917c (87090724)
SRC1	:	225.00	280.00	1336.59998c (88112324)	SRC1	:	225.00	290.00	1546.14001c (87101924)
SRC1	:	225.00	300.00	1713.85669c (89102524)	SRC1	:	225.00	310.00	2671.90088c (89102524)
SRC1	:	225.00	320.00	3222.79370c (89102524)	SRC1	:	225.00	330.00	2026.66296c (89102524)
SRC1	:	225.00	340.00	2614.44653 (89012324)	SRC1	:	225.00	350.00	2764.15625 (89012324)
SRC1	:	225.00	360.00	2724.49780 (88101424)	SRC1	:	225.00	10.00	2655.40210 (88101424)
SRC1	:	225.00	20.00	2496.86108 (90071824)	SRC1	:	225.00	30.00	3527.87622 (90103124)
SRC1	:	225.00	40.00	3765.60913 (90103124)	SRC1	:	175.00	170.00	2516.20508c (88092524)
SRC1	:	175.00	180.00	2003.54126c (91012524)	SRC1	:	175.00	190.00	1944.71179 (90101224)
SRC1	:	175.00	200.00	2086.48120 (90101224)	SRC1	:	175.00	210.00	1875.45789 (90101224)
SRC1	:	175.00	220.00	1606.33997 (90091724)	SRC1	:	175.00	230.00	5168.60938c (87040324)
SRC1	:	175.00	240.00	5511.83643c (87040324)	SRC1	:	175.00	250.00	5916.67822c (87081924)
SRC1	:	175.00	260.00	5926.71045c (87081924)	SRC1	:	175.00	270.00	1841.38538c (89091924)
SRC1	:	175.00	280.00	1575.50244c (88112324)	SRC1	:	175.00	290.00	1929.32495c (88112324)
SRC1	:	175.00	300.00	2481.36865c (88112324)	SRC1	:	175.00	310.00	3363.58496c (89102524)
SRC1	:	175.00	320.00	4384.37109c (89102524)	SRC1	:	175.00	330.00	4004.83032c (89102524)
SRC1	:	175.00	340.00	3754.66357c (89102824)	SRC1	:	175.00	350.00	4096.74121 (89012324)
SRC1	:	175.00	360.00	4349.25928c (88061924)	SRC1	:	175.00	10.00	3770.92871 (88101424)
SRC1	:	175.00	20.00	4216.85791 (88010224)	SRC1	:	175.00	30.00	4839.40479 (90103124)
SRC1	:	175.00	40.00	4721.47656 (90010724)	SRC1	:	125.00	160.00	3024.80811c (88092524)
SRC1	:	125.00	170.00	3270.68164c (88092524)	SRC1	:	125.00	180.00	3066.69849c (88092524)
SRC1	:	125.00	190.00	2847.05200 (90101224)	SRC1	:	125.00	200.00	2666.20923 (90101224)
SRC1	:	125.00	210.00	2572.13159 (90101224)	SRC1	:	125.00	220.00	2205.27930c (91110924)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)
SRC1	:	125.00	230.00	2419.62354c	(91110924)	SRC1	:	125.00	240.00	2673.20313 (89092124)
SRC1	:	125.00	250.00	2412.55835c	(90032724)	SRC1	:	125.00	260.00	3085.72241c (89091924)
SRC1	:	125.00	270.00	2855.61865c	(89091924)	SRC1	:	125.00	280.00	3116.46582 (88112224)
SRC1	:	125.00	290.00	2712.42407c	(89091924)	SRC1	:	125.00	300.00	3638.93506c (88112324)
SRC1	:	125.00	310.00	4827.47754c	(89102524)	SRC1	:	125.00	320.00	5869.32959c (89102524)
SRC1	:	125.00	330.00	6189.03320c	(89102824)	SRC1	:	125.00	340.00	7163.36475c (89102824)
SRC1	:	125.00	350.00	6743.97510c	(88061924)	SRC1	:	125.00	360.00	6584.70166 (89012324)
SRC1	:	125.00	10.00	7149.79297	(90010724)	SRC1	:	125.00	20.00	7512.16602 (88010224)
SRC1	:	125.00	30.00	7085.14844c	(91101624)	SRC1	:	125.00	40.00	6682.32227c (91101624)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	2432.06372c	(87101924)	500.00	750.00	2427.36719	(87092724)
-200.00	125.00	2015.79395c	(87092624)	-50.00	-300.00	1904.04810c	(87052624)
1350.00	0.00	2391.63867c	(87071824)	-3.00	98.10	2360.54834c	(87091424)
-450.00	-150.00	2339.58960	(87011324)	1350.00	-1000.00	2889.42529c	(87110324)
17.30	98.10	2787.48267	(87051024)	-20.30	98.10	3444.11694c	(87060624)
-21.80	0.00	2826.60229c	(87062524)	-43.70	0.00	6072.32568c	(89091924)
-43.70	98.10	7827.39844c	(89102824)	-43.70	24.50	1759.50232	(87082424)
-43.70	49.10	1690.94397	(87082424)	37.60	98.10	6753.83838	(90103124)
37.60	49.10	1619.40979	(87021924)	37.60	0.00	5069.74951	(89122324)
37.60	24.50	1690.16736	(87081124)	37.60	-24.90	7061.78760c	(88092524)
37.60	-49.80	5732.84229c	(88092524)	37.60	-81.30	4176.11475	(88100324)
37.60	-112.80	8588.75293c	(88092524)	15.70	-111.80	6229.35205	(90101224)
6.10	-110.70	6367.22021	(90101224)	-9.10	-92.50	4430.51123	(88112224)
-11.20	-49.80	5715.36328c	(88092524)	-10.20	-71.10	4929.78564c	(88092524)
0.00	-49.80	5690.28369c	(88092524)	0.00	-37.30	6249.78271c	(88092524)
0.00	-24.90	6794.58398c	(88092524)	0.00	-12.40	7172.12354c	(88092524)
-341.10	290.50	4218.13916c	(87060624)	-325.80	296.30	4542.55127c	(87060624)
-267.90	300.80	7170.12012c	(87101224)	-300.50	242.60	6260.52051c	(87040324)
-325.50	207.30	3853.78979c	(87010424)	-284.40	192.00	2813.32983c	(87010424)
-266.70	115.50	2384.05933	(87082424)	-190.20	58.80	2212.24707	(87042624)
-82.00	-36.00	3590.40186c	(91110924)	-397.20	-197.50	2070.00806	(87080624)
-121.30	-124.40	2555.42114	(87080624)	-80.50	-152.40	2527.37012	(87080624)
-230.10	-461.50	2528.11865c	(87020524)	-26.50	-406.30	2612.57349c	(87020524)
20.40	312.70	2902.98047	(87022424)	649.80	667.50	3086.88428c	(87041924)
648.60	621.80	3395.13647c	(87101924)	550.50	524.00	3742.58350c	(87101424)
496.80	492.60	4542.72021c	(87101924)	368.80	460.90	4855.51172c	(87101924)
1424.00	473.70	5974.13818	(87110224)	1358.20	117.70	6336.35400	(87071724)
1418.20	130.80	6796.31104c	(87080124)	-29.10	-24.00	7612.73340c	(87080124)
-14.60	-24.00	6991.09521c	(87060624)	12.50	-24.00	6660.83203c	(88092524)
25.10	-24.00	7563.42676c	(88092524)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	2046.54895c	(89081024)	SRC1	:	275.00	170.00	1867.47778c	(88092524)
SRC1	:	275.00	180.00	2021.63220c	(87101924)	SRC1	:	275.00	190.00	1493.53320	(90101224)
SRC1	:	275.00	200.00	1522.16150	(90101224)	SRC1	:	275.00	210.00	1161.25818	(90091724)
SRC1	:	275.00	220.00	1053.85437	(89092124)	SRC1	:	275.00	230.00	1074.38831c	(89080224)
SRC1	:	275.00	240.00	1193.45569	(91122724)	SRC1	:	275.00	250.00	1263.19775c	(89070524)
SRC1	:	275.00	260.00	1075.75122c	(89091924)	SRC1	:	275.00	270.00	5130.56982	(87021924)
SRC1	:	275.00	280.00	6083.43701	(87110224)	SRC1	:	275.00	290.00	1061.38330	(89031024)
SRC1	:	275.00	300.00	1628.26611c	(89102524)	SRC1	:	275.00	310.00	6184.46240	(87051024)
SRC1	:	275.00	320.00	1771.05603c	(89102524)	SRC1	:	275.00	330.00	4288.72070c	(87081924)
SRC1	:	275.00	340.00	2142.20166	(89012324)	SRC1	:	275.00	350.00	7473.50293c	(87101224)
SRC1	:	275.00	360.00	4794.07129c	(87081924)	SRC1	:	275.00	10.00	3542.44556c	(87012624)
SRC1	:	275.00	20.00	7985.35449c	(87101224)	SRC1	:	275.00	30.00	6008.28418c	(87092524)
SRC1	:	275.00	40.00	5584.97754c	(87010424)	SRC1	:	225.00	170.00	4125.30957c	(87041924)
SRC1	:	225.00	180.00	4687.21680c	(87040324)	SRC1	:	225.00	190.00	3877.27051c	(87040324)
SRC1	:	225.00	200.00	4700.65137c	(87040324)	SRC1	:	225.00	210.00	5085.47217c	(87040324)
SRC1	:	225.00	220.00	5552.77539c	(87030824)	SRC1	:	225.00	230.00	4877.12842c	(87040324)
SRC1	:	225.00	240.00	1461.23486	(91122724)	SRC1	:	225.00	250.00	1452.81091c	(89070524)
SRC1	:	225.00	260.00	1516.17114c	(89091924)	SRC1	:	225.00	270.00	1454.51355c	(87090724)
SRC1	:	225.00	280.00	1491.60706c	(88112324)	SRC1	:	225.00	290.00	1553.68945c	(87101924)
SRC1	:	225.00	300.00	1919.18494c	(89102524)	SRC1	:	225.00	310.00	2834.54102c	(89102524)
SRC1	:	225.00	320.00	3255.53857c	(89102524)	SRC1	:	225.00	330.00	2067.33276c	(88092724)
SRC1	:	225.00	340.00	2791.30737	(88010324)	SRC1	:	225.00	350.00	2904.76855	(89012324)
SRC1	:	225.00	360.00	2914.46851	(88101424)	SRC1	:	225.00	10.00	2960.94653	(88101424)
SRC1	:	225.00	20.00	2619.65967	(90071824)	SRC1	:	225.00	30.00	3528.13672	(90103124)
SRC1	:	225.00	40.00	3780.64648	(90103124)	SRC1	:	175.00	170.00	4355.23926c	(88092524)
SRC1	:	175.00	180.00	2904.33472	(90101224)	SRC1	:	175.00	190.00	2463.27124	(90101224)
SRC1	:	175.00	200.00	2169.68164	(90101224)	SRC1	:	175.00	210.00	2019.30652	(90101224)
SRC1	:	175.00	220.00	1735.99475	(90091724)	SRC1	:	175.00	230.00	5168.60938c	(87040324)
SRC1	:	175.00	240.00	5511.83643c	(87040324)	SRC1	:	175.00	250.00	5916.67822c	(87081924)
SRC1	:	175.00	260.00	5926.71045c	(87081924)	SRC1	:	175.00	270.00	1913.00623c	(89091924)
SRC1	:	175.00	280.00	1744.94629c	(87062524)	SRC1	:	175.00	290.00	2075.26978c	(88112324)
SRC1	:	175.00	300.00	2559.15918c	(88112324)	SRC1	:	175.00	310.00	3522.08618c	(89102524)
SRC1	:	175.00	320.00	4428.45605c	(89102524)	SRC1	:	175.00	330.00	4031.54126c	(89102524)
SRC1	:	175.00	340.00	3901.73389c	(89102824)	SRC1	:	175.00	350.00	4279.18311	(89012324)
SRC1	:	175.00	360.00	4375.45215c	(88061924)	SRC1	:	175.00	10.00	4175.92725	(88101424)
SRC1	:	175.00	20.00	4357.16357	(90071824)	SRC1	:	175.00	30.00	4839.50049	(90103124)
SRC1	:	175.00	40.00	4731.97656	(90010724)	SRC1	:	125.00	160.00	7520.91748	(88100324)
SRC1	:	125.00	170.00	8405.72168c	(88092524)	SRC1	:	125.00	180.00	5173.12695	(90101224)
SRC1	:	125.00	190.00	3268.69946	(90101224)	SRC1	:	125.00	200.00	2880.05371	(90101224)
SRC1	:	125.00	210.00	2573.14697	(90101224)	SRC1	:	125.00	220.00	2357.17651c	(91110924)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	2535.01758c	(91110924)	SRC1	:	125.00	240.00	2774.39258	(89092124)
SRC1	:	125.00	250.00	2621.76294c	(90032724)	SRC1	:	125.00	260.00	3204.90747c	(89091924)
SRC1	:	125.00	270.00	2856.24390c	(89091924)	SRC1	:	125.00	280.00	3175.68530	(88112224)
SRC1	:	125.00	290.00	2712.42407c	(89091924)	SRC1	:	125.00	300.00	3749.49634c	(88112324)
SRC1	:	125.00	310.00	4959.11328c	(89102524)	SRC1	:	125.00	320.00	5928.69775c	(89102524)
SRC1	:	125.00	330.00	6241.45703c	(89102824)	SRC1	:	125.00	340.00	7392.19531c	(89102824)
SRC1	:	125.00	350.00	6818.52637c	(88061924)	SRC1	:	125.00	360.00	6813.26514	(89012324)
SRC1	:	125.00	10.00	7256.20850	(90010724)	SRC1	:	125.00	20.00	7722.21289	(88010224)
SRC1	:	125.00	30.00	7182.72266	(89121724)	SRC1	:	125.00	40.00	6697.95605c	(91101624)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
-180.00	-150.00	248.76453c (89091924)	500.00	750.00	151.88585c (87041024)
-200.00	125.00	190.53964c (91082824)	-50.00	-300.00	304.82437 (90022024)
1350.00	0.00	201.05566 (87081624)	-3.00	98.10	395.27188c (88042624)
-450.00	-150.00	129.12831 (87020124)	1350.00	-1000.00	210.60861c (87100424)
17.30	98.10	567.06934c (88101324)	-20.30	98.10	425.60892c (90101324)
-21.80	0.00	1228.17871c (87040324)	-43.70	0.00	1039.41272c (87092524)
-43.70	98.10	797.14874 (87050524)	-43.70	24.50	697.50195 (89012324)
-43.70	49.10	698.52954 (87022424)	37.60	98.10	574.87720 (88101424)
37.60	49.10	848.16949 (88101424)	37.60	0.00	1348.67834 (88101424)
37.60	24.50	1052.76379 (88101424)	37.60	-24.90	1907.29150 (88101424)
37.60	-49.80	3395.09985c (89062224)	37.60	-81.30	363.54410c (87101324)
37.60	-112.80	5463.97510c (88100624)	15.70	-111.80	3819.39941c (90083024)
6.10	-110.70	4592.33740 (89092124)	-9.10	-92.50	3375.82788 (91082524)
-11.20	-49.80	2039.87500c (90042324)	-10.20	-71.10	3225.61475c (89102824)
0.00	-49.80	2780.97656 (89012324)	0.00	-37.30	2121.04932 (88010324)
0.00	-24.90	1501.26672 (88010324)	0.00	-12.40	1353.57605 (88010324)
-341.10	290.50	330.00412c (87091424)	-325.80	296.30	242.80762 (87091524)
-267.90	300.80	4541.51904c (87060424)	-300.50	242.60	3371.73120 (87062324)
-325.50	207.30	2678.59766 (87080624)	-284.40	192.00	1727.85754 (87081124)
-266.70	115.50	1435.18347 (87022424)	-190.20	58.80	631.68097 (87022424)
-82.00	-36.00	870.72852c (90111924)	-397.20	-197.50	475.50229 (87032324)
-121.30	-124.40	502.34943c (89091924)	-80.50	-152.40	777.73334 (91062524)
-230.10	-461.50	631.10077 (87120624)	-26.50	-406.30	506.91879c (87101324)
20.40	312.70	510.33127c (87090724)	649.80	667.50	533.57471c (87092624)
648.60	621.80	398.74097c (87092624)	550.50	524.00	279.53641c (87041024)
496.80	492.60	269.49307c (87083024)	368.80	460.90	323.56174c (87080124)
1424.00	473.70	261.14340 (87081424)	1358.20	117.70	307.94955c (87052624)
1418.20	130.80	309.97592c (87121824)	-29.10	-24.00	1134.70337c (90042324)
-14.60	-24.00	1521.10315 (89012324)	12.50	-24.00	1910.36938c (91082724)
25.10	-24.00	1911.87463c (88101324)			

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	532.49121c	(89081024)	SRC1 :	275.00	170.00	540.15570c	(88100624)
SRC1 :	275.00	180.00	368.78354c	(89091724)	SRC1 :	275.00	190.00	412.27396	(90091724)
SRC1 :	275.00	200.00	307.96249c	(88070424)	SRC1 :	275.00	210.00	349.50696c	(90080224)
SRC1 :	275.00	220.00	370.24792c	(89070524)	SRC1 :	275.00	230.00	173.05472c	(90101624)
SRC1 :	275.00	240.00	375.44821c	(87121824)	SRC1 :	275.00	250.00	342.93338c	(87052624)
SRC1 :	275.00	260.00	668.44391	(87121124)	SRC1 :	275.00	270.00	707.00879	(87121124)
SRC1 :	275.00	280.00	332.70511c	(89102524)	SRC1 :	275.00	290.00	520.96692c	(87052824)
SRC1 :	275.00	300.00	421.82953c	(87072924)	SRC1 :	275.00	310.00	289.88004	(87052724)
SRC1 :	275.00	320.00	502.77310	(87011324)	SRC1 :	275.00	330.00	1034.42969	(87011324)
SRC1 :	275.00	340.00	740.60968	(87011324)	SRC1 :	275.00	350.00	1509.81970c	(87091424)
SRC1 :	275.00	360.00	3020.55859	(87011324)	SRC1 :	275.00	10.00	242.35262c	(90081624)
SRC1 :	275.00	20.00	5496.58545c	(87081924)	SRC1 :	275.00	30.00	3718.70605	(87042624)
SRC1 :	275.00	40.00	4108.09326	(87042624)	SRC1 :	225.00	170.00	3099.20215c	(87041924)
SRC1 :	225.00	180.00	2222.41284c	(87101324)	SRC1 :	225.00	190.00	2883.34424c	(87101324)
SRC1 :	225.00	200.00	2079.78198	(87092724)	SRC1 :	225.00	210.00	1618.43237c	(87052624)
SRC1 :	225.00	220.00	1362.40625c	(87071824)	SRC1 :	225.00	230.00	1098.22754	(87110224)
SRC1 :	225.00	240.00	204.56927	(89072924)	SRC1 :	225.00	250.00	170.94984	(91080724)
SRC1 :	225.00	260.00	159.48224c	(88083124)	SRC1 :	225.00	270.00	208.26738c	(91042824)
SRC1 :	225.00	280.00	251.00839c	(88030624)	SRC1 :	225.00	290.00	234.19469c	(89102624)
SRC1 :	225.00	300.00	220.69266c	(89102724)	SRC1 :	225.00	310.00	284.25592c	(87101324)
SRC1 :	225.00	320.00	1115.82788c	(87101924)	SRC1 :	225.00	330.00	187.02574	(90020824)
SRC1 :	225.00	340.00	320.20627c	(87121424)	SRC1 :	225.00	350.00	675.21722	(87022424)
SRC1 :	225.00	360.00	189.97070	(88101424)	SRC1 :	225.00	10.00	305.54449	(88101424)
SRC1 :	225.00	20.00	208.92911c	(91062724)	SRC1 :	225.00	30.00	182.43805c	(90071924)
SRC1 :	225.00	40.00	217.24170	(90071824)	SRC1 :	175.00	170.00	1748.65564c	(91012524)
SRC1 :	175.00	180.00	1157.65625	(90022824)	SRC1 :	175.00	190.00	906.24261c	(88070424)
SRC1 :	175.00	200.00	800.51892c	(91060724)	SRC1 :	175.00	210.00	743.05426	(91062524)
SRC1 :	175.00	220.00	379.66788c	(89091824)	SRC1 :	175.00	230.00	1170.06482c	(87092624)
SRC1 :	175.00	240.00	1203.20203	(87092724)	SRC1 :	175.00	250.00	1419.97229c	(87080124)
SRC1 :	175.00	260.00	1547.23816	(87011324)	SRC1 :	175.00	270.00	390.22324	(87041824)
SRC1 :	175.00	280.00	447.19534c	(87040324)	SRC1 :	175.00	290.00	326.45917c	(87041924)
SRC1 :	175.00	300.00	304.16302c	(87010424)	SRC1 :	175.00	310.00	287.47339	(88112424)
SRC1 :	175.00	320.00	257.89056	(90020824)	SRC1 :	175.00	330.00	277.50925c	(87020524)
SRC1 :	175.00	340.00	274.93094c	(91102124)	SRC1 :	175.00	350.00	255.37717c	(91082724)
SRC1 :	175.00	360.00	256.34164	(88091824)	SRC1 :	175.00	10.00	404.99850	(88101424)
SRC1 :	175.00	20.00	260.61487c	(89081524)	SRC1 :	175.00	30.00	289.31808c	(88061924)
SRC1 :	175.00	40.00	347.96326c	(87090724)	SRC1 :	125.00	160.00	4603.54248	(88100324)
SRC1 :	125.00	170.00	4717.85156c	(91012524)	SRC1 :	125.00	180.00	3081.35840	(89092124)
SRC1 :	125.00	190.00	1975.07935c	(89091924)	SRC1 :	125.00	200.00	1458.31250	(88112224)
SRC1 :	125.00	210.00	718.97583c	(88112324)	SRC1 :	125.00	220.00	569.82941c	(90072624)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	495.72217	(89093024)	SRC1	:	125.00	240.00	462.58676c	(90082424)
SRC1	:	125.00	250.00	530.72040	(90082524)	SRC1	:	125.00	260.00	490.84787c	(89102224)
SRC1	:	125.00	270.00	701.85034c	(87040324)	SRC1	:	125.00	280.00	479.90610	(87102524)
SRC1	:	125.00	290.00	449.02151c	(87020424)	SRC1	:	125.00	300.00	433.99063	(87050524)
SRC1	:	125.00	310.00	370.57935	(88112424)	SRC1	:	125.00	320.00	399.17798	(90020824)
SRC1	:	125.00	330.00	304.41586c	(89090524)	SRC1	:	125.00	340.00	363.95154c	(91102124)
SRC1	:	125.00	350.00	354.33957c	(90101324)	SRC1	:	125.00	360.00	329.05347	(88091824)
SRC1	:	125.00	10.00	545.49280c	(88101324)	SRC1	:	125.00	20.00	470.27637	(88101424)
SRC1	:	125.00	30.00	393.51843	(91091524)	SRC1	:	125.00	40.00	370.25220c	(91062724)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
-180.00	-150.00	2278.51196c (87090724)	500.00	750.00	2331.39160 (87092724)
-200.00	125.00	1960.16858c (87092624)	-50.00	-300.00	1787.44849c (87083024)
1350.00	0.00	1913.21021c (87083024)	-3.00	98.10	2203.05688 (87011324)
-450.00	-150.00	1995.90698c (87110324)	1350.00	-1000.00	2472.94312 (87051024)
17.30	98.10	2526.37915 (87122124)	-20.30	98.10	3164.01880c (87072024)
-21.80	0.00	1572.44080c (87062524)	-43.70	0.00	5670.36914 (89092124)
-43.70	98.10	7110.81396c (89102524)	-43.70	24.50	1416.56152c (87092524)
-43.70	49.10	1457.51660 (87042624)	37.60	98.10	5898.06494 (90010724)
37.60	49.10	1389.56592 (87021924)	37.60	0.00	4785.05420 (90111724)
37.60	24.50	1596.35583 (87080624)	37.60	-24.90	6445.16553 (88100324)
37.60	-49.80	5561.28516 (88100324)	37.60	-81.30	3681.38867 (90111724)
37.60	-112.80	3083.83789 (88100324)	15.70	-111.80	3168.93970c (91012524)
6.10	-110.70	3222.79907c (91012524)	-9.10	-92.50	3688.90698 (90101224)
-11.20	-49.80	5040.07764 (91081124)	-10.20	-71.10	4163.33057 (90101224)
0.00	-49.80	5058.88135c (91012524)	0.00	-37.30	5787.10156c (91012524)
0.00	-24.90	6280.89893c (91012524)	0.00	-12.40	5696.94873 (90101224)
-341.10	290.50	3867.44727 (87051024)	-325.80	296.30	4311.19385c (87072024)
-267.90	300.80	1978.75256 (87062324)	-300.50	242.60	1855.85193c (87062524)
-325.50	207.30	1931.15710c (87040324)	-284.40	192.00	1697.27820c (87040324)
-266.70	115.50	1937.04749 (87082424)	-190.20	58.80	1941.85498 (87082424)
-82.00	-36.00	3374.93628 (89092124)	-397.20	-197.50	1955.93884 (87050524)
-121.30	-124.40	2143.26587 (87042624)	-80.50	-152.40	2191.70581c (87062424)
-230.10	-461.50	2365.32422 (87080624)	-26.50	-406.30	2433.72241 (87081124)
20.40	312.70	2711.16626c (87020524)	649.80	667.50	2740.86792 (87022424)
648.60	621.80	3323.30054c (87101924)	550.50	524.00	3715.79614c (87090724)
496.80	492.60	3858.15186c (87101324)	368.80	460.90	4468.60107c (87101524)
1424.00	473.70	5344.72217c (87101424)	1358.20	117.70	6153.02686c (87101524)
1418.20	130.80	6207.12549c (87083024)	-29.10	-24.00	7291.66748c (87101824)
-14.60	-24.00	6888.91357c (88092524)	12.50	-24.00	6488.33936c (87060624)
25.10	-24.00	6813.74756 (88100324)			

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	1514.05798c	(89081024)	SRC1 :	275.00	170.00	1247.58459c	(91012524)
SRC1 :	275.00	180.00	1831.86121c	(87090724)	SRC1 :	275.00	190.00	1024.67725	(90101224)
SRC1 :	275.00	200.00	938.76593	(91081124)	SRC1 :	275.00	210.00	1005.95898	(90101224)
SRC1 :	275.00	220.00	897.30188c	(88070424)	SRC1 :	275.00	230.00	954.47174c	(91060724)
SRC1 :	275.00	240.00	998.98718c	(89030924)	SRC1 :	275.00	250.00	1074.19153	(91062524)
SRC1 :	275.00	260.00	862.94110c	(89091824)	SRC1 :	275.00	270.00	4966.01465	(87042624)
SRC1 :	275.00	280.00	5553.73145c	(87101924)	SRC1 :	275.00	290.00	892.50067c	(91051124)
SRC1 :	275.00	300.00	1287.13843c	(90082424)	SRC1 :	275.00	310.00	4901.00000	(87122124)
SRC1 :	275.00	320.00	1592.42468	(89031724)	SRC1 :	275.00	330.00	3787.09058c	(87101224)
SRC1 :	275.00	340.00	1566.10486	(88010324)	SRC1 :	275.00	350.00	6154.21826c	(87012624)
SRC1 :	275.00	360.00	4296.99072c	(87012624)	SRC1 :	275.00	10.00	3325.74219c	(87081924)
SRC1 :	275.00	20.00	2018.21045c	(87040324)	SRC1 :	275.00	30.00	2255.52295	(90010724)
SRC1 :	275.00	40.00	2594.08374	(90010724)	SRC1 :	225.00	170.00	2735.28076c	(87092524)
SRC1 :	225.00	180.00	3612.02612	(87101024)	SRC1 :	225.00	190.00	3116.95850c	(87092524)
SRC1 :	225.00	200.00	3626.38066	(87101024)	SRC1 :	225.00	210.00	4862.43701c	(87012624)
SRC1 :	225.00	220.00	5522.75830c	(87040324)	SRC1 :	225.00	230.00	4536.92480c	(87092524)
SRC1 :	225.00	240.00	1359.97156c	(90032724)	SRC1 :	225.00	250.00	1329.32874c	(89091824)
SRC1 :	225.00	260.00	1388.67639	(88112224)	SRC1 :	225.00	270.00	1170.46973c	(89091924)
SRC1 :	225.00	280.00	1258.12451c	(87101924)	SRC1 :	225.00	290.00	1477.13269c	(87090724)
SRC1 :	225.00	300.00	1580.30261c	(90082424)	SRC1 :	225.00	310.00	2063.89600c	(89102624)
SRC1 :	225.00	320.00	3163.35962	(87080624)	SRC1 :	225.00	330.00	1978.58374c	(90042324)
SRC1 :	225.00	340.00	2602.29785	(88010324)	SRC1 :	225.00	350.00	2405.23901c	(91082724)
SRC1 :	225.00	360.00	2596.32007	(91010124)	SRC1 :	225.00	10.00	2642.23315c	(88061924)
SRC1 :	225.00	20.00	2490.32080	(88081424)	SRC1 :	225.00	30.00	3231.21606	(90010724)
SRC1 :	225.00	40.00	3514.53320	(90010724)	SRC1 :	175.00	170.00	2192.21997c	(91012524)
SRC1 :	175.00	180.00	1842.23169c	(88092524)	SRC1 :	175.00	190.00	1789.52649	(90022824)
SRC1 :	175.00	200.00	1546.12659	(90022824)	SRC1 :	175.00	210.00	1591.70898	(88040824)
SRC1 :	175.00	220.00	1444.00952c	(88070424)	SRC1 :	175.00	230.00	5044.65332c	(87010424)
SRC1 :	175.00	240.00	4661.07373	(87101024)	SRC1 :	175.00	250.00	5610.11572c	(87040324)
SRC1 :	175.00	260.00	5826.40918c	(87012624)	SRC1 :	175.00	270.00	1705.71375	(88112224)
SRC1 :	175.00	280.00	1350.77319c	(89091924)	SRC1 :	175.00	290.00	1480.48169c	(90082424)
SRC1 :	175.00	300.00	2280.35962c	(90082424)	SRC1 :	175.00	310.00	2629.35400c	(89102624)
SRC1 :	175.00	320.00	3201.34351c	(89102224)	SRC1 :	175.00	330.00	3116.43164	(88112424)
SRC1 :	175.00	340.00	3560.47681	(89012324)	SRC1 :	175.00	350.00	3540.96094	(91101724)
SRC1 :	175.00	360.00	3870.27808	(88101424)	SRC1 :	175.00	10.00	3488.91504	(88091824)
SRC1 :	175.00	20.00	4154.53076	(90071824)	SRC1 :	175.00	30.00	4705.63916	(90010724)
SRC1 :	175.00	40.00	4717.06494	(90103124)	SRC1 :	125.00	160.00	2917.37378	(88100324)
SRC1 :	125.00	170.00	2799.72217c	(91012524)	SRC1 :	125.00	180.00	2917.03003c	(91012524)
SRC1 :	125.00	190.00	2738.68042	(90022824)	SRC1 :	125.00	200.00	2346.12671	(90022824)
SRC1 :	125.00	210.00	2148.73267	(89051424)	SRC1 :	125.00	220.00	2186.60962	(90101224)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)	ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	2261.39551	(91122724)	SRC1	:	125.00	240.00	2535.23169c	(91060724)
SRC1	:	125.00	250.00	2401.78906	(89092124)	SRC1	:	125.00	260.00	2530.39673c	(89091824)
SRC1	:	125.00	270.00	2644.72705	(88112224)	SRC1	:	125.00	280.00	2649.53760c	(89091924)
SRC1	:	125.00	290.00	2495.90186c	(88112324)	SRC1	:	125.00	300.00	3048.37793c	(90082424)
SRC1	:	125.00	310.00	4656.14404c	(88112324)	SRC1	:	125.00	320.00	4743.97070c	(88112324)
SRC1	:	125.00	330.00	6165.08008c	(89102524)	SRC1	:	125.00	340.00	7106.62354c	(89102524)
SRC1	:	125.00	350.00	6462.49512c	(89102824)	SRC1	:	125.00	360.00	6202.24023c	(88061924)
SRC1	:	125.00	10.00	6789.29541	(88010224)	SRC1	:	125.00	20.00	7312.62695	(90010724)
SRC1	:	125.00	30.00	7052.39648	(89121724)	SRC1	:	125.00	40.00	6637.49951c	(88100824)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	2283.44604c	(87090724)	500.00	750.00	2403.16187c	(87101324)
-200.00	125.00	1985.03259	(87092724)	-50.00	-300.00	1902.26135c	(87083024)
1350.00	0.00	2004.65479	(87081624)	-3.00	98.10	2330.76440	(87011324)
-450.00	-150.00	2045.18506c	(87091424)	1350.00	-1000.00	2526.52515	(87051024)
17.30	98.10	2537.62378	(87122124)	-20.30	98.10	3165.26392c	(87072024)
-21.80	0.00	2806.79517c	(87040324)	-43.70	0.00	5670.36914	(89092124)
-43.70	98.10	7124.22510c	(89102524)	-43.70	24.50	1451.53638c	(87092524)
-43.70	49.10	1668.15796c	(87010424)	37.60	98.10	5976.97900	(90010724)
37.60	49.10	1460.78210	(87080624)	37.60	0.00	4785.05420	(90111724)
37.60	24.50	1621.34766	(87080624)	37.60	-24.90	6445.16553	(88100324)
37.60	-49.80	5561.28516	(88100324)	37.60	-81.30	3681.38867	(90111724)
37.60	-112.80	8309.01465	(88100324)	15.70	-111.80	6228.57520c	(88092524)
6.10	-110.70	6311.78613c	(88092524)	-9.10	-92.50	4193.51318	(88030524)
-11.20	-49.80	5056.23926c	(91012524)	-10.20	-71.10	4294.82275c	(89102524)
0.00	-49.80	5353.84131c	(91012524)	0.00	-37.30	6006.54785c	(91012524)
0.00	-24.90	6437.92188c	(91012524)	0.00	-12.40	5707.98389c	(91012524)
-341.10	290.50	4039.33398	(87051024)	-325.80	296.30	4311.86230c	(87072024)
-267.90	300.80	6538.26904c	(87012624)	-300.50	242.60	5130.64307c	(87012624)
-325.50	207.30	3608.26978	(87042624)	-284.40	192.00	2587.33740c	(87092524)
-266.70	115.50	2379.57544c	(87092524)	-190.20	58.80	2109.48462	(87082424)
-82.00	-36.00	3547.89648	(89092124)	-397.20	-197.50	2017.48621	(87050524)
-121.30	-124.40	2294.62378	(87042624)	-80.50	-152.40	2257.38257c	(87062424)
-230.10	-461.50	2371.83398	(87080624)	-26.50	-406.30	2450.20117	(87081124)
20.40	312.70	2713.82544c	(87020524)	649.80	667.50	2740.90332	(87022424)
648.60	621.80	3357.45532c	(87090724)	550.50	524.00	3719.94141c	(87090724)
496.80	492.60	3908.39917	(87092724)	368.80	460.90	4600.36426c	(87101524)
1424.00	473.70	5369.72266c	(87101424)	1358.20	117.70	6297.58447c	(87101524)
1418.20	130.80	6270.27295c	(87083024)	-29.10	-24.00	7566.27246c	(87101824)
-14.60	-24.00	6888.91357c	(88092524)	12.50	-24.00	6565.36768c	(87030724)
25.10	-24.00	6813.74756	(88100324)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	1829.06152c	(88092524)	SRC1	:	275.00	170.00	1826.42859c	(88092624)
SRC1	:	275.00	180.00	1849.48816c	(87090724)	SRC1	:	275.00	190.00	1261.08252	(90022824)
SRC1	:	275.00	200.00	1045.18005	(89051424)	SRC1	:	275.00	210.00	1041.24768c	(91110924)
SRC1	:	275.00	220.00	997.97620c	(90082324)	SRC1	:	275.00	230.00	984.72162c	(91060724)
SRC1	:	275.00	240.00	1001.87317c	(89030924)	SRC1	:	275.00	250.00	1126.75110	(88112224)
SRC1	:	275.00	260.00	943.05981c	(87083024)	SRC1	:	275.00	270.00	4966.01465	(87042624)
SRC1	:	275.00	280.00	5576.35791c	(87101924)	SRC1	:	275.00	290.00	918.22064c	(91051124)
SRC1	:	275.00	300.00	1290.26770c	(90082424)	SRC1	:	275.00	310.00	4959.31494	(87122124)
SRC1	:	275.00	320.00	1664.49658	(89031724)	SRC1	:	275.00	330.00	3787.09058c	(87101224)
SRC1	:	275.00	340.00	1721.27454	(88010324)	SRC1	:	275.00	350.00	6154.21826c	(87012624)
SRC1	:	275.00	360.00	4593.30859c	(87091424)	SRC1	:	275.00	10.00	3325.74219c	(87081924)
SRC1	:	275.00	20.00	7638.81543c	(87012624)	SRC1	:	275.00	30.00	4920.45117c	(87040324)
SRC1	:	275.00	40.00	5516.93262c	(87092524)	SRC1	:	225.00	170.00	3866.72144c	(87010424)
SRC1	:	225.00	180.00	4240.62402c	(87092624)	SRC1	:	225.00	190.00	3809.25708c	(87092624)
SRC1	:	225.00	200.00	4009.15698c	(87092624)	SRC1	:	225.00	210.00	4862.43701c	(87012624)
SRC1	:	225.00	220.00	5522.75830c	(87040324)	SRC1	:	225.00	230.00	4536.92480c	(87092524)
SRC1	:	225.00	240.00	1407.13708c	(90032724)	SRC1	:	225.00	250.00	1339.93665c	(89091824)
SRC1	:	225.00	260.00	1444.49316	(88112224)	SRC1	:	225.00	270.00	1276.48547c	(89091924)
SRC1	:	225.00	280.00	1272.77673c	(87101924)	SRC1	:	225.00	290.00	1489.73877c	(88112324)
SRC1	:	225.00	300.00	1582.81714c	(90082424)	SRC1	:	225.00	310.00	2094.55078c	(89102624)
SRC1	:	225.00	320.00	3172.15063	(87080624)	SRC1	:	225.00	330.00	2060.13989c	(90042324)
SRC1	:	225.00	340.00	2788.04370	(89012324)	SRC1	:	225.00	350.00	2584.71826c	(91082724)
SRC1	:	225.00	360.00	2776.69897	(91010124)	SRC1	:	225.00	10.00	2716.23779c	(88101324)
SRC1	:	225.00	20.00	2598.64990c	(88081124)	SRC1	:	225.00	30.00	3231.22729	(90010724)
SRC1	:	225.00	40.00	3553.33862	(90010724)	SRC1	:	175.00	170.00	3940.87622c	(91012524)
SRC1	:	175.00	180.00	2659.32397	(91081124)	SRC1	:	175.00	190.00	2042.55420	(90022824)
SRC1	:	175.00	200.00	1843.06458c	(91110924)	SRC1	:	175.00	210.00	1696.74219	(88040824)
SRC1	:	175.00	220.00	1590.93640	(88040924)	SRC1	:	175.00	230.00	5044.65332c	(87010424)
SRC1	:	175.00	240.00	4662.02588	(87101024)	SRC1	:	175.00	250.00	5610.11572c	(87040324)
SRC1	:	175.00	260.00	5826.40918c	(87012624)	SRC1	:	175.00	270.00	1822.75964	(88112224)
SRC1	:	175.00	280.00	1744.06875c	(88112324)	SRC1	:	175.00	290.00	1562.04358	(89031024)
SRC1	:	175.00	300.00	2363.58252c	(89102524)	SRC1	:	175.00	310.00	2660.53174c	(89102624)
SRC1	:	175.00	320.00	3252.58472	(89102924)	SRC1	:	175.00	330.00	3219.33789	(88010324)
SRC1	:	175.00	340.00	3779.31177	(89012324)	SRC1	:	175.00	350.00	3685.99780	(91101724)
SRC1	:	175.00	360.00	4106.73730	(88101424)	SRC1	:	175.00	10.00	3804.08154c	(88101324)
SRC1	:	175.00	20.00	4339.79395	(88010224)	SRC1	:	175.00	30.00	4705.63965	(90010724)
SRC1	:	175.00	40.00	4723.88721	(90103124)	SRC1	:	125.00	160.00	7061.35938c	(88092524)
SRC1	:	125.00	170.00	7517.57275c	(91012524)	SRC1	:	125.00	180.00	4666.44629	(91081124)
SRC1	:	125.00	190.00	3085.74878	(88021824)	SRC1	:	125.00	200.00	2346.14722	(90022824)
SRC1	:	125.00	210.00	2259.40479	(89051424)	SRC1	:	125.00	220.00	2230.72583	(90091724)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)
SRC1	:	125.00	230.00	2275.12598	(91122724)	SRC1	:	125.00	240.00	2582.14868c (90032724)
SRC1	:	125.00	250.00	2546.89941	(89092124)	SRC1	:	125.00	260.00	2648.84473 (88112224)
SRC1	:	125.00	270.00	2776.04224	(88112224)	SRC1	:	125.00	280.00	2649.53760c (89091924)
SRC1	:	125.00	290.00	2635.98267c	(88112324)	SRC1	:	125.00	300.00	3068.06079c (89102524)
SRC1	:	125.00	310.00	4700.84326c	(88112324)	SRC1	:	125.00	320.00	4756.69580c (88112324)
SRC1	:	125.00	330.00	6195.94873c	(89102524)	SRC1	:	125.00	340.00	7112.09521c (89102524)
SRC1	:	125.00	350.00	6787.76855c	(89102824)	SRC1	:	125.00	360.00	6333.68457c (89102824)
SRC1	:	125.00	10.00	6923.05225	(88010224)	SRC1	:	125.00	20.00	7352.56055 (90010724)
SRC1	:	125.00	30.00	7162.54932	(88010224)	SRC1	:	125.00	40.00	6637.51123c (88100824)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	11427.75290c	(90072508)	AT	(37.60, -112.80)	DC	16.	9434.69141c	(88092608)	AT	(37.60, -112.80)	DC
2.	11141.98140c	(87021308)	AT	(94.06, 258.42)	DP	17.	9406.81934	(89041908)	AT	(42.75, -117.46)	DP
3.	10968.17090c	(91030808)	AT	(37.60, -112.80)	DC	18.	9326.91895	(88011008)	AT	(21.71, -123.10)	DP
4.	10596.30270	(89041908)	AT	(37.60, -112.80)	DC	19.	9319.78711c	(88083008)	AT	(37.60, -112.80)	DC
5.	10407.55470c	(90081008)	AT	(37.60, -112.80)	DC	20.	9274.33496c	(87040308)	AT	(-300.50, 242.60)	DC
6.	10157.70410c	(87101208)	AT	(94.06, 258.42)	DP	21.	9211.79102c	(88052608)	AT	(37.60, -112.80)	DC
7.	9874.00879c	(88070808)	AT	(37.60, -112.80)	DC	22.	8866.62793c	(91071708)	AT	(42.75, -117.46)	DP
8.	9840.39941c	(89100408)	AT	(37.60, -112.80)	DC	23.	8862.07910c	(87101208)	AT	(-267.90, 300.80)	DC
9.	9816.38281c	(88100608)	AT	(37.60, -112.80)	DC	24.	8852.70410c	(90081008)	AT	(42.75, -117.46)	DP
10.	9805.86523c	(90052408)	AT	(21.71, -123.10)	DP	25.	8821.75586c	(89100908)	AT	(15.70, -111.80)	DC
11.	9787.82715c	(87021308)	AT	(-267.90, 300.80)	DC	26.	8804.26660	(90102608)	AT	(37.60, -112.80)	DC
12.	9746.92480c	(91072408)	AT	(37.60, -112.80)	DC	27.	8754.64648c	(87062508)	AT	(94.06, 258.42)	DP
13.	9627.80762c	(91030808)	AT	(42.75, -117.46)	DP	28.	8743.94043c	(87103108)	AT	(176.77, 210.66)	DP
14.	9598.06348c	(89080208)	AT	(6.10, -110.70)	DC	29.	8727.47559c	(88070808)	AT	(42.75, -117.46)	DP
15.	9577.06445	(88010808)	AT	(37.60, -112.80)	DC	30.	8722.60938c	(88101308)	AT	(37.60, -112.80)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	15612.23340c	(90052408)	AT (	0.00, -24.90)	DC	16.	13445.10640c	(89102808)	AT (	-42.75, 117.46)	DP
2.	14826.97170c	(89102808)	AT (	-43.70, 98.10)	DC	17.	13329.18070	(89121708)	AT (	42.75, 117.46)	DP
3.	14542.82810c	(89121808)	AT (	42.75, 117.46)	DP	18.	13319.38480	(90010808)	AT (	42.75, 117.46)	DP
4.	14453.39260c	(88100908)	AT (	42.75, 117.46)	DP	19.	13288.61130	(88010308)	AT (	0.00, 125.00)	DP
5.	14321.33890c	(90081008)	AT (	12.50, -24.00)	DC	20.	13226.83200c	(88092608)	AT (	-29.10, -24.00)	DC
6.	13963.10940	(88010208)	AT (	42.75, 117.46)	DP	21.	13141.70210c	(90052408)	AT (	0.00, -37.30)	DC
7.	13926.65630c	(91060808)	AT (	0.00, -24.90)	DC	22.	13139.16800c	(90072508)	AT (	37.60, -24.90)	DC
8.	13888.73140c	(91060808)	AT (	-14.60, -24.00)	DC	23.	13053.68070c	(87072608)	AT (	-14.60, -24.00)	DC
9.	13813.05860c	(91101608)	AT (	62.50, 108.25)	DP	24.	12990.43160	(89050808)	AT (	42.75, 117.46)	DP
10.	13810.56840c	(91060808)	AT (	-29.10, -24.00)	DC	25.	12953.57520c	(90061108)	AT (	-14.60, -24.00)	DC
11.	13769.68750	(88010208)	AT (	62.50, 108.25)	DP	26.	12951.73540c	(87021308)	AT (	-47.75, 270.82)	DP
12.	13767.74120c	(88061908)	AT (	-21.71, 123.10)	DP	27.	12934.92970c	(90090108)	AT (	-21.71, 123.10)	DP
13.	13738.66990	(88010308)	AT (	-43.70, 98.10)	DC	28.	12918.78810c	(91072408)	AT (	37.60, -24.90)	DC
14.	13528.67190c	(91030808)	AT (	25.10, -24.00)	DC	29.	12865.96290c	(87090708)	AT (	1358.20, 117.70)	DC
15.	13492.74510c	(87060608)	AT (	-14.60, -24.00)	DC	30.	12858.13570c	(91101608)	AT (	80.35, 95.76)	DP

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	16315.58300	(89041908)	AT	(37.60, -112.80)	DC	16.	14635.94630c	(88100908)	AT	(42.75, 117.46)	DP
2.	16128.96970c	(88092608)	AT	(37.60, -112.80)	DC	17.	14562.37300	(88010208)	AT	(42.75, 117.46)	DP
3.	15933.88180c	(90072508)	AT	(37.60, -112.80)	DC	18.	14545.84470c	(90081008)	AT	(37.60, -112.80)	DC
4.	15612.23340c	(90052408)	AT	(0.00, -24.90)	DC	19.	14534.25290c	(88092608)	AT	(21.71, -123.10)	DP
5.	15363.23730	(88010808)	AT	(37.60, -112.80)	DC	20.	14518.06930c	(89100408)	AT	(37.60, -112.80)	DC
6.	15225.73140c	(89102808)	AT	(-43.70, 98.10)	DC	21.	14428.22360	(88010808)	AT	(42.75, -117.46)	DP
7.	15203.63280c	(89121808)	AT	(42.75, 117.46)	DP	22.	14420.72270	(88010208)	AT	(62.50, 108.25)	DP
8.	15178.49900	(88010308)	AT	(-43.70, 98.10)	DC	23.	14402.83590c	(91072408)	AT	(37.60, -112.80)	DC
9.	15039.17580c	(88070808)	AT	(37.60, -112.80)	DC	24.	14366.03030c	(90061108)	AT	(37.60, -112.80)	DC
10.	15030.54200c	(88092608)	AT	(42.75, -117.46)	DP	25.	14354.10250	(88021808)	AT	(21.71, -123.10)	DP
11.	15025.88870	(89041908)	AT	(42.75, -117.46)	DP	26.	14321.33890c	(90081008)	AT	(12.50, -24.00)	DC
12.	15005.33690c	(87062508)	AT	(94.06, 258.42)	DP	27.	14245.70700	(89092008)	AT	(37.60, -112.80)	DC
13.	14995.64940c	(91060808)	AT	(21.71, -123.10)	DP	28.	14236.10450c	(90052408)	AT	(21.71, -123.10)	DP
14.	14882.58980c	(87040308)	AT	(-300.50, 242.60)	DC	29.	14231.65530	(91012508)	AT	(37.60, -112.80)	DC
15.	14809.46290	(88011008)	AT	(37.60, -112.80)	DC	30.	13969.26660c	(87062508)	AT	(-267.90, 300.80)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH) AT	RECEPTOR (XR,YR) OF TYPE	RANK	CONC	(YYMMDDHH) AT	RECEPTOR (XR,YR) OF TYPE
1.	6642.32178c	(87101224) AT	(94.06, 258.42) DP	16.	4717.85156c	(91012524) AT	(21.71, -123.10) DP
2.	5793.54053c	(87101224) AT	(-267.90, 300.80) DC	17.	4674.28125c	(90081424) AT	(37.60, -112.80) DC
3.	5732.59033	(90111724) AT	(37.60, -112.80) DC	18.	4653.22412c	(91101524) AT	(37.60, -112.80) DC
4.	5498.58545c	(87081924) AT	(94.06, 258.42) DP	19.	4648.51514c	(88070824) AT	(37.60, -112.80) DC
5.	5463.97510c	(88100624) AT	(37.60, -112.80) DC	20.	4603.54248	(88100324) AT	(42.75, -117.46) DP
6.	5432.10449c	(88092524) AT	(37.60, -112.80) DC	21.	4592.33740	(89092124) AT	(6.10, -110.70) DC
7.	5389.20361	(89122324) AT	(37.60, -112.80) DC	22.	4570.83936	(90111724) AT	(42.75, -117.46) DP
8.	5289.05273c	(87012624) AT	(94.06, 258.42) DP	23.	4560.74121	(88100324) AT	(21.71, -123.10) DP
9.	5247.09180c	(87060424) AT	(94.06, 258.42) DP	24.	4541.51904c	(87060424) AT	(-267.90, 300.80) DC
10.	5228.53418c	(90081024) AT	(37.60, -112.80) DC	25.	4539.13037c	(91110924) AT	(6.10, -110.70) DC
11.	5225.17627	(88100324) AT	(37.60, -112.80) DC	26.	4530.57520	(91081124) AT	(21.71, -123.10) DP
12.	5135.04004c	(88092524) AT	(21.71, -123.10) DP	27.	4517.95508c	(88100624) AT	(42.75, -117.46) DP
13.	4912.12207c	(89091924) AT	(6.10, -110.70) DC	28.	4488.06836c	(90081024) AT	(42.75, -117.46) DP
14.	4907.19922c	(89041924) AT	(37.60, -112.80) DC	29.	4446.93701c	(88072724) AT	(37.60, -112.80) DC
15.	4898.16553	(89122324) AT	(42.75, -117.46) DP	30.	4434.05908c	(87081924) AT	(-267.90, 300.80) DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	7643.87354c	(89102824)	AT (	-43.70, 98.10)	DC	16.	7061.78760c	(88092524)	AT (	37.60, -24.90)	DC
2.	7563.42676c	(88092524)	AT (	25.10, -24.00)	DC	17.	7052.39648	(89121724)	AT (	62.50, 108.25)	DP
3.	7514.83398c	(87080124)	AT (	-29.10, -24.00)	DC	18.	6993.37793c	(88081124)	AT (	42.75, 117.46)	DP
4.	7512.16602	(88010224)	AT (	42.75, 117.46)	DP	19.	6983.33008c	(87060624)	AT (	-14.60, -24.00)	DC
5.	7473.50293c	(87101224)	AT (	-47.75, 270.82)	DP	20.	6975.79688c	(88100824)	AT (	62.50, 108.25)	DP
6.	7312.62695	(90010724)	AT (	42.75, 117.46)	DP	21.	6941.67969c	(91101624)	AT (	42.75, 117.46)	DP
7.	7291.66748c	(87101824)	AT (	-29.10, -24.00)	DC	22.	6929.49365	(88010224)	AT (	62.50, 108.25)	DP
8.	7275.82324c	(88100924)	AT (	42.75, 117.46)	DP	23.	6895.87012c	(89031624)	AT (	42.75, 117.46)	DP
9.	7185.23877	(89121724)	AT (	42.75, 117.46)	DP	24.	6888.91357c	(88092524)	AT (	-14.60, -24.00)	DC
10.	7172.12354c	(88092524)	AT (	0.00, -12.40)	DC	25.	6887.65479	(90120924)	AT (	42.75, 117.46)	DP
11.	7163.36475c	(89102824)	AT (	-42.75, 117.46)	DP	26.	6813.74756	(88100324)	AT (	25.10, -24.00)	DC
12.	7149.79297	(90010724)	AT (	21.71, 123.10)	DP	27.	6794.58398c	(88092524)	AT (	0.00, -24.90)	DC
13.	7110.81398c	(89102524)	AT (	-43.70, 98.10)	DC	28.	6789.29541	(88010224)	AT (	21.71, 123.10)	DP
14.	7106.62354c	(89102524)	AT (	-42.75, 117.46)	DP	29.	6753.83838	(90103124)	AT (	37.60, 98.10)	DC
15.	7085.14844c	(91101624)	AT (	62.50, 108.25)	DP	30.	6752.95459	(87061424)	AT (	-29.10, -24.00)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	8588.75293c	(88092524)	AT	(37.60, -112.80)	DC	16.	7394.29346	(89122324)	AT	(37.60, -112.80)	DC
2.	8405.72168c	(88092524)	AT	(21.71, -123.10)	DP	17.	7392.19531c	(89102824)	AT	(-42.75, 117.46)	DP
3.	8309.01465	(88100324)	AT	(37.60, -112.80)	DC	18.	7352.56055	(90010724)	AT	(42.75, 117.46)	DP
4.	8127.55957c	(88100624)	AT	(37.60, -112.80)	DC	19.	7344.97314c	(87081924)	AT	(94.06, 258.42)	DP
5.	7985.35449c	(87101224)	AT	(94.06, 258.42)	DP	20.	7339.48242c	(88100924)	AT	(42.75, 117.46)	DP
6.	7841.32813	(90111724)	AT	(37.60, -112.80)	DC	21.	7326.66797	(88100324)	AT	(21.71, -123.10)	DP
7.	7827.39844c	(89102824)	AT	(-43.70, 98.10)	DC	22.	7314.05957c	(89041924)	AT	(37.60, -112.80)	DC
8.	7722.21289	(88010224)	AT	(42.75, 117.46)	DP	23.	7275.36865	(89121724)	AT	(42.75, 117.46)	DP
9.	7638.81543c	(87012624)	AT	(94.06, 258.42)	DP	24.	7256.20850	(90010724)	AT	(21.71, 123.10)	DP
10.	7612.73340c	(87080124)	AT	(-29.10, -24.00)	DC	25.	7204.72607c	(91012524)	AT	(37.60, -112.80)	DC
11.	7566.27246c	(87101824)	AT	(-29.10, -24.00)	DC	26.	7182.72266	(89121724)	AT	(62.50, 108.25)	DP
12.	7563.42676c	(88092524)	AT	(25.10, -24.00)	DC	27.	7172.12354c	(88092524)	AT	(0.00, -12.40)	DC
13.	7520.91748	(88100324)	AT	(42.75, -117.46)	DP	28.	7170.12012c	(87101224)	AT	(-267.90, 300.80)	DC
14.	7517.57275c	(91012524)	AT	(21.71, -123.10)	DP	29.	7162.54932	(88010224)	AT	(62.50, 108.25)	DP
15.	7473.50293c	(87101224)	AT	(-47.75, 270.82)	DP	30.	7124.22510c	(89102524)	AT	(-43.70, 98.10)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	NETWORK RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE GRID-ID
GROUP1 HIGH 1ST HIGH VALUE IS	11427.75290c	ON 90072508:	AT (37.60, -112.80, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	10968.17090c	ON 91030808:	AT (37.60, -112.80, 275.00, 0.00)	DC
GROUP2 HIGH 1ST HIGH VALUE IS	15612.23340c	ON 90052408:	AT (0.00, -24.90, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	14453.39260c	ON 88100908:	AT (42.75, 117.46, 269.70, 0.00)	DP
GROUP3 HIGH 1ST HIGH VALUE IS	16315.58300	ON 89041908:	AT (37.60, -112.80, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	16128.96970c	ON 88092608:	AT (37.60, -112.80, 275.00, 0.00)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	NETWORK RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE GRID-ID
GROUP1 HIGH 1ST HIGH VALUE IS	6642.32178c	ON 87101224:	AT (94.06, 258.42, 271.90, 0.00)	DP
HIGH 2ND HIGH VALUE IS	5498.58545c	ON 87081924:	AT (94.06, 258.42, 271.90, 0.00)	DP
GROUP2 HIGH 1ST HIGH VALUE IS	7643.87354c	ON 89102824:	AT (-43.70, 98.10, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	7312.62695	ON 90010724:	AT (42.75, 117.46, 269.70, 0.00)	DP
GROUP3 HIGH 1ST HIGH VALUE IS	8588.75293c	ON 88092524:	AT (37.60, -112.80, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	8309.01465	ON 88100324:	AT (37.60, -112.80, 275.00, 0.00)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** Message Summary For ISC2 Model Execution ***

——— Summary of Total Messages ———

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 508 Informational Message(s)

A Total of 190 Calm Hours Identified

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

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

****
*** ISCST2 Finishes Successfully ***
****

Filename:	ECC91ADM.LST
Directory:	B:
Template:	C:\WINWORD\TEMPLATE\NORMAL.DOT
Title:	
Subject:	
Author:	Authorized Gateway Customer
Keywords:	
Comments:	
Creation Date:	04/10/95 12:18 PM
Revision Number:	2
Last Saved On:	04/10/95 3:34 PM
Last Saved By:	Authorized Gateway Customer
Total Editing Time:	9 Minutes
Last Printed On:	04/24/95 10:21 AM
As of Last Complete Printing	
Number of Pages:	59
Number of Words:	34,094 (approx.)
Number of Characters:	194,340 (approx.)

ISCST2 - (DATED 93109)

IBM-PC VERSION (2.1) ISCST2F
(C) COPYRIGHT 1992, TRINITY CONSULTANTS, INC.
SERIAL NUMBER 10634 SOLD TO AWD TECHNOLOGIES

Run Began on 4/10/1995 at 12:15:55

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*** TRINITY SOURCE FILE NAME: C:\MODELS\ECCMET\ECC2.PNT
*** TRINITY RECEPTOR FILE NAME: C:\MODELS\ECCMET\WCC.REC
CO STARTING
CO TITLEONE ECC, Zionsville, Indiana, 1987-1991
CO MODELOPT DFAULT CONC RURAL
CO AVERTIME 8 24
CO POLLUTID PM10
CO TERRHGTS ELEV
CO ELEVUNIT METERS
CO RUNORNOT RUN
CO MULTYEAR C:\MODELS\ECCMET\ECC91.SV1 C:\MODELS\ECCMET\ECC90.SV1
CO FINISHED
SO STARTING
SO LOCATION SRC1 AREA     0.00     0.00    271.30
SO SRCPARAM SRC1 0.000001     0.00     0.01
SO LOCATION SRC2 AREA    -43.30    -0.60    271.30
SO SRCPARAM SRC2 0.001000     0.00    98.24
SO LOCATION SRC3 AREA     7.30   -109.10    271.30
SO SRCPARAM SRC3 0.001000     0.00    34.33
SO EMISUNIT 1000000.000000 GRAMS/SEC MICROGRAMS/M**3
SO SRCGROUP GROUP1 SRC1 SRC3
SO SRCGROUP GROUP2 SRC1 SRC2
SO SRCGROUP GROUP3 SRC1 SRC2 SRC3
SO FINISHED
RE STARTING
RE DISCPOLR SRC1 275.00 160.00  272.80
RE DISCPOLR SRC1 275.00 170.00  272.80
RE DISCPOLR SRC1 275.00 180.00  272.80
RE DISCPOLR SRC1 275.00 190.00  271.60
RE DISCPOLR SRC1 275.00 200.00  270.70
RE DISCPOLR SRC1 275.00 210.00  270.10
RE DISCPOLR SRC1 275.00 220.00  269.40
RE DISCPOLR SRC1 275.00 230.00  270.10
RE DISCPOLR SRC1 275.00 240.00  271.30
RE DISCPOLR SRC1 275.00 250.00  272.50
RE DISCPOLR SRC1 275.00 260.00  273.10
RE DISCPOLR SRC1 275.00 270.00  273.70
RE DISCPOLR SRC1 275.00 280.00  274.30
RE DISCPOLR SRC1 275.00 290.00  274.90
RE DISCPOLR SRC1 275.00 300.00  274.90
RE DISCPOLR SRC1 275.00 310.00  272.80
RE DISCPOLR SRC1 275.00 320.00  272.80
RE DISCPOLR SRC1 275.00 330.00  271.60
RE DISCPOLR SRC1 275.00 340.00  270.70
RE DISCPOLR SRC1 275.00 350.00  271.60
RE DISCPOLR SRC1 275.00 360.00  271.30
RE DISCPOLR SRC1 275.00 10.00  268.80
RE DISCPOLR SRC1 275.00 20.00  271.90
RE DISCPOLR SRC1 275.00 30.00  271.90
RE DISCPOLR SRC1 275.00 40.00  271.90
RE DISCPOLR SRC1 225.00 170.00  272.80
RE DISCPOLR SRC1 225.00 180.00  272.80
RE DISCPOLR SRC1 225.00 190.00  271.90
RE DISCPOLR SRC1 225.00 200.00  269.70
RE DISCPOLR SRC1 225.00 210.00  270.10
RE DISCPOLR SRC1 225.00 220.00  270.10
RE DISCPOLR SRC1 225.00 230.00  270.40
RE DISCPOLR SRC1 225.00 240.00  270.40
RE DISCPOLR SRC1 225.00 250.00  270.70
RE DISCPOLR SRC1 225.00 260.00  271.30
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RE DISCPOLR SRC1 225.00 270.00  271.90
RE DISCPOLR SRC1 225.00 280.00  272.50
RE DISCPOLR SRC1 225.00 290.00  273.10
RE DISCPOLR SRC1 225.00 300.00  273.70
RE DISCPOLR SRC1 225.00 310.00  272.80
RE DISCPOLR SRC1 225.00 320.00  271.00
RE DISCPOLR SRC1 225.00 330.00  271.00
RE DISCPOLR SRC1 225.00 340.00  270.70
RE DISCPOLR SRC1 225.00 350.00  270.70
RE DISCPOLR SRC1 225.00 360.00  269.40
RE DISCPOLR SRC1 225.00 10.00  270.40
RE DISCPOLR SRC1 225.00 20.00  271.60
RE DISCPOLR SRC1 225.00 30.00  271.30
RE DISCPOLR SRC1 225.00 40.00  271.30
RE DISCPOLR SRC1 175.00 170.00  271.30
RE DISCPOLR SRC1 175.00 180.00  265.80
RE DISCPOLR SRC1 175.00 190.00  265.80
RE DISCPOLR SRC1 175.00 200.00  264.60
RE DISCPOLR SRC1 175.00 210.00  265.20
RE DISCPOLR SRC1 175.00 220.00  266.70
RE DISCPOLR SRC1 175.00 230.00  267.30
RE DISCPOLR SRC1 175.00 240.00  267.90
RE DISCPOLR SRC1 175.00 250.00  268.80
RE DISCPOLR SRC1 175.00 260.00  269.70
RE DISCPOLR SRC1 175.00 270.00  270.40
RE DISCPOLR SRC1 175.00 280.00  271.60
RE DISCPOLR SRC1 175.00 290.00  271.60
RE DISCPOLR SRC1 175.00 300.00  271.90
RE DISCPOLR SRC1 175.00 310.00  271.90
RE DISCPOLR SRC1 175.00 320.00  271.30
RE DISCPOLR SRC1 175.00 330.00  271.30
RE DISCPOLR SRC1 175.00 340.00  271.30
RE DISCPOLR SRC1 175.00 350.00  270.70
RE DISCPOLR SRC1 175.00 360.00  270.70
RE DISCPOLR SRC1 175.00 10.00  270.70
RE DISCPOLR SRC1 175.00 20.00  269.70
RE DISCPOLR SRC1 175.00 30.00  270.70
RE DISCPOLR SRC1 175.00 40.00  270.70
RE DISCPOLR SRC1 125.00 160.00  266.70
RE DISCPOLR SRC1 125.00 170.00  266.70
RE DISCPOLR SRC1 125.00 180.00  266.40
RE DISCPOLR SRC1 125.00 190.00  265.20
RE DISCPOLR SRC1 125.00 200.00  268.20
RE DISCPOLR SRC1 125.00 210.00  266.70
RE DISCPOLR SRC1 125.00 220.00  268.20
RE DISCPOLR SRC1 125.00 230.00  268.20
RE DISCPOLR SRC1 125.00 240.00  268.20
RE DISCPOLR SRC1 125.00 250.00  268.50
RE DISCPOLR SRC1 125.00 260.00  268.80
RE DISCPOLR SRC1 125.00 270.00  268.80
RE DISCPOLR SRC1 125.00 280.00  269.10
RE DISCPOLR SRC1 125.00 290.00  270.70
RE DISCPOLR SRC1 125.00 300.00  271.30
RE DISCPOLR SRC1 125.00 310.00  271.60
RE DISCPOLR SRC1 125.00 320.00  271.90
RE DISCPOLR SRC1 125.00 330.00  271.30
RE DISCPOLR SRC1 125.00 340.00  271.00
RE DISCPOLR SRC1 125.00 350.00  270.10
RE DISCPOLR SRC1 125.00 360.00  270.40
RE DISCPOLR SRC1 125.00 10.00  270.10
RE DISCPOLR SRC1 125.00 20.00  269.70
RE DISCPOLR SRC1 125.00 30.00  267.90
RE DISCPOLR SRC1 125.00 40.00  270.70
RE DISCCART -180.00 -150.00  272.00
RE DISCCART 500.00 750.00  280.00
RE DISCCART -200.00 125.00  273.00
RE DISCCART -50.00 -300.00  274.00
RE DISCCART 1350.00 0.00  279.00
RE DISCCART -3.00 98.10  275.00
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RE DISCCART -450.00 -150.00  281.00
RE DISCCART 1350.00 -1000.00  280.00
RE DISCCART 17.30 98.10  275.00
RE DISCCART -20.30 98.10  275.00
RE DISCCART -21.80 0.00  275.00
RE DISCCART -43.70 0.00  275.00
RE DISCCART -43.70 98.10  275.00
RE DISCCART -43.70 24.50  275.00
RE DISCCART -43.70 49.10  275.00
RE DISCCART 37.60 98.10  275.00
RE DISCCART 37.60 49.10  275.00
RE DISCCART 37.60 0.00  275.00
RE DISCCART 37.60 24.50  275.00
RE DISCCART 37.60 -24.90  275.00
RE DISCCART 37.60 -49.80  275.00
RE DISCCART 37.60 -81.30  275.00
RE DISCCART 37.60 -112.80  275.00
RE DISCCART 15.70 -111.80  275.00
RE DISCCART 6.10 -110.70  275.00
RE DISCCART -9.10 -92.50  275.00
RE DISCCART -11.20 -49.80  275.00
RE DISCCART -10.20 -71.10  275.00
RE DISCCART 0.00 -49.80  275.00
RE DISCCART 0.00 -37.30  275.00
RE DISCCART 0.00 -24.90  275.00
RE DISCCART 0.00 -12.40  275.00
RE DISCCART -341.10 290.50  278.00
RE DISCCART -325.80 296.30  277.70
RE DISCCART -267.90 300.80  276.10
RE DISCCART -300.50 242.60  277.10
RE DISCCART -325.50 207.30  277.10
RE DISCCART -284.40 192.00  276.10
RE DISCCART -266.70 115.50  274.90
RE DISCCART -190.20 58.80  273.40
RE DISCCART -82.00 -36.00  270.40
RE DISCCART -397.20 -197.50  271.90
RE DISCCART -121.30 -124.40  270.10
RE DISCCART -80.50 -152.40  269.70
RE DISCCART -230.10 -461.50  269.40
RE DISCCART -26.50 -406.30  271.60
RE DISCCART 20.40 312.70  271.90
RE DISCCART 649.80 667.50  284.10
RE DISCCART 648.60 621.80  283.80
RE DISCCART 550.50 524.00  281.60
RE DISCCART 496.80 492.60  281.00
RE DISCCART 368.80 460.90  278.30
RE DISCCART 1424.00 473.70  277.70
RE DISCCART 1358.20 117.70  277.40
RE DISCCART 1418.20 130.80  279.20
RE DISCCART -29.10 -24.00  275.00
RE DISCCART -14.60 -24.00  275.00
RE DISCCART 12.50 -24.00  275.00
RE DISCCART 25.10 -24.00  275.00
RE FINISHED
ME STARTING
ME INPUTFIL A:\ECCMET91.BIN UNFORM
ME ANEMHGHT  10.000 METERS
ME SURFDATA 93819 1991 INDIANAPOLIS
ME UAIRDATA 13840 1991 DAYTON
ME STARTEND 1991 1 1 1 1991 12 31 24
ME FINISHED
OU STARTING
OU RECTABLE 8 FIRST SECOND
OU RECTABLE 24 FIRST SECOND
OU MAXTABLE 8 30
OU MAXTABLE 24 30
OU FINISHED

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** MODEL SETUP OPTIONS SUMMARY ***

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

**Model Uses RURAL Dispersion.

**Model Uses Regulatory DEFAULT Options:
1. Final Plume Rise.
2. Stack-tip Downwash.
3. Buoyancy-induced Dispersion.
4. Use Calms Processing Routine.
5. Not Use Missing Data Processing Routine.
6. Default Wind Profile Exponents.
7. Default Vertical Potential Temperature Gradients.
8. "Upper Bound" Values for Supersquat Buildings.
9. No Exponential Decay for RURAL Mode

**Model Accepts Receptors on ELEV Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates 2 Short Term Average(s) of: 8-HR 24-HR

**This Run Includes: 3 Source(s); 3 Source Group(s); and 157 Receptor(s)

**The Model Assumes A Pollutant Type of: PM10

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
Model Outputs Tables of Overall Maximum Short Term Values (MAXTABLE Keyword)

**NOTE: The Following Flags May Appear Following CONC Values: c for Calm Hours
m for Missing Hours
b for Both Calm and Missing Hours

**Misc. Inputs: Anem. Hgt. (m) = 10.00 ; Decay Coef. = 0.0000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Input Runstream File: C:\MODELS\ECCMET\ECC91.DAT ; **Output Print File:
C:\MODELS\ECCMET\ECC91.LST
**This Run Is Part of a Multi-year Run.
NOTE: PERIOD Results Are for Current Period Only.
Short Term Results Are Cumulative Across All Years Processed.
**File for Saving Result Arrays: C:\MODELS\ECCMET\ECC91.SV1
**File for Initializing Result Arrays: C:\MODELS\ECCMET\ECC90.SV1

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** AREA SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (USER UNITS /METER**2)	COORD (SW CORNER) X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	WIDTH OF AREA (METERS)	EMISSION RATE SCALAR VARY BY
SRC1	0	0.10000E-05	0.0	0.0	271.3	0.00	0.01	
SRC2	0	0.10000E-02	-43.3	-0.6	271.3	0.00	98.24	
SRC3	0	0.10000E-02	7.3	-109.1	271.3	0.00	34.33	

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** SOURCE IDs DEFINING SOURCE GROUPS ***

GROUP ID	SOURCE IDs
GROUP1	SRC1 , SRC3 ,
GROUP2	SRC1 , SRC2 ,
GROUP3	SRC1 , SRC2 , SRC3 ,

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

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

(-180.0,	-150.0,	272.0,	0.0);	(500.0,	750.0,	280.0,	0.0);
(-200.0,	125.0,	273.0,	0.0);	(-50.0,	-300.0,	274.0,	0.0);
(1350.0,	0.0,	279.0,	0.0);	(-3.0,	98.1,	275.0,	0.0);
(-450.0,	-150.0,	281.0,	0.0);	(1350.0,	-1000.0,	280.0,	0.0);
(17.3,	98.1,	275.0,	0.0);	(-20.3,	98.1,	275.0,	0.0);
(-21.8,	0.0,	275.0,	0.0);	(-43.7,	0.0,	275.0,	0.0);
(-43.7,	98.1,	275.0,	0.0);	(-43.7,	24.5,	275.0,	0.0);
(-43.7,	49.1,	275.0,	0.0);	(37.6,	98.1,	275.0,	0.0);
(37.6,	49.1,	275.0,	0.0);	(37.6,	0.0,	275.0,	0.0);
(37.6,	24.5,	275.0,	0.0);	(37.6,	-24.9,	275.0,	0.0);
(37.6,	-49.8,	275.0,	0.0);	(37.6,	-81.3,	275.0,	0.0);
(37.6,	-112.8,	275.0,	0.0);	(15.7,	-111.8,	275.0,	0.0);
(6.1,	-110.7,	275.0,	0.0);	(-9.1,	-92.5,	275.0,	0.0);
(-11.2,	-49.8,	275.0,	0.0);	(-10.2,	-71.1,	275.0,	0.0);
(0.0,	-49.8,	275.0,	0.0);	(0.0,	-37.3,	275.0,	0.0);
(0.0,	-24.9,	275.0,	0.0);	(0.0,	-12.4,	275.0,	0.0);
(-341.1,	290.5,	278.0,	0.0);	(-325.8,	296.3,	277.7,	0.0);
(-267.9,	300.8,	276.1,	0.0);	(-300.5,	242.6,	277.1,	0.0);
(-325.5,	207.3,	277.1,	0.0);	(-284.4,	192.0,	276.1,	0.0);
(-266.7,	115.5,	274.9,	0.0);	(-190.2,	58.8,	273.4,	0.0);
(-82.0,	-36.0,	270.4,	0.0);	(-397.2,	-197.5,	271.9,	0.0);
(-121.3,	-124.4,	270.1,	0.0);	(-80.5,	-152.4,	269.7,	0.0);
(-230.1,	-461.5,	269.4,	0.0);	(-26.5,	-406.3,	271.6,	0.0);
(20.4,	312.7,	271.9,	0.0);	(649.8,	667.5,	284.1,	0.0);
(648.6,	621.8,	283.8,	0.0);	(550.5,	524.0,	281.6,	0.0);
(496.8,	492.6,	281.0,	0.0);	(368.8,	460.9,	278.3,	0.0);
(1424.0,	473.7,	277.7,	0.0);	(1358.2,	117.7,	277.4,	0.0);
(1418.2,	130.8,	279.2,	0.0);	(-29.1,	-24.0,	275.0,	0.0);
(-14.6,	-24.0,	275.0,	0.0);	(12.5,	-24.0,	275.0,	0.0);
(25.1,	-24.0,	275.0,	0.0);				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** DISCRETE POLAR RECEPTORS ***
ORIGIN: (DIST, DIR, ZELEV, ZFLAG)
SRCID: (METERS,DEG,METERS,METERS)

SRC1	: (	275.0,	160.0,	272.8,	0.0);	SRC1	: (	275.0,	170.0,	272.8,	0.0);
SRC1	: (	275.0,	180.0,	272.8,	0.0);	SRC1	: (	275.0,	190.0,	271.6,	0.0);
SRC1	: (	275.0,	200.0,	270.7,	0.0);	SRC1	: (	275.0,	210.0,	270.1,	0.0);
SRC1	: (	275.0,	220.0,	269.4,	0.0);	SRC1	: (	275.0,	230.0,	270.1,	0.0);
SRC1	: (	275.0,	240.0,	271.3,	0.0);	SRC1	: (	275.0,	250.0,	272.5,	0.0);
SRC1	: (	275.0,	260.0,	273.1,	0.0);	SRC1	: (	275.0,	270.0,	273.7,	0.0);
SRC1	: (	275.0,	280.0,	274.3,	0.0);	SRC1	: (	275.0,	290.0,	274.9,	0.0);
SRC1	: (	275.0,	300.0,	274.9,	0.0);	SRC1	: (	275.0,	310.0,	272.8,	0.0);
SRC1	: (	275.0,	320.0,	272.8,	0.0);	SRC1	: (	275.0,	330.0,	271.6,	0.0);
SRC1	: (	275.0,	340.0,	270.7,	0.0);	SRC1	: (	275.0,	350.0,	271.6,	0.0);
SRC1	: (	275.0,	360.0,	271.3,	0.0);	SRC1	: (	275.0,	10.0,	268.8,	0.0);
SRC1	: (	275.0,	20.0,	271.9,	0.0);	SRC1	: (	275.0,	30.0,	271.9,	0.0);
SRC1	: (	275.0,	40.0,	271.9,	0.0);	SRC1	: (	225.0,	170.0,	272.8,	0.0);
SRC1	: (	225.0,	180.0,	272.8,	0.0);	SRC1	: (	225.0,	190.0,	271.9,	0.0);
SRC1	: (	225.0,	200.0,	269.7,	0.0);	SRC1	: (	225.0,	210.0,	270.1,	0.0);
SRC1	: (	225.0,	220.0,	270.1,	0.0);	SRC1	: (	225.0,	230.0,	270.4,	0.0);
SRC1	: (	225.0,	240.0,	270.4,	0.0);	SRC1	: (	225.0,	250.0,	270.7,	0.0);
SRC1	: (	225.0,	260.0,	271.3,	0.0);	SRC1	: (	225.0,	270.0,	271.9,	0.0);
SRC1	: (	225.0,	280.0,	272.5,	0.0);	SRC1	: (	225.0,	290.0,	273.1,	0.0);
SRC1	: (	225.0,	300.0,	273.7,	0.0);	SRC1	: (	225.0,	310.0,	272.8,	0.0);
SRC1	: (	225.0,	320.0,	271.0,	0.0);	SRC1	: (	225.0,	330.0,	271.0,	0.0);
SRC1	: (	225.0,	340.0,	270.7,	0.0);	SRC1	: (	225.0,	350.0,	270.7,	0.0);
SRC1	: (	225.0,	360.0,	269.4,	0.0);	SRC1	: (	225.0,	10.0,	270.4,	0.0);
SRC1	: (	225.0,	20.0,	271.6,	0.0);	SRC1	: (	225.0,	30.0,	271.3,	0.0);
SRC1	: (	225.0,	40.0,	271.3,	0.0);	SRC1	: (	175.0,	170.0,	271.3,	0.0);
SRC1	: (	175.0,	180.0,	265.8,	0.0);	SRC1	: (	175.0,	190.0,	265.8,	0.0);
SRC1	: (	175.0,	200.0,	264.6,	0.0);	SRC1	: (	175.0,	210.0,	265.2,	0.0);
SRC1	: (	175.0,	220.0,	266.7,	0.0);	SRC1	: (	175.0,	230.0,	267.3,	0.0);
SRC1	: (	175.0,	240.0,	267.9,	0.0);	SRC1	: (	175.0,	250.0,	268.8,	0.0);
SRC1	: (	175.0,	260.0,	269.7,	0.0);	SRC1	: (	175.0,	270.0,	270.4,	0.0);
SRC1	: (	175.0,	280.0,	271.6,	0.0);	SRC1	: (	175.0,	290.0,	271.6,	0.0);
SRC1	: (	175.0,	300.0,	271.9,	0.0);	SRC1	: (	175.0,	310.0,	271.9,	0.0);
SRC1	: (	175.0,	320.0,	271.3,	0.0);	SRC1	: (	175.0,	330.0,	271.3,	0.0);
SRC1	: (	175.0,	340.0,	271.3,	0.0);	SRC1	: (	175.0,	350.0,	270.7,	0.0);
SRC1	: (	175.0,	360.0,	270.7,	0.0);	SRC1	: (	175.0,	10.0,	270.7,	0.0);
SRC1	: (	175.0,	20.0,	269.7,	0.0);	SRC1	: (	175.0,	30.0,	270.7,	0.0);
SRC1	: (	175.0,	40.0,	270.7,	0.0);	SRC1	: (	125.0,	160.0,	266.7,	0.0);
SRC1	: (	125.0,	170.0,	266.7,	0.0);	SRC1	: (	125.0,	180.0,	266.4,	0.0);
SRC1	: (	125.0,	190.0,	265.2,	0.0);	SRC1	: (	125.0,	200.0,	268.2,	0.0);
SRC1	: (	125.0,	210.0,	266.7,	0.0);	SRC1	: (	125.0,	220.0,	268.2,	0.0);
SRC1	: (	125.0,	230.0,	268.2,	0.0);	SRC1	: (	125.0,	240.0,	268.2,	0.0);
SRC1	: (	125.0,	250.0,	268.5,	0.0);	SRC1	: (	125.0,	260.0,	268.8,	0.0);
SRC1	: (	125.0,	270.0,	268.8,	0.0);	SRC1	: (	125.0,	280.0,	269.1,	0.0);
SRC1	: (	125.0,	290.0,	270.7,	0.0);	SRC1	: (	125.0,	300.0,	271.3,	0.0);
SRC1	: (	125.0,	310.0,	271.6,	0.0);	SRC1	: (	125.0,	320.0,	271.9,	0.0);

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** DISCRETE POLAR RECEPTORS ***
ORIGIN: (DIST, DIR, ZELEV, ZFLAG)
SRCID: (METERS,DEG,METERS,METERS)

SRC1	: (	125.0,	330.0,	271.3,	0.0);	SRC1	: (	125.0,	340.0,	271.0,	0.0);
SRC1	: (	125.0,	350.0,	270.1,	0.0);	SRC1	: (	125.0,	360.0,	270.4,	0.0);
SRC1	: (	125.0,	10.0,	270.1,	0.0);	SRC1	: (	125.0,	20.0,	269.7,	0.0);
SRC1	: (	125.0,	30.0,	267.9,	0.0);	SRC1	: (	125.0,	40.0,	270.7,	0.0);

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

* SOURCE-RECEPTOR COMBINATIONS LESS THAN 1.0 METER OR 3*ZLB *
IN DISTANCE. CALCULATIONS MAY NOT BE PERFORMED.

SOURCE ID	-- RECEPTOR LOCATION -- XR (METERS)	YR (METERS)	DISTANCE (METERS)
SRC2	-3.0	98.1	-5.07
SRC2	17.3	98.1	-4.53
SRC2	-20.3	98.1	0.61
SRC2	-21.8	0.0	0.40
SRC2	-43.7	24.5	-0.39
SRC2	-43.7	49.1	-5.90
SRC2	37.6	49.1	-23.64
SRC2	37.6	24.5	-15.59
SRC3	37.6	-81.3	-2.47

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***
(1=YES; 0=NO)

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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
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1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1
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METEOROLOGICAL DATA PROCESSED BETWEEN START DATE: 91 1 1 1
AND END DATE: 91 12 31 24

NOTE: METEOROLOGICAL DATA ACTUALLY PROCESSED WILL ALSO DEPEND ON WHAT IS INCLUDED IN THE DATA FILE.

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***
(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** WIND PROFILE EXPONENTS ***

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
B	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01	.70000E-01
C	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00	.10000E+00
D	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00	.15000E+00
E	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00	.35000E+00
F	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00	.55000E+00

*** VERTICAL POTENTIAL TEMPERATURE GRADIENTS ***
(DEGREES KELVIN PER METER)

STABILITY CATEGORY	WIND SPEED CATEGORY 1	2	3	4	5	6
A	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
B	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
C	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
D	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00	.00000E+00
E	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01	.20000E-01
F	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01	.35000E-01

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

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

FILE: A:\ECCMET91.BIN FORMAT: UNFORM
SURFACE STATION NO.: 93819 UPPER AIR STATION NO.: 13840
NAME: INDIANAPOLIS NAME: DAYTON
YEAR: 1991 YEAR: 1991

YEAR	MONTH	DAY	HOUR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING HEIGHT (M) RURAL	URBAN
91	1	1	1	351.0	2.57	264.8	6	519.2	398.0
91	1	1	2	348.0	5.66	265.4	5	517.7	398.0
91	1	1	3	354.0	3.09	264.8	6	516.1	398.0
91	1	1	4	353.0	3.09	264.8	6	514.6	398.0
91	1	1	5	353.0	4.63	265.4	5	513.0	398.0
91	1	1	6	352.0	4.12	265.4	4	511.4	511.4
91	1	1	7	355.0	3.09	265.4	4	509.9	509.9
91	1	1	8	353.0	3.09	265.4	5	508.3	398.0
91	1	1	9	347.0	3.60	265.4	4	69.5	412.1
91	1	1	10	1.0	3.60	267.0	3	155.4	429.5
91	1	1	11	4.0	4.12	268.7	3	241.3	446.8
91	1	1	12	356.0	4.63	270.4	3	327.2	464.2
91	1	1	13	13.0	5.66	271.5	4	413.1	481.6
91	1	1	14	9.0	4.12	273.1	3	499.0	499.0
91	1	1	15	22.0	3.60	274.8	3	499.0	499.0
91	1	1	16	4.0	3.60	275.4	4	499.0	499.0
91	1	1	17	1.0	4.12	274.3	4	499.0	499.0
91	1	1	18	17.0	3.09	272.0	5	494.8	481.2
91	1	1	19	4.0	2.57	272.6	6	487.6	450.4
91	1	1	20	327.0	3.09	272.0	6	480.4	419.5
91	1	1	21	340.0	3.09	271.5	6	473.1	388.6
91	1	1	22	342.0	2.57	270.9	6	465.9	357.7
91	1	1	23	30.0	2.57	270.4	6	458.6	326.9
91	1	1	24	10.0	2.57	270.4	6	451.4	296.0

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	692.02594	(87092708)	500.00	750.00	525.01947c	(87041008)
-200.00	125.00	654.00201c	(87072908)	-50.00	-300.00	914.46985	(90022008)
1350.00	0.00	555.15289	(87052624)	-3.00	98.10	1214.45569c	(88042608)
-450.00	-150.00	370.91312c	(87121024)	1350.00	-1000.00	595.62274	(87091424)
17.30	98.10	1640.97424	(88101408)	-20.30	98.10	1347.76160c	(90101324)
-21.80	0.00	4109.26904c	(87062508)	-43.70	0.00	2217.11914	(87102508)
-43.70	98.10	2307.64282c	(87060508)	-43.70	24.50	1756.03821	(90020808)
-43.70	49.10	2011.59949	(87022408)	37.60	98.10	1595.58032	(88101324)
37.60	49.10	2142.59497	(88101324)	37.60	0.00	3159.26563	(88101324)
37.60	24.50	2566.77905	(88101324)	37.60	-24.90	4084.93945	(88101324)
37.60	-49.80	7309.88672c	(89062208)	37.60	-81.30	1848.66687c	(87090708)
37.60	-112.80	11427.75290c	(90072508)	15.70	-111.80	8821.75586c	(89100908)
6.10	-110.70	9598.06348c	(89080208)	-9.10	-92.50	6789.10986c	(88030608)
-11.20	-49.80	5708.17725c	(88092708)	-10.20	-71.10	8114.72021c	(90090108)
0.00	-49.80	7471.88379	(88010308)	0.00	-37.30	5845.92334	(88010308)
0.00	-24.90	4585.08691	(89012308)	0.00	-12.40	3914.77539	(88010308)
-341.10	290.50	1010.99078	(87091508)	-325.80	296.30	907.18280c	(87060708)
-267.90	300.80	9787.82715c	(87021308)	-300.50	242.60	9274.33496c	(87040308)
-325.50	207.30	5320.60352	(87021908)	-284.40	192.00	4143.55957	(87022408)
-266.70	115.50	3483.14844	(87020508)	-190.20	58.80	1758.54297	(87050608)
-82.00	-36.00	2834.44507c	(88030608)	-397.20	-197.50	944.30530	(87102524)
-121.30	-124.40	1065.72314	(89091908)	-80.50	-152.40	2316.80493	(91062508)
-230.10	-461.50	1888.10315c	(87101908)	-26.50	-406.30	2612.55298c	(87090708)
20.40	312.70	1473.61621c	(87090708)	649.80	667.50	1420.37195c	(87101424)
648.60	621.80	1227.39001	(87092708)	550.50	524.00	958.61932c	(87041008)
496.80	492.60	988.14130c	(87083008)	368.80	460.90	1288.77332c	(87083008)
1424.00	473.70	963.84650c	(87080108)	1358.20	117.70	826.61292	(87052624)
1418.20	130.80	767.74451	(87071824)	-29.10	-24.00	3149.18164c	(88092708)
-14.60	-24.00	4573.29297	(88010308)	12.50	-24.00	5270.05664	(88101408)
25.10	-24.00	4801.38672	(88101408)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	1232.86646c	(89081024)	SRC1	:	275.00	170.00	2406.05103c	(88092608)
SRC1	:	275.00	180.00	1383.91272	(88041308)	SRC1	:	275.00	190.00	1216.85181	(90091708)
SRC1	:	275.00	200.00	865.00690	(88070408)	SRC1	:	275.00	210.00	1052.48730c	(90080208)
SRC1	:	275.00	220.00	1160.02258	(91062508)	SRC1	:	275.00	230.00	576.84906c	(90101608)
SRC1	:	275.00	240.00	1064.41785	(87071824)	SRC1	:	275.00	250.00	901.46960	(87052624)
SRC1	:	275.00	260.00	3457.88599c	(87083008)	SRC1	:	275.00	270.00	2347.15015	(87092708)
SRC1	:	275.00	280.00	1188.41431c	(87080108)	SRC1	:	275.00	290.00	2032.13660c	(87083008)
SRC1	:	275.00	300.00	2319.60767c	(87083008)	SRC1	:	275.00	310.00	835.90851c	(87082024)
SRC1	:	275.00	320.00	1367.08057	(87091424)	SRC1	:	275.00	330.00	2855.71680	(87091424)
SRC1	:	275.00	340.00	1957.93787	(87091424)	SRC1	:	275.00	350.00	3585.82178	(87091424)
SRC1	:	275.00	360.00	6471.42432	(87091508)	SRC1	:	275.00	10.00	633.97723	(88101324)
SRC1	:	275.00	20.00	11141.98140c	(87021308)	SRC1	:	275.00	30.00	6751.46631	(87050108)
SRC1	:	275.00	40.00	8743.94043c	(87103108)	SRC1	:	225.00	170.00	7689.87646c	(87101908)
SRC1	:	225.00	180.00	5907.40283c	(87101508)	SRC1	:	225.00	190.00	7591.27100c	(87090708)
SRC1	:	225.00	200.00	6451.74365c	(87083008)	SRC1	:	225.00	210.00	5667.28662c	(87083008)
SRC1	:	225.00	220.00	4601.66162c	(87083008)	SRC1	:	225.00	230.00	3456.00220c	(87083008)
SRC1	:	225.00	240.00	657.21204	(88112308)	SRC1	:	225.00	250.00	521.37097c	(90092708)
SRC1	:	225.00	260.00	415.05258	(89031008)	SRC1	:	225.00	270.00	696.87262	(90082508)
SRC1	:	225.00	280.00	920.36407c	(88030608)	SRC1	:	225.00	290.00	766.94043	(89031708)
SRC1	:	225.00	300.00	769.76471c	(87090708)	SRC1	:	225.00	310.00	1281.10315c	(87090708)
SRC1	:	225.00	320.00	3542.09253c	(87090708)	SRC1	:	225.00	330.00	680.73242	(88010308)
SRC1	:	225.00	340.00	1127.57629c	(87061708)	SRC1	:	225.00	350.00	1970.18518	(87022408)
SRC1	:	225.00	360.00	516.91412	(91052724)	SRC1	:	225.00	10.00	879.21765	(88101324)
SRC1	:	225.00	20.00	542.40363c	(88081124)	SRC1	:	225.00	30.00	611.63544c	(91052908)
SRC1	:	225.00	40.00	592.71057	(88011024)	SRC1	:	175.00	170.00	4392.52539c	(88092608)
SRC1	:	175.00	180.00	3044.33179	(90022008)	SRC1	:	175.00	190.00	2533.41162	(88070408)
SRC1	:	175.00	200.00	2697.07544c	(89080208)	SRC1	:	175.00	210.00	2215.77319	(91062508)
SRC1	:	175.00	220.00	1164.56262c	(88022724)	SRC1	:	175.00	230.00	2898.98315	(87092708)
SRC1	:	175.00	240.00	4679.66260c	(87083008)	SRC1	:	175.00	250.00	3604.59277c	(87080108)
SRC1	:	175.00	260.00	3580.82104c	(87080208)	SRC1	:	175.00	270.00	1170.66968	(87041808)
SRC1	:	175.00	280.00	1756.66516c	(87062508)	SRC1	:	175.00	290.00	1080.69177c	(87092524)
SRC1	:	175.00	300.00	817.32471	(87082408)	SRC1	:	175.00	310.00	785.37244	(87021908)
SRC1	:	175.00	320.00	920.35797	(89012308)	SRC1	:	175.00	330.00	1014.18805	(88010308)
SRC1	:	175.00	340.00	953.17596c	(91102108)	SRC1	:	175.00	350.00	891.37451c	(88042608)
SRC1	:	175.00	360.00	719.15179	(91010108)	SRC1	:	175.00	10.00	1152.93994	(88101324)
SRC1	:	175.00	20.00	641.17462	(91091508)	SRC1	:	175.00	30.00	843.47235c	(91052908)
SRC1	:	175.00	40.00	1070.82629c	(87090708)	SRC1	:	125.00	160.00	9627.80762c	(91030808)
SRC1	:	125.00	170.00	9805.86523c	(90052408)	SRC1	:	125.00	180.00	6641.34424c	(89080208)
SRC1	:	125.00	190.00	6214.35107c	(89080208)	SRC1	:	125.00	200.00	3389.47900	(91062508)
SRC1	:	125.00	210.00	1969.11572	(88112308)	SRC1	:	125.00	220.00	2109.97217	(88112308)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	1318.11865	(89093024)	SRC1	:	125.00	240.00	1537.69897	(89031008)
SRC1	:	125.00	250.00	1591.66040	(90082508)	SRC1	:	125.00	260.00	1607.50781c	(89102208)
SRC1	:	125.00	270.00	2722.75415c	(87062508)	SRC1	:	125.00	280.00	1439.71826	(87102508)
SRC1	:	125.00	290.00	1180.28589	(87020424)	SRC1	:	125.00	300.00	1022.62946	(91012708)
SRC1	:	125.00	310.00	941.10352	(89012308)	SRC1	:	125.00	320.00	1238.18311	(87022408)
SRC1	:	125.00	330.00	1495.86047	(88010308)	SRC1	:	125.00	340.00	1182.42542c	(91102108)
SRC1	:	125.00	350.00	1122.07532c	(90101324)	SRC1	:	125.00	360.00	1024.28442	(91010108)
SRC1	:	125.00	10.00	1445.22888	(88101408)	SRC1	:	125.00	20.00	1242.98291	(88101324)
SRC1	:	125.00	30.00	1029.88745c	(87090708)	SRC1	:	125.00	40.00	1042.99561c	(91052908)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	6505.29688c	(87090708)	500.00	750.00	6693.43750c	(87090708)
-200.00	125.00	5618.06396c	(87071508)	-50.00	-300.00	6553.96729c	(87083008)
1350.00	0.00	6357.00342c	(87083008)	-3.00	98.10	4817.94678c	(87080208)
-450.00	-150.00	4670.58496	(87091424)	1350.00	-1000.00	5979.23730	(87091508)
17.30	98.10	5724.66943c	(87073108)	-20.30	98.10	6674.84766c	(87060608)
-21.80	0.00	5158.38037c	(87062508)	-43.70	0.00	12130.76860c	(89080208)
-43.70	98.10	14826.97170c	(89102808)	-43.70	24.50	2894.29834	(87102508)
-43.70	49.10	2977.38281c	(87060508)	37.60	98.10	11716.32420	(89121708)
37.60	49.10	3846.03247	(87021908)	37.60	0.00	12449.45610c	(88083008)
37.60	24.50	4198.36719	(87022408)	37.60	-24.90	13139.16800c	(90072508)
37.60	-49.80	10382.44240c	(90061108)	37.60	-81.30	8480.18066c	(90081008)
37.60	-112.80	6694.27930c	(88092608)	15.70	-111.80	7036.04346c	(91060808)
6.10	-110.70	7769.60303c	(87090708)	-9.10	-92.50	8006.30908c	(87090708)
-11.20	-49.80	9647.77441c	(91060808)	-10.20	-71.10	8495.91309c	(91060808)
0.00	-49.80	10696.37890	(88011008)	0.00	-37.30	13141.70210c	(90052408)
0.00	-24.90	15612.23340c	(90052408)	0.00	-12.40	12215.31050c	(91060808)
-341.10	290.50	7793.10596c	(87073108)	-325.80	296.30	8994.30957c	(87060608)
-267.90	300.80	6124.87109c	(87062508)	-300.50	242.60	6078.08545c	(87062508)
-325.50	207.30	6098.84766c	(87062508)	-284.40	192.00	5012.80713c	(87010408)
-266.70	115.50	3515.43750c	(87010408)	-190.20	58.80	3947.83862c	(87060508)
-82.00	-36.00	8876.80078c	(89080208)	-397.20	-197.50	4882.04492	(87021908)
-121.30	-124.40	5309.73682	(87021908)	-80.50	-152.40	5150.90381	(87022408)
-230.10	-461.50	5269.68701	(87022408)	-26.50	-406.30	5627.97412	(87020508)
20.40	312.70	5870.07275	(87020508)	649.80	667.50	4967.99365	(87041924)
648.60	621.80	9417.57324c	(87090708)	550.50	524.00	9856.62402c	(87090708)
496.80	492.60	10142.85160c	(87090708)	368.80	460.90	10680.60640c	(87090708)
1424.00	473.70	11629.39750c	(87083008)	1358.20	117.70	12865.96290c	(87090708)
1418.20	130.80	12554.89750c	(87083008)	-29.10	-24.00	13810.56840c	(91060808)
-14.60	-24.00	13888.73140c	(91060808)	12.50	-24.00	14321.33890c	(90081008)
25.10	-24.00	13528.67190c	(91030808)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	3177.38257c	(88092608)	SRC1 :	275.00	170.00	4290.85352c	(88092608)
SRC1 :	275.00	180.00	5405.00342c	(87101908)	SRC1 :	275.00	190.00	3109.87793	(88041308)
SRC1 :	275.00	200.00	2656.59644	(90022008)	SRC1 :	275.00	210.00	3192.74341	(90091708)
SRC1 :	275.00	220.00	2573.91577	(89092408)	SRC1 :	275.00	230.00	3779.08911c	(89080208)
SRC1 :	275.00	240.00	2752.24756c	(89030908)	SRC1 :	275.00	250.00	3204.55786	(91062508)
SRC1 :	275.00	260.00	2220.60083c	(90101608)	SRC1 :	275.00	270.00	11017.64940c	(87103108)
SRC1 :	275.00	280.00	12326.88180c	(87090708)	SRC1 :	275.00	290.00	2920.41235c	(90092708)
SRC1 :	275.00	300.00	3350.89478	(90082508)	SRC1 :	275.00	310.00	10006.53610	(87051008)
SRC1 :	275.00	320.00	4757.78076	(89031708)	SRC1 :	275.00	330.00	11269.25100c	(87101308)
SRC1 :	275.00	340.00	4585.46924	(88010308)	SRC1 :	275.00	350.00	12951.73540c	(87021308)
SRC1 :	275.00	360.00	8721.90527c	(87101308)	SRC1 :	275.00	10.00	7128.52686c	(87062508)
SRC1 :	275.00	20.00	6250.69092c	(87062508)	SRC1 :	275.00	30.00	6361.72656c	(87062508)
SRC1 :	275.00	40.00	6429.48828c	(87062508)	SRC1 :	225.00	170.00	7553.58545c	(87040308)
SRC1 :	225.00	180.00	10639.33890c	(87040308)	SRC1 :	225.00	190.00	8840.19531c	(87040308)
SRC1 :	225.00	200.00	10595.99320c	(87040308)	SRC1 :	225.00	210.00	11422.77640c	(87040308)
SRC1 :	225.00	220.00	12399.38960c	(87040308)	SRC1 :	225.00	230.00	11976.48730c	(87040308)
SRC1 :	225.00	240.00	4307.36572c	(89080208)	SRC1 :	225.00	250.00	3628.20874	(91062508)
SRC1 :	225.00	260.00	3229.75293	(91062508)	SRC1 :	225.00	270.00	4356.97168c	(87090708)
SRC1 :	225.00	280.00	3431.96582	(88112308)	SRC1 :	225.00	290.00	4460.03271c	(87090708)
SRC1 :	225.00	300.00	3965.79956c	(89092808)	SRC1 :	225.00	310.00	5996.34180c	(88030608)
SRC1 :	225.00	320.00	6507.64258c	(90090108)	SRC1 :	225.00	330.00	6179.89307c	(88092708)
SRC1 :	225.00	340.00	7185.62207	(88010308)	SRC1 :	225.00	350.00	6108.56250	(88101408)
SRC1 :	225.00	360.00	6244.92725	(88101408)	SRC1 :	225.00	10.00	5556.22949	(88101408)
SRC1 :	225.00	20.00	6095.81250c	(89062208)	SRC1 :	225.00	30.00	6242.56982	(89121708)
SRC1 :	225.00	40.00	7385.01123	(89121708)	SRC1 :	175.00	170.00	5514.25635c	(88092608)
SRC1 :	175.00	180.00	5480.66797c	(88092608)	SRC1 :	175.00	190.00	4118.06543	(88041308)
SRC1 :	175.00	200.00	4037.84741	(90022008)	SRC1 :	175.00	210.00	4240.76660	(90091708)
SRC1 :	175.00	220.00	4314.58203	(90091708)	SRC1 :	175.00	230.00	11086.35160c	(87040308)
SRC1 :	175.00	240.00	12572.15140c	(87040308)	SRC1 :	175.00	250.00	12417.09280c	(87040308)
SRC1 :	175.00	260.00	12376.01270c	(87040308)	SRC1 :	175.00	270.00	3593.82104c	(87040308)
SRC1 :	175.00	280.00	4015.50586	(88112308)	SRC1 :	175.00	290.00	4638.50586	(88112308)
SRC1 :	175.00	300.00	5263.20313c	(88030608)	SRC1 :	175.00	310.00	7197.22900c	(88030608)
SRC1 :	175.00	320.00	8391.59863c	(90090108)	SRC1 :	175.00	330.00	8445.35938c	(90090108)
SRC1 :	175.00	340.00	9327.06348	(88010308)	SRC1 :	175.00	350.00	8694.44238	(88101408)
SRC1 :	175.00	360.00	8896.11816	(88101408)	SRC1 :	175.00	10.00	7781.66162	(88101408)
SRC1 :	175.00	20.00	9084.14746	(90071808)	SRC1 :	175.00	30.00	8789.79980	(89121708)
SRC1 :	175.00	40.00	9389.20020	(89121708)	SRC1 :	125.00	160.00	6562.81104c	(88092608)
SRC1 :	125.00	170.00	6714.70752c	(91060808)	SRC1 :	125.00	180.00	6519.10693c	(88092608)
SRC1 :	125.00	190.00	6311.48096	(88021808)	SRC1 :	125.00	200.00	5673.42480	(88041308)
SRC1 :	125.00	210.00	5182.69238	(90022008)	SRC1 :	125.00	220.00	5330.79199	(88082108)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	6016.80518c	(89080208)	SRC1	:	125.00	240.00	7213.56250c	(89080208)
SRC1	:	125.00	250.00	7714.45557c	(89080208)	SRC1	:	125.00	260.00	7324.83008c	(89080208)
SRC1	:	125.00	270.00	5412.01025	(91062508)	SRC1	:	125.00	280.00	6006.22803	(91062508)
SRC1	:	125.00	290.00	5947.53223	(88112308)	SRC1	:	125.00	300.00	7529.42334c	(88030608)
SRC1	:	125.00	310.00	9138.00098c	(88030608)	SRC1	:	125.00	320.00	10791.46580c	(90090108)
SRC1	:	125.00	330.00	11377.48050	(88010308)	SRC1	:	125.00	340.00	13445.10640c	(89102808)
SRC1	:	125.00	350.00	13767.74120c	(88061908)	SRC1	:	125.00	360.00	13288.61130	(88010308)
SRC1	:	125.00	10.00	12494.31250	(90071808)	SRC1	:	125.00	20.00	14542.82810c	(89121808)
SRC1	:	125.00	30.00	13813.05860c	(91101608)	SRC1	:	125.00	40.00	12858.13570c	(91101608)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	6505.29688c	(87090708)	500.00	750.00	6693.43750c	(87090708)
-200.00	125.00	5749.35986c	(87071508)	-50.00	-300.00	6974.94775c	(87083008)
1350.00	0.00	6365.41797c	(87083008)	-3.00	98.10	5276.13232c	(87080208)
-450.00	-150.00	4857.30762	(87091424)	1350.00	-1000.00	6230.30859	(87091508)
17.30	98.10	5724.66943c	(87073108)	-20.30	98.10	6674.84766c	(87060608)
-21.80	0.00	9267.64844c	(87062508)	-43.70	0.00	12134.35840c	(89080208)
-43.70	98.10	15225.73140c	(89102808)	-43.70	24.50	2984.02661	(87082408)
-43.70	49.10	3113.46777	(87082408)	37.60	98.10	11716.32420	(89121708)
37.60	49.10	3846.03247	(87021908)	37.60	0.00	12449.45610c	(88083008)
37.60	24.50	4198.36719	(87022408)	37.60	-24.90	13139.16800c	(90072508)
37.60	-49.80	10382.44240c	(90061108)	37.60	-81.30	8480.18066c	(90081008)
37.60	-112.80	16315.58300	(89041908)	15.70	-111.80	13821.81450c	(91060808)
6.10	-110.70	13589.17290	(88041308)	-9.10	-92.50	8901.51563c	(88092608)
-11.20	-49.80	9647.77441c	(91060808)	-10.20	-71.10	8688.27148c	(87083008)
0.00	-49.80	10696.37890	(88011008)	0.00	-37.30	13141.70210c	(90052408)
0.00	-24.90	15612.23340c	(90052408)	0.00	-12.40	12215.31050c	(91060808)
-341.10	290.50	7793.10596c	(87073108)	-325.80	296.30	8994.30957c	(87060608)
-267.90	300.80	13969.26660c	(87062508)	-300.50	242.60	14882.58980c	(87040308)
-325.50	207.30	8091.86426	(87102508)	-284.40	192.00	5012.80713c	(87010408)
-266.70	115.50	4032.15430c	(87072808)	-190.20	58.80	4344.87646c	(87022008)
-82.00	-36.00	9002.93066c	(89080208)	-397.20	-197.50	4882.04492	(87021908)
-121.30	-124.40	5309.73682	(87021908)	-80.50	-152.40	5150.90381	(87022408)
-230.10	-461.50	5269.68701	(87022408)	-26.50	-406.30	5627.97412	(87020508)
20.40	312.70	5870.07275	(87020508)	649.80	667.50	4986.98682	(87041924)
648.60	621.80	9417.57520c	(87090708)	550.50	524.00	9856.62402c	(87090708)
496.80	492.60	10142.85160c	(87090708)	368.80	460.90	11723.32810c	(87083008)
1424.00	473.70	12380.72360c	(87083008)	1358.20	117.70	12865.96290c	(87090708)
1418.20	130.80	12711.70210c	(87083008)	-29.10	-24.00	13810.56840c	(91060808)
-14.60	-24.00	13888.73140c	(91060808)	12.50	-24.00	14321.33890c	(90081008)
25.10	-24.00	13528.67190c	(91030808)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	4349.19678c	(89081024)	SRC1 :	275.00	170.00	6696.90479c	(88092608)
SRC1 :	275.00	180.00	5405.16602c	(87101908)	SRC1 :	275.00	190.00	3354.25854	(88041308)
SRC1 :	275.00	200.00	2791.64795	(90022008)	SRC1 :	275.00	210.00	3217.39697	(90091708)
SRC1 :	275.00	220.00	2697.26514c	(89080208)	SRC1 :	275.00	230.00	3918.71680c	(89080208)
SRC1 :	275.00	240.00	2752.25024c	(89030908)	SRC1 :	275.00	250.00	3215.74609	(91062508)
SRC1 :	275.00	260.00	3457.88599c	(87083008)	SRC1 :	275.00	270.00	11017.64940c	(87103108)
SRC1 :	275.00	280.00	12931.26270c	(87083008)	SRC1 :	275.00	290.00	3100.55151c	(90092708)
SRC1 :	275.00	300.00	3361.96313	(90082508)	SRC1 :	275.00	310.00	10398.24020	(87012708)
SRC1 :	275.00	320.00	4950.60986	(89031708)	SRC1 :	275.00	330.00	11269.25100c	(87101308)
SRC1 :	275.00	340.00	5047.14209	(88010308)	SRC1 :	275.00	350.00	12951.73540c	(87021308)
SRC1 :	275.00	360.00	9252.55371c	(87062508)	SRC1 :	275.00	10.00	7128.52686c	(87062508)
SRC1 :	275.00	20.00	15005.33690c	(87062508)	SRC1 :	275.00	30.00	9739.72852	(87032024)
SRC1 :	275.00	40.00	11364.10350c	(87042008)	SRC1 :	225.00	170.00	7927.84961c	(88092608)
SRC1 :	225.00	180.00	10639.33890c	(87040308)	SRC1 :	225.00	190.00	8840.19531c	(87040308)
SRC1 :	225.00	200.00	10595.99320c	(87040308)	SRC1 :	225.00	210.00	11422.77640c	(87040308)
SRC1 :	225.00	220.00	12399.38960c	(87040308)	SRC1 :	225.00	230.00	11976.48730c	(87040308)
SRC1 :	225.00	240.00	4307.36572c	(89080208)	SRC1 :	225.00	250.00	3663.12329	(91062508)
SRC1 :	225.00	260.00	3289.15137	(91062508)	SRC1 :	225.00	270.00	4356.97363c	(87090708)
SRC1 :	225.00	280.00	3597.90942	(88112308)	SRC1 :	225.00	290.00	4461.53076c	(87090708)
SRC1 :	225.00	300.00	4071.17993c	(88030608)	SRC1 :	225.00	310.00	5997.00391c	(88030608)
SRC1 :	225.00	320.00	6844.99561c	(90090108)	SRC1 :	225.00	330.00	6672.29834c	(88092708)
SRC1 :	225.00	340.00	7747.13135	(88010308)	SRC1 :	225.00	350.00	6522.40869c	(90101324)
SRC1 :	225.00	360.00	6753.08203	(88101408)	SRC1 :	225.00	10.00	6360.51074	(88101408)
SRC1 :	225.00	20.00	6316.83984c	(89062208)	SRC1 :	225.00	30.00	6242.56982	(89121708)
SRC1 :	225.00	40.00	7386.95557	(89121708)	SRC1 :	175.00	170.00	9906.78125c	(88092608)
SRC1 :	175.00	180.00	6858.69336	(88021808)	SRC1 :	175.00	190.00	4736.36914c	(90042208)
SRC1 :	175.00	200.00	4056.42578	(90091708)	SRC1 :	175.00	210.00	4240.80811	(90091708)
SRC1 :	175.00	220.00	4314.58203	(90091708)	SRC1 :	175.00	230.00	11086.35160c	(87040308)
SRC1 :	175.00	240.00	12572.15140c	(87040308)	SRC1 :	175.00	250.00	12417.09280c	(87040308)
SRC1 :	175.00	260.00	12376.01270c	(87040308)	SRC1 :	175.00	270.00	4262.25244	(87041808)
SRC1 :	175.00	280.00	5757.99268c	(87062508)	SRC1 :	175.00	290.00	4643.23730	(88112308)
SRC1 :	175.00	300.00	5409.22021c	(88030608)	SRC1 :	175.00	310.00	7197.31299c	(88030608)
SRC1 :	175.00	320.00	8684.44629c	(90090108)	SRC1 :	175.00	330.00	8925.27148	(88010308)
SRC1 :	175.00	340.00	10037.38770	(88010308)	SRC1 :	175.00	350.00	8895.63574	(88101408)
SRC1 :	175.00	360.00	9536.91113	(88101408)	SRC1 :	175.00	10.00	8846.57715	(88101408)
SRC1 :	175.00	20.00	9438.70898	(90071808)	SRC1 :	175.00	30.00	8789.79980	(89121708)
SRC1 :	175.00	40.00	9389.24316	(89121708)	SRC1 :	125.00	160.00	15030.54200c	(88092608)
SRC1 :	125.00	170.00	14995.64940c	(91060808)	SRC1 :	125.00	180.00	9152.66602c	(90052408)
SRC1 :	125.00	190.00	6683.53857	(88021808)	SRC1 :	125.00	200.00	5673.42480	(88041308)
SRC1 :	125.00	210.00	5601.04004	(91062008)	SRC1 :	125.00	220.00	5330.79199	(88082108)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	6016.97852c	(89080208)	SRC1	:	125.00	240.00	7217.64307c	(89080208)
SRC1	:	125.00	250.00	7739.19678c	(89080208)	SRC1	:	125.00	260.00	7387.73584c	(89080208)
SRC1	:	125.00	270.00	7226.23242c	(87062508)	SRC1	:	125.00	280.00	6006.58545	(91062508)
SRC1	:	125.00	290.00	5947.73682	(88112308)	SRC1	:	125.00	300.00	7557.16211c	(88030608)
SRC1	:	125.00	310.00	9138.00293c	(88030608)	SRC1	:	125.00	320.00	10993.38180c	(90090108)
SRC1	:	125.00	330.00	12873.34180	(88010308)	SRC1	:	125.00	340.00	13964.97750c	(89102808)
SRC1	:	125.00	350.00	13948.45610c	(88061908)	SRC1	:	125.00	360.00	13442.88380	(88010308)
SRC1	:	125.00	10.00	13543.91890	(88101408)	SRC1	:	125.00	20.00	15203.63280c	(89121808)
SRC1	:	125.00	30.00	14420.72270	(88010208)	SRC1	:	125.00	40.00	12858.13570c	(91101608)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	636.19531c	(88022724)	500.00	750.00	490.55313	(87081508)
-200.00	125.00	617.41193c	(90092808)	-50.00	-300.00	831.67627	(91110908)
1350.00	0.00	465.45270	(87081608)	-3.00	98.10	1185.35229	(91010108)
-450.00	-150.00	352.59540c	(87082024)	1350.00	-1000.00	472.67166	(87100424)
17.30	98.10	1383.57312	(88101324)	-20.30	98.10	1170.29175c	(88042608)
-21.80	0.00	3363.55176c	(87040308)	-43.70	0.00	2100.98560c	(87010408)
-43.70	98.10	1858.48889	(87021908)	-43.70	24.50	1705.46423	(89012308)
-43.70	49.10	1919.58557	(88010308)	37.60	98.10	1369.03076	(88101408)
37.60	49.10	1837.89014	(88101408)	37.60	0.00	2820.09766	(88101408)
37.60	24.50	2226.35376	(88101408)	37.60	-24.90	3894.29102	(88101408)
37.60	-49.80	7246.38086c	(89121808)	37.60	-81.30	1198.50525c	(87101508)
37.60	-112.80	10968.17090c	(91030808)	15.70	-111.80	8526.87598	(88041308)
6.10	-110.70	8465.19824	(88041308)	-9.10	-92.50	6641.12939c	(89102208)
-11.20	-49.80	5644.58936	(89031708)	-10.20	-71.10	7560.24121	(89102908)
0.00	-49.80	6643.13281c	(88092708)	0.00	-37.30	5212.54688	(89012308)
0.00	-24.90	4347.23877	(88010308)	0.00	-12.40	3068.34937c	(90101324)
-341.10	290.50	783.75977	(87091424)	-325.80	296.30	597.26459	(87050924)
-267.90	300.80	8862.07910c	(87101208)	-300.50	242.60	8452.33105c	(87010408)
-325.50	207.30	4577.08887	(87042608)	-284.40	192.00	3192.20313c	(87042008)
-266.70	115.50	3448.52051	(87022408)	-190.20	58.80	1645.51501c	(87061708)
-82.00	-36.00	2473.21362c	(89102208)	-397.20	-197.50	864.25983	(87030608)
-121.30	-124.40	971.92316c	(88022724)	-80.50	-152.40	2097.93506c	(87101908)
-230.10	-461.50	1494.26160c	(87090708)	-26.50	-406.30	1583.22461c	(87101508)
20.40	312.70	1454.32361c	(87101508)	649.80	667.50	1352.49048c	(87071508)
648.60	621.80	1006.00848c	(87092624)	550.50	524.00	913.00781	(87092708)
496.80	492.60	846.51709c	(87072908)	368.80	460.90	1024.59888c	(87080108)
1424.00	473.70	751.32690c	(87083008)	1358.20	117.70	715.79578	(87081608)
1418.20	130.80	749.36328	(87071724)	-29.10	-24.00	2514.26733c	(89102808)
-14.60	-24.00	3402.67310	(89012308)	12.50	-24.00	4630.74951c	(90101324)
25.10	-24.00	4398.64258	(88101324)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	1158.03833c	(88083008)	SRC1	:	275.00	170.00	1198.64673	(88021808)
SRC1	:	275.00	180.00	1201.51904c	(88100708)	SRC1	:	275.00	190.00	1118.28650	(90022008)
SRC1	:	275.00	200.00	860.35876	(89092408)	SRC1	:	275.00	210.00	971.49646c	(89032408)
SRC1	:	275.00	220.00	896.15527	(88103108)	SRC1	:	275.00	230.00	499.16385c	(90082608)
SRC1	:	275.00	240.00	1046.40393c	(87080208)	SRC1	:	275.00	250.00	783.53412	(87081608)
SRC1	:	275.00	260.00	2210.51758c	(87071808)	SRC1	:	275.00	270.00	1836.63660	(87121108)
SRC1	:	275.00	280.00	1151.04053c	(87083008)	SRC1	:	275.00	290.00	1494.83154	(87081508)
SRC1	:	275.00	300.00	1446.39160c	(87072908)	SRC1	:	275.00	310.00	828.32269	(87052708)
SRC1	:	275.00	320.00	1297.15845	(87052708)	SRC1	:	275.00	330.00	2460.41211	(87091508)
SRC1	:	275.00	340.00	1614.68750	(87052708)	SRC1	:	275.00	350.00	3433.11743	(87091508)
SRC1	:	275.00	360.00	5521.37939	(87051008)	SRC1	:	275.00	10.00	620.11755c	(90081624)
SRC1	:	275.00	20.00	10157.70410c	(87101208)	SRC1	:	275.00	30.00	6643.95508	(87021908)
SRC1	:	275.00	40.00	7996.13721c	(87042008)	SRC1	:	225.00	170.00	7597.05615c	(87090708)
SRC1	:	225.00	180.00	5795.36523c	(87083008)	SRC1	:	225.00	190.00	7513.18994c	(87101508)
SRC1	:	225.00	200.00	5625.73975c	(87071808)	SRC1	:	225.00	210.00	5071.54932c	(87071808)
SRC1	:	225.00	220.00	3864.41040c	(87071808)	SRC1	:	225.00	230.00	3154.93359c	(87080108)
SRC1	:	225.00	240.00	605.15192	(89072908)	SRC1	:	225.00	250.00	521.37073c	(89042108)
SRC1	:	225.00	260.00	397.44412c	(89102808)	SRC1	:	225.00	270.00	590.86438c	(90092708)
SRC1	:	225.00	280.00	707.47772c	(89102524)	SRC1	:	225.00	290.00	642.47821c	(88030608)
SRC1	:	225.00	300.00	609.10962c	(90092808)	SRC1	:	225.00	310.00	840.37775c	(87101508)
SRC1	:	225.00	320.00	2799.34448c	(87101908)	SRC1	:	225.00	330.00	526.69513	(90020808)
SRC1	:	225.00	340.00	839.26611	(87050608)	SRC1	:	225.00	350.00	1432.11584	(87020508)
SRC1	:	225.00	360.00	508.15442	(88101408)	SRC1	:	225.00	10.00	804.28131	(88101408)
SRC1	:	225.00	20.00	503.57837	(91091508)	SRC1	:	225.00	30.00	472.63892	(88061924)
SRC1	:	225.00	40.00	518.67725c	(89070424)	SRC1	:	175.00	170.00	4023.44629	(88021808)
SRC1	:	175.00	180.00	2638.31201	(88041308)	SRC1	:	175.00	190.00	2374.03809	(90101124)
SRC1	:	175.00	200.00	2021.39148c	(90080208)	SRC1	:	175.00	210.00	1563.99072	(89091824)
SRC1	:	175.00	220.00	982.27472	(91092108)	SRC1	:	175.00	230.00	2863.05420c	(87092624)
SRC1	:	175.00	240.00	2998.82422c	(87071808)	SRC1	:	175.00	250.00	3518.96899	(87101824)
SRC1	:	175.00	260.00	3260.42285	(87052624)	SRC1	:	175.00	270.00	1090.73425c	(89102208)
SRC1	:	175.00	280.00	1406.01953c	(88030608)	SRC1	:	175.00	290.00	1072.47656c	(87041908)
SRC1	:	175.00	300.00	802.85529c	(87010408)	SRC1	:	175.00	310.00	783.00031	(87042624)
SRC1	:	175.00	320.00	719.11615	(90020808)	SRC1	:	175.00	330.00	745.35083	(87022408)
SRC1	:	175.00	340.00	800.38519c	(88061908)	SRC1	:	175.00	350.00	761.44696c	(90101324)
SRC1	:	175.00	360.00	640.79230	(88101408)	SRC1	:	175.00	10.00	1064.91553	(88101408)
SRC1	:	175.00	20.00	633.39301	(89081508)	SRC1	:	175.00	30.00	802.14526c	(87101908)
SRC1	:	175.00	40.00	709.34424c	(88102624)	SRC1	:	125.00	160.00	9406.81934	(89041908)
SRC1	:	125.00	170.00	9326.91895	(88011008)	SRC1	:	125.00	180.00	6005.82666c	(90110624)
SRC1	:	125.00	190.00	4402.94727	(90032708)	SRC1	:	125.00	200.00	3040.46240	(89091824)
SRC1	:	125.00	210.00	1800.83240	(89091908)	SRC1	:	125.00	220.00	1563.48438	(89072908)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	1307.95825	(88112308)	SRC1	:	125.00	240.00	1234.25403	(90082508)
SRC1	:	125.00	250.00	1169.26489	(89102908)	SRC1	:	125.00	260.00	1530.64417c	(88030608)
SRC1	:	125.00	270.00	2042.58740c	(87040308)	SRC1	:	125.00	280.00	1410.60315c	(87092524)
SRC1	:	125.00	290.00	992.07208	(87082408)	SRC1	:	125.00	300.00	993.09741	(89012408)
SRC1	:	125.00	310.00	829.62183c	(90090108)	SRC1	:	125.00	320.00	1116.02625	(90020808)
SRC1	:	125.00	330.00	1059.26794c	(91102108)	SRC1	:	125.00	340.00	964.48236	(88010308)
SRC1	:	125.00	350.00	1096.23010c	(88042608)	SRC1	:	125.00	360.00	809.44171	(88101408)
SRC1	:	125.00	10.00	1335.67871	(88101324)	SRC1	:	125.00	20.00	1115.16833c	(90081624)
SRC1	:	125.00	30.00	957.62225c	(88081124)	SRC1	:	125.00	40.00	855.88995c	(87101424)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	5959.45264c	(87101908)	500.00	750.00	6414.85938c	(87101508)
-200.00	125.00	5337.84766c	(87101608)	-50.00	-300.00	4830.58838c	(87071808)
1350.00	0.00	4880.86865	(87101824)	-3.00	98.10	4308.91357	(87091424)
-450.00	-150.00	4535.70801	(87091508)	1350.00	-1000.00	5141.80664	(87051008)
17.30	98.10	5140.21289	(87012708)	-20.30	98.10	6201.11475c	(87073108)
-21.80	0.00	4507.74561c	(87040308)	-43.70	0.00	10442.32420	(88112208)
-43.70	98.10	13738.66990	(88010308)	-43.70	24.50	2846.94678	(87082408)
-43.70	49.10	2904.17285	(87082408)	37.60	98.10	10878.59570	(89041108)
37.60	49.10	3034.68677c	(87060508)	37.60	0.00	11766.94630c	(91030808)
37.60	24.50	3268.56421	(87080624)	37.60	-24.90	12918.78810c	(91072408)
37.60	-49.80	10354.37010	(89041908)	37.60	-81.30	8135.60693c	(90061108)
37.60	-112.80	6244.81836	(88011008)	15.70	-111.80	6794.56689c	(88092608)
6.10	-110.70	7080.11279c	(87101908)	-9.10	-92.50	7842.29053c	(87101508)
-11.20	-49.80	9464.93262c	(90042208)	-10.20	-71.10	8278.73535c	(88092608)
0.00	-49.80	9588.13477c	(90042208)	0.00	-37.30	11526.08590	(88011008)
0.00	-24.90	13926.65630c	(91060808)	0.00	-12.40	11865.23340c	(88092608)
-341.10	290.50	7529.56299c	(87072608)	-325.80	296.30	8238.98047c	(87072608)
-267.90	300.80	5665.86475c	(87040308)	-300.50	242.60	5608.25537c	(87040308)
-325.50	207.30	4864.45996c	(87040308)	-284.40	192.00	4391.11230	(87102508)
-266.70	115.50	3430.34326	(87032024)	-190.20	58.80	3932.48730	(88112308)
-82.00	-36.00	7042.10791	(88070408)	-397.20	-197.50	4047.99414c	(87060508)
-121.30	-124.40	4057.87817c	(89080208)	-80.50	-152.40	4394.20313	(87021908)
-230.10	-461.50	5234.67236	(87020508)	-26.50	-406.30	5453.48926	(87022408)
20.40	312.70	5726.70117	(87022408)	649.80	667.50	4704.48535	(87022408)
648.60	621.80	8632.54785c	(87101908)	550.50	524.00	8934.36328c	(87071508)
496.80	492.60	10033.49510c	(87101508)	368.80	460.90	10434.55570c	(87083008)
1424.00	473.70	11542.18550c	(87090708)	1358.20	117.70	12229.59280c	(87101508)
1418.20	130.80	10727.81540c	(87080108)	-29.10	-24.00	13226.83200c	(88092608)
-14.60	-24.00	13492.74510c	(87060608)	12.50	-24.00	12774.36720	(89041908)
25.10	-24.00	12352.72170	(89041908)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	3116.33008c	(89081024)	SRC1 :	275.00	170.00	3110.17725c	(91060808)
SRC1 :	275.00	180.00	5339.03662c	(87090708)	SRC1 :	275.00	190.00	2439.64771c	(88100708)
SRC1 :	275.00	200.00	2312.72729	(90091708)	SRC1 :	275.00	210.00	2713.11816	(88091008)
SRC1 :	275.00	220.00	2514.89966	(88070408)	SRC1 :	275.00	230.00	2434.02686c	(90080208)
SRC1 :	275.00	240.00	2646.56909	(91062508)	SRC1 :	275.00	250.00	2365.32178c	(90091108)
SRC1 :	275.00	260.00	2165.91724c	(88022724)	SRC1 :	275.00	270.00	10066.21090c	(87042008)
SRC1 :	275.00	280.00	12005.75490c	(87101508)	SRC1 :	275.00	290.00	2744.58154	(89031008)
SRC1 :	275.00	300.00	3092.83862c	(89102208)	SRC1 :	275.00	310.00	9940.47266	(87012708)
SRC1 :	275.00	320.00	4166.41650c	(88030608)	SRC1 :	275.00	330.00	9515.15039	(87081908)
SRC1 :	275.00	340.00	4337.33398	(89012308)	SRC1 :	275.00	350.00	11916.85450c	(87101208)
SRC1 :	275.00	360.00	8685.04590c	(87021308)	SRC1 :	275.00	10.00	6592.64404c	(87040308)
SRC1 :	275.00	20.00	5787.55420c	(87040308)	SRC1 :	275.00	30.00	5871.20654c	(87040308)
SRC1 :	275.00	40.00	5649.94385c	(87040308)	SRC1 :	225.00	170.00	7015.80420c	(87062508)
SRC1 :	225.00	180.00	9670.37207c	(87010408)	SRC1 :	225.00	190.00	7782.43799c	(87062508)
SRC1 :	225.00	200.00	9687.57813c	(87010408)	SRC1 :	225.00	210.00	10437.60450c	(87010408)
SRC1 :	225.00	220.00	11322.59770c	(87010408)	SRC1 :	225.00	230.00	11129.96880c	(87062508)
SRC1 :	225.00	240.00	3354.34448c	(87090708)	SRC1 :	225.00	250.00	3169.70898c	(87101508)
SRC1 :	225.00	260.00	3193.20532	(89091824)	SRC1 :	225.00	270.00	2995.63550c	(87101508)
SRC1 :	225.00	280.00	3409.01367c	(87101908)	SRC1 :	225.00	290.00	4043.67603c	(87101908)
SRC1 :	225.00	300.00	3958.80273	(90082508)	SRC1 :	225.00	310.00	4600.01904	(90060108)
SRC1 :	225.00	320.00	6302.50244	(87021908)	SRC1 :	225.00	330.00	5270.75244	(89031708)
SRC1 :	225.00	340.00	5696.92188	(89012308)	SRC1 :	225.00	350.00	5980.32031c	(90101324)
SRC1 :	225.00	360.00	6049.68115c	(90101324)	SRC1 :	225.00	10.00	5446.57959	(88101324)
SRC1 :	225.00	20.00	5606.42969	(90071808)	SRC1 :	225.00	30.00	6061.86621	(89041108)
SRC1 :	225.00	40.00	6942.10498c	(90090508)	SRC1 :	175.00	170.00	4725.53906	(88021808)
SRC1 :	175.00	180.00	5459.14551	(88021808)	SRC1 :	175.00	190.00	4018.32324	(89121308)
SRC1 :	175.00	200.00	3956.36646	(90091708)	SRC1 :	175.00	210.00	3489.41772	(88091008)
SRC1 :	175.00	220.00	4040.28662	(88070408)	SRC1 :	175.00	230.00	10578.51170c	(87062508)
SRC1 :	175.00	240.00	11370.43650c	(87010408)	SRC1 :	175.00	250.00	11431.92190c	(87010408)
SRC1 :	175.00	260.00	11488.51660c	(87010408)	SRC1 :	175.00	270.00	3479.14941	(89091824)
SRC1 :	175.00	280.00	4001.32739c	(87062508)	SRC1 :	175.00	290.00	4104.15723c	(90092708)
SRC1 :	175.00	300.00	5225.92285c	(90092708)	SRC1 :	175.00	310.00	6100.98877	(90042308)
SRC1 :	175.00	320.00	7632.94727	(89102908)	SRC1 :	175.00	330.00	7911.08447	(88010308)
SRC1 :	175.00	340.00	8657.86328c	(88092708)	SRC1 :	175.00	350.00	8040.25391	(88010308)
SRC1 :	175.00	360.00	8241.59277c	(88061908)	SRC1 :	175.00	10.00	7660.91260	(88101324)
SRC1 :	175.00	20.00	8267.61523c	(89121808)	SRC1 :	175.00	30.00	8301.51563	(89110108)
SRC1 :	175.00	40.00	8784.00098c	(90090508)	SRC1 :	125.00	160.00	6105.43018	(88011008)
SRC1 :	125.00	170.00	6495.54834c	(88092608)	SRC1 :	125.00	180.00	6425.86768	(88021808)
SRC1 :	125.00	190.00	5376.36377	(88041308)	SRC1 :	125.00	200.00	5075.51465c	(87083008)
SRC1 :	125.00	210.00	5138.79883	(91062008)	SRC1 :	125.00	220.00	5252.46240	(90091708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	125.00	230.00	5397.99365	(88070408)	SRC1 :	125.00	240.00	5279.20752	(90032708)
SRC1 :	125.00	250.00	5459.21191	(90032708)	SRC1 :	125.00	260.00	6122.78174c	(90080208)
SRC1 :	125.00	270.00	5264.02930	(89072908)	SRC1 :	125.00	280.00	5431.71924	(89072908)
SRC1 :	125.00	290.00	5332.51465	(90082508)	SRC1 :	125.00	300.00	7136.14160	(88112308)
SRC1 :	125.00	310.00	8563.32715	(89102908)	SRC1 :	125.00	320.00	10393.14450	(89102908)
SRC1 :	125.00	330.00	11361.48930c	(89102808)	SRC1 :	125.00	340.00	12215.48340	(88010308)
SRC1 :	125.00	350.00	12934.92970c	(90090108)	SRC1 :	125.00	360.00	12342.59380c	(90101324)
SRC1 :	125.00	10.00	12128.98240c	(89062208)	SRC1 :	125.00	20.00	14453.39260c	(88100908)
SRC1 :	125.00	30.00	13769.68750	(88010208)	SRC1 :	125.00	40.00	12217.12210	(89121708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
-180.00	-150.00	5959.45264c (87101908)	500.00	750.00	6500.79932c (87101508)
-200.00	125.00	5645.55127c (87101608)	-50.00	-300.00	5113.22852c (87071808)
1350.00	0.00	4939.60791 (87101824)	-3.00	98.10	4309.29297 (87091424)
-450.00	-150.00	4537.00977 (87091508)	1350.00	-1000.00	5432.43213c (87110308)
17.30	98.10	5255.17627 (87012708)	-20.30	98.10	6201.11475c (87073108)
-21.80	0.00	7871.29736c (87040308)	-43.70	0.00	10442.32420 (88112208)
-43.70	98.10	15178.49900 (88010308)	-43.70	24.50	2894.29834 (87102508)
-43.70	49.10	2977.38281c (87060508)	37.60	98.10	10878.59570 (89041108)
37.60	49.10	3133.02661c (87121408)	37.60	0.00	11766.94630c (91030808)
37.60	24.50	3269.14307 (87080624)	37.60	-24.90	12918.78810c (91072408)
37.60	-49.80	10354.37010 (89041908)	37.60	-81.30	8135.60693c (90061108)
37.60	-112.80	16128.96970c (88092608)	15.70	-111.80	13557.76760 (88041308)
6.10	-110.70	12519.13670c (90042208)	-9.10	-92.50	8334.42383c (90092708)
-11.20	-49.80	9464.93262c (90042208)	-10.20	-71.10	8495.91309c (91060808)
0.00	-49.80	9588.13477c (90042208)	0.00	-37.30	11526.08590 (88011008)
0.00	-24.90	13926.65630c (91060808)	0.00	-12.40	11865.23340c (88092608)
-341.10	290.50	7529.83643c (87072608)	-325.80	296.30	8389.03809c (87072608)
-267.90	300.80	12864.32130c (87040308)	-300.50	242.60	13623.50390c (87062508)
-325.50	207.30	7806.06836c (87010408)	-284.40	192.00	4672.78174c (87042008)
-266.70	115.50	3918.58081c (87022008)	-190.20	58.80	3960.73950 (88112308)
-82.00	-36.00	7099.23389 (88070408)	-397.20	-197.50	4047.99414c (87060508)
-121.30	-124.40	4143.26611 (88070408)	-80.50	-152.40	4394.20313 (87021908)
-230.10	-461.50	5234.67236 (87020508)	-26.50	-406.30	5453.48926 (87022408)
20.40	312.70	5726.70117 (87022408)	649.80	667.50	4704.48535 (87022408)
648.60	621.80	8632.54785c (87101908)	550.50	524.00	9042.37891c (87101508)
496.80	492.60	10099.75100c (87101508)	368.80	460.90	10680.60640c (87090708)
1424.00	473.70	11542.18550c (87090708)	1358.20	117.70	12229.59280c (87101508)
1418.20	130.80	11058.14550c (87080108)	-29.10	-24.00	13226.83200c (88092608)
-14.60	-24.00	13492.74510c (87060608)	12.50	-24.00	12774.36720 (89041908)
25.10	-24.00	12352.72170 (89041908)			

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	4067.70996	(89041908)	SRC1 :	275.00	170.00	4178.80566c	(91060808)
SRC1 :	275.00	180.00	5339.92139c	(87090708)	SRC1 :	275.00	190.00	2725.88257c	(88100708)
SRC1 :	275.00	200.00	2593.75732	(90091708)	SRC1 :	275.00	210.00	2877.48389	(88091008)
SRC1 :	275.00	220.00	2648.01367	(88070408)	SRC1 :	275.00	230.00	2672.05029c	(90080208)
SRC1 :	275.00	240.00	2699.34131c	(90080208)	SRC1 :	275.00	250.00	2374.94751	(88103108)
SRC1 :	275.00	260.00	2230.52759c	(90101608)	SRC1 :	275.00	270.00	10066.21090c	(87042008)
SRC1 :	275.00	280.00	12326.88180c	(87090708)	SRC1 :	275.00	290.00	2744.65259	(89031008)
SRC1 :	275.00	300.00	3216.92847c	(88030608)	SRC1 :	275.00	310.00	10010.14450	(87051008)
SRC1 :	275.00	320.00	4476.78760c	(90090108)	SRC1 :	275.00	330.00	9515.15039	(87081908)
SRC1 :	275.00	340.00	4603.81982	(89012308)	SRC1 :	275.00	350.00	11916.85450c	(87101208)
SRC1 :	275.00	360.00	8721.90527c	(87101308)	SRC1 :	275.00	10.00	6592.64404c	(87040308)
SRC1 :	275.00	20.00	13846.85840c	(87040308)	SRC1 :	275.00	30.00	9638.81934c	(87030408)
SRC1 :	275.00	40.00	9885.57910c	(87010408)	SRC1 :	225.00	170.00	7689.87646c	(87101908)
SRC1 :	225.00	180.00	9670.37207c	(87010408)	SRC1 :	225.00	190.00	7782.43799c	(87062508)
SRC1 :	225.00	200.00	9687.57813c	(87010408)	SRC1 :	225.00	210.00	10437.60450c	(87010408)
SRC1 :	225.00	220.00	11322.59770c	(87010408)	SRC1 :	225.00	230.00	11131.96190c	(87062508)
SRC1 :	225.00	240.00	3354.34448c	(87090708)	SRC1 :	225.00	250.00	3193.05444c	(87101508)
SRC1 :	225.00	260.00	3193.22168	(89091824)	SRC1 :	225.00	270.00	3094.65820c	(87101508)
SRC1 :	225.00	280.00	3412.73804c	(87101908)	SRC1 :	225.00	290.00	4043.96997c	(87101908)
SRC1 :	225.00	300.00	3966.26514	(90082508)	SRC1 :	225.00	310.00	4858.75244	(89102908)
SRC1 :	225.00	320.00	6302.50244	(87021908)	SRC1 :	225.00	330.00	5361.04395	(88010308)
SRC1 :	225.00	340.00	6013.46826	(89012308)	SRC1 :	225.00	350.00	6266.10010	(88101408)
SRC1 :	225.00	360.00	6355.35156c	(90101324)	SRC1 :	225.00	10.00	6325.79785	(88101324)
SRC1 :	225.00	20.00	5827.01416	(90071808)	SRC1 :	225.00	30.00	6061.86621	(89041108)
SRC1 :	225.00	40.00	6942.10498c	(90090508)	SRC1 :	175.00	170.00	8748.98535	(88021808)
SRC1 :	175.00	180.00	6577.37012	(88041308)	SRC1 :	175.00	190.00	4575.55518	(88041308)
SRC1 :	175.00	200.00	4054.01855	(90022008)	SRC1 :	175.00	210.00	3716.78955	(88091008)
SRC1 :	175.00	220.00	4241.99072	(88070408)	SRC1 :	175.00	230.00	10578.51170c	(87062508)
SRC1 :	175.00	240.00	11370.43650c	(87010408)	SRC1 :	175.00	250.00	11456.78420c	(87091408)
SRC1 :	175.00	260.00	11488.51660c	(87010408)	SRC1 :	175.00	270.00	3943.08813c	(87040308)
SRC1 :	175.00	280.00	4606.67432c	(87040308)	SRC1 :	175.00	290.00	4184.66797c	(90092708)
SRC1 :	175.00	300.00	5251.04150	(88091108)	SRC1 :	175.00	310.00	6101.35303	(90042308)
SRC1 :	175.00	320.00	7813.46826	(89102908)	SRC1 :	175.00	330.00	8447.52832c	(90090108)
SRC1 :	175.00	340.00	8686.57324c	(88092708)	SRC1 :	175.00	350.00	8258.04395	(88010308)
SRC1 :	175.00	360.00	8331.44531	(88101324)	SRC1 :	175.00	10.00	8813.85352	(88101324)
SRC1 :	175.00	20.00	8647.20605c	(89121808)	SRC1 :	175.00	30.00	8384.04199	(88010208)
SRC1 :	175.00	40.00	8784.00098c	(90090508)	SRC1 :	125.00	160.00	15025.88870	(89041908)
SRC1 :	125.00	170.00	14534.25290c	(88092608)	SRC1 :	125.00	180.00	9060.88672c	(91060808)
SRC1 :	125.00	190.00	6214.35107c	(89080208)	SRC1 :	125.00	200.00	5412.16357c	(87083008)
SRC1 :	125.00	210.00	5182.69238	(90022008)	SRC1 :	125.00	220.00	5252.46240	(90091708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	5433.62305	(88070408)	SRC1	:	125.00	240.00	5418.89063	(90032708)
SRC1	:	125.00	250.00	5466.33496	(90032708)	SRC1	:	125.00	260.00	6122.80078c	(90080208)
SRC1	:	125.00	270.00	5778.84375c	(87040308)	SRC1	:	125.00	280.00	5431.71924	(89072908)
SRC1	:	125.00	290.00	5351.73486	(90082508)	SRC1	:	125.00	300.00	7136.14160	(88112308)
SRC1	:	125.00	310.00	8849.29102	(89102908)	SRC1	:	125.00	320.00	10599.15140	(89102908)
SRC1	:	125.00	330.00	11452.83890c	(89102808)	SRC1	:	125.00	340.00	13179.96680	(88010308)
SRC1	:	125.00	350.00	13102.67480c	(90101324)	SRC1	:	125.00	360.00	13116.13570c	(90101324)
SRC1	:	125.00	10.00	13023.01950	(88101324)	SRC1	:	125.00	20.00	14635.94630c	(88100908)
SRC1	:	125.00	30.00	13813.05860c	(91101608)	SRC1	:	125.00	40.00	12217.12210	(89121708)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	274.16125	(87092724)	500.00	750.00	163.51773	(87081524)
-200.00	125.00	196.38817c	(89102524)	-50.00	-300.00	363.88443	(90101224)
1350.00	0.00	201.89619c	(87052624)	-3.00	98.10	440.75797	(91010124)
-450.00	-150.00	143.46941	(87012724)	1350.00	-1000.00	250.78853c	(87091424)
17.30	98.10	614.97186	(88101424)	-20.30	98.10	498.53101c	(91082724)
-21.80	0.00	1254.16150c	(87062524)	-43.70	0.00	1119.56921	(87082424)
-43.70	98.10	917.78961	(87042624)	-43.70	24.50	733.44385	(87080624)
-43.70	49.10	702.91235c	(87020524)	37.60	98.10	658.61371c	(88101324)
37.60	49.10	895.94757c	(88101324)	37.60	0.00	1355.31226c	(88101324)
37.60	24.50	1084.82275c	(88101324)	37.60	-24.90	2017.02771c	(88061924)
37.60	-49.80	3627.90601c	(88081124)	37.60	-81.30	601.41852c	(87090724)
37.60	-112.80	5732.59033	(90111724)	15.70	-111.80	4259.45703	(90101224)
6.10	-110.70	4912.12207c	(89091924)	-9.10	-92.50	3846.98022	(88112224)
-11.20	-49.80	2067.15283c	(89102524)	-10.20	-71.10	4294.82275c	(89102524)
0.00	-49.80	3021.81592c	(89102824)	0.00	-37.30	2489.70972	(89012324)
0.00	-24.90	2188.29980	(89012324)	0.00	-12.40	1424.29041	(89012324)
-341.10	290.50	363.37735	(87091524)	-325.80	296.30	286.98456c	(87060724)
-267.90	300.80	5793.54053c	(87101224)	-300.50	242.60	4192.67334c	(87040324)
-325.50	207.30	2923.98242	(87042624)	-284.40	192.00	1874.45862	(87080624)
-266.70	115.50	1525.38293c	(87020524)	-190.20	58.80	632.82654c	(87020524)
-82.00	-36.00	1090.63794c	(89102524)	-397.20	-197.50	502.53125	(87032224)
-121.30	-124.40	532.86987c	(87041924)	-80.50	-152.40	900.59369c	(89070524)
-230.10	-461.50	675.57062c	(87101924)	-26.50	-406.30	855.57190c	(87090724)
20.40	312.70	586.25623c	(87101424)	649.80	667.50	535.33008c	(87101424)
648.60	621.80	499.14771	(87092724)	550.50	524.00	318.09555	(87092724)
496.80	492.60	272.01425	(87121124)	368.80	460.90	351.48361c	(87083024)
1424.00	473.70	304.84634c	(87080124)	1358.20	117.70	321.08176	(87081624)
1418.20	130.80	407.53430c	(87071824)	-29.10	-24.00	1231.10181c	(89102824)
-14.60	-24.00	1646.71484	(88010324)	12.50	-24.00	1938.71838	(88101424)
25.10	-24.00	2107.73218	(88101424)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	580.20221	(89122324)	SRC1	:	275.00	170.00	656.19574c	(88092624)
SRC1	:	275.00	180.00	503.24118c	(88041324)	SRC1	:	275.00	190.00	468.85645	(90101224)
SRC1	:	275.00	200.00	335.63370	(88040924)	SRC1	:	275.00	210.00	412.77530c	(87071824)
SRC1	:	275.00	220.00	387.90210	(91062524)	SRC1	:	275.00	230.00	177.71742c	(89091924)
SRC1	:	275.00	240.00	465.48544c	(87071824)	SRC1	:	275.00	250.00	353.53418	(87081624)
SRC1	:	275.00	260.00	943.05981c	(87083024)	SRC1	:	275.00	270.00	922.26508	(87092724)
SRC1	:	275.00	280.00	375.46677c	(87080124)	SRC1	:	275.00	290.00	554.21906c	(87083024)
SRC1	:	275.00	300.00	632.62024c	(87083024)	SRC1	:	275.00	310.00	297.97998c	(87082024)
SRC1	:	275.00	320.00	575.61285c	(87091424)	SRC1	:	275.00	330.00	1202.40710c	(87091424)
SRC1	:	275.00	340.00	824.39490c	(87091424)	SRC1	:	275.00	350.00	1545.14661	(87011324)
SRC1	:	275.00	360.00	3058.35791c	(87110324)	SRC1	:	275.00	10.00	259.20547c	(88101324)
SRC1	:	275.00	20.00	6642.32178c	(87101224)	SRC1	:	275.00	30.00	3866.79956c	(87092524)
SRC1	:	275.00	40.00	4184.51758	(87021924)	SRC1	:	225.00	170.00	3233.92114	(87022424)
SRC1	:	225.00	180.00	2259.34058	(87092724)	SRC1	:	225.00	190.00	3188.03662c	(87101924)
SRC1	:	225.00	200.00	2125.54492	(87092824)	SRC1	:	225.00	210.00	1686.99670	(87071724)
SRC1	:	225.00	220.00	1373.32715	(87061424)	SRC1	:	225.00	230.00	1118.52039c	(87071824)
SRC1	:	225.00	240.00	239.68901c	(88112324)	SRC1	:	225.00	250.00	190.52075c	(88112324)
SRC1	:	225.00	260.00	165.99321c	(89102824)	SRC1	:	225.00	270.00	232.34383	(90082524)
SRC1	:	225.00	280.00	342.44620c	(89102524)	SRC1	:	225.00	290.00	255.64680	(89031724)
SRC1	:	225.00	300.00	254.58408c	(87090724)	SRC1	:	225.00	310.00	424.14569c	(87090724)
SRC1	:	225.00	320.00	1175.46912c	(87090724)	SRC1	:	225.00	330.00	227.05705	(88010324)
SRC1	:	225.00	340.00	376.10275c	(87061724)	SRC1	:	225.00	350.00	711.41425c	(87020524)
SRC1	:	225.00	360.00	198.03386	(88091824)	SRC1	:	225.00	10.00	358.53702c	(88101324)
SRC1	:	225.00	20.00	225.73138	(91091524)	SRC1	:	225.00	30.00	232.27792c	(88061924)
SRC1	:	225.00	40.00	230.07227c	(88011024)	SRC1	:	175.00	170.00	1839.03430c	(88092524)
SRC1	:	175.00	180.00	1417.11096	(90101224)	SRC1	:	175.00	190.00	918.54517c	(90101124)
SRC1	:	175.00	200.00	976.37616	(91122724)	SRC1	:	175.00	210.00	852.61267c	(89070524)
SRC1	:	175.00	220.00	464.19165c	(89091924)	SRC1	:	175.00	230.00	1251.11829	(87092724)
SRC1	:	175.00	240.00	1276.27161c	(87083024)	SRC1	:	175.00	250.00	1533.87317c	(87071824)
SRC1	:	175.00	260.00	1698.64734c	(87091424)	SRC1	:	175.00	270.00	553.04468c	(89102524)
SRC1	:	175.00	280.00	531.11908c	(87062524)	SRC1	:	175.00	290.00	410.71002c	(87092524)
SRC1	:	175.00	300.00	364.75351	(87082424)	SRC1	:	175.00	310.00	425.58798	(87042624)
SRC1	:	175.00	320.00	333.77460	(89012324)	SRC1	:	175.00	330.00	338.39633	(88010324)
SRC1	:	175.00	340.00	303.18472c	(91082724)	SRC1	:	175.00	350.00	285.11597c	(88042624)
SRC1	:	175.00	360.00	266.93539	(91010124)	SRC1	:	175.00	10.00	469.72070c	(88101324)
SRC1	:	175.00	20.00	271.11151	(91091524)	SRC1	:	175.00	30.00	327.83060c	(91062724)
SRC1	:	175.00	40.00	353.29501c	(88061924)	SRC1	:	125.00	160.00	4898.16553	(89122324)
SRC1	:	125.00	170.00	5135.04004c	(88092524)	SRC1	:	125.00	180.00	3196.90771c	(91110924)
SRC1	:	125.00	190.00	1976.10681c	(90032724)	SRC1	:	125.00	200.00	1613.14600c	(89091924)
SRC1	:	125.00	210.00	867.55518c	(89091924)	SRC1	:	125.00	220.00	801.16022c	(88112324)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)	ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)
SRC1	:	125.00	230.00	556.38855c (88112324)	SRC1	:	125.00	240.00	568.74628 (89031024)
SRC1	:	125.00	250.00	533.69415c (89102524)	SRC1	:	125.00	260.00	754.10492c (89102524)
SRC1	:	125.00	270.00	822.96167c (87062524)	SRC1	:	125.00	280.00	620.17969c (87092524)
SRC1	:	125.00	290.00	498.15625 (87082424)	SRC1	:	125.00	300.00	538.11224 (87042624)
SRC1	:	125.00	310.00	429.26645 (87081124)	SRC1	:	125.00	320.00	432.10031 (87022424)
SRC1	:	125.00	330.00	499.55276 (88010324)	SRC1	:	125.00	340.00	422.79407c (91082724)
SRC1	:	125.00	350.00	383.14087c (91082724)	SRC1	:	125.00	360.00	378.88925 (91010124)
SRC1	:	125.00	10.00	545.49683 (88101424)	SRC1	:	125.00	20.00	515.39099c (88101324)
SRC1	:	125.00	30.00	440.23590c (91062724)	SRC1	:	125.00	40.00	514.03607c (88061924)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
-180.00	-150.00	2390.45093c (87101924)	500.00	750.00	2342.73535c (87101324)
-200.00	125.00	1980.28418 (87092724)	-50.00	-300.00	1856.88245c (87052624)
1350.00	0.00	2316.64893c (87071824)	-3.00	98.10	2360.22852c (87091424)
-450.00	-150.00	2237.92944 (87011324)	1350.00	-1000.00	2781.30493c (87110324)
17.30	98.10	2654.83032 (87051024)	-20.30	98.10	3426.93359c (87060624)
-21.80	0.00	1578.61633c (87040324)	-43.70	0.00	6072.32568c (89091924)
-43.70	98.10	7643.87354c (89102824)	-43.70	24.50	1566.43225 (87082424)
-43.70	49.10	1465.99109 (87082424)	37.60	98.10	6753.83838 (90103124)
37.60	49.10	1422.01477 (87042624)	37.60	0.00	5069.74951 (89122324)
37.60	24.50	1626.98401 (87081124)	37.60	-24.90	7061.78760c (88092524)
37.60	-49.80	5732.84229c (88092524)	37.60	-81.30	4176.11475 (88100324)
37.60	-112.80	3156.64917c (88092524)	15.70	-111.80	3789.32813c (88092524)
6.10	-110.70	3845.74829c (88092524)	-9.10	-92.50	3787.71094c (88092524)
-11.20	-49.80	5715.36328c (88092524)	-10.20	-71.10	4929.78564c (88092524)
0.00	-49.80	5690.28369c (88092524)	0.00	-37.30	6249.78271c (88092524)
0.00	-24.90	6794.58398c (88092524)	0.00	-12.40	7172.12354c (88092524)
-341.10	290.50	4199.39014c (87060624)	-325.80	296.30	4517.08984c (87060624)
-267.90	300.80	2288.59839c (87012624)	-300.50	242.60	2067.84741c (87040324)
-325.50	207.30	2078.69458c (87092524)	-284.40	192.00	2333.93237c (87092524)
-266.70	115.50	2086.96094c (87092524)	-190.20	58.80	2163.24585 (87042624)
-82.00	-36.00	3458.32544c (91110924)	-397.20	-197.50	2000.28223 (87080624)
-121.30	-124.40	2516.05713 (87080624)	-80.50	-152.40	2509.28760 (87080624)
-230.10	-461.50	2499.21021c (87020524)	-26.50	-406.30	2602.70996c (87020524)
20.40	312.70	2901.69141 (87022424)	649.80	667.50	3068.70410c (87041924)
648.60	621.80	3341.86548c (87090724)	550.50	524.00	3741.27344c (87101424)
496.80	492.60	4458.61230c (87101924)	368.80	460.90	4808.56104c (87101924)
1424.00	473.70	5774.96143 (87110224)	1358.20	117.70	6177.69922 (87052724)
1418.20	130.80	6639.16016c (87080124)	-29.10	-24.00	7514.83398c (87080124)
-14.60	-24.00	6983.33008c (87060624)	12.50	-24.00	6660.83203c (88092524)
25.10	-24.00	7563.42676c (88092524)			

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	1579.27112c	(88092524)	SRC1	:	275.00	170.00	1406.30237c	(88092524)
SRC1	:	275.00	180.00	2011.53674c	(87101924)	SRC1	:	275.00	190.00	1130.86475c	(88041324)
SRC1	:	275.00	200.00	1453.88867	(90101224)	SRC1	:	275.00	210.00	1075.75977	(90091724)
SRC1	:	275.00	220.00	940.92969c	(90101124)	SRC1	:	275.00	230.00	1030.82739c	(89080224)
SRC1	:	275.00	240.00	1164.03271	(91122724)	SRC1	:	275.00	250.00	1258.93359c	(89070524)
SRC1	:	275.00	260.00	1075.74597c	(89091924)	SRC1	:	275.00	270.00	5130.56982	(87021924)
SRC1	:	275.00	280.00	5863.32666	(87110224)	SRC1	:	275.00	290.00	1007.87408	(89031024)
SRC1	:	275.00	300.00	1472.49097c	(89102524)	SRC1	:	275.00	310.00	6169.96240	(87051024)
SRC1	:	275.00	320.00	1745.19092c	(89102524)	SRC1	:	275.00	330.00	4288.72070c	(87081924)
SRC1	:	275.00	340.00	1999.85107	(89012324)	SRC1	:	275.00	350.00	7473.50293c	(87101224)
SRC1	:	275.00	360.00	4794.07129c	(87081924)	SRC1	:	275.00	10.00	3542.44556c	(87012624)
SRC1	:	275.00	20.00	2349.76196c	(87012624)	SRC1	:	275.00	30.00	2510.56616	(90103124)
SRC1	:	275.00	40.00	3077.48853	(90103124)	SRC1	:	225.00	170.00	3011.48975c	(87040324)
SRC1	:	225.00	180.00	4687.21680c	(87040324)	SRC1	:	225.00	190.00	3877.27051c	(87040324)
SRC1	:	225.00	200.00	4700.65137c	(87040324)	SRC1	:	225.00	210.00	5085.47217c	(87040324)
SRC1	:	225.00	220.00	5552.77539c	(87030824)	SRC1	:	225.00	230.00	4877.12842c	(87040324)
SRC1	:	225.00	240.00	1430.85950	(91122724)	SRC1	:	225.00	250.00	1445.39917c	(89070524)
SRC1	:	225.00	260.00	1511.21130c	(89091924)	SRC1	:	225.00	270.00	1448.26917c	(87090724)
SRC1	:	225.00	280.00	1336.59998c	(88112324)	SRC1	:	225.00	290.00	1546.14001c	(87101924)
SRC1	:	225.00	300.00	1713.85669c	(89102524)	SRC1	:	225.00	310.00	2671.90088c	(89102524)
SRC1	:	225.00	320.00	3222.79370c	(89102524)	SRC1	:	225.00	330.00	2026.66296c	(89102524)
SRC1	:	225.00	340.00	2614.44653	(89012324)	SRC1	:	225.00	350.00	2764.15625	(89012324)
SRC1	:	225.00	360.00	2724.49780	(88101424)	SRC1	:	225.00	10.00	2655.40210	(88101424)
SRC1	:	225.00	20.00	2496.86108	(90071824)	SRC1	:	225.00	30.00	3527.87622	(90103124)
SRC1	:	225.00	40.00	3765.60913	(90103124)	SRC1	:	175.00	170.00	2516.20508c	(88092524)
SRC1	:	175.00	180.00	2003.54126c	(91012524)	SRC1	:	175.00	190.00	1944.71179	(90101224)
SRC1	:	175.00	200.00	2086.48120	(90101224)	SRC1	:	175.00	210.00	1875.45789	(90101224)
SRC1	:	175.00	220.00	1606.33997	(90091724)	SRC1	:	175.00	230.00	5168.60938c	(87040324)
SRC1	:	175.00	240.00	5511.83643c	(87040324)	SRC1	:	175.00	250.00	5916.67822c	(87081924)
SRC1	:	175.00	260.00	5926.71045c	(87081924)	SRC1	:	175.00	270.00	1841.38538c	(89091924)
SRC1	:	175.00	280.00	1575.50244c	(88112324)	SRC1	:	175.00	290.00	1929.32495c	(88112324)
SRC1	:	175.00	300.00	2481.36865c	(88112324)	SRC1	:	175.00	310.00	3363.58496c	(89102524)
SRC1	:	175.00	320.00	4384.37109c	(89102524)	SRC1	:	175.00	330.00	4004.83032c	(89102524)
SRC1	:	175.00	340.00	3754.66357c	(89102824)	SRC1	:	175.00	350.00	4096.74121	(89012324)
SRC1	:	175.00	360.00	4349.25928c	(88061924)	SRC1	:	175.00	10.00	3770.92871	(88101424)
SRC1	:	175.00	20.00	4216.85791	(88010224)	SRC1	:	175.00	30.00	4839.40479	(90103124)
SRC1	:	175.00	40.00	4721.47656	(90010724)	SRC1	:	125.00	160.00	3024.80811c	(88092524)
SRC1	:	125.00	170.00	3270.68164c	(88092524)	SRC1	:	125.00	180.00	3066.69849c	(88092524)
SRC1	:	125.00	190.00	2847.05200	(90101224)	SRC1	:	125.00	200.00	2666.20923	(90101224)
SRC1	:	125.00	210.00	2572.13159	(90101224)	SRC1	:	125.00	220.00	2205.27930c	(91110924)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)	ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC (YYMMDDHH)
SRC1	:	125.00	230.00	2419.62354c (91110924)	SRC1	:	125.00	240.00	2673.20313 (89092124)
SRC1	:	125.00	250.00	2412.55835c (90032724)	SRC1	:	125.00	260.00	3085.72241c (89091924)
SRC1	:	125.00	270.00	2855.61865c (89091924)	SRC1	:	125.00	280.00	3116.46582 (88112224)
SRC1	:	125.00	290.00	2712.42407c (89091924)	SRC1	:	125.00	300.00	3638.93506c (88112324)
SRC1	:	125.00	310.00	4827.47754c (89102524)	SRC1	:	125.00	320.00	5869.32959c (89102524)
SRC1	:	125.00	330.00	6189.03320c (89102824)	SRC1	:	125.00	340.00	7163.36475c (89102824)
SRC1	:	125.00	350.00	6743.97510c (88061924)	SRC1	:	125.00	360.00	6584.70166 (89012324)
SRC1	:	125.00	10.00	7149.79297 (90010724)	SRC1	:	125.00	20.00	7512.16602 (88010224)
SRC1	:	125.00	30.00	7085.14844c (91101624)	SRC1	:	125.00	40.00	6682.32227c (91101624)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	2432.06372c	(87101924)	500.00	750.00	2427.36719	(87092724)
-200.00	125.00	2015.79395c	(87092624)	-50.00	-300.00	1904.04810c	(87052624)
1350.00	0.00	2391.63867c	(87071824)	-3.00	98.10	2360.54834c	(87091424)
-450.00	-150.00	2339.58960	(87011324)	1350.00	-1000.00	2889.42529c	(87110324)
17.30	98.10	2787.48267	(87051024)	-20.30	98.10	3444.11694c	(87060624)
-21.80	0.00	2826.60229c	(87062524)	-43.70	0.00	6072.32568c	(89091924)
-43.70	98.10	7827.39844c	(89102824)	-43.70	24.50	1759.50232	(87082424)
-43.70	49.10	1690.94397	(87082424)	37.60	98.10	6753.83838	(90103124)
37.60	49.10	1619.40979	(87021924)	37.60	0.00	5069.74951	(89122324)
37.60	24.50	1690.16736	(87081124)	37.60	-24.90	7061.78760c	(88092524)
37.60	-49.80	5732.84229c	(88092524)	37.60	-81.30	4176.11475	(88100324)
37.60	-112.80	8588.75293c	(88092524)	15.70	-111.80	6229.35205	(90101224)
6.10	-110.70	6367.22021	(90101224)	-9.10	-92.50	4430.51123	(88112224)
-11.20	-49.80	5715.36328c	(88092524)	-10.20	-71.10	4929.78564c	(88092524)
0.00	-49.80	5690.28369c	(88092524)	0.00	-37.30	6249.78271c	(88092524)
0.00	-24.90	6794.58398c	(88092524)	0.00	-12.40	7172.12354c	(88092524)
-341.10	290.50	4218.13916c	(87060624)	-325.80	296.30	4542.55127c	(87060624)
-267.90	300.80	7170.12012c	(87101224)	-300.50	242.60	6260.52051c	(87040324)
-325.50	207.30	3853.78979c	(87010424)	-284.40	192.00	2813.32983c	(87010424)
-266.70	115.50	2384.05933	(87082424)	-190.20	58.80	2212.24707	(87042624)
-82.00	-36.00	3590.40186c	(91110924)	-397.20	-197.50	2070.00806	(87080624)
-121.30	-124.40	2555.42114	(87080624)	-80.50	-152.40	2527.37012	(87080624)
-230.10	-461.50	2528.11865c	(87020524)	-26.50	-406.30	2612.57349c	(87020524)
20.40	312.70	2902.98047	(87022424)	649.80	667.50	3086.88428c	(87041924)
648.60	621.80	3395.13647c	(87101924)	550.50	524.00	3742.58350c	(87101424)
496.80	492.60	4542.72021c	(87101924)	368.80	460.90	4855.51172c	(87101924)
1424.00	473.70	5974.13818	(87110224)	1358.20	117.70	6336.35400	(87071724)
1418.20	130.80	6796.31104c	(87080124)	-29.10	-24.00	7612.73340c	(87080124)
-14.60	-24.00	6991.09521c	(87060624)	12.50	-24.00	6660.83203c	(88092524)
25.10	-24.00	7563.42676c	(88092524)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	2046.54895c	(89081024)	SRC1 :	275.00	170.00	1867.47778c	(88092524)
SRC1 :	275.00	180.00	2021.63220c	(87101924)	SRC1 :	275.00	190.00	1493.53320	(90101224)
SRC1 :	275.00	200.00	1522.16150	(90101224)	SRC1 :	275.00	210.00	1161.25818	(90091724)
SRC1 :	275.00	220.00	1053.85437	(89092124)	SRC1 :	275.00	230.00	1074.38831c	(89080224)
SRC1 :	275.00	240.00	1193.45569	(91122724)	SRC1 :	275.00	250.00	1263.19775c	(89070524)
SRC1 :	275.00	260.00	1075.75122c	(89091924)	SRC1 :	275.00	270.00	5130.56982	(87021924)
SRC1 :	275.00	280.00	6083.43701	(87110224)	SRC1 :	275.00	290.00	1061.38330	(89031024)
SRC1 :	275.00	300.00	1628.26611c	(89102524)	SRC1 :	275.00	310.00	6184.46240	(87051024)
SRC1 :	275.00	320.00	1771.05603c	(89102524)	SRC1 :	275.00	330.00	4288.72070c	(87081924)
SRC1 :	275.00	340.00	2142.20166	(89012324)	SRC1 :	275.00	350.00	7473.50293c	(87101224)
SRC1 :	275.00	360.00	4794.07129c	(87081924)	SRC1 :	275.00	10.00	3542.44556c	(87012624)
SRC1 :	275.00	20.00	7985.35449c	(87101224)	SRC1 :	275.00	30.00	6008.28418c	(87092524)
SRC1 :	275.00	40.00	5584.97754c	(87010424)	SRC1 :	225.00	170.00	4125.30957c	(87041924)
SRC1 :	225.00	180.00	4687.21680c	(87040324)	SRC1 :	225.00	190.00	3877.27051c	(87040324)
SRC1 :	225.00	200.00	4700.65137c	(87040324)	SRC1 :	225.00	210.00	5085.47217c	(87040324)
SRC1 :	225.00	220.00	5552.77539c	(87030824)	SRC1 :	225.00	230.00	4877.12842c	(87040324)
SRC1 :	225.00	240.00	1461.23486	(91122724)	SRC1 :	225.00	250.00	1452.81091c	(89070524)
SRC1 :	225.00	260.00	1516.17114c	(89091924)	SRC1 :	225.00	270.00	1454.51355c	(87090724)
SRC1 :	225.00	280.00	1491.60706c	(88112324)	SRC1 :	225.00	290.00	1553.68945c	(87101924)
SRC1 :	225.00	300.00	1919.18494c	(89102524)	SRC1 :	225.00	310.00	2834.54102c	(89102524)
SRC1 :	225.00	320.00	3255.53857c	(89102524)	SRC1 :	225.00	330.00	2067.33276c	(88092724)
SRC1 :	225.00	340.00	2791.30737	(88010324)	SRC1 :	225.00	350.00	2904.76855	(89012324)
SRC1 :	225.00	360.00	2914.46851	(88101424)	SRC1 :	225.00	10.00	2960.94653	(88101424)
SRC1 :	225.00	20.00	2619.65967	(90071824)	SRC1 :	225.00	30.00	3528.13672	(90103124)
SRC1 :	225.00	40.00	3780.64648	(90103124)	SRC1 :	175.00	170.00	4355.23926c	(88092524)
SRC1 :	175.00	180.00	2904.33472	(90101224)	SRC1 :	175.00	190.00	2463.27124	(90101224)
SRC1 :	175.00	200.00	2169.68164	(90101224)	SRC1 :	175.00	210.00	2019.30652	(90101224)
SRC1 :	175.00	220.00	1735.99475	(90091724)	SRC1 :	175.00	230.00	5168.60938c	(87040324)
SRC1 :	175.00	240.00	5511.83643c	(87040324)	SRC1 :	175.00	250.00	5916.67822c	(87081924)
SRC1 :	175.00	260.00	5926.71045c	(87081924)	SRC1 :	175.00	270.00	1913.00623c	(89091924)
SRC1 :	175.00	280.00	1744.94629c	(87062524)	SRC1 :	175.00	290.00	2075.26978c	(88112324)
SRC1 :	175.00	300.00	2559.15918c	(88112324)	SRC1 :	175.00	310.00	3522.08618c	(89102524)
SRC1 :	175.00	320.00	4428.45605c	(89102524)	SRC1 :	175.00	330.00	4031.54126c	(89102524)
SRC1 :	175.00	340.00	3901.73389c	(89102824)	SRC1 :	175.00	350.00	4279.18311	(89012324)
SRC1 :	175.00	360.00	4375.45215c	(88061924)	SRC1 :	175.00	10.00	4175.92725	(88101424)
SRC1 :	175.00	20.00	4357.16357	(90071824)	SRC1 :	175.00	30.00	4839.50049	(90103124)
SRC1 :	175.00	40.00	4731.97656	(90010724)	SRC1 :	125.00	160.00	7520.91748	(88100324)
SRC1 :	125.00	170.00	8405.72168c	(88092524)	SRC1 :	125.00	180.00	5173.12695	(90101224)
SRC1 :	125.00	190.00	3268.69946	(90101224)	SRC1 :	125.00	200.00	2880.05371	(90101224)
SRC1 :	125.00	210.00	2573.14697	(90101224)	SRC1 :	125.00	220.00	2357.17651c	(91110924)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	2535.01758c	(91110924)	SRC1	:	125.00	240.00	2774.39258	(89092124)
SRC1	:	125.00	250.00	2621.76294c	(90032724)	SRC1	:	125.00	260.00	3204.90747c	(89091924)
SRC1	:	125.00	270.00	2856.24390c	(89091924)	SRC1	:	125.00	280.00	3175.68530	(88112224)
SRC1	:	125.00	290.00	2712.42407c	(89091924)	SRC1	:	125.00	300.00	3749.49634c	(88112324)
SRC1	:	125.00	310.00	4959.11328c	(89102524)	SRC1	:	125.00	320.00	5928.69775c	(89102524)
SRC1	:	125.00	330.00	6241.45703c	(89102824)	SRC1	:	125.00	340.00	7392.19531c	(89102824)
SRC1	:	125.00	350.00	6818.52637c	(88061924)	SRC1	:	125.00	360.00	6813.26514	(89012324)
SRC1	:	125.00	10.00	7256.20850	(90010724)	SRC1	:	125.00	20.00	7722.21289	(88010224)
SRC1	:	125.00	30.00	7182.72266	(89121724)	SRC1	:	125.00	40.00	6697.95605c	(91101624)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
-180.00	-150.00	248.76453c (89091924)	500.00	750.00	151.88585c (87041024)
-200.00	125.00	190.53964c (91082824)	-50.00	-300.00	304.82437 (90022024)
1350.00	0.00	201.05566 (87081624)	-3.00	98.10	395.27188c (88042624)
-450.00	-150.00	129.12831 (87020124)	1350.00	-1000.00	210.60861c (87100424)
17.30	98.10	567.06934c (88101324)	-20.30	98.10	425.60892c (90101324)
-21.80	0.00	1228.17871c (87040324)	-43.70	0.00	1039.41272c (87092524)
-43.70	98.10	797.14874 (87050524)	-43.70	24.50	697.50195 (89012324)
-43.70	49.10	698.52954 (87022424)	37.60	98.10	574.87720 (88101424)
37.60	49.10	848.16949 (88101424)	37.60	0.00	1348.67834 (88101424)
37.60	24.50	1052.76379 (88101424)	37.60	-24.90	1907.29150 (88101424)
37.60	-49.80	3395.09985c (89062224)	37.60	-81.30	363.54410c (87101324)
37.60	-112.80	5463.97510c (88100624)	15.70	-111.80	3819.39941c (90083024)
6.10	-110.70	4592.33740 (89092124)	-9.10	-92.50	3375.82788 (91082524)
-11.20	-49.80	2039.87500c (90042324)	-10.20	-71.10	3225.61475c (89102824)
0.00	-49.80	2780.97656 (89012324)	0.00	-37.30	2121.04932 (88010324)
0.00	-24.90	1501.26672 (88010324)	0.00	-12.40	1353.57605 (88010324)
-341.10	290.50	330.00412c (87091424)	-325.80	296.30	242.80762 (87091524)
-267.90	300.80	4541.51904c (87060424)	-300.50	242.60	3371.73120 (87062324)
-325.50	207.30	2678.59766 (87080624)	-284.40	192.00	1727.85754 (87081124)
-266.70	115.50	1435.18347 (87022424)	-190.20	58.80	631.68097 (87022424)
-82.00	-36.00	870.72852c (90111924)	-397.20	-197.50	475.50229 (87032324)
-121.30	-124.40	502.34943c (89091924)	-80.50	-152.40	777.73334 (91062524)
-230.10	-461.50	631.10077 (87120624)	-26.50	-406.30	506.91879c (87101324)
20.40	312.70	510.33127c (87090724)	649.80	667.50	533.57471c (87092624)
648.60	621.80	398.74097c (87092624)	550.50	524.00	279.53641c (87041024)
496.80	492.60	269.49307c (87083024)	368.80	460.90	323.56174c (87080124)
1424.00	473.70	261.14340 (87081424)	1358.20	117.70	307.94955c (87052624)
1418.20	130.80	309.97592c (87121824)	-29.10	-24.00	1134.70337c (90042324)
-14.60	-24.00	1521.10315 (89012324)	12.50	-24.00	1910.36938c (91082724)
25.10	-24.00	1911.87463c (88101324)			

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	532.49121c	(89081024)	SRC1	:	275.00	170.00	540.15570c	(88100624)
SRC1	:	275.00	180.00	368.78354c	(89091724)	SRC1	:	275.00	190.00	412.27396	(90091724)
SRC1	:	275.00	200.00	307.96249c	(88070424)	SRC1	:	275.00	210.00	349.50696c	(90080224)
SRC1	:	275.00	220.00	370.24792c	(89070524)	SRC1	:	275.00	230.00	173.05472c	(90101624)
SRC1	:	275.00	240.00	375.44821c	(87121824)	SRC1	:	275.00	250.00	342.93338c	(87052624)
SRC1	:	275.00	260.00	668.44391	(87121124)	SRC1	:	275.00	270.00	707.00879	(87121124)
SRC1	:	275.00	280.00	332.70511c	(89102524)	SRC1	:	275.00	290.00	520.96692c	(87052824)
SRC1	:	275.00	300.00	421.82953c	(87072924)	SRC1	:	275.00	310.00	289.88004	(87052724)
SRC1	:	275.00	320.00	502.77310	(87011324)	SRC1	:	275.00	330.00	1034.42969	(87011324)
SRC1	:	275.00	340.00	740.60968	(87011324)	SRC1	:	275.00	350.00	1509.81970c	(87091424)
SRC1	:	275.00	360.00	3020.55859	(87011324)	SRC1	:	275.00	10.00	242.35262c	(90081624)
SRC1	:	275.00	20.00	5498.58545c	(87081924)	SRC1	:	275.00	30.00	3718.70605	(87042624)
SRC1	:	275.00	40.00	4108.09326	(87042624)	SRC1	:	225.00	170.00	3099.20215c	(87041924)
SRC1	:	225.00	180.00	2222.41284c	(87101324)	SRC1	:	225.00	190.00	2883.34424c	(87101324)
SRC1	:	225.00	200.00	2079.78198	(87092724)	SRC1	:	225.00	210.00	1618.43237c	(87052624)
SRC1	:	225.00	220.00	1362.40625c	(87071824)	SRC1	:	225.00	230.00	1098.22754	(87110224)
SRC1	:	225.00	240.00	204.56927	(89072924)	SRC1	:	225.00	250.00	170.94984	(91080724)
SRC1	:	225.00	260.00	159.48224c	(88083124)	SRC1	:	225.00	270.00	208.26738c	(91042824)
SRC1	:	225.00	280.00	251.00839c	(88030624)	SRC1	:	225.00	290.00	234.19469c	(89102624)
SRC1	:	225.00	300.00	220.69266c	(89102724)	SRC1	:	225.00	310.00	284.25592c	(87101324)
SRC1	:	225.00	320.00	1115.82788c	(87101924)	SRC1	:	225.00	330.00	187.02574	(90020824)
SRC1	:	225.00	340.00	320.20627c	(87121424)	SRC1	:	225.00	350.00	675.21722	(87022424)
SRC1	:	225.00	360.00	189.97070	(88101424)	SRC1	:	225.00	10.00	305.54449	(88101424)
SRC1	:	225.00	20.00	208.92911c	(91062724)	SRC1	:	225.00	30.00	182.43805c	(90071924)
SRC1	:	225.00	40.00	217.24170	(90071824)	SRC1	:	175.00	170.00	1748.65564c	(91012524)
SRC1	:	175.00	180.00	1157.65625	(90022824)	SRC1	:	175.00	190.00	906.24261c	(88070424)
SRC1	:	175.00	200.00	800.51892c	(91060724)	SRC1	:	175.00	210.00	743.05426	(91062524)
SRC1	:	175.00	220.00	379.66788c	(89091824)	SRC1	:	175.00	230.00	1170.06482c	(87092624)
SRC1	:	175.00	240.00	1203.20203	(87092724)	SRC1	:	175.00	250.00	1419.97229c	(87080124)
SRC1	:	175.00	260.00	1547.23816	(87011324)	SRC1	:	175.00	270.00	390.22324	(87041824)
SRC1	:	175.00	280.00	447.19534c	(87040324)	SRC1	:	175.00	290.00	326.45917c	(87041924)
SRC1	:	175.00	300.00	304.16302c	(87010424)	SRC1	:	175.00	310.00	287.47339	(88112424)
SRC1	:	175.00	320.00	257.89056	(90020824)	SRC1	:	175.00	330.00	277.50925c	(87020524)
SRC1	:	175.00	340.00	274.93094c	(91102124)	SRC1	:	175.00	350.00	255.37717c	(91082724)
SRC1	:	175.00	360.00	256.34164	(88091824)	SRC1	:	175.00	10.00	404.99850	(88101424)
SRC1	:	175.00	20.00	260.61487c	(89081524)	SRC1	:	175.00	30.00	289.31808c	(88061924)
SRC1	:	175.00	40.00	347.96326c	(87090724)	SRC1	:	125.00	160.00	4603.54248	(88100324)
SRC1	:	125.00	170.00	4717.85156c	(91012524)	SRC1	:	125.00	180.00	3081.35840	(89092124)
SRC1	:	125.00	190.00	1975.07935c	(89091924)	SRC1	:	125.00	200.00	1458.31250	(88112224)
SRC1	:	125.00	210.00	718.97583c	(88112324)	SRC1	:	125.00	220.00	569.82941c	(90072624)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	495.72217	(89093024)	SRC1	:	125.00	240.00	462.58676c	(90082424)
SRC1	:	125.00	250.00	530.72040	(90082524)	SRC1	:	125.00	260.00	490.84787c	(89102224)
SRC1	:	125.00	270.00	701.85034c	(87040324)	SRC1	:	125.00	280.00	479.90610	(87102524)
SRC1	:	125.00	290.00	449.02151c	(87020424)	SRC1	:	125.00	300.00	433.99063	(87050524)
SRC1	:	125.00	310.00	370.57935	(88112424)	SRC1	:	125.00	320.00	399.17798	(90020824)
SRC1	:	125.00	330.00	304.41586c	(89090524)	SRC1	:	125.00	340.00	363.95154c	(91102124)
SRC1	:	125.00	350.00	354.33957c	(90101324)	SRC1	:	125.00	360.00	329.05347	(88091824)
SRC1	:	125.00	10.00	545.49280c	(88101324)	SRC1	:	125.00	20.00	470.27637	(88101424)
SRC1	:	125.00	30.00	393.51843	(91091524)	SRC1	:	125.00	40.00	370.25220c	(91062724)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	2278.51196c	(87090724)	500.00	750.00	2331.39160	(87092724)
-200.00	125.00	1960.16858c	(87092624)	-50.00	-300.00	1787.44849c	(87083024)
1350.00	0.00	1913.21021c	(87083024)	-3.00	98.10	2203.05688	(87011324)
-450.00	-150.00	1995.90698c	(87110324)	1350.00	-1000.00	2472.94312	(87051024)
17.30	98.10	2526.37915	(87122124)	-20.30	98.10	3164.01880c	(87072024)
-21.80	0.00	1572.44080c	(87062524)	-43.70	0.00	5670.36914	(89092124)
-43.70	98.10	7110.81396c	(89102524)	-43.70	24.50	1416.56152c	(87092524)
-43.70	49.10	1457.51660	(87042624)	37.60	98.10	5898.06494	(90010724)
37.60	49.10	1389.56592	(87021924)	37.60	0.00	4785.05420	(90111724)
37.60	24.50	1596.35583	(87080624)	37.60	-24.90	6445.16553	(88100324)
37.60	-49.80	5561.28516	(88100324)	37.60	-81.30	3681.38867	(90111724)
37.60	-112.80	3083.83789	(88100324)	15.70	-111.80	3168.93970c	(91012524)
6.10	-110.70	3222.79907c	(91012524)	-9.10	-92.50	3688.90698	(90101224)
-11.20	-49.80	5040.07764	(91081124)	-10.20	-71.10	4163.33057	(90101224)
0.00	-49.80	5058.88135c	(91012524)	0.00	-37.30	5787.10156c	(91012524)
0.00	-24.90	6280.89893c	(91012524)	0.00	-12.40	5696.94873	(90101224)
-341.10	290.50	3867.44727	(87051024)	-325.80	296.30	4311.19385c	(87072024)
-267.90	300.80	1978.75256	(87062324)	-300.50	242.60	1855.85193c	(87062524)
-325.50	207.30	1931.15710c	(87040324)	-284.40	192.00	1697.27820c	(87040324)
-266.70	115.50	1937.04749	(87082424)	-190.20	58.80	1941.85498	(87082424)
-82.00	-36.00	3374.93628	(89092124)	-397.20	-197.50	1955.93884	(87050524)
-121.30	-124.40	2143.26587	(87042624)	-80.50	-152.40	2191.70581c	(87062424)
-230.10	-461.50	2365.32422	(87080624)	-26.50	-406.30	2433.72241	(87081124)
20.40	312.70	2711.16626c	(87020524)	649.80	667.50	2740.86792	(87022424)
648.60	621.80	3323.30054c	(87101924)	550.50	524.00	3715.79614c	(87090724)
496.80	492.60	3858.15186c	(87101324)	368.80	460.90	4468.60107c	(87101524)
1424.00	473.70	5344.72217c	(87101424)	1358.20	117.70	6153.02686c	(87101524)
1418.20	130.80	6207.12549c	(87083024)	-29.10	-24.00	7291.66748c	(87101824)
-14.60	-24.00	6888.91357c	(88092524)	12.50	-24.00	6488.33936c	(87060624)
25.10	-24.00	6813.74756	(88100324)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	275.00	160.00	1514.05798c	(89081024)	SRC1	:	275.00	170.00	1247.58459c	(91012524)
SRC1	:	275.00	180.00	1831.86121c	(87090724)	SRC1	:	275.00	190.00	1024.67725	(90101224)
SRC1	:	275.00	200.00	938.76593	(91081124)	SRC1	:	275.00	210.00	1005.95898	(90101224)
SRC1	:	275.00	220.00	897.30188c	(88070424)	SRC1	:	275.00	230.00	954.47174c	(91060724)
SRC1	:	275.00	240.00	998.98718c	(89030924)	SRC1	:	275.00	250.00	1074.19153	(91062524)
SRC1	:	275.00	260.00	862.94110c	(89091824)	SRC1	:	275.00	270.00	4966.01465	(87042624)
SRC1	:	275.00	280.00	5553.73145c	(87101924)	SRC1	:	275.00	290.00	892.50067c	(91051124)
SRC1	:	275.00	300.00	1287.13843c	(90082424)	SRC1	:	275.00	310.00	4901.00000	(87122124)
SRC1	:	275.00	320.00	1592.42468	(89031724)	SRC1	:	275.00	330.00	3787.09058c	(87101224)
SRC1	:	275.00	340.00	1566.10486	(88010324)	SRC1	:	275.00	350.00	6154.21826c	(87012624)
SRC1	:	275.00	360.00	4296.99072c	(87012624)	SRC1	:	275.00	10.00	3325.74219c	(87081924)
SRC1	:	275.00	20.00	2018.21045c	(87040324)	SRC1	:	275.00	30.00	2255.52295	(90010724)
SRC1	:	275.00	40.00	2594.08374	(90010724)	SRC1	:	225.00	170.00	2735.28076c	(87092524)
SRC1	:	225.00	180.00	3612.02612	(87101024)	SRC1	:	225.00	190.00	3116.95850c	(87092524)
SRC1	:	225.00	200.00	3626.38086	(87101024)	SRC1	:	225.00	210.00	4862.43701c	(87012624)
SRC1	:	225.00	220.00	5522.75830c	(87040324)	SRC1	:	225.00	230.00	4536.92480c	(87092524)
SRC1	:	225.00	240.00	1359.97156c	(90032724)	SRC1	:	225.00	250.00	1329.32874c	(89091824)
SRC1	:	225.00	260.00	1388.67639	(88112224)	SRC1	:	225.00	270.00	1170.46973c	(89091924)
SRC1	:	225.00	280.00	1258.12451c	(87101924)	SRC1	:	225.00	290.00	1477.13269c	(87090724)
SRC1	:	225.00	300.00	1580.30261c	(90082424)	SRC1	:	225.00	310.00	2063.89600c	(89102624)
SRC1	:	225.00	320.00	3163.35962	(87080624)	SRC1	:	225.00	330.00	1978.58374c	(90042324)
SRC1	:	225.00	340.00	2602.29785	(88010324)	SRC1	:	225.00	350.00	2405.23901c	(91082724)
SRC1	:	225.00	360.00	2596.32007	(91010124)	SRC1	:	225.00	10.00	2642.23315c	(88061924)
SRC1	:	225.00	20.00	2490.32080	(88081424)	SRC1	:	225.00	30.00	3231.21606	(90010724)
SRC1	:	225.00	40.00	3514.53320	(90010724)	SRC1	:	175.00	170.00	2192.21997c	(91012524)
SRC1	:	175.00	180.00	1842.23169c	(88092524)	SRC1	:	175.00	190.00	1789.52649	(90022824)
SRC1	:	175.00	200.00	1546.12659	(90022824)	SRC1	:	175.00	210.00	1591.70898	(88040824)
SRC1	:	175.00	220.00	1444.00952c	(88070424)	SRC1	:	175.00	230.00	5044.65332c	(87010424)
SRC1	:	175.00	240.00	4661.07373	(87101024)	SRC1	:	175.00	250.00	5610.11572c	(87040324)
SRC1	:	175.00	260.00	5826.40918c	(87012624)	SRC1	:	175.00	270.00	1705.71375	(88112224)
SRC1	:	175.00	280.00	1350.77319c	(89091924)	SRC1	:	175.00	290.00	1480.48169c	(90082424)
SRC1	:	175.00	300.00	2280.35962c	(90082424)	SRC1	:	175.00	310.00	2629.35400c	(89102624)
SRC1	:	175.00	320.00	3201.34351c	(89102224)	SRC1	:	175.00	330.00	3116.43164	(88112424)
SRC1	:	175.00	340.00	3560.47681	(89012324)	SRC1	:	175.00	350.00	3540.96094	(91101724)
SRC1	:	175.00	360.00	3870.27808	(88101424)	SRC1	:	175.00	10.00	3488.91504	(88091824)
SRC1	:	175.00	20.00	4154.53076	(90071824)	SRC1	:	175.00	30.00	4705.63916	(90010724)
SRC1	:	175.00	40.00	4717.06494	(90103124)	SRC1	:	125.00	160.00	2917.37378	(88100324)
SRC1	:	125.00	170.00	2799.72217c	(91012524)	SRC1	:	125.00	180.00	2917.03003c	(91012524)
SRC1	:	125.00	190.00	2738.68042	(90022824)	SRC1	:	125.00	200.00	2346.12671	(90022824)
SRC1	:	125.00	210.00	2148.73267	(89051424)	SRC1	:	125.00	220.00	2186.60962	(90101224)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	2261.39551	(91122724)	SRC1	:	125.00	240.00	2535.23169c	(91060724)
SRC1	:	125.00	250.00	2401.78906	(89092124)	SRC1	:	125.00	260.00	2530.39673c	(89091824)
SRC1	:	125.00	270.00	2644.72705	(88112224)	SRC1	:	125.00	280.00	2649.53760c	(89091924)
SRC1	:	125.00	290.00	2495.90186c	(88112324)	SRC1	:	125.00	300.00	3048.37793c	(90082424)
SRC1	:	125.00	310.00	4656.14404c	(88112324)	SRC1	:	125.00	320.00	4743.97070c	(88112324)
SRC1	:	125.00	330.00	6165.08008c	(89102524)	SRC1	:	125.00	340.00	7106.62354c	(89102524)
SRC1	:	125.00	350.00	6462.49512c	(89102824)	SRC1	:	125.00	360.00	6202.24023c	(88061924)
SRC1	:	125.00	10.00	6789.29541	(88010224)	SRC1	:	125.00	20.00	7312.62695	(90010724)
SRC1	:	125.00	30.00	7052.39648	(89121724)	SRC1	:	125.00	40.00	6637.49951c	(88100824)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
-180.00	-150.00	2283.44604c	(87090724)	500.00	750.00	2403.16187c	(87101324)
-200.00	125.00	1985.03259	(87092724)	-50.00	-300.00	1902.26135c	(87083024)
1350.00	0.00	2004.65479	(87081624)	-3.00	98.10	2330.76440	(87011324)
-450.00	-150.00	2045.18506c	(87091424)	1350.00	-1000.00	2526.52515	(87051024)
17.30	98.10	2537.62378	(87122124)	-20.30	98.10	3165.26392c	(87072024)
-21.80	0.00	2806.79517c	(87040324)	-43.70	0.00	5670.36914	(89092124)
-43.70	98.10	7124.22510c	(89102524)	-43.70	24.50	1451.53638c	(87092524)
-43.70	49.10	1668.15796c	(87010424)	37.60	98.10	5976.97900	(90010724)
37.60	49.10	1460.78210	(87080624)	37.60	0.00	4785.05420	(90111724)
37.60	24.50	1621.34766	(87080624)	37.60	-24.90	6445.16553	(88100324)
37.60	-49.80	5561.28516	(88100324)	37.60	-81.30	3681.38867	(90111724)
37.60	-112.80	8309.01465	(88100324)	15.70	-111.80	6228.57520c	(88092524)
6.10	-110.70	6311.78613c	(88092524)	-9.10	-92.50	4193.51318	(88030524)
-11.20	-49.80	5056.23926c	(91012524)	-10.20	-71.10	4294.82275c	(89102524)
0.00	-49.80	5353.84131c	(91012524)	0.00	-37.30	6006.54785c	(91012524)
0.00	-24.90	6437.92188c	(91012524)	0.00	-12.40	5707.98389c	(91012524)
-341.10	290.50	4039.33398	(87051024)	-325.80	296.30	4311.86230c	(87072024)
-267.90	300.80	6538.26904c	(87012624)	-300.50	242.60	5130.64307c	(87012624)
-325.50	207.30	3608.26978	(87042624)	-284.40	192.00	2587.33740c	(87092524)
-266.70	115.50	2379.57544c	(87092524)	-190.20	58.80	2109.48462	(87082424)
-82.00	-36.00	3547.89648	(89092124)	-397.20	-197.50	2017.48621	(87050524)
-121.30	-124.40	2294.62378	(87042624)	-80.50	-152.40	2257.38257c	(87062424)
-230.10	-461.50	2371.83398	(87080624)	-26.50	-406.30	2450.20117	(87081124)
20.40	312.70	2713.82544c	(87020524)	649.80	667.50	2740.90332	(87022424)
648.60	621.80	3357.45532c	(87090724)	550.50	524.00	3719.94141c	(87090724)
496.80	492.60	3908.39917	(87092724)	368.80	460.90	4600.36426c	(87101524)
1424.00	473.70	5369.72266c	(87101424)	1358.20	117.70	6297.58447c	(87101524)
1418.20	130.80	6270.27295c	(87083024)	-29.10	-24.00	7566.27246c	(87101824)
-14.60	-24.00	6888.91357c	(88092524)	12.50	-24.00	6565.36768c	(87030724)
25.10	-24.00	6813.74756	(88100324)				

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID	DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID	DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1 :	275.00	160.00	1829.06152c	(88092524)	SRC1 :	275.00	170.00	1826.42859c	(88092624)
SRC1 :	275.00	180.00	1849.48816c	(87090724)	SRC1 :	275.00	190.00	1261.08252	(90022824)
SRC1 :	275.00	200.00	1045.18005	(89051424)	SRC1 :	275.00	210.00	1041.24768c	(91110924)
SRC1 :	275.00	220.00	997.97620c	(90082324)	SRC1 :	275.00	230.00	984.72162c	(91060724)
SRC1 :	275.00	240.00	1001.87317c	(89030924)	SRC1 :	275.00	250.00	1126.75110	(88112224)
SRC1 :	275.00	260.00	943.05981c	(87083024)	SRC1 :	275.00	270.00	4966.01465	(87042624)
SRC1 :	275.00	280.00	5576.35791c	(87101924)	SRC1 :	275.00	290.00	918.22064c	(91051124)
SRC1 :	275.00	300.00	1290.26770c	(90082424)	SRC1 :	275.00	310.00	4959.31494	(87122124)
SRC1 :	275.00	320.00	1664.49658	(89031724)	SRC1 :	275.00	330.00	3787.09058c	(87101224)
SRC1 :	275.00	340.00	1721.27454	(88010324)	SRC1 :	275.00	350.00	6154.21826c	(87012624)
SRC1 :	275.00	360.00	4593.30859c	(87091424)	SRC1 :	275.00	10.00	3325.74219c	(87081924)
SRC1 :	275.00	20.00	7638.81543c	(87012624)	SRC1 :	275.00	30.00	4920.45117c	(87040324)
SRC1 :	275.00	40.00	5516.93262c	(87092524)	SRC1 :	225.00	170.00	3866.72144c	(87010424)
SRC1 :	225.00	180.00	4240.62402c	(87092624)	SRC1 :	225.00	190.00	3809.25708c	(87092624)
SRC1 :	225.00	200.00	4009.15698c	(87092624)	SRC1 :	225.00	210.00	4862.43701c	(87012624)
SRC1 :	225.00	220.00	5522.75830c	(87040324)	SRC1 :	225.00	230.00	4536.92480c	(87092524)
SRC1 :	225.00	240.00	1407.13708c	(90032724)	SRC1 :	225.00	250.00	1339.93665c	(89091824)
SRC1 :	225.00	260.00	1444.49316	(88112224)	SRC1 :	225.00	270.00	1276.48547c	(89091924)
SRC1 :	225.00	280.00	1272.77673c	(87101924)	SRC1 :	225.00	290.00	1489.73877c	(88112324)
SRC1 :	225.00	300.00	1582.81714c	(90082424)	SRC1 :	225.00	310.00	2094.55078c	(89102624)
SRC1 :	225.00	320.00	3172.15063	(87080624)	SRC1 :	225.00	330.00	2060.13989c	(90042324)
SRC1 :	225.00	340.00	2788.04370	(89012324)	SRC1 :	225.00	350.00	2584.71826c	(91082724)
SRC1 :	225.00	360.00	2776.69897	(91010124)	SRC1 :	225.00	10.00	2716.23779c	(88101324)
SRC1 :	225.00	20.00	2598.64990c	(88081124)	SRC1 :	225.00	30.00	3231.22729	(90010724)
SRC1 :	225.00	40.00	3553.33862	(90010724)	SRC1 :	175.00	170.00	3940.87622c	(91012524)
SRC1 :	175.00	180.00	2659.32397	(91081124)	SRC1 :	175.00	190.00	2042.55420	(90022824)
SRC1 :	175.00	200.00	1843.06458c	(91110924)	SRC1 :	175.00	210.00	1696.74219	(88040824)
SRC1 :	175.00	220.00	1590.93640	(88040924)	SRC1 :	175.00	230.00	5044.65332c	(87010424)
SRC1 :	175.00	240.00	4662.02588	(87101024)	SRC1 :	175.00	250.00	5610.11572c	(87040324)
SRC1 :	175.00	260.00	5826.40918c	(87012624)	SRC1 :	175.00	270.00	1822.75964	(88112224)
SRC1 :	175.00	280.00	1744.08875c	(88112324)	SRC1 :	175.00	290.00	1562.04358	(89031024)
SRC1 :	175.00	300.00	2363.58252c	(89102524)	SRC1 :	175.00	310.00	2660.53174c	(89102624)
SRC1 :	175.00	320.00	3252.58472	(89102924)	SRC1 :	175.00	330.00	3219.33789	(88010324)
SRC1 :	175.00	340.00	3779.31177	(89012324)	SRC1 :	175.00	350.00	3685.99780	(91101724)
SRC1 :	175.00	360.00	4106.73730	(88101424)	SRC1 :	175.00	10.00	3804.08154c	(88101324)
SRC1 :	175.00	20.00	4339.79395	(88010224)	SRC1 :	175.00	30.00	4705.63965	(90010724)
SRC1 :	175.00	40.00	4723.88721	(90103124)	SRC1 :	125.00	160.00	7061.35938c	(88092524)
SRC1 :	125.00	170.00	7517.57275c	(91012524)	SRC1 :	125.00	180.00	4666.44629	(91081124)
SRC1 :	125.00	190.00	3085.74878	(88021824)	SRC1 :	125.00	200.00	2346.14722	(90022824)
SRC1 :	125.00	210.00	2259.40479	(89051424)	SRC1 :	125.00	220.00	2230.72583	(90091724)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE 2ND HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

*** DISCRETE POLAR RECEPTOR POINTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

ORIGIN SRCID		DIST (M)	DIR (DEG)	CONC	ORIGIN (YYMMDDHH)	SRCID		DIST (M)	DIR (DEG)	CONC	(YYMMDDHH)
SRC1	:	125.00	230.00	2275.12598	(91122724)	SRC1	:	125.00	240.00	2582.14868c	(90032724)
SRC1	:	125.00	250.00	2546.89941	(89092124)	SRC1	:	125.00	260.00	2648.84473	(88112224)
SRC1	:	125.00	270.00	2776.04224	(88112224)	SRC1	:	125.00	280.00	2649.53760c	(89091924)
SRC1	:	125.00	290.00	2635.98267c	(88112324)	SRC1	:	125.00	300.00	3068.06079c	(89102524)
SRC1	:	125.00	310.00	4700.84326c	(88112324)	SRC1	:	125.00	320.00	4756.69580c	(88112324)
SRC1	:	125.00	330.00	6195.94873c	(89102524)	SRC1	:	125.00	340.00	7112.09521c	(89102524)
SRC1	:	125.00	350.00	6787.76855c	(89102824)	SRC1	:	125.00	360.00	6333.68457c	(89102824)
SRC1	:	125.00	10.00	6923.05225	(88010224)	SRC1	:	125.00	20.00	7352.56055	(90010724)
SRC1	:	125.00	30.00	7162.54932	(88010224)	SRC1	:	125.00	40.00	6637.51123c	(88100824)

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	11427.75290	c(90072508)	AT (	37.60, -112.80)	DC	16.	9434.69141	c(88092608)	AT (	37.60, -112.80)	DC
2.	11141.98140	c(87021308)	AT (	94.06, 258.42)	DP	17.	9406.81934	(89041908)	AT (	42.75, -117.46)	DP
3.	10968.17090	c(91030808)	AT (	37.60, -112.80)	DC	18.	9326.91895	(88011008)	AT (	21.71, -123.10)	DP
4.	10596.30270	(89041908)	AT (	37.60, -112.80)	DC	19.	9319.78711	c(88083008)	AT (	37.60, -112.80)	DC
5.	10407.55470	c(90081008)	AT (	37.60, -112.80)	DC	20.	9274.33496	c(87040308)	AT (	-300.50, 242.60)	DC
6.	10157.70410	c(87101208)	AT (	94.06, 258.42)	DP	21.	9211.79102	c(88052608)	AT (	37.60, -112.80)	DC
7.	9874.00879	c(88070808)	AT (	37.60, -112.80)	DC	22.	8866.62793	c(91071708)	AT (	42.75, -117.46)	DP
8.	9840.39941	c(89100408)	AT (	37.60, -112.80)	DC	23.	8862.07910	c(87101208)	AT (	-267.90, 300.80)	DC
9.	9816.38281	c(88100608)	AT (	37.60, -112.80)	DC	24.	8852.70410	c(90081008)	AT (	42.75, -117.46)	DP
10.	9805.86523	c(90052408)	AT (	21.71, -123.10)	DP	25.	8821.75586	c(89100908)	AT (	15.70, -111.80)	DC
11.	9787.82715	c(87021308)	AT (	-267.90, 300.80)	DC	26.	8804.26660	(90102608)	AT (	37.60, -112.80)	DC
12.	9746.92480	c(91072408)	AT (	37.60, -112.80)	DC	27.	8754.64648	c(87062508)	AT (	94.06, 258.42)	DP
13.	9627.80762	c(91030808)	AT (	42.75, -117.46)	DP	28.	8743.94043	c(87103108)	AT (	176.77, 210.66)	DP
14.	9598.06348	c(89080208)	AT (	6.10, -110.70)	DC	29.	8727.47559	c(88070808)	AT (	42.75, -117.46)	DP
15.	9577.06445	(88010808)	AT (	37.60, -112.80)	DC	30.	8722.60938	c(88101308)	AT (	37.60, -112.80)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	15612.23340	c(90052408)	AT (	0.00, -24.90)	DC	16.	13445.10640	c(89102808)	AT (	-42.75, 117.46)	DP
2.	14826.97170	c(89102808)	AT (	-43.70, 98.10)	DC	17.	13329.18070	(89121708)	AT (	42.75, 117.46)	DP
3.	14542.82810	c(89121808)	AT (	42.75, 117.46)	DP	18.	13319.38480	(90010808)	AT (	42.75, 117.46)	DP
4.	14453.39260	c(88100908)	AT (	42.75, 117.46)	DP	19.	13288.61130	(88010308)	AT (	0.00, 125.00)	DP
5.	14321.33890	c(90081008)	AT (	12.50, -24.00)	DC	20.	13226.83200	c(88092608)	AT (	-29.10, -24.00)	DC
6.	13963.10940	(88010208)	AT (	42.75, 117.46)	DP	21.	13141.70210	c(90052408)	AT (	0.00, -37.30)	DC
7.	13926.65630	c(91060808)	AT (	0.00, -24.90)	DC	22.	13139.16800	c(90072508)	AT (	37.60, -24.90)	DC
8.	13888.73140	c(91060808)	AT (	-14.60, -24.00)	DC	23.	13053.68070	c(87072608)	AT (	-14.60, -24.00)	DC
9.	13813.05860	c(91101608)	AT (	62.50, 108.25)	DP	24.	12990.43160	(89050808)	AT (	42.75, 117.46)	DP
10.	13810.56840	c(91060808)	AT (	-29.10, -24.00)	DC	25.	12953.57520	c(90061108)	AT (	-14.60, -24.00)	DC
11.	13769.68750	(88010208)	AT (	62.50, 108.25)	DP	26.	12951.73540	c(87021308)	AT (	-47.75, 270.82)	DP
12.	13767.74120	c(88061908)	AT (	-21.71, 123.10)	DP	27.	12934.92970	c(90090108)	AT (	-21.71, 123.10)	DP
13.	13738.66990	(88010308)	AT (	-43.70, 98.10)	DC	28.	12918.78810	c(91072408)	AT (	37.60, -24.90)	DC
14.	13528.67190	c(91030808)	AT (	25.10, -24.00)	DC	29.	12865.96290	c(87090708)	AT (	1358.20, 117.70)	DC
15.	13492.74510	c(87060608)	AT (	-14.60, -24.00)	DC	30.	12858.13570	c(91101608)	AT (	80.35, 95.76)	DP

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	16315.58300	(89041908)	AT	(37.60, -112.80)	DC	16.	14635.94630c	(88100908)	AT	(42.75, 117.46)	DP
2.	16128.96970c	(88092608)	AT	(37.60, -112.80)	DC	17.	14562.37300	(88010208)	AT	(42.75, 117.46)	DP
3.	15933.88180c	(90072508)	AT	(37.60, -112.80)	DC	18.	14545.84470c	(90081008)	AT	(37.60, -112.80)	DC
4.	15612.23340c	(90052408)	AT	(0.00, -24.90)	DC	19.	14534.25290c	(88092608)	AT	(21.71, -123.10)	DP
5.	15363.23730	(88010808)	AT	(37.60, -112.80)	DC	20.	14518.06930c	(89100408)	AT	(37.60, -112.80)	DC
6.	15225.73140c	(89102808)	AT	(-43.70, 98.10)	DC	21.	14428.22360	(88010808)	AT	(42.75, -117.46)	DP
7.	15203.63280c	(89121808)	AT	(42.75, 117.46)	DP	22.	14420.72270	(88010208)	AT	(62.50, 108.25)	DP
8.	15178.49900	(88010308)	AT	(-43.70, 98.10)	DC	23.	14402.83590c	(91072408)	AT	(37.60, -112.80)	DC
9.	15039.17580c	(88070808)	AT	(37.60, -112.80)	DC	24.	14366.03030c	(90061108)	AT	(37.60, -112.80)	DC
10.	15030.54200c	(88092608)	AT	(42.75, -117.46)	DP	25.	14354.10250	(88021808)	AT	(21.71, -123.10)	DP
11.	15025.88870	(89041908)	AT	(42.75, -117.46)	DP	26.	14321.33890c	(90081008)	AT	(12.50, -24.00)	DC
12.	15005.33690c	(87062508)	AT	(94.06, 258.42)	DP	27.	14245.70700	(89092008)	AT	(37.60, -112.80)	DC
13.	14995.64940c	(91060808)	AT	(21.71, -123.10)	DP	28.	14236.10450c	(90052408)	AT	(21.71, -123.10)	DP
14.	14882.58980c	(87040308)	AT	(-300.50, 242.60)	DC	29.	14231.65530	(91012508)	AT	(37.60, -112.80)	DC
15.	14809.46290	(88011008)	AT	(37.60, -112.80)	DC	30.	13969.26660c	(87062508)	AT	(-267.90, 300.80)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP1 ***

INCLUDING SOURCE(S): SRC1 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	6642.32178	c(87101224)	AT (	94.06, 258.42)	DP	16.	4717.85156	c(91012524)	AT (	21.71, -123.10)	DP
2.	5793.54053	c(87101224)	AT (	-267.90, 300.80)	DC	17.	4674.28125	c(90081424)	AT (	37.60, -112.80)	DC
3.	5732.59033	(90111724)	AT (	37.60, -112.80)	DC	18.	4653.22412	c(91101524)	AT (	37.60, -112.80)	DC
4.	5498.58545	c(87081924)	AT (	94.06, 258.42)	DP	19.	4648.51514	c(88070824)	AT (	37.60, -112.80)	DC
5.	5463.97510	c(88100624)	AT (	37.60, -112.80)	DC	20.	4603.54248	(88100324)	AT (	42.75, -117.46)	DP
6.	5432.10449	c(88092524)	AT (	37.60, -112.80)	DC	21.	4592.33740	(89092124)	AT (	6.10, -110.70)	DC
7.	5389.20361	(89122324)	AT (	37.60, -112.80)	DC	22.	4570.83936	(90111724)	AT (	42.75, -117.46)	DP
8.	5289.05273	c(87012624)	AT (	94.06, 258.42)	DP	23.	4560.74121	(88100324)	AT (	21.71, -123.10)	DP
9.	5247.09180	c(87060424)	AT (	94.06, 258.42)	DP	24.	4541.51904	c(87060424)	AT (	-267.90, 300.80)	DC
10.	5228.53418	c(90081024)	AT (	37.60, -112.80)	DC	25.	4539.13037	c(91110924)	AT (	6.10, -110.70)	DC
11.	5225.17627	(88100324)	AT (	37.60, -112.80)	DC	26.	4530.57520	(91081124)	AT (	21.71, -123.10)	DP
12.	5135.04004	c(88092524)	AT (	21.71, -123.10)	DP	27.	4517.95508	c(88100624)	AT (	42.75, -117.46)	DP
13.	4912.12207	c(89091924)	AT (	6.10, -110.70)	DC	28.	4488.06836	c(90081024)	AT (	42.75, -117.46)	DP
14.	4907.19922	c(89041924)	AT (	37.60, -112.80)	DC	29.	4446.93701	c(88072724)	AT (	37.60, -112.80)	DC
15.	4898.16553	(89122324)	AT (	42.75, -117.46)	DP	30.	4434.05908	c(87081924)	AT (	-267.90, 300.80)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP2 ***

INCLUDING SOURCE(S): SRC1 , SRC2 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	7643.87354	c(89102824)	AT (	-43.70, 98.10)	DC	16.	7061.78760	c(88092524)	AT (	37.60, -24.90)	DC
2.	7563.42676	c(88092524)	AT (	25.10, -24.00)	DC	17.	7052.39648	(89121724)	AT (	62.50, 108.25)	DP
3.	7514.83398	c(87080124)	AT (	-29.10, -24.00)	DC	18.	6993.37793	c(88081124)	AT (	42.75, 117.46)	DP
4.	7512.16602	(88010224)	AT (	42.75, 117.46)	DP	19.	6983.33008	c(87060624)	AT (	-14.60, -24.00)	DC
5.	7473.50293	c(87101224)	AT (	-47.75, 270.82)	DP	20.	6975.79688	c(88100824)	AT (	62.50, 108.25)	DP
6.	7312.62695	(90010724)	AT (	42.75, 117.46)	DP	21.	6941.67969	c(91101624)	AT (	42.75, 117.46)	DP
7.	7291.66748	c(87101824)	AT (	-29.10, -24.00)	DC	22.	6929.49365	(88010224)	AT (	62.50, 108.25)	DP
8.	7275.82324	c(88100924)	AT (	42.75, 117.46)	DP	23.	6895.87012	c(89031624)	AT (	42.75, 117.46)	DP
9.	7185.23877	(89121724)	AT (	42.75, 117.46)	DP	24.	6888.91357	c(88092524)	AT (	-14.60, -24.00)	DC
10.	7172.12354	c(88092524)	AT (	0.00, -12.40)	DC	25.	6887.65479	(90120924)	AT (	42.75, 117.46)	DP
11.	7163.36475	c(89102824)	AT (	-42.75, 117.46)	DP	26.	6813.74756	(88100324)	AT (	25.10, -24.00)	DC
12.	7149.79297	(90010724)	AT (	21.71, 123.10)	DP	27.	6794.58398	c(88092524)	AT (	0.00, -24.90)	DC
13.	7110.81396	c(89102524)	AT (	-43.70, 98.10)	DC	28.	6789.29541	(88010224)	AT (	21.71, 123.10)	DP
14.	7106.62354	c(89102524)	AT (	-42.75, 117.46)	DP	29.	6753.83838	(90103124)	AT (	37.60, 98.10)	DC
15.	7085.14844	c(91101624)	AT (	62.50, 108.25)	DP	30.	6752.95459	(87061424)	AT (	-29.10, -24.00)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE MAXIMUM 30 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: GROUP3 ***

INCLUDING SOURCE(S): SRC1 , SRC2 , SRC3 ,

** CONC OF PM10 IN MICROGRAMS/M**3 **

RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE	RANK	CONC	(YYMMDDHH)	AT	RECEPTOR (XR,YR)	OF TYPE
1.	8588.75293c	(88092524)	AT (	37.60, -112.80)	DC	16.	7394.29346	(89122324)	AT (	37.60, -112.80)	DC
2.	8405.72168c	(88092524)	AT (	21.71, -123.10)	DP	17.	7392.19531c	(89102824)	AT (	-42.75, 117.46)	DP
3.	8309.01465	(88100324)	AT (	37.60, -112.80)	DC	18.	7352.56055	(90010724)	AT (	42.75, 117.46)	DP
4.	8127.55957c	(88100624)	AT (	37.60, -112.80)	DC	19.	7344.97314c	(87081924)	AT (	94.06, 258.42)	DP
5.	7985.35449c	(87101224)	AT (	94.06, 258.42)	DP	20.	7339.48242c	(88100924)	AT (	42.75, 117.46)	DP
6.	7841.32813	(90111724)	AT (	37.60, -112.80)	DC	21.	7326.66797	(88100324)	AT (	21.71, -123.10)	DP
7.	7827.39844c	(89102824)	AT (	-43.70, 98.10)	DC	22.	7314.05957c	(89041924)	AT (	37.60, -112.80)	DC
8.	7722.21289	(88010224)	AT (	42.75, 117.46)	DP	23.	7275.36865	(89121724)	AT (	42.75, 117.46)	DP
9.	7638.81543c	(87012624)	AT (	94.06, 258.42)	DP	24.	7256.20850	(90010724)	AT (	21.71, 123.10)	DP
10.	7612.73340c	(87080124)	AT (	-29.10, -24.00)	DC	25.	7204.72607c	(91012524)	AT (	37.60, -112.80)	DC
11.	7566.27246c	(87101824)	AT (	-29.10, -24.00)	DC	26.	7182.72266	(89121724)	AT (	62.50, 108.25)	DP
12.	7563.42676c	(88092524)	AT (	25.10, -24.00)	DC	27.	7172.12354c	(88092524)	AT (	0.00, -12.40)	DC
13.	7520.91748	(88100324)	AT (	42.75, -117.46)	DP	28.	7170.12012c	(87101224)	AT (	-267.90, 300.80)	DC
14.	7517.57275c	(91012524)	AT (	21.71, -123.10)	DP	29.	7162.54932	(88010224)	AT (	62.50, 108.25)	DP
15.	7473.50293c	(87101224)	AT (	-47.75, 270.82)	DP	30.	7124.22510c	(89102524)	AT (	-43.70, 98.10)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE SUMMARY OF HIGHEST 8-HR RESULTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	NETWORK RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE GRID-ID
GROUP1 HIGH 1ST HIGH VALUE IS	11427.75290c	ON 90072508:	AT (37.60, -112.80, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	10968.17090c	ON 91030808:	AT (37.60, -112.80, 275.00, 0.00)	DC
GROUP2 HIGH 1ST HIGH VALUE IS	15612.23340c	ON 90052408:	AT (0.00, -24.90, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	14453.39260c	ON 88100908:	AT (42.75, 117.46, 269.70, 0.00)	DP
GROUP3 HIGH 1ST HIGH VALUE IS	16315.58300	ON 89041908:	AT (37.60, -112.80, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	16128.96970c	ON 88092608:	AT (37.60, -112.80, 275.00, 0.00)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** THE SUMMARY OF HIGHEST 24-HR RESULTS ***

** CONC OF PM10 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE CONC	DATE (YYMMDDHH)	NETWORK RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE GRID-ID
GROUP1 HIGH 1ST HIGH VALUE IS	6642.32178c	ON 87101224:	AT (94.06, 258.42, 271.90, 0.00)	DP
HIGH 2ND HIGH VALUE IS	5498.58545c	ON 87081924:	AT (94.06, 258.42, 271.90, 0.00)	DP
GROUP2 HIGH 1ST HIGH VALUE IS	7643.87354c	ON 89102824:	AT (-43.70, 98.10, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	7312.62695	ON 90010724:	AT (42.75, 117.46, 269.70, 0.00)	DP
GROUP3 HIGH 1ST HIGH VALUE IS	8588.75293c	ON 88092524:	AT (37.60, -112.80, 275.00, 0.00)	DC
HIGH 2ND HIGH VALUE IS	8309.01465	ON 88100324:	AT (37.60, -112.80, 275.00, 0.00)	DC

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

*** MODELING OPTIONS USED: CONC RURAL ELEV DFAULT MULTYR

*** Message Summary For ISC2 Model Execution ***

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

A Total of 0 Fatal Error Message(s)
A Total of 0 Warning Message(s)
A Total of 508 Informational Message(s)

A Total of 190 Calm Hours Identified

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

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

****
*** ISCST2 Finishes Successfully ***
****

Filename:	ECC91ADM.LST
Directory:	B:
Template:	C:\WINWORD\TEMPLATE\NORMAL.DOT
Title:	
Subject:	
Author:	Authorized Gateway Customer
Keywords:	
Comments:	
Creation Date:	04/10/95 12:18 PM
Revision Number:	2
Last Saved On:	04/10/95 3:34 PM
Last Saved By:	Authorized Gateway Customer
Total Editing Time:	9 Minutes
Last Printed On:	04/24/95 10:21 AM
As of Last Complete Printing	
Number of Pages:	59
Number of Words:	34,094 (approx.)
Number of Characters:	194,340 (approx.)

APPENDIX C

ATTACHMENT 4

SCREEN2 AIR DISPERSION MODELING

04/18/95
14:02:06

```
 ***  SCREEN2 MODEL RUN  ***
 *** VERSION DATED 92245 ***

ecc2

SIMPLE TERRAIN INPUTS:
   SOURCE TYPE                =        AREA
   EMISSION RATE (G/(S-M**2)) =     .100000E-02
   SOURCE HEIGHT (M)          =       .0000
   LENGTH OF SIDE (M)         =     15.3600
   RECEPTOR HEIGHT (M)        =      1.8280
   URBAN/RURAL OPTION         =       RURAL

BUOY. FLUX =     .000 M**4/S**3;  MOM. FLUX =     .000 M**4/S**2.

*** FULL METEOROLOGY ***

**********************************
*** SCREEN AUTOMATED DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

   DIST     CONC              U10M   USTK  MIX HT   PLUME   SIGMA   SIGMA
    (M)   (UG/M**3)   STAB   (M/S)  (M/S)    (M)    HT (M)   Y (M)   Z (M)  DWASH
 -------  ----------  ----  -----  -----  ------  ------  ------  ------  -----
    10.    3576.        2     1.0    1.0   320.0     .00     .36    2.00    NO
   100.    3286.        6     1.0    1.0 10000.0     .00    3.74    2.45    NO

MAXIMUM 1-HR CONCENTRATION AT OR BEYOND    10. M:
    10.    3576.        2     1.0    1.0   320.0     .00     .36    2.00    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

**********************************
*** SCREEN DISCRETE DISTANCES ***
**********************************

*** TERRAIN HEIGHT OF    0. M ABOVE STACK BASE USED FOR FOLLOWING DISTANCES ***

   DIST     CONC              U10M   USTK  MIX HT   PLUME   SIGMA   SIGMA
    (M)   (UG/M**3)   STAB   (M/S)  (M/S)    (M)    HT (M)   Y (M)   Z (M)  DWASH
 -------  ----------  ----  -----  -----  ------  ------  ------  ------  -----
    10.    3576.        2     1.0    1.0   320.0     .00     .36    2.00    NO
    20.    3484.        3     1.0    1.0   320.0     .00    1.65    2.22    NO
    30.    3590.        4     1.0    1.0   320.0     .00    1.95    1.94    NO
    40.    3602.        5     1.0    1.0 10000.0     .00    2.08    1.87    NO
    50.    3492.        5     1.0    1.0 10000.0     .00    2.69    2.20    NO
    60.    3573.        6     1.0    1.0 10000.0     .00    2.19    1.67    NO
    70.    3599.        6     1.0    1.0 10000.0     .00    2.58    1.87    NO
    80.    3540.        6     1.0    1.0 10000.0     .00    2.97    2.07    NO
    90.    3429.        6     1.0    1.0 10000.0     .00    3.36    2.26    NO
```

```
  100.   3286.        6     1.0    1.0 10000.0     .00    3.74    2.45    NO

 DWASH=   MEANS NO CALC MADE (CONC = 0.0)
 DWASH=NO MEANS NO BUILDING DOWNWASH USED
 DWASH=HS MEANS HUBER-SNYDER DOWNWASH USED
 DWASH=SS MEANS SCHULMAN-SCIRE DOWNWASH USED
 DWASH=NA MEANS DOWNWASH NOT APPLICABLE, X<3*LB

     ****************************************
     *** SUMMARY OF SCREEN MODEL RESULTS ***
     ****************************************

 CALCULATION         MAX CONC    DIST TO   TERRAIN
  PROCEDURE         (UG/M**3)    MAX (M)    HT (M)
 --------------    -----------   -------   -------
 SIMPLE TERRAIN      3602.          40.        0.

 ****************************************************
 ** REMEMBER TO INCLUDE BACKGROUND CONCENTRATIONS **
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