Second Street Family

AIR TOXIC AND CRITERIA POLLUTANT HEALTH RISK ASSESSMENT

CITY OF CORONA

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TABLE OF CONTENTS

APPENDICES

APPENDIX 1.1: MERV FILTER EFFICIENCY
APPENDIX 3.1: EMISSION RATE CALCULATION WORKSHEETS
APPENDIX 4.1: AERMOD MODEL INPUT/OUTPUT FILE
APPENDIX 5.1: RISK CALCULATION WORKSHEETS

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

(1)	Reference
AADT	Annual Average Daily Traffic Volumes
ARB	Air Resources Board
CAAQS	California Ambient Air Quality Standards
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
CPF	Cancer Potency Factor
EPA	Environmental Protection Agency
HRA	Health Risk Assessment
LDA	Light Duty Auto
LDT	Light Duty Truck
LHD	Light Heavy Duty
MCY	Motorcycle
MDV	Medium Duty Vehicle
NO2	Nitrogen Dioxide
OBUS	Other Bus
PM10	Particulate Matter 10 microns in diameter or less
PM2.5	Particulate Matter 2.5 microns in diameter or less
PPM	Parts per Million
Project	Crestview Apartments
PVMRM	Plume Volume Molar Ratio Methods
REL	Reference Exposure Level
RME	Reasonable Maximum Exposure
SBUS	School Bus
SCAQMD	South Coast Air Quality Management District
TACs	Toxic Air Contaminants
UBUS	Urban Bus
URF	Unit Risk Factor
UTM	Universal Traverse Mercator

EXECUTIVE SUMMARY

In 2005, the California Air Resources Board (ARB) promulgated an advisory recommendation to avoid setting sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. The ARB indicates that due to traffic-generated pollutants, there is an estimated increased cancer risk incidence of 300 to 1,700 per million within this domain. At some point however, the increased cancer risk incidence due the effects of freeway/roadway corridor pollutants become indistinguishable from the ambient air quality condition. In this regard, the effects of freeway/roadway-source pollutants that may impact the Project site are already acknowledged and accounted for within the ambient air quality discussions presented within this Section. More specifically, the MATES-V Study data for the Project site comprehensively reflects increased TAC-source cancer risks affecting the City and Project site, inclusive of increased cancer risks due to freeway sources.

The 2005 ARB guidance noted previously, information made available through the MATES-V Study, and configuration and design of the Project would suggest that further assessment of freeway-source pollutant impacts is not warranted. Notwithstanding, this Off-Site Freeway-Source Air Toxic and Criteria Pollutant Health Risk Assessment has been prepared for the Project and is intended to:

- Comply with and support CEQA Section 15003 (i) policies addressing adequacy, completeness, and a good-faith effort at full disclosure;
- Disaggregate potential freeway-source air pollutant health effects from other background conditions identified in the MATES V Study; and
- Identify means to reduce the specific effects of freeway-source pollutants at the Project site.

Findings and conclusions of this Assessment are summarized below.

SUMMARY OF FINDINGS

For carcinogenic exposures resulting from exposure to toxics from the freeway, the summation of risk for the maximum exposed residential receptor totaled 1.38 in one million and will not exceed the SCAQMD significance threshold of 10 in one million.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one. For acute exposures, the hazard indices for the identified averaging times did not exceed unity. Therefore, noncarcinogenic hazards are calculated to be within acceptable limits and a less than significant impact would occur.

For the maximum exposed residential receptor, results of the analysis predicted freeway emissions will produce PM10 concentrations of 0.20 μg/m3 and 0.11 μg/m3 for the 24-hour and annual averaging times. These values will not exceed the SCAQMD significance thresholds of 2.5 μg/m3 and 1.0 μg/m3, respectively.

For PM2.5, a maximum 24-hour average concentration of 0.26 μg/m3 was predicted. This value also will not exceed the identified significance threshold of 2.5 μg/m3.

The maximum modeled 1-hour average concentration for CO of 0.03 parts per million (ppm), when added to an existing background concentration of 3.3 ppm, would equal a total Project concentration of 3.33 ppm. This would not cause an exceedance of the California Ambient Air Quality Standards (CAAQS) of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 0.02 ppm, when added to an existing background level of 1.2 ppm, would equal a total Project concentration of 1.22 ppm. This would not cause an exceedance of the CAAQS of 9 ppm.

For NO2, a maximum one-hour concentration of 0.01 ppm was predicted. This concentration, when added to a background concentration of 0.066 ppm, would equal a total Project concentration of 0.09 ppm. This would not cause an exceedance of the CAAQS of 0.18 ppm.

As noted, short duration (i.e., 1 and 8-hour) exposures associated with both toxic and criteria pollutants are within acceptable limits. As such, less than significant impacts are anticipated to residents who would access and utilize outdoor amenities.

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1 INTRODUCTION

In 2005, the California Air Resources Board (ARB) promulgated an advisory recommendation to avoid setting sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day or rural roads with 50,000 vehicles per day. According to the ARB, the increased cancer risk is 300 to 1,700 per million within this domain. The strongest association of traffic related emissions with adverse health outcomes was seen within 300 feet of roadways with high truck densities. Notwithstanding, the ARB notes that a site-specific analysis would be required to determine the actual risk near a particular land use and should consider factors such as prevailing wind direction, local topography and climate.

In consideration of the above referenced requirement, the assessment and dispersion modeling methodologies used in the preparation of this report were composed of all relevant and appropriate procedures presented by the U.S. Environmental Protection Agency, California Environmental Protection Agency and South Coast Air Quality Management District (SCAQMD). The methodologies and assumptions offered under this regulatory guidance were used to ensure that the assessment effectively quantified residential exposures associated with the generation of contaminant emissions from adjacent mobile source activity.

This report summarizes the protocol used to evaluate contaminant exposures and presents the results of the health risk assessment (HRA) prepared by Urban Crossroads, Inc., for the proposed Second Street Family development (referred to as "Project).

1.1 SITE LOCATION

The proposed project is located on the southwest corner of Buena Vista Avenue and 2nd Street in the City of Corona. The Project site is located approximately 215 feet south of the centerline of California State Route 91 (CA-91).

1.2 PROJECT DESCRIPTION

The Project is located at APN 118-270-053 and 118-270-055 in the City of Corona as shown on Exhibit 1. It is our understanding that the Project consists of a 115 dwelling unit affordable housing development[1], as shown on Exhibit 2. The Project also includes an open space area located east of the residential uses along Buena Vista Avenue, as shown on Exhibit 3. The proposed project is anticipated to be constructed and fully operational by the year 2026.

[1] It is important to note, that though the Project includes a 109 DU affordable housing development, the higher DU count of 110 has been evaluated in order to account for any minor changes that may occur as part of the final design. Additionally, emissions associated with the higher DU count would not result in any air quality, greenhouse gas, or energy impacts therefore analyzing the lower DU count would result in fewer emission and energy usage.

EXHIBIT 1-A: LOCATION MAP

N

LEGEND:

Site Boundary

EXHIBIT 1-B: SITE PLAN

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2 SOURCE IDENTIFICATION

The California Department of Transportation (Caltrans), Traffic and Vehicle Data Systems Unit collects and maintains traffic volume counts for vehicles traversing the California state highway system. Table 2-1 presents the average daily traffic volumes (ADT) for the freeway segment considered in the assessment. The ADT volumes are based on existing volumes obtained from the Caltrans Traffic Data Branch.

TABLE 2-1 FREEWAY TRAFFIC VOLUMES

Roadway Segment	Vehicles Per Hour (ALL)	Vehicles Per Hour (gas)	Vehicles Per Hour (diesel)
91 EB	6,938	6,541	396
91 WB	6,938	6,541	396

[1]Based on CalTrans 2020 Traffic Counts

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3 SOURCE CHARACTERIZATION

In urban communities, vehicle emissions contribute significantly to localized concentrations of air contaminants. Typically, emissions generated from these sources are characterized by vehicle mix, the rate pollutants are generated during the course of travel and the number of vehicles traversing the roadway network.

Currently, emission factors are generated from a series of computer-based programs to produce a composite emission rate for vehicles traveling at various speeds within a defined geographical area or along a discrete roadway segment. To account for the emission standards imposed on the California fleet, the ARB has developed the EMFAC2021 emission factor model. EMFAC2021 was utilized to identify pollutant emission rates for total organic gases (TOG), diesel particulates, particulates (PM_{10} and $PM_{2.5}$), carbon monoxide (CO) and nitrogen oxide (NOx) compounds (1). To produce a representative vehicle fleet distribution, the assessment utilized ARB's Riverside County vehicle population estimates for the 2026 calendar year, consistent with the Project's anticipated Opening Year for analytical purposes. This approach provides an estimate of vehicle mix associated with operational profiles at the link or intersection level. Table 3-1 lists the identified fleet mix considered in the assessment.

Based upon the freeway traffic volumes and vehicle population profiles noted above, discrete traffic counts were identified for each roadway segment. Diesel vehicles account for 5.7 percent of the total on-road mobile fleet. For chronic (long term) and acute (e.g., 1-hour) exposures, ADT values were averaged to produce representative hourly traffic volumes.

TABLE 3-1: VEHICLE FLEET MIX PROFILE

Vehicle Class	Riverside County		
	Fuel	Population	Percent
LDA	Dsl	1,556	0.11%
LDA	Elec	41,335	2.89%
LDA	Gas	629,868	44.06%
LDA	Phe	21,619	1.51%
LDT1	Dsl	12	0.00%
LDT1	Elec	208	0.01%
LDT1	Gas	53,721	3.76%
LDT1	Phe	186	0.01%
LDT2	Dsl	1,040	0.07%
LDT2	Elec	3,646	0.26%
LDT2	Gas	300,108	20.99%
LDT2	Phe	3,738	0.26%
LHDT1	Dsl	18,906	1.32%
LHDT1	Elec	700	0.05%
LHDT1	Gas	23,560	1.65%
LHDT2	Dsl	8,665	0.61%
LHDT2	Elec	178	0.01%
LHDT2	Gas	3,552	0.25%
MCY	Gas	31,244	2.19%
MDV	Dsl	3,067	0.21%
MDV	Elec	3,939	0.28%
MDV	Gas	216,401	15.14%
MDV	Phe	2,466	0.17%
MH	Dsl	2,564	0.18%
MH	Gas	5,007	0.35%
MHDT	Dsl	16,576	1.16%
MHDT	Elec	454	0.03%
MHDT	Gas	1,928	0.13%
MHDT	NG	234	0.02%
HHDT	Dsl	28,296	1.98%
HHDT	Elec	471	0.03%
HHDT	Gas	7	0.00%
HHDT	NG	1,034	0.07%
OBUS	Dsl	300	0.02%
OBUS	Elec	8	0.00%
OBUS	Gas	483	0.03%
OBUS	NG	48	0.00%
SBUS	Dsl	619	0.04%
SBUS	Elec	20	0.00%
SBUS	Gas	537	0.04%
SBUS	NG	655	0.05%
UBUS	Dsl	0	0.00%
UBUS	Elec	22	0.00%
UBUS	Gas	147	0.01%
UBUS	NG	372	0.03%

Note: Vehicle category descriptions can be found on the California Air Resources Board website at http://www.arb.ca.gov/msei/modeling.htm.

Average observed route speeds were assumed for vehicles traversing the highway link (I-15).

For particulates (PM10 and PM2.5), emissions were quantified through the reentrainment of paved roadway dust. The predictive emission equation developed by the U.S. Environmental Protection Agency (AP-42, Section 13.2.1) was utilized to generate particulate source strength (2). To account for the mass rate of emissions entrained from the roadway surface, the contribution from exhaust, break and tire wear were added to the AP-42 emission factor equation.

A list of compounds associated with mobile source emissions is presented in Table 3-3. Appendix 3.1 presents the on-road emission rate calculation worksheets for the freeway segments considered in the assessment.

TABLE 3-3: COMPOUNDS EMITTED FROM ON ROAD MOBILE SOURCE ACTIVITY

Source	Pollutant
Freeway	Benzene Formaldehyde 1,3-Butadiene Acetaldehyde Acrolein Diesel Particulates Reentrained Particulates (PM10, PM2.5) Carbon Monoxide Nitrogen Dioxide

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4 EXPOSURE QUANTIFICATION

In order to assess the impact of emitted compounds on individuals who reside at the proposed apartment complex, air quality modeling utilizing the AMS/EPA Regulatory Model AERMOD was performed to assess the downwind extent of mobile source emissions located within a 1,000 feet of the project site. AERMOD's air dispersion algorithms are based upon a planetary boundary layer turbulence structure and scaling concepts, including the treatment of surface and elevated sources in simple and complex terrain.

The model offers additional flexibility by allowing the user to assign initial vertical and lateral dispersion parameters for sources representative of a localized mobile fleet. For this assessment, the volume source algorithm was utilized to model the emissions generated from on-road mobile source activity.

The modeling conservatively utilizes the full conversion protocol to perform the NOx to NO2 conversion.

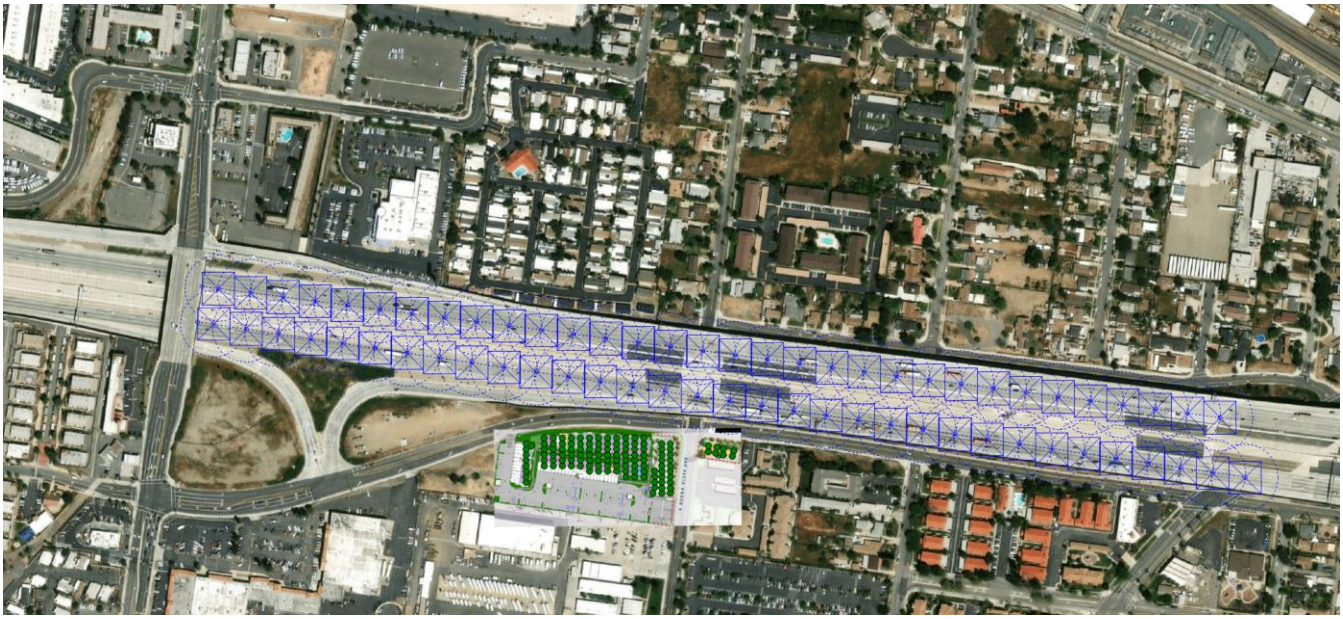
Air dispersion models require additional input parameters including pollutant emission data and local meteorology. Due to the their sensitivity to individual meteorological parameters such as wind speed and direction, the U.S. Environmental Protection Agency recommends that meteorological data used as input into dispersion models be selected on the basis of relative spatial and temporal conditions that exist in the area of concern. In response to this recommendation, the nearest meteorological data available from the SCAQMD Riverside Meteorological Data Station (Source Receptor Area 23), was used to represent local weather conditions and prevailing winds. Five years (2012-2016) of available AERMOD meteorological data was utilized in the modeling, which is the latest available information from SCAQMD.

The modeling analysis also considered the spatial distribution of mobile source activity traversing the freeway in relation to the proposed site. To accommodate a Cartesian grid format, direction dependent calculations were obtained by identifying the universal transverse mercator (UTM) coordinates for each volume source location. On-site receptors were placed to provide coverage across the identified residential portion of the site. A ground level receptor height was assumed as a conservative measure. A graphical representation of the source-receptor grid network is presented in Exhibit 4-A. A complete listing of model input/output files are provided in electronic format in Appendix 4.1.

As required by the California Building Energy Efficiency Standards (Title 24, Part 6 of California Code of Regulations (CCR)), the Project will install air filtration systems with efficiencies equal to or exceeding a Minimum Efficiency Reporting Value (MERV) 13 as defined by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) Standard 52.2. (3)[2].

2 The use of MERV filtration systems to reduce DPM and particulates has been successfully implemented by several lead agencies, including, but not limited to: City of Los Angeles, City of Claremont, City of Irvine, City of Glendale, City of Berkley, City of Oakland, and the Los Angeles Unified School District (LAUSD). The average particle size efficiency (PSE) removal for MERV 13 as defined by the 2019 Title 24 standards is approximately 50% for 0.3 to 1.0 $\mu g/m^3$ (DPM), 85% for 1.0 to 3.0 $\mu g/m^3$ (PM2.5), and 90% for 3.0 to 10.0 $\mu g/m^3$ (PM10) (2).

EXHIBIT 4-A: SOURCE RECEPTOR GRID NETWORK



= Modeled Sensitive Receptors

= Modeled Emissions Source

5 RISK CHARACTERIZATION

5.1 CARCINOGENIC CHEMICAL RISK

The SCAQMD CEQA Air Quality Handbook (1993) states that emissions of toxic air contaminants (TACs) are considered significant if a HRA shows an increased risk of greater than ten in one million. Based on guidance from the SCAQMD in the document Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (4), for purposes of this analysis, ten (10) in one million is used as the cancer risk threshold for the proposed Project.

Excess cancer risks are estimated as the upper-bound incremental probability that an individual will develop cancer over a lifetime as a direct result of exposure to potential carcinogens over a specified exposure duration. The estimated risk is expressed as a unitless probability. The cancer risk attributed to a chemical is calculated by multiplying the chemical intake or dose at the human exchange boundaries (e.g., lungs) by the chemical-specific cancer potency factor (CPF). A risk level of 1 in a million implies a likelihood that up to one person, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of toxic air contaminants over a specified duration of time. This risk would be an excess cancer risk that is in addition to any cancer risk borne by a person not exposed to these air toxics.

Health risks associated with exposure to carcinogenic compounds can be defined in terms of the probability of developing cancer as a result of exposure to a chemical at a given concentration. Under a deterministic approach (i.e., point estimate methodology), the cancer risk probability is determined by multiplying the chemical's annual concentration by its unit risk factor (URF). The URF is a measure of the carcinogenic potential of a chemical when a dose is received through the inhalation pathway. It represents an upper bound estimate of the probability of contracting cancer as a result of continuous exposure to an ambient concentration of one microgram per cubic meter ($\mu g/m^3$) over a 70-year lifetime. The URFs utilized in the assessment and corresponding cancer potency factors were obtained from the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values*.

Notwithstanding, it is the intent of the HRA to provide cumulative risk estimates from near-field on-road sources that are reflective of anticipated exposures experienced at a given residential occupancy. As such, a review of relevant guidance was conducted to determine applicability of the use of early life exposure adjustments to identified carcinogens. For risk assessments conducted under the auspices of The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, Connelly, Statutes of 1987; Health and Safety Code Section 44300 et seq.) a weighting factor is applied to all carcinogens regardless of purported mechanism of action. However, for this assessment, the HRA relied upon U.S. Environmental Protection Agency guidance relating to the use of early life exposure adjustment factors (Supplemental Guidance for Assessing Susceptibility from Early-Life Exposure to Carcinogens, EPA/630/R-003F) whereby adjustment factors are only considered when carcinogens act "through the mutagenic mode of action." A mutagen is a physical or chemical agent that changes genetic material, such as DNA, increasing

the frequency of mutations to produce carcinogenic effects. The U.S. Environmental Protection Agency has identified 19 compounds that elicit a mutagenic mode of action for carcinogenesis. None of the gaseous compounds considered in the HRA elicit a mutagenic mode of action and, therefore, early life exposure adjustments were not considered. For diesel particulates, polycyclic aromatic hydrocarbons (PAHs) and their derivatives, which are known to exhibit a mutagenic mode of action, comprise < 1% of the exhaust particulate mass. To date, the U.S. Environmental Agency reports that whole diesel engine exhaust has not been shown to elicit a mutagenic mode of action.

Accordingly, the health risks to children were not underestimated in the Health Risks Assessment. As discussed, the use of age-weighted factors is not required because none of the gaseous compounds considered in the HRA elicit a primary mutagenic mode of action and none of the pollutants considered are listed by the EPA as having a primary mutagenic mode of action. Therefore, early life exposure adjustments were not considered in accordance with U.S. EPA guidance relating to the use of early life exposure adjustment factors. This analysis appropriately accounts for potential health risk to future residents at the project site.

To effectively quantify dose, the procedure requires the incorporation of several discrete exposure variates. Once determined, contaminant dose is multiplied by the cancer potency factor (CPF) in units of inverse dose expressed in milligrams per kilogram per day $(mg/kg/day)^{-1}$ to derive the cancer risk estimate. Therefore, to assess exposures associated with the proposed residential population, the following dose algorithm was utilized.

$$CDI = (C_{air} \times EF \times ED \times IR) / (BW \times AT)$$

Where:

CDI = chronic daily intake (mg/kg/day)

C_{air} = concentration of contaminant in air (mg/m^3)

EF = exposure frequency (days/year)

ED = exposure duration (years)

IR = inhalation rate (m^3/day)

BW = body weight (kg)

AT = averaging time (days)

To represent residential exposures, the assessment employed the U.S. Environmental Protection Agency's guidance to develop viable dose estimates based on reasonable maximum exposures (RME). Specifically, activity patterns for population mobility recommended by the U.S. Environmental Protection Agency and presented in the *Exposure Factors Handbook* were utilized. As a result, lifetime risk values for residents were adjusted to account for an exposure duration of 350 days per year for 30 years (i.e., 95^{th} percentile). These values are consistent with the California Environmental Quality Act which considers the evaluation of environmental effects of

proposed projects in a manner that reflects both reasonable and feasible assumptions. For body weight and inhalation, the assessment employed average adult values of 70 kilograms and 20 cubic meters per day, respectively.

For carcinogenic exposures resulting from exposure to toxics from the freeway, the summation of risk for the maximum exposed residential receptor totaled 1.90 in one million and will not exceed the SCAQMD significance threshold of 10 in one million.

Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the OEHHA guidance document entitled Air Toxic Hot Spots Program Risk Assessment Guidelines, Part IV: Technical Support Document for Exposure Assessment and Stochastic Analysis (5) and guidance from SCAQMD.

Table 5-1 summarizes the Exposure Parameters for Residents. Appendix 5.1 includes the detailed emissions and risk calculation outputs. (6)

TABLE 5-1: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK

Exposure Parameter	Units	Residential
Exposure Frequency	days/year	350
Exposure Duration	years	70
Inhalation Rate [a]	L/kg-day	302
Exposure Duration	Years	30
Exposure Time	hours/day	24

[a] The residential breathing rate of 302 L/kg-day represents the 80th percentile breathing rate per ARB and consistent with SCAQMD Risk Assessment Procedures for Rules 1401 and 212, the worker breathing rate of 149 L/kg-day is also consistent with SCAQMD Risk Assessment Procedures for Rules 1401 and 212, the school child breathing rate of 581 L/kg-day represents the high end 95th percentile breathing rate.

5.2 NON-CARCINOGENIC EXPOSURES

An evaluation of the potential noncancerous effects of contaminant exposures was also conducted. Under the point estimate approach, adverse health effects are evaluated by comparing the concentration of each compound with the appropriate Reference Exposure Level (REL). Available REL's presented in the *Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values were considered in the assessment.*

To quantify noncarcinogenic impacts, the hazard index approach was used. The hazard index assumes that subthreshold exposures adversely affect a specific organ or organ system (i.e., toxicological endpoint). For each discrete pollutant exposure, target organs presented in regulatory guidance were utilized.

To calculate the hazard index, the pollutant concentration or dose is divided by the appropriate toxicity value. For compounds affecting the same toxicological endpoint, this ratio is summed. Where the total equals or exceeds one (i.e., unity), a health hazard is presumed to exist. For chronic exposures, REL's were converted to units expressed in mg/kg/day to accommodate the above referenced intake algorithm. To assess acute noncancer impacts, the maximum pollutant

concentration is divided by the REL for the corresponding averaging time (e.g., 1-hour). No exposure adjustments are considered for short duration exposures.

Appendix 5.1, summarizes the REL's and corresponding reference dose values used in the evaluation of chronic noncarcinogenic and acute exposures. The noncancer hazard quotient for identified compounds generated from each source and a summation for each toxicological endpoint are presented on this table.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than the threshold of 1.0 for all exposure scenarios. For acute exposures, the hazard indices for the identified averaging times did not exceed the threshold of 1.0. Therefore, acute and chronic non-carcinogenic hazards were predicted to be within acceptable limits and are less than significant.

5.3 POTENTIAL CANCER AND NON-CANCER RISKS[3]

For carcinogenic exposures the summation of risk for the maximum exposed residential receptor totaled 1.90 in one million, which does not exceed the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be less than 1.0 for all toxicological endpoints.

5.4 CRITERIA POLLUTANT EXPOSURES

The State of California has promulgated strict ambient air quality standards for various pollutants. These standards were established to safeguard the public's health and welfare with specific emphasis on protecting those individuals susceptible to respiratory distress, such as asthmatics, the young, the elderly and those with existing conditions which may be affected by increased pollutant concentrations. However, recent research has shown that unhealthful respiratory responses occur with exposures to pollutants at levels that only marginally exceed clean air standards. Table 5-1 presents the CAAQS for the criteria pollutants considered in the assessment.

Pollutant emissions are considered to have a significant effect on the environment if they result in concentrations that create either a violation of an ambient air quality standard, contribute to an existing air quality violation or expose sensitive receptors to substantive pollutant concentrations. Should ambient air quality already exceed existing standards, the SCAQMD has established significance criteria for selected compounds to account for the continued degradation of local air quality. Background concentrations are based upon the highest observed value for the most recent three-year period.

For PM_{10} emissions, background concentrations representative of the project area exceed the CAAQS for the 24-hour and annual averaging times. As a result, a significant impact is achieved when pollutant concentrations produce a measurable change over existing background levels.

3 SCAQMD guidance does not require assessment of the potential health risk to on-site workers. Excerpts from the document OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines—The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2003), also indicate that it is not necessary to examine the health effects to on-site workers unless required by RCRA (Resource Conservation and Recovery Act) / CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) or the worker resides on-site.

Although background concentrations exceed the CAAQS annual averaging time for fine particulates, no measurable change criteria currently exists. As a result, the SCAQMD significance threshold of 2.5 μg/m^3 for the 24-hour averaging time is used to assess $PM_{2.5}$ impacts.

For the CO 1 and 8-hour averaging times and NO_2 1-hour averaging time, background concentrations are below the current air quality standards. As such, significance is achieved when pollutant concentrations add to existing levels and create an exceedance of the CAAQS. Table 5-2 shows the pollutant concentrations collected at the nearest available monitoring site to the Project in 2021. Table 5-3 outlines the relevant significance thresholds considered to affect local air quality.

TABLE 5-1: CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Standard	Health Effects
Particulates (PM10)	>50 μg/m3 (24 hr avg.) >20 μg/m3 (Annual)	1) Excess deaths from short-term exposures and the exacerbation of symptoms in sensitive individuals with respiratory disease. 2) Excess seasonal declines in pulmonary function especially in children.
Particulates (PM2.5)	>12 μg/m3 (Annual)	1) Excess deaths and illness from long-term exposures and the exacerbation of symptoms in sensitive individuals with respiratory and cardio pulmonary disease.
Carbon Monoxide (CO)	>9.0 ppm (8 hr avg.) >20.0 ppm (1 hr avg.)	1) Aggravation of angina pectoris and other aspects of coronary heart disease. 2) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease. 3) Impairment of central nervous system functions. 4) Possible increased risk to fetuses.
Nitrogen Dioxide (NO2)	>0.18 ppm (1 hr avg.)	1) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups. 2) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes.

Abbreviations: ppm: parts per million; μg/m3: micrograms per cubic meter.
Source: California Code of Regulations, Title 17, Section 70200.

TABLE 5-2: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2022

Pollutant/ Averaging Time	Year
	2022
Particulates (PM_{10})	
24-Hour	38.5
Particulates ($PM_{2.5}$)	
24-Hour	153
Carbon Monoxide (CO)	
1-Hour	3.3
8-Hour	1.2
Nitrogen Dioxide (NO_2)	
1-Hour	0.056

Note: PM_{10} concentrations are expressed in micrograms per cubic meter ($\mu g/m^3$). All others are expressed in parts per million (ppm).
Source: U.S. Environmental Protection Agency http://www.epa.gov/airdata/ad_rep_mon.html

TABLE 5-3: SCAQMD AIR QUALITY SIGNIFICANCE THRESHOLDS

Pollutant	Averaging Time	Pollutant Concentration
Particulates (PM10) Particulates (PM2.5)	24-Hours	2.5 μg/m3 (operation)
Particulates (PM10)	Annual	1.0 μg/m3
Carbon Monoxide (CO)	1/8-Hours	SCAQMD is in attainment; impacts are significant if they cause or contribute to an exceedance of the following attainment standards 20 ppm (1-hour) and 9 ppm (8-hour).
Nitrogen Dioxide (NO2)	1-Hour	SCAQMD is in attainment; impacts are significant if they cause or contribute to an exceedance of the following attainment standard 0.18 ppm.

Abbreviations: ppm: parts per million; μg/m3: micrograms per cubic meter
Source: South Coast Air Quality Management District.

For the maximum exposed residential receptor, results of the analysis predicted freeway emissions will produce PM10 concentrations of 0.20 μg/m3 and 0.11 μg/m3 for the 24-hour and annual averaging times. These values will not exceed the SCAQMD significance thresholds of 2.5 μg/m3 and 1.0 μg/m3, respectively.

For PM2.5, a maximum 24-hour average concentration of 0.26 μg/m3 was predicted. This value also will not exceed the identified significance threshold of 2.5 μg/m3.

The maximum modeled 1-hour average concentration for CO of 0.03 parts per million (ppm), when added to an existing background concentration of 3.3 ppm, would equal a total Project concentration of 3.33 ppm. This would not cause an exceedance of the California Ambient Air

Quality Standards (CAAQS) of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 0.02 ppm, when added to an existing background level of 1.2 ppm, would equal a total Project concentration of 1.22 ppm. This would not cause an exceedance of the CAAQS of 9 ppm.

For NO2, a maximum one-hour concentration of 0.01 ppm was predicted. This concentration, when added to a background concentration of 0.066 ppm, would equal a total Project concentration of 0.09 ppm. This would not cause an exceedance of the CAAQS of 0.18 ppm.

As noted, short duration (i.e., 1 and 8-hour) exposures associated with both toxic and criteria pollutants are within acceptable limits. As such, less than significant impacts are anticipated to residents who would access and utilize outdoor amenities.

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6 FINDINGS & CONCLUSIONS

For carcinogenic exposures resulting from exposure to toxics from the freeway, the summation of risk for the maximum exposed residential receptor totaled 1.38 in one million and will not exceed the SCAQMD significance threshold of 10 in one million.

For chronic noncarcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one. For acute exposures, the hazard indices for the identified averaging times did not exceed unity. Therefore, noncarcinogenic hazards are calculated to be within acceptable limits and a less than significant impact would occur.

For the maximum exposed residential receptor, results of the analysis predicted freeway emissions will produce PM10 concentrations of 0.20 μg/m3 and 0.11 μg/m3 for the 24-hour and annual averaging times. These values will not exceed the SCAQMD significance thresholds of 2.5 μg/m3 and 1.0 μg/m3, respectively.

For PM2.5, a maximum 24-hour average concentration of 0.26 μg/m3 was predicted. This value also will not exceed the identified significance threshold of 2.5 μg/m3.

The maximum modeled 1-hour average concentration for CO of 0.03 parts per million (ppm), when added to an existing background concentration of 3.3 ppm, would equal a total Project concentration of 3.33 ppm. This would not cause an exceedance of the California Ambient Air Quality Standards (CAAQS) of 20 ppm. For the 8-hour averaging time, the maximum predicted concentration of 0.02 ppm, when added to an existing background level of 1.2 ppm, would equal a total Project concentration of 1.22 ppm. This would not cause an exceedance of the CAAQS of 9 ppm.

For NO2, a maximum one-hour concentration of 0.01 ppm was predicted. This concentration, when added to a background concentration of 0.066 ppm, would equal a total Project concentration of 0.09 ppm. This would not cause an exceedance of the CAAQS of 0.18 ppm.

As noted, short duration (i.e., 1 and 8-hour) exposures associated with both toxic and criteria pollutants are within acceptable limits. As such, less than significant impacts are anticipated to residents who would access and utilize outdoor amenities.

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7 REFERENCES

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8 CERTIFICATION

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Second Street Family Project. The information contained in this health risk assessment is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

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URBAN CROSSROADS, INC.
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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May, 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June, 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June, 2013
Planned Communities and Urban Infill – Urban Land Institute • June, 2011
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Principles of Ambient Air Monitoring – California Air Resources Board • August, 2007
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APPENDIX 1.1:

MERV FILTER EFFICIENCY

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TECH TIPS

Sales and Marketing Information on Airguard Air Filtration Products

ASHRAE Standard 52.2 Explained

ASHRAE Efficiency Ratings Provide New Method Of Measuring Filter Performance

The new ASHRAE Standard 52.2 provides the first industry accepted procedure for measuring filter efficiency by particle size.

The need for a more precise measurement of a filter's ability to remove specific particle sizes has become more critical as concern over indoor air quality, respirable particles, as well as protection of products and processes, has continued to grow.

Standard 52.2 Supplements Standard 52.1

Standard 52.2 is not intended to be a replacement for standard 52.1. Both will continue to be relied upon as the industry accepted measures of filter performance. The arrestance and dust holding capacity data provided by Standard 52.1 will remain as valuable performance characteristics. However, it is anticipated that as the fractional efficiency test (52.2) becomes more widely understood and accepted, the atomspheric dust spot efficiency test (52.1) will no longer be utilized.

Particle Size Ranges

The 52.2 procedure calls for efficiency measurements to be taken on twelve (12) particle size ranges. (See example to right.)

For reporting and rating purposes, these twelve (12) ranges are grouped into three (3) wider ranges:

E_1 - 0.3 - 1.0 Microns

E_2 - 1.0 - 3.0 Microns

E_3 - 3.0 - 10.0 Microns

Standard 52.2 Test Procedure

Efficiency measurements are taken on each of the twelve (12) particle size ranges at six (6) different points during the test:

Clean (after (4) increments of dust loading).

After the final resistance has been reached.

Standard synthetic ASHRAE dust, comprised of 72% SAE standard J726 test dust (fine), 23% powdered carbon, and 5% milled cotton linters is used to load the filter in five (5) equal increments.

The six (6) efficiency measurements for each of the twelve (12) particle size ranges (72 total efficiency measurements) are taken by challenging the filter with potassium chloride (KCI) particles. This test aerosol provides particles over the entire range of 0.3 to 10.0 microns required by the test procedure.

The lowest efficiency value (of the six (6) measurements taken throughout the test) for each of the twelve (12) particle size ranges is recorded. (Note: The six (6) readings for each particle size range are not averaged. The lowest efficiency value is used.)

The twelve (12) readings are grouped into the three (3) wider ranges (E_1,E_2,E_3).

These values are then averaged to provide an average Particle Size Efficiency (PSE) for each range. The PSE values are used to classify the filter into one of the sixteen (16) Minimum Efficiency Reporting Value (MERV) Ratings.

Standard Test Air Flow Rates

Standard 52.2 prescribes that the tests are to be run at one of seven (7) air flow rates:

118 FPM (.60 m/s)

246 FPM (1.25 m/s)

295 FPM (1.50 m/s)

374 FPM (1.90 m/s)

492 FPM (2.50 m/s)

630 FPM (3.20 m/s)

748 FPM (3.80 m/s)

Example: MERV-14 Rating (see back for MERV Rating Schedule.)

Particle Size Range (Microns)	Lowest Efficiency (%) (based on 6 readings over life of test)	Average Particle Size Efficiency (PSE)
.30 - .40	74%	84% (E_1)
.40 - .55	82%	
.55 - .70	87%	
.70 - 1.0	92%	
1.0 - 1.3	96%	98% (E_2)
1.3 - 1.6	98%	
1.6 - 2.2	99%	
2.2 - 3.0	100%	
3.0 - 4.0	100%	100% (E_3)
4.0 - 5.5	100%	
5.5 - 7.0	100%	
7.0 - 10.0	100%	

To determine the MERV Rating, start with the PSE value for E_1, then E_2. then E_3 to arrive at the proper rating:

E_1 is 84%: Therefore the maximum rating would be MERV-14.

E_2 and E_3 both exceed 90%: therefore the filter receives an MERV-14 Rating.

AIRGUARD®

Tech Tips

Sales and Marketing Information on Airguard Air Filtration Products

Minimum Efficiency Reporting Values (MERV)
ASHRAE Standard 52.2

Group Number	MERV Rating	E_1 Average Particle Size Efficiency (PSE) 0.3 - 1.0 Microns	E_2 Average Particle Size Efficiency (PSE) 1.0 - 3.0 Microns	E_3 Average Particle Size Efficiency (PSE) 3.0 - 10.0 Microns	Average Arrestance (ASHRAE 52.1)	Minimum Final Resistance (In. W.G.)
1	MERV 1	-	-	Less than 20%	Less than 65%	0.3"
	MERV 2	-	-	Less than 20%	65 - 69.9%	0.3"
	MERV 3	-	-	Less than 20%	70 - 74.9%	0.3"
	MERV 4	-	-	Less than 20%	75% or greater	0.3"
2	MERV 5	-	-	20 - 34.9%	-	0.6"
	MERV 6	-	-	35 - 49.9%	-	0.6"
	MERV 7	-	-	50 - 69.9%	-	0.6"
	MERV 8	-	-	70 - 84.9%	-	0.6"
3	MERV 9	-	Less than 50%	85% or greater	-	1.0"
	MERV 10	-	50% - 64.9%	85% or greater	-	1.0"
	MERV 11	-	65% - 79.9%	85% or greater	-	1.0"
	MERV 12	-	80% - 89.9%	90% or greater	-	1.0"
4	MERV 13	Less than 75%	90% or greater	90% or greater	-	1.4"
	MERV 14	75% - 84.9%	90% or greater	90% or greater	-	1.4"
	MERV 15	85% - 94.9%	90% or greater	90% or greater	-	1.4"
	MERV 16	95% or Greater	95% or greater	95% or greater	-	1.4"

Notes:

1. ASHRAE Standard 52.2 tests are to be conducted at one of seven (7) air flow rates:

   118 FPM (.60 m/s)
   246 FPM (1.25 m/s)
   295 FPM (1.50 m/s)
   374 FPM (1.90 m/s)
   492 FPM (2.50 m/s)
   630 FPM (3.20 m/s)
   748 FPM (3.80 m/s)

2. The air flow rate at which the filter was tested is included in the MERV rating (MERV-10 @2.5 m/s).

3. Filters with an E_3 efficiency of less than 20% (MERV-1 through MERV-4) must also be tested for arrestance per ASHRAE Standard 52.1.

4. Final resistance must be at least twice the initial resistance at the test air flow rate, or the values shown in the table above, whichever is greater.

A-TT52.2-308

AIRGUARD®

www.airguard.com

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APPENDIX 3.1:

EMISSION RATE CALCULATION WORKSHEETS

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EMFAC2021 Worksheet
(60 mph)

EMFAC2021 Emission Rates
Vehicle Classification: EMFAC2007 Categories
Pollutant Classification: Criteria

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	Wt Frac	CO_RUNEX (gms/mile)	CO_RUNEX AVE (gms/mile)	NOX_RUNEX (gms/mile)	NOx_RUNEX AVE (gms/mile)	PM10_RUNEX (gms/mile)	PM10_RUNEX AVE (gms/mile)
Riverside (SC)	2026	Annual	LDA	Dsl	Aggregated	60	1556.024758	0.0011	0.206585752	0.00022487	0.118469652	0.00012896	0.009375979	0.00001021
Riverside (SC)	2026	Annual	LDA	Elec	Aggregated	60	41335.3283	0.0289	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	LDA	Gas	Aggregated	60	629868.0952	0.4406	0.47393351	0.20882547	0.028482453	0.01254999	0.000965892	0.00042559
Riverside (SC)	2026	Annual	LDA	Phe	Aggregated	60	21618.70581	0.0151	0.145860183	0.00220589	0.002276215	0.00003442	0.000447322	0.00000676
Riverside (SC)	2026	Annual	LDT1	Dsl	Aggregated	60	12.46842613	0.0000	2.297692684	0.00002004	1.387605077	0.00001210	0.195036461	0.00000170
Riverside (SC)	2026	Annual	LDT1	Elec	Aggregated	60	208.0056009	0.0001	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	LDT1	Gas	Aggregated	60	53721.02723	0.0376	1.130471841	0.04248352	0.129179994	0.00485463	0.001518485	0.00005707
Riverside (SC)	2026	Annual	LDT1	Phe	Aggregated	60	185.9775531	0.0001	0.131940275	0.00001717	0.002058989	0.00000027	0.000278457	0.00000004
Riverside (SC)	2026	Annual	LDT2	Dsl	Aggregated	60	1040.470618	0.0007	0.074877305	0.00005450	0.030266781	0.00002203	0.003715985	0.00000270
Riverside (SC)	2026	Annual	LDT2	Elec	Aggregated	60	3646.006859	0.0026	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	LDT2	Gas	Aggregated	60	300107.9094	0.2099	0.540846747	0.11354503	0.046980018	0.00986296	0.000962609	0.00020209
Riverside (SC)	2026	Annual	LDT2	Phe	Aggregated	60	3737.817967	0.0026	0.137538574	0.00035963	0.002146353	0.00000561	0.000337482	0.00000088
Riverside (SC)	2026	Annual	LHDT1	Dsl	Aggregated	60	18905.98906	0.0132	0.210254305	0.00278074	1.340562935	0.01772977	0.019689031	0.00026040
Riverside (SC)	2026	Annual	LHDT1	Elec	Aggregated	60	700.1813165	0.0005	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	LHDT1	Gas	Aggregated	60	23559.93668	0.0165	0.773179476	0.01274298	0.111203096	0.00183277	0.001024467	0.00001688
Riverside (SC)	2026	Annual	LHDT2	Dsl	Aggregated	60	8664.740349	0.0061	0.156149091	0.00094648	1.032682172	0.00625949	0.018706515	0.00011339
Riverside (SC)	2026	Annual	LHDT2	Elec	Aggregated	60	178.1617915	0.0001	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	LHDT2	Gas	Aggregated	60	3552.105687	0.0025	0.567478256	0.00141011	0.094636818	0.00023516	0.00090239	0.00000224
Riverside (SC)	2026	Annual	MCY	Gas	Aggregated	60	31244.43729	0.0219	11.41169719	0.24942466	0.520772854	0.01138250	0.001605907	0.00003510
Riverside (SC)	2026	Annual	MDV	Dsl	Aggregated	60	3067.061238	0.0021	0.174191438	0.00037374	0.112768578	0.00024195	0.00631845	0.00001356
Riverside (SC)	2026	Annual	MDV	Elec	Aggregated	60	3939.335678	0.0028	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	MDV	Gas	Aggregated	60	216400.8647	0.1514	0.661598497	0.10015438	0.073456323	0.01112000	0.001011851	0.00015318
Riverside (SC)	2026	Annual	MDV	Phe	Aggregated	60	2465.74681	0.0017	0.140141132	0.00024173	0.002186967	0.00000377	0.000404156	0.00000070
Riverside (SC)	2026	Annual	MH	Dsl	Aggregated	60	2563.659265	0.0018	0.275816798	0.00049465	3.546470852	0.00636023	0.129175945	0.00023166
Riverside (SC)	2026	Annual	MH	Gas	Aggregated	60	5006.909766	0.0035	0.69755538	0.00244323	0.25302374	0.00088623	0.000873028	0.00000306
Riverside (SC)	2026	Annual	MHDT	Dsl	Aggregated	60	16576.12163	0.0116	0.040160896	0.00046570	0.569167309	0.00659993	0.009835218	0.00011405
Riverside (SC)	2026	Annual	MHDT	Elec	Aggregated	60	454.1119717	0.0003	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	MHDT	Gas	Aggregated	60	1927.990351	0.0013	0.662546651	0.00089359	0.240837575	0.00032482	0.000829086	0.00000112
Riverside (SC)	2026	Annual	MHDT	NG	Aggregated	60	234.4547552	0.0002	1.145073747	0.00018781	0.059662368	0.00000979	0.00073941	0.00000012
Riverside (SC)	2026	Annual	HHDT	Dsl	Aggregated	60	28295.94671	0.0198	0.03606765	0.00071393	1.075563673	0.02129006	0.026674914	0.00052801
Riverside (SC)	2026	Annual	HHDT	Elec	Aggregated	60	471.1635235	0.0003	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	HHDT	Gas	Aggregated	60	6.705978975	0.0000	25.49672939	0.00011961	4.775395671	0.00002240	0.000963731	0.00000000
Riverside (SC)	2026	Annual	HHDT	NG	Aggregated	60	1034.422414	0.0007	4.47619777	0.00323909	0.318440171	0.00023043	0.001727395	0.00000125
Riverside (SC)	2026	Annual	OBUS	Dsl	Aggregated	60	299.9108443	0.0002	0.149119342	0.00003129	1.435379992	0.00030114	0.041412718	0.00000869
Riverside (SC)	2026	Annual	OBUS	Elec	Aggregated	60	7.720171355	0.0000	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	OBUS	Gas	Aggregated	60	482.5016009	0.0003	0.841651869	0.00028408	0.324525096	0.00010954	0.000670873	0.00000023
Riverside (SC)	2026	Annual	OBUS	NG	Aggregated	60	48.28852732	0.0000	1.30316578	0.00004402	0.06811792	0.00000230	0.000670041	0.00000002
Riverside (SC)	2026	Annual	SBUS	Dsl	Aggregated	60	618.8047245	0.0004	0.151432119	0.00006555	4.709832927	0.00203880	0.034185954	0.00001480
Riverside (SC)	2026	Annual	SBUS	Elec	Aggregated	60	19.75443506	0.0000	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	SBUS	Gas	Aggregated	60	537.4047498	0.0004	0.733950889	0.00027592	0.354961539	0.00013344	0.000502475	0.00000019
Riverside (SC)	2026	Annual	SBUS	NG	Aggregated	60	654.660935	0.0005	3.902059013	0.00178701	0.113717224	0.00005208	0.002120518	0.00000097
Riverside (SC)	2026	Annual	UBUS	Dsl	Aggregated	60	0.3117338	0.0000	0.012100602	0.00000000	0.047798413	0.00000001	0.004412188	0.00000000
Riverside (SC)	2026	Annual	UBUS	Elec	Aggregated	60	21.78589291	0.0000	0	0.00000000	0	0.00000000	0	0.00000000
Riverside (SC)	2026	Annual	UBUS	Gas	Aggregated	60	147.0093126	0.0001	0.352958853	0.00003630	0.168324211	0.00001731	0.000884022	0.00000009
Riverside (SS)	2026	Annual	UBUS	NG	Aggregated	60	371.9613267	0.0003	13.3357172	0.00347001	0.227141559	0.00005910	7.70E-05	0.00000002
							1429498	1.0		0.750		0.115		0.0022

EMFAC2021 Worksheet
(60 mph)

PM10_PMTW (gms/mile)	PM10_PMTW_AVE (gms/mile)	PM10_PMBW (gms/mile)	PM10_PMBW_AVE (gms/mile)	PM2_5_RUNEX (gms/mile)	PM2_5_RUNEX_AVE (gms/mile)	PM2_5_PMTW (gms/mile)	PM2_5_PMTW_AVE (gms/mile)	PM2_5_PMBW (gms/mile)	PM2_5_PMBW_AVE (gms/mile)
0.008	0.00000871	0.002865542	0.000003119	0.008970378	0.000009764	0.002	0.000002177	0.00100294	0.000001092
0.008	0.00023133	0.001643047	0.000047510	0	0.000000000	0.002	0.000057832	0.000575066	0.000016629
0.008	0.00352498	0.002795816	0.001231898	0.000888102	0.000391317	0.002	0.000881244	0.000978536	0.000431164
0.008	0.00012099	0.00164664	0.000024903	0.000411296	0.000006220	0.002	0.000030247	0.000576324	0.000008716
0.008	0.00000007	0.004211989	0.000000037	0.18659927	0.000001628	0.002	0.000000017	0.001474196	0.000000013
0.008	0.00000116	0.001640435	0.000000239	0	0.000000000	0.002	0.000000291	0.000574152	0.000000084
0.008	0.00030064	0.003714255	0.000139583	0.001396191	0.000052469	0.002	0.000075161	0.001299989	0.000048854
0.008	0.00000104	0.001639858	0.000000213	0.000256031	0.000000033	0.002	0.000000260	0.00057395	0.000000075
0.008	0.00000582	0.00350386	0.000002550	0.003555234	0.000002588	0.002	0.000001456	0.001226351	0.000000893
0.008	0.00002040	0.001640666	0.000004185	0	0.000000000	0.002	0.000005101	0.000574233	0.000001465
0.008	0.00167951	0.003548852	0.000745044	0.000885084	0.000185814	0.002	0.000419879	0.001242098	0.000260765
0.008	0.00002092	0.001642855	0.000004296	0.000310302	0.000000811	0.002	0.000005230	0.000574999	0.000001503
0.012	0.00015871	0.078	0.001031598	0.018837292	0.000249135	0.003	0.000039677	0.0273	0.000361059
0.008	0.00000392	0.039	0.000019103	0	0.000000000	0.002	0.000000980	0.01365	0.000006686
0.008	0.00013185	0.078	0.001285539	0.00094196	0.000015525	0.002	0.000032963	0.0273	0.000449939
0.012	0.00007274	0.091	0.000551586	0.017897279	0.000108482	0.003	0.000018184	0.03185	0.000193055
0.008	0.00000100	0.0455	0.000005671	0	0.000000000	0.002	0.000000249	0.015925	0.000001985
0.008	0.00001988	0.091	0.000226122	0.000829714	0.000002062	0.002	0.000004970	0.03185	0.000079143
0.004	0.00008743	0.012	0.000262283	0.001500752	0.000032802	0.001	0.000021857	0.0042	0.000091799
0.008	0.00001716	0.003760892	0.000008069	0.006045117	0.000012970	0.002	0.000004291	0.001316312	0.000002824
0.008	0.00002205	0.001641205	0.000004523	0	0.000000000	0.002	0.000005511	0.000574422	0.000001583
0.008	0.00121106	0.003684833	0.000557819	0.00093036	0.000140840	0.002	0.000302765	0.001289692	0.000195237
0.008	0.00001380	0.001644888	0.000002837	0.000371606	0.000000641	0.002	0.000003450	0.000575711	0.000000993
0.016	0.00002869	0.041585299	0.000074579	0.123587851	0.000221642	0.004	0.000007174	0.014554855	0.000026103
0.012	0.00004203	0.041585299	0.000145655	0.000802717	0.000002812	0.003	0.000010508	0.014554855	0.000050979
0.012	0.00013915	0.041585299	0.000482213	0.009409751	0.000109113	0.003	0.000034787	0.014554855	0.000168775
0.012	0.00000381	0.02079265	0.000006605	0	0.000000000	0.003	0.000000953	0.007277427	0.000002312
0.012	0.00001618	0.041585299	0.000056087	0.000762314	0.000001028	0.003	0.000004046	0.014554855	0.000019630
0.012	0.00000197	0.041585299	0.000006820	0.00067986	0.000000112	0.003	0.000000492	0.014554855	0.000002387
0.035132954	0.00069543	0.069068719	0.001367169	0.025520969	0.000505170	0.008783238	0.000173858	0.024174052	0.000478509
0.034016918	0.00001121	0.03563969	0.000011747	0	0.000000000	0.008504229	0.000002803	0.012473891	0.000004111
0.02	0.00000009	0.080303848	0.000000377	0.000886115	0.000000004	0.005	0.000000023	0.028106347	0.000000132
0.036	0.00002605	0.092804079	0.000067155	0.001588276	0.000001149	0.009	0.000006513	0.032481428	0.000023504
0.012	0.00000252	0.051392019	0.000010782	0.039621222	0.000008313	0.003	0.000000629	0.017987207	0.000003774
0.012	0.00000006	0.02079265	0.000000112	0	0.000000000	0.003	0.000000016	0.007277427	0.000000039
0.012	0.00000405	0.041585299	0.000014036	0.000616843	0.000000208	0.003	0.000001013	0.014554855	0.000004913
0.012	0.00000041	0.041585299	0.000001405	0.000616078	0.000000021	0.003	0.000000101	0.014554855	0.000000492
0.012	0.00000519	0.041585299	0.000018002	0.032707085	0.000014158	0.003	0.000001299	0.014554855	0.000006301
0.010963438	0.00000015	0.02079265	0.000000287	0	0.000000000	0.002740859	0.000000038	0.007277427	0.000000101
0.008	0.00000301	0.041585299	0.000015634	0.000462007	0.000000174	0.002	0.000000752	0.014554855	0.000005472
0.012	0.00000550	0.041585299	0.000019045	0.001949738	0.000000893	0.003	0.000001374	0.014554855	0.000006666
0.012	0.00000000	0.11	0.000000024	0.004221319	0.000000001	0.003	0.000000001	0.0385	0.000000008
0.028839368	0.00000044	0.055	0.000000838	0	0.000000000	0.007209842	0.000000110	0.01925	0.000000293
0.01036796	0.00000107	0.102247809	0.000010515	0.000812825	0.000000084	0.00259199	0.000000267	0.035786733	0.000003680
0.031315882	0.00000815	0.11	0.000028622	7.37E-05	0.000000019	0.007828971	0.000002037	0.0385	0.000010018

	0.009		0.008		0.0021		0.002		0.003

EMFAC2021 Worksheet
(60 mph)

EMFAC2021 Emission Rates
Vehicle Classification: EMFAC2007 Categories
Pollutant Classification: TOG GAS

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	Wt Frac	TOG_RUNEX (gms/mile)	TOG_RUNEX AVE (gms/mile)
Riverside (SC)	2026	Annual	LDA	Gas	Aggregated	60	629868.0952	0.4857	0.007676211	0.0037
Riverside (SC)	2026	Annual	LDA	Phe	Aggregated	60	21618.70581	0.0167	0.001272246	0.0000
Riverside (SC)	2026	Annual	LDT1	Gas	Aggregated	60	53721.02723	0.0414	0.035443249	0.0015
Riverside (SC)	2026	Annual	LDT1	Phe	Aggregated	60	185.9775531	0.0001	0.001150831	0.0000
Riverside (SC)	2026	Annual	LDT2	Gas	Aggregated	60	300107.9094	0.2314	0.010294712	0.0024
Riverside (SC)	2026	Annual	LDT2	Phe	Aggregated	60	3737.817967	0.0029	0.001199662	0.0000
Riverside (SC)	2026	Annual	LHDT1	Gas	Aggregated	60	23559.93668	0.0182	0.018948073	0.0003
Riverside (SC)	2026	Annual	LHDT2	Gas	Aggregated	60	3552.105687	0.0027	0.009354362	0.0000
Riverside (SC)	2026	Annual	MCY	Gas	Aggregated	60	31244.43729	0.0241	1.098504392	0.0265
Riverside (SC)	2026	Annual	MDV	Gas	Aggregated	60	216400.8647	0.1669	0.015638621	0.0026
Riverside (SC)	2026	Annual	MDV	Phe	Aggregated	60	2465.74681	0.0019	0.001222362	0.0000
Riverside (SC)	2026	Annual	MH	Gas	Aggregated	60	5006.909766	0.0039	0.036293467	0.0001
Riverside (SC)	2026	Annual	MHDT	Gas	Aggregated	60	1927.990351	0.0015	0.03777404	0.0001
Riverside (SC)	2026	Annual	MHDT	NG	Aggregated	60	234.4547552	0.0002	0.398772263	0.0001
Riverside (SC)	2026	Annual	HHDT	Gas	Aggregated	60	6.705978975	0.0000	0.740183753	0.0000
Riverside (SC)	2026	Annual	HHDT	NG	Aggregated	60	1034.422414	0.0008	0.802298724	0.0006
Riverside (SC)	2026	Annual	OBUS	Gas	Aggregated	60	482.5016009	0.0004	0.047764055	0.0000
Riverside (SC)	2026	Annual	OBUS	NG	Aggregated	60	48.28852732	0.0000	0.383651086	0.0000
Riverside (SC)	2026	Annual	SBUS	Gas	Aggregated	60	537.4047498	0.0004	0.039907545	0.0000
Riverside (SC)	2026	Annual	SBUS	NG	Aggregated	60	654.660935	0.0005	1.385197669	0.0007
Riverside (SC)	2026	Annual	UBUS	Gas	Aggregated	60	147.0093126	0.0001	0.007917574	0.0000
Riverside (SC)	2026	Annual	UBUS	NG	Aggregated	60	371.9613267	0.0003	0.734258721	0.0002
							1296915	1.0		0.039

EMFAC2021 Emission Rates
Vehicle Classification: EMFAC2007 Categories
Pollutant Classification: TOG DSL

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	Wt Frac	TOG_RUNEX (gms/mile)	TOG_RUNEX AVE (gms/mile)
Riverside (SC)	2026	Annual	LDA	DSL	Aggregated	60	1556.024758	0.0191	0.016068046	0.0003
Riverside (SC)	2026	Annual	LDT1	DSL	Aggregated	60	12.46842613	0.0002	0.307721747	0.0000
Riverside (SC)	2026	Annual	LDT2	DSL	Aggregated	60	1040.470618	0.0128	0.008489796	0.0001
Riverside (SC)	2026	Annual	LHDT1	DSL	Aggregated	60	18905.98906	0.2317	0.087552627	0.0203
Riverside (SC)	2026	Annual	LHDT2	DSL	Aggregated	60	8664.740349	0.1062	0.080318354	0.0085
Riverside (SC)	2026	Annual	MDV	DSL	Aggregated	60	3067.061238	0.0376	0.011680332	0.0004
Riverside (SC)	2026	Annual	MH	DSL	Aggregated	60	2563.659265	0.0314	0.064619844	0.0020
Riverside (SC)	2026	Annual	MHDT	DSL	Aggregated	60	16576.12163	0.2031	0.012041807	0.0024
Riverside (SC)	2026	Annual	HHDT	DSL	Aggregated	60	28295.94671	0.3468	0.011945672	0.0041
Riverside (SC)	2026	Annual	OBUS	DSL	Aggregated	60	299.9108443	0.0037	0.054440531	0.0002
Riverside (SC)	2026	Annual	SBUS	DSL	Aggregated	60	618.8047245	0.0076	0.053339157	0.0004
Riverside (SC)	2026	Annual	UBUS	DSL	Aggregated	60	0.3117338	0.0000	0.022043806	0.0000
							81602	1.0		0.039

EMFAC2021 Worksheet
(60 mph)

EMFAC2021 Emission Rates
Vehicle Classification: EMFAC2007 Categories
Pollutant Classification: DSL Particulate

Region	CalYr	Season	Veh_Class	Fuel	MdlYr	Speed (miles/hr)	Population (vehicles)	Wt Frac	PM10_RUNEX (gms/mile)	PM10_RUNEX AVE (gms/mile)
Riverside (SC)	2026	Annual	LDA	DSL	Aggregated	60	1556.024758	0.0191	0.009375979	0.0002
Riverside (SC)	2026	Annual	LDT1	DSL	Aggregated	60	12.46842613	0.0002	0.195036461	0.0000
Riverside (SC)	2026	Annual	LDT2	DSL	Aggregated	60	1040.470618	0.0128	0.003715985	0.0000
Riverside (SC)	2026	Annual	LHDT1	DSL	Aggregated	60	18905.98906	0.2317	0.019689031	0.0046
Riverside (SC)	2026	Annual	LHDT2	DSL	Aggregated	60	8664.740349	0.1062	0.018706515	0.0020
Riverside (SC)	2026	Annual	MDV	DSL	Aggregated	60	3067.061238	0.0376	0.00631845	0.0002
Riverside (SC)	2026	Annual	MH	DSL	Aggregated	60	2563.659265	0.0314	0.129175945	0.0041
Riverside (SC)	2026	Annual	MHDT	DSL	Aggregated	60	16576.12163	0.2031	0.009835218	0.0020
Riverside (SC)	2026	Annual	HHDT	DSL	Aggregated	60	28295.94671	0.3468	0.026674914	0.0092
Riverside (SC)	2026	Annual	OBUS	DSL	Aggregated	60	299.9108443	0.0037	0.041412718	0.0002
Riverside (SC)	2026	Annual	SBUS	DSL	Aggregated	60	618.8047245	0.0076	0.034185954	0.0003
Riverside (SC)	2026	Annual	UBUS	DSL	Aggregated	60	0.3117338	0.0000	0.004412188	0.0000
							81602	1.0		0.023

Emission Factor Profile Worksheet
Chronic Exposure

TOG -Toxic Emissions

Gasoline/Toxic Fractions/Hot Stabilized Exhaust

Year	Benzene	Formaldehyde	1,3-Butadiene	Acetaldehyde	Acrolein
2004	0.028414	0.021422	0.006603	0.005511	0.001533
2005	0.028205	0.021200	0.006551	0.005450	0.001520
2006	0.027938	0.021000	0.006483	0.005350	0.001510
2007	0.027660	0.020700	0.006410	0.005250	0.001490
2008	0.027338	0.020300	0.006326	0.005120	0.001470
2009	0.026849	0.019800	0.006190	0.004870	0.001450
2010	0.026521	0.019400	0.006105	0.004750	0.001430
2011	0.026521	0.019400	0.006105	0.004750	0.001430
2012	0.025656	0.018500	0.005873	0.004370	0.001380
2013	0.025656	0.018500	0.005873	0.004370	0.001380
2014	0.025656	0.018500	0.005873	0.004370	0.001380
2015	0.024349	0.017100	0.005530	0.003850	0.001310
2016	0.024349	0.017100	0.005530	0.003850	0.001310
2017	0.024349	0.017100	0.005530	0.003850	0.001310
2018	0.022182	0.014700	0.004944	0.002860	0.001190
2019	0.022182	0.014700	0.004944	0.002860	0.001130
2020	0.021079	0.013600	0.004659	0.002450	0.001130
2021	0.021079	0.013600	0.004659	0.002450	0.001130
2022	0.021079	0.013600	0.004659	0.002450	0.001130
2023	0.021079	0.013600	0.004659	0.002450	0.001130
2024	0.021079	0.013600	0.004659	0.002450	0.001130
2025	0.021079	0.013600	0.004659	0.002450	0.001130
2026	0.021079	0.013600	0.004659	0.002450	0.001130
2027	0.021079	0.013600	0.004659	0.002450	0.001130
2028	0.021079	0.013600	0.004659	0.002450	0.001130
2029	0.021079	0.013600	0.004659	0.002450	0.001130
2030	0.021079	0.013600	0.004659	0.002450	0.001130

Analysis Year

2026	0.021079	0.013600	0.004659	0.002450	0.001130

TOG Emisson Rate - gr/mi

Speed (MPH)	Acceleration	0.088
	Deceleration	0.452
	60	0.039

Toxic Emission Rate - gr/mi	Acceleration	0.003777
Speed (MPH)	Deceleration	0.019399
	60	0.001674

Weight Fraction / Speciation

Benzene	0.491
Formaldehyde	0.317
1,3-Butadiene	0.109
Acetaldehyde	0.057
Acrolein	0.026

Emission Factor Profile Worksheet
Chronic Exposure

Diesel Particulate Emissions - PM10

PM10 Emission Rate - gr/mi	Acceleration	0.038
Speed (MPH)	Deceleration	0.075
	60	0.023

Source: TOG/toxic fractions from UC Davis-Caltrans Air Quality Project, *Estimating Mobile Source Air Toxic Emissions: A Step-by-Step Project Analysis Methodology*. Task Order No. 61.

Emission Factor Profile Worksheet
Acute/8-Hour Exposure

TOG -Toxic Emissions

Gasoline/Toxic Fractions/Hot Stabilized Exhaust

Year	Benzene	Formaldehyde	1,3-Butadiene	Acetaldehyde	Acrolein
2004	0.028414	0.021422	0.006603	0.005511	0.001533
2005	0.028205	0.021200	0.006551	0.005450	0.001520
2006	0.027938	0.021000	0.006483	0.005350	0.001510
2007	0.027660	0.020700	0.006410	0.005250	0.001490
2008	0.027338	0.020300	0.006326	0.005120	0.001470
2009	0.026849	0.019800	0.006190	0.004870	0.001450
2010	0.026521	0.019400	0.006105	0.004750	0.001430
2011	0.026521	0.019400	0.006105	0.004750	0.001430
2012	0.025656	0.018500	0.005873	0.004370	0.001380
2013	0.025656	0.018500	0.005873	0.004370	0.001380
2014	0.025656	0.018500	0.005873	0.004370	0.001380
2015	0.024349	0.017100	0.005530	0.003850	0.001310
2016	0.024349	0.017100	0.005530	0.003850	0.001310
2017	0.024349	0.017100	0.005530	0.003850	0.001310
2018	0.022182	0.014700	0.004944	0.002860	0.001190
2019	0.022182	0.014700	0.004944	0.002860	0.001130
2020	0.021079	0.013600	0.004659	0.002450	0.001130
2021	0.021079	0.013600	0.004659	0.002450	0.001130
2022	0.021079	0.013600	0.004659	0.002450	0.001130
2023	0.021079	0.013600	0.004659	0.002450	0.001130
2024	0.021079	0.013600	0.004659	0.002450	0.001130
2025	0.021079	0.013600	0.004659	0.002450	0.001130
2026	0.021079	0.013600	0.004659	0.002450	0.001130
2027	0.021079	0.013600	0.004659	0.002450	0.001130
2028	0.021079	0.013600	0.004659	0.002450	0.001130
2029	0.021079	0.013600	0.004659	0.002450	0.001130
2030	0.021079	0.013600	0.004659	0.002450	0.001130

Analysis Year

2026	0.021079	0.013600	0.004659	0.002450	0.001130

TOG Emisson Rate - gr/mi

Speed (MPH)	Acceleration	0.088
	Deceleration	0.452
	50	0.036
	60	0.039

Toxic Emission Rate - gr/mi	Acceleration	0.003777
Speed (MPH)	Deceleration	0.019399
	50	0.001545
	60	0.001674

Weight Fraction / Speciation

Benzene	0.491
Formaldehyde	0.317
1,3-Butadiene	0.109
Acetaldehyde	0.057
Acrolein	0.026

TOG -Toxic Emissions

Emission Factor Profile Worksheet

Diesel/Toxic Fractions/Hot Stabilized Exhaust Acute/8-Hour Exposure

Year	Benzene	Formaldehyde	1,3-Butadiene	Acetaldehyde	Acrolein
2004	0.020009	0.147133	0.001900	0.073526	0
2005	0.020009	0.147133	0.001900	0.073526	0
2006	0.020009	0.147133	0.001900	0.073526	0
2007	0.020009	0.147133	0.001900	0.073526	0
2008	0.020009	0.147133	0.001900	0.073526	0
2009	0.020009	0.147133	0.001900	0.073526	0
2010	0.020009	0.147133	0.001900	0.073526	0
2011	0.020009	0.147133	0.001900	0.073526	0
2012	0.020009	0.147133	0.001900	0.073526	0
2013	0.020009	0.147133	0.001900	0.073526	0
2014	0.020009	0.147133	0.001900	0.073526	0
2015	0.020009	0.147133	0.001900	0.073526	0
2016	0.020009	0.147133	0.001900	0.073526	0
2017	0.020009	0.147133	0.001900	0.073526	0
2018	0.020009	0.147133	0.001900	0.073526	0
2019	0.020009	0.147133	0.001900	0.073526	0
2020	0.020009	0.147133	0.001900	0.073526	0
2021	0.020009	0.147133	0.001900	0.073526	0
2022	0.020009	0.147133	0.001900	0.073526	0
2023	0.020009	0.147133	0.001900	0.073526	0
2024	0.020009	0.147133	0.001900	0.073526	0
2025	0.020009	0.147133	0.001900	0.073526	0
2026	0.020009	0.147133	0.001900	0.073526	0
2027	0.020009	0.147133	0.001900	0.073526	0
2028	0.020009	0.147133	0.001900	0.073526	0
2029	0.020009	0.147133	0.001900	0.073526	0
2030	0.020009	0.147133	0.001900	0.073526	0

Analysis Year

2026	0.020009	0.147133	0.001900	0.073526	0

TOG Emisson Rate - gr/mi

Speed (MPH)	Acceleration	0.112
	Deceleration	0.435
	50	0.042
	60	0.039

Toxic Emission Rate - gr/mi	Acceleration	0.027168
Speed (MPH)	Deceleration	0.105517
	50	0.010188
	60	0.009460

Weight Fraction / Speciation

Benzene	0.082
Formaldehyde	0.607
1,3-Butadiene	0.008
Acetaldehyde	0.303
Acrolein	0.000

On-Road Mobile Sources
Emission Rate Computation

Average Speed Scenario

Interstate 91 / Eastbound

CO Emissions

Number of Sources	33
Link Length (meters)	1042
Volume/Baseline (VPH)	1028
Pollutant Mass Emission Rate (gr/mi)	0.750

Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

Pollutant Emission Rate (gr/sec)	1.39E-01
Pollutant Emission Rate (gr/sec/source)	4.20E-03

Interstate 91 / Westbound

CO Emissions

Number of Sources	32
Link Length (meters)	1047
Volume/Baseline (VPH)	1537
Pollutant Mass Emission Rate (gr/mi)	0.750

Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

Pollutant Emission Rate (gr/sec)	2.08E-01
Pollutant Emission Rate (gr/sec/source)	6.51E-03

On-Road Mobile Sources
Emission Rate Computation

Minimum Speed Scenario

Interstate 91 / Eastbound

NOx Emissions

Number of Sources	33
Link Length (meters)	1042
Volume/Baseline (VPH)	1910
Pollutant Mass Emission Rate (gr/mi)	0.105

Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

Pollutant Emission Rate (gr/sec)	3.61E-02
Pollutant Emission Rate (gr/sec/source)	1.09E-03

Interstate 91 / Westbound

NOx Emissions

Number of Sources	32
Link Length (meters)	1047
Volume/Baseline (VPH)	1648
Pollutant Mass Emission Rate (gr/mi)	0.105

Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

Pollutant Emission Rate (gr/sec)	3.13E-02
Pollutant Emission Rate (gr/sec/source)	9.77E-04

On-Road Mobile Sources
Emission Rate Computation

Average Speed Scenario

Interstate 91 / Eastbound

PM10 Emissions

Number of Sources	33
Link Length (meters)	1042
Volume/Baseline (VPH)	1028
Particle Size Multiplier (g/mi)	1.0
Road Surface Silt Loading (g/m2)	0.02
Average Vehicle Weight (tons)	2.4
Emfac2021 Emissions Run (g/mi)	0.0022
Emfac2021 Emissions TW/BW (g/mi)	0.0171
PM10 Reentrainment Mass Emission Rate (gr/mi)	0.089

For PM10 Reentrainment: Mass Emission Rate (gr/mile) = ((Particulate PM10 Base Emission Factor) x (Road Surface Silt Loading)$^{0.91}$ x (Gross Vehicle Weight)$^{1.02}$) + (Emfac2014 Emissions)
Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

PM10 Reentrainment Emission Rate (gr/sec)	1.64E-02
PM10 Reentrainment Emission Rate (gr/sec/source)	4.97E-04

Interstate 91 / Westbound

PM10 Emissions

Number of Sources	32
Link Length (meters)	1027
Volume/Baseline (VPH)	1537
Particle Size Multiplier (g/mi)	1.0
Road Surface Silt Loading (g/m2)	0.02
Average Vehicle Weight (tons)	2.4
Emfac2021 Emissions Run (g/mi)	0.0022
Emfac2021 Emissions TW/BW (g/mi)	0.0171
PM10 Reentrainment Mass Emission Rate (gr/mi)	0.089

For PM10 Reentrainment: Mass Emission Rate (gr/mile) = ((Particulate PM10 Base Emission Factor) x (Road Surface Silt Loading)$^{0.91}$ x (Gross Vehicle Weight)$^{1.02}$) + (Emfac2014 Emissions)
Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

PM10 Reentrainment Emission Rate (gr/sec)	2.42E-02
PM10 Reentrainment Emission Rate (gr/sec/source)	7.56E-04

On-Road Mobile Sources
Emission Rate Computation

Average Speed Scenario

Interstate 91 / Eastbound

PM2.5 Emissions

Number of Sources	33
Link Length (meters)	1042
Volume/Baseline (VPH)	1028
Particle Size Multiplier (g/mi)	1.0
Road Surface Silt Loading (g/m2)	0.02
Average Vehicle Weight (tons)	2.4
Emfac2021 Emissions Run (g/mi)	0.0021
Emfac2021 Emissions TW/BW (g/mi)	0.0051
PM10 Reentrainment Mass Emission Rate (gr/mi)	0.077

For PM2.5 Reentrainment: Mass Emission Rate (gr/mile) = ((Particulate PM2.5 Base Emission Factor) x (Road Surface Silt Loading)$^{0.91}$ x (Gross Vehicle Weight)$^{1.02}$) + (Emfac2014 Emissions)
Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

PM2.5 Reentrainment Emission Rate (gr/sec)	1.42E-02
PM2.5 Reentrainment Emission Rate (gr/sec/source)	4.30E-04

Interstate 91 / Westbound

PM2.5 Emissions

Number of Sources	32
Link Length (meters)	1027
Volume/Baseline (VPH)	1537
Particle Size Multiplier (g/mi)	1.0
Road Surface Silt Loading (g/m2)	0.02
Average Vehicle Weight (tons)	2.4
Emfac2021 Emissions Run (g/mi)	0.0021
Emfac2021 Emissions TW/BW (g/mi)	0.0051
PM10 Reentrainment Mass Emission Rate (gr/mi)	0.077

For PM2.5 Reentrainment: Mass Emission Rate (gr/mile) = ((Particulate PM2.5 Base Emission Factor) x (Road Surface Silt Loading)$^{0.91}$ x (Gross Vehicle Weight)$^{1.02}$) + (Emfac2014 Emissions)
Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

PM2.5 Reentrainment Emission Rate (gr/sec)	2.09E-02
PM2.5 Reentrainment Emission Rate (gr/sec/source)	6.53E-04

On-Road Mobile Sources
Emission Rate Computation

Average Speed Scenario

Interstate 91 / Eastbound

TOG GAS Emissions

Number of Sources	33
Link Length (meters)	1042
Volume/Baseline (VPH)	969
Pollutant Mass Emission Rate (gr/mi)	0.001674

Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

Pollutant Emission Rate (gr/sec)	2.92E-04
Pollutant Emission Rate (gr/sec/source)	8.84E-06

Interstate 91 / Westbound

TOG GAS Emissions

Number of Sources	32
Link Length (meters)	1027
Volume/Baseline (VPH)	1449
Pollutant Mass Emission Rate (gr/mi)	0.001674

Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

Pollutant Emission Rate (gr/sec)	4.30E-04
Pollutant Emission Rate (gr/sec/source)	1.34E-05

On-Road Mobile Sources
Emission Rate Computation

Average Speed Scenario

Interstate 91 / Eastbound

TOG DSL Emissions

Number of Sources	33
Link Length (meters)	1042
Volume/Baseline (VPH)	59
Pollutant Mass Emission Rate (gr/mi)	0.009460

Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

Pollutant Emission Rate (gr/sec)	1.00E-04
Pollutant Emission Rate (gr/sec/source)	3.04E-06

Interstate 91 / Westbound

TOG DSL Emissions

Number of Sources	32
Link Length (meters)	1027
Volume/Baseline (VPH)	88
Pollutant Mass Emission Rate (gr/mi)	0.009460

Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

Pollutant Emission Rate (gr/sec)	1.48E-04
Pollutant Emission Rate (gr/sec/source)	4.61E-06

On-Road Mobile Sources
Emission Rate Computation

Average Speed Scenario

Interstate 91 / Eastbound

DSL Particulate Emissions

Number of Sources	33
Link Length (meters)	1042
Volume/Baseline (VPH)	59
Pollutant Mass Emission Rate (gr/mi)	0.023

Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

Pollutant Emission Rate (gr/sec)	2.44E-04
Pollutant Emission Rate (gr/sec/source)	7.39E-06

Interstate 91 / Westbound

DSL Particulate Emissions

Number of Sources	32
Link Length (meters)	1027
Volume/Baseline (VPH)	88
Pollutant Mass Emission Rate (gr/mi)	0.023

Emission Rate (gr/sec) = ((Mass Emission Rate x Volume/Baseline)/(1609.3 m/mile) x (3600 sec/hr)) x (Link Length)

Pollutant Emission Rate (gr/sec)	3.59E-04
Pollutant Emission Rate (gr/sec/source)	1.12E-05

All	1429498
DSL	81602

Diesel Fleet Mix (weight fraction)		0.057		
Link Counts	AADT	VPH all	VPH gas	VPH diesel
10 EB Average Speed	166500	6938	6541	396
10 WB Average Speed	166500	6938	6541	396

APPENDIX 4.1:

AERMOD MODEL INPUT/OUTPUT FILE

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```
**
**************************************
**
** AERMOD INPUT PRODUCED BY:
** AERMOD VIEW VER. 12.0.0
** LAKES ENVIRONMENTAL SOFTWARE INC.
** DATE: 1/19/2024
** FILE: C:\LAKES\AERMOD VIEW\15669 HRA\15669 CO\15669 CO.ADI
**
**************************************
**
**
**************************************
** AERMOD CONTROL PATHWAY
**************************************
**
**
CO STARTING
   TITLEONE C:\LAKES\AERMOD VIEW\15669 HRA\15669 CO\15669 CO.ISC
   MODELOPT DFAULT CONC
   AVERTIME 1 8
   URBANOPT 2189641
   POLLUTID CO
   RUNORNOT RUN
   ERRORFIL "15669 CO.ERR"
CO FINISHED
**
**************************************
** AERMOD SOURCE PATHWAY
**************************************
**
**
SO STARTING
** SOURCE LOCATION **
** SOURCE ID - TYPE - X COORD. - Y COORD. **
** ----------------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE1
** DESCRSRC 91 EB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.139
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446149.796, 3749188.513, 197.76, 3.49, 14.88
** 447179.945, 3749035.478, 191.42, 3.49, 14.88
** ----------------------------------------------------------------------
   LOCATION L0000550     VOLUME   446165.623 3749186.162 196.79
```

```
   LOCATION L0000551     VOLUME   446197.275 3749181.460 196.83
   LOCATION L0000552     VOLUME   446228.928 3749176.757 196.01
   LOCATION L0000553     VOLUME   446260.581 3749172.055 196.14
   LOCATION L0000554     VOLUME   446292.233 3749167.353 196.30
   LOCATION L0000555     VOLUME   446323.886 3749162.651 196.38
   LOCATION L0000556     VOLUME   446355.539 3749157.949 196.00
   LOCATION L0000557     VOLUME   446387.191 3749153.246 195.74
   LOCATION L0000558     VOLUME   446418.844 3749148.544 195.00
   LOCATION L0000559     VOLUME   446450.497 3749143.842 195.00
   LOCATION L0000560     VOLUME   446482.149 3749139.140 195.00
   LOCATION L0000561     VOLUME   446513.802 3749134.438 195.00
   LOCATION L0000562     VOLUME   446545.454 3749129.735 195.00
   LOCATION L0000563     VOLUME   446577.107 3749125.033 195.00
   LOCATION L0000564     VOLUME   446608.760 3749120.331 195.00
   LOCATION L0000565     VOLUME   446640.412 3749115.629 195.00
   LOCATION L0000566     VOLUME   446672.065 3749110.927 195.00
   LOCATION L0000567     VOLUME   446703.718 3749106.224 195.00
   LOCATION L0000568     VOLUME   446735.370 3749101.522 195.00
   LOCATION L0000569     VOLUME   446767.023 3749096.820 195.33
   LOCATION L0000570     VOLUME   446798.675 3749092.118 195.20
   LOCATION L0000571     VOLUME   446830.328 3749087.416 195.00
   LOCATION L0000572     VOLUME   446861.981 3749082.713 195.00
   LOCATION L0000573     VOLUME   446893.633 3749078.011 195.00
   LOCATION L0000574     VOLUME   446925.286 3749073.309 194.89
   LOCATION L0000575     VOLUME   446956.939 3749068.607 194.69
   LOCATION L0000576     VOLUME   446988.591 3749063.905 195.08
   LOCATION L0000577     VOLUME   447020.244 3749059.202 195.06
   LOCATION L0000578     VOLUME   447051.897 3749054.500 195.00
   LOCATION L0000579     VOLUME   447083.549 3749049.798 194.90
   LOCATION L0000580     VOLUME   447115.202 3749045.096 194.63
   LOCATION L0000581     VOLUME   447146.854 3749040.394 193.31
   LOCATION L0000582     VOLUME   447178.507 3749035.691 191.48
** END OF LINE VOLUME SOURCE ID = SLINE1
** ----------------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE2
** DESCRSRC 91 WB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.208
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446153.936, 3749222.959, 196.45, 3.49, 14.88
** 447172.188, 3749092.095, 193.64, 3.49, 14.88
** ----------------------------------------------------------------------
   LOCATION L0000583     VOLUME   446169.806 3749220.920 195.99
   LOCATION L0000584     VOLUME   446201.545 3749216.841 195.65
   LOCATION L0000585     VOLUME   446233.284 3749212.761 195.68
```

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   LOCATION L0000586     VOLUME   446265.023 3749208.682 194.98
   LOCATION L0000587     VOLUME   446296.762 3749204.603 195.05
   LOCATION L0000588     VOLUME   446328.501 3749200.524 195.19
   LOCATION L0000589     VOLUME   446360.240 3749196.445 195.33
   LOCATION L0000590     VOLUME   446391.979 3749192.366 195.04
   LOCATION L0000591     VOLUME   446423.718 3749188.287 194.60
   LOCATION L0000592     VOLUME   446455.457 3749184.208 194.59
   LOCATION L0000593     VOLUME   446487.196 3749180.129 194.66
   LOCATION L0000594     VOLUME   446518.935 3749176.050 195.00
   LOCATION L0000595     VOLUME   446550.673 3749171.971 195.00
   LOCATION L0000596     VOLUME   446582.412 3749167.892 194.45
   LOCATION L0000597     VOLUME   446614.151 3749163.813 194.41
   LOCATION L0000598     VOLUME   446645.890 3749159.734 194.55
   LOCATION L0000599     VOLUME   446677.629 3749155.655 194.39
   LOCATION L0000600     VOLUME   446709.368 3749151.576 194.64
   LOCATION L0000601     VOLUME   446741.107 3749147.497 194.87
   LOCATION L0000602     VOLUME   446772.846 3749143.418 194.99
   LOCATION L0000603     VOLUME   446804.585 3749139.339 194.29
   LOCATION L0000604     VOLUME   446836.324 3749135.260 193.44
   LOCATION L0000605     VOLUME   446868.063 3749131.181 192.72
   LOCATION L0000606     VOLUME   446899.802 3749127.102 192.42
   LOCATION L0000607     VOLUME   446931.541 3749123.023 192.55
   LOCATION L0000608     VOLUME   446963.280 3749118.944 192.64
   LOCATION L0000609     VOLUME   446995.019 3749114.865 193.61
   LOCATION L0000610     VOLUME   447026.758 3749110.786 193.78
   LOCATION L0000611     VOLUME   447058.497 3749106.707 193.20
   LOCATION L0000612     VOLUME   447090.236 3749102.627 193.36
   LOCATION L0000613     VOLUME   447121.975 3749098.548 193.01
   LOCATION L0000614     VOLUME   447153.714 3749094.469 193.76
** END OF LINE VOLUME SOURCE ID = SLINE2
** SOURCE PARAMETERS **
** LINE VOLUME SOURCE ID = SLINE1
   SRCPARAM L0000550     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000551     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000552     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000553     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000554     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000555     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000556     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000557     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000558     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000559     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000560     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000561     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000562     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000563     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000564     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000565     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000566     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000567     0.0042121212      3.49     14.88      3.25
```

```
   SRCPARAM L0000568     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000569     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000570     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000571     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000572     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000573     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000574     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000575     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000576     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000577     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000578     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000579     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000580     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000581     0.0042121212      3.49     14.88      3.25
   SRCPARAM L0000582     0.0042121212      3.49     14.88      3.25
** ------------------------------------------------------------------
** LINE VOLUME SOURCE ID = SLINE2
   SRCPARAM L0000583        0.0065      3.49     14.88      3.25
   SRCPARAM L0000584        0.0065      3.49     14.88      3.25
   SRCPARAM L0000585        0.0065      3.49     14.88      3.25
   SRCPARAM L0000586        0.0065      3.49     14.88      3.25
   SRCPARAM L0000587        0.0065      3.49     14.88      3.25
   SRCPARAM L0000588        0.0065      3.49     14.88      3.25
   SRCPARAM L0000589        0.0065      3.49     14.88      3.25
   SRCPARAM L0000590        0.0065      3.49     14.88      3.25
   SRCPARAM L0000591        0.0065      3.49     14.88      3.25
   SRCPARAM L0000592        0.0065      3.49     14.88      3.25
   SRCPARAM L0000593        0.0065      3.49     14.88      3.25
   SRCPARAM L0000594        0.0065      3.49     14.88      3.25
   SRCPARAM L0000595        0.0065      3.49     14.88      3.25
   SRCPARAM L0000596        0.0065      3.49     14.88      3.25
   SRCPARAM L0000597        0.0065      3.49     14.88      3.25
   SRCPARAM L0000598        0.0065      3.49     14.88      3.25
   SRCPARAM L0000599        0.0065      3.49     14.88      3.25
   SRCPARAM L0000600        0.0065      3.49     14.88      3.25
   SRCPARAM L0000601        0.0065      3.49     14.88      3.25
   SRCPARAM L0000602        0.0065      3.49     14.88      3.25
   SRCPARAM L0000603        0.0065      3.49     14.88      3.25
   SRCPARAM L0000604        0.0065      3.49     14.88      3.25
   SRCPARAM L0000605        0.0065      3.49     14.88      3.25
   SRCPARAM L0000606        0.0065      3.49     14.88      3.25
   SRCPARAM L0000607        0.0065      3.49     14.88      3.25
   SRCPARAM L0000608        0.0065      3.49     14.88      3.25
   SRCPARAM L0000609        0.0065      3.49     14.88      3.25
   SRCPARAM L0000610        0.0065      3.49     14.88      3.25
   SRCPARAM L0000611        0.0065      3.49     14.88      3.25
   SRCPARAM L0000612        0.0065      3.49     14.88      3.25
   SRCPARAM L0000613        0.0065      3.49     14.88      3.25
   SRCPARAM L0000614        0.0065      3.49     14.88      3.25
** ------------------------------------------------------------------
```

```
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD RECEPTOR PATHWAY
**************************************
**
**
RE STARTING
   INCLUDED "15669 CO.ROU"
RE FINISHED
**
**************************************
** AERMOD METEOROLOGY PATHWAY
**************************************
**
**
ME STARTING
   SURFFILE ..\KRAL_V9_ADJU\KRAL_V9.SFC
   PROFFILE ..\KRAL_V9_ADJU\KRAL_V9.PFL
   SURFDATA 3171 2012
   UAIRDATA 3190 2012
   PROFBASE 245.0 METERS
ME FINISHED
**
**************************************
** AERMOD OUTPUT PATHWAY
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 8 1ST
** AUTO-GENERATED PLOTFILES
   PLOTFILE   1 ALL 1ST "15669 CO.AD\01H1GALL.PLT" 31
   PLOTFILE   8 ALL 1ST "15669 CO.AD\08H1GALL.PLT" 32
   SUMMFILE "15669 CO.SUM"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

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

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)
```

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


   ********   WARNING MESSAGES   ********
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


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

 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
CO\15669 CO.ISC                  ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:22:27

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for    65 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2189641.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: CO
```

```
 **Model Calculates  2 Short Term Average(s) of:   1-HR   8-HR

 **This Run Includes:     65 Source(s);       1 Source Group(s); and     124
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     65 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


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

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
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:  Base Elev. for Pot. Temp. Profile (m MSL) =   245.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                 ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   15669 CO.ERR

 **File for Summary of Results:   15669 CO.SUM
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
L0000550	0	0.42121E-02	446165.6	3749186.2	196.8	3.49	14.88	3.25	YES		NO
L0000551	0	0.42121E-02	446197.3	3749181.5	196.8	3.49	14.88	3.25	YES		NO
L0000552	0	0.42121E-02	446228.9	3749176.8	196.0	3.49	14.88	3.25	YES		NO
L0000553	0	0.42121E-02	446260.6	3749172.1	196.1	3.49	14.88	3.25	YES		NO
L0000554	0	0.42121E-02	446292.2	3749167.4	196.3	3.49	14.88	3.25	YES		NO
L0000555	0	0.42121E-02	446323.9	3749162.7	196.4	3.49	14.88	3.25	YES		NO
L0000556	0	0.42121E-02	446355.5	3749157.9	196.0	3.49	14.88	3.25	YES		NO
L0000557	0	0.42121E-02	446387.2	3749153.2	195.7	3.49	14.88	3.25	YES		NO
L0000558	0	0.42121E-02	446418.8	3749148.5	195.0	3.49	14.88	3.25	YES		NO
L0000559	0	0.42121E-02	446450.5	3749143.8	195.0	3.49	14.88	3.25	YES		NO
L0000560	0	0.42121E-02	446482.1	3749139.1	195.0	3.49	14.88	3.25	YES		NO
L0000561	0	0.42121E-02	446513.8	3749134.4	195.0	3.49	14.88	3.25	YES		NO
L0000562	0	0.42121E-02	446545.5	3749129.7	195.0	3.49	14.88	3.25	YES		NO
L0000563	0	0.42121E-02	446577.1	3749125.0	195.0	3.49	14.88	3.25	YES		NO
L0000564	0	0.42121E-02	446608.8	3749120.3	195.0	3.49	14.88				

```
3.25     YES                    NO
 L0000565         0   0.42121E-02  446640.4 3749115.6   195.0     3.49    14.88
3.25     YES                    NO
 L0000566         0   0.42121E-02  446672.1 3749110.9   195.0     3.49    14.88
3.25     YES                    NO
 L0000567         0   0.42121E-02  446703.7 3749106.2   195.0     3.49    14.88
3.25     YES                    NO
 L0000568         0   0.42121E-02  446735.4 3749101.5   195.0     3.49    14.88
3.25     YES                    NO
 L0000569         0   0.42121E-02  446767.0 3749096.8   195.3     3.49    14.88
3.25     YES                    NO
 L0000570         0   0.42121E-02  446798.7 3749092.1   195.2     3.49    14.88
3.25     YES                    NO
 L0000571         0   0.42121E-02  446830.3 3749087.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000572         0   0.42121E-02  446862.0 3749082.7   195.0     3.49    14.88
3.25     YES                    NO
 L0000573         0   0.42121E-02  446893.6 3749078.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000574         0   0.42121E-02  446925.3 3749073.3   194.9     3.49    14.88
3.25     YES                    NO
 L0000575         0   0.42121E-02  446956.9 3749068.6   194.7     3.49    14.88
3.25     YES                    NO
 L0000576         0   0.42121E-02  446988.6 3749063.9   195.1     3.49    14.88
3.25     YES                    NO
 L0000577         0   0.42121E-02  447020.2 3749059.2   195.1     3.49    14.88
3.25     YES                    NO
 L0000578         0   0.42121E-02  447051.9 3749054.5   195.0     3.49    14.88
3.25     YES                    NO
 L0000579         0   0.42121E-02  447083.5 3749049.8   194.9     3.49    14.88
3.25     YES                    NO
 L0000580         0   0.42121E-02  447115.2 3749045.1   194.6     3.49    14.88
3.25     YES                    NO
 L0000581         0   0.42121E-02  447146.9 3749040.4   193.3     3.49    14.88
3.25     YES                    NO
 L0000582         0   0.42121E-02  447178.5 3749035.7   191.5     3.49    14.88
3.25     YES                    NO
 L0000583         0   0.65000E-02  446169.8 3749220.9   196.0     3.49    14.88
3.25     YES                    NO
 L0000584         0   0.65000E-02  446201.5 3749216.8   195.7     3.49    14.88
3.25     YES                    NO
 L0000585         0   0.65000E-02  446233.3 3749212.8   195.7     3.49    14.88
3.25     YES                    NO
 L0000586         0   0.65000E-02  446265.0 3749208.7   195.0     3.49    14.88
3.25     YES                    NO
 L0000587         0   0.65000E-02  446296.8 3749204.6   195.1     3.49    14.88
3.25     YES                    NO
 L0000588         0   0.65000E-02  446328.5 3749200.5   195.2     3.49    14.88
3.25     YES                    NO
 L0000589         0   0.65000E-02  446360.2 3749196.4   195.3     3.49    14.88
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                                    *** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE BY	EMISSION RATE SCALAR VARY	AIRCRAFT
L0000590	0	0.65000E-02	446392.0	3749192.4	195.0	3.49	14.88	3.25	YES	NO	
L0000591	0	0.65000E-02	446423.7	3749188.3	194.6	3.49	14.88	3.25	YES	NO	
L0000592	0	0.65000E-02	446455.5	3749184.2	194.6	3.49	14.88	3.25	YES	NO	
L0000593	0	0.65000E-02	446487.2	3749180.1	194.7	3.49	14.88	3.25	YES	NO	
L0000594	0	0.65000E-02	446518.9	3749176.0	195.0	3.49	14.88	3.25	YES	NO	
L0000595	0	0.65000E-02	446550.7	3749172.0	195.0	3.49	14.88	3.25	YES	NO	
L0000596	0	0.65000E-02	446582.4	3749167.9	194.5	3.49	14.88	3.25	YES	NO	
L0000597	0	0.65000E-02	446614.2	3749163.8	194.4	3.49	14.88	3.25	YES	NO	
L0000598	0	0.65000E-02	446645.9	3749159.7	194.6	3.49	14.88	3.25	YES	NO	
L0000599	0	0.65000E-02	446677.6	3749155.7	194.4	3.49	14.88	3.25	YES	NO	
L0000600	0	0.65000E-02	446709.4	3749151.6	194.6	3.49	14.88	3.25	YES	NO	
L0000601	0	0.65000E-02	446741.1	3749147.5	194.9	3.49	14.88	3.25	YES	NO	
L0000602	0	0.65000E-02	446772.8	3749143.4	195.0	3.49	14.88	3.25	YES	NO	
L0000603	0	0.65000E-02	446804.6	3749139.3	194.3	3.49	14.88	3.25	YES	NO	
L0000604	0	0.65000E-02	446836.3	3749135.3	193.4	3.49	14.88				

```
3.25     YES                    NO
 L0000605         0   0.65000E-02  446868.1 3749131.2   192.7     3.49    14.88
3.25     YES                    NO
 L0000606         0   0.65000E-02  446899.8 3749127.1   192.4     3.49    14.88
3.25     YES                    NO
 L0000607         0   0.65000E-02  446931.5 3749123.0   192.6     3.49    14.88
3.25     YES                    NO
 L0000608         0   0.65000E-02  446963.3 3749118.9   192.6     3.49    14.88
3.25     YES                    NO
 L0000609         0   0.65000E-02  446995.0 3749114.9   193.6     3.49    14.88
3.25     YES                    NO
 L0000610         0   0.65000E-02  447026.8 3749110.8   193.8     3.49    14.88
3.25     YES                    NO
 L0000611         0   0.65000E-02  447058.5 3749106.7   193.2     3.49    14.88
3.25     YES                    NO
 L0000612         0   0.65000E-02  447090.2 3749102.6   193.4     3.49    14.88
3.25     YES                    NO
 L0000613         0   0.65000E-02  447122.0 3749098.5   193.0     3.49    14.88
3.25     YES                    NO
 L0000614         0   0.65000E-02  447153.7 3749094.5   193.8     3.49    14.88
3.25     YES                    NO
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
CO\15669 CO.ISC                 ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                          ***        12:22:27

                                    PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                              *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                              SOURCE IDs
 -----------                                              ----------


  ALL        L0000550    , L0000551    , L0000552    , L0000553    , L0000554    ,
L0000555    , L0000556    , L0000557    ,

             L0000558    , L0000559    , L0000560    , L0000561    , L0000562    ,
L0000563    , L0000564    , L0000565    ,

             L0000566    , L0000567    , L0000568    , L0000569    , L0000570    ,
L0000571    , L0000572    , L0000573    ,

             L0000574    , L0000575    , L0000576    , L0000577    , L0000578    ,
L0000579    , L0000580    , L0000581    ,

             L0000582    , L0000583    , L0000584    , L0000585    , L0000586    ,
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L0000587   , L0000588   , L0000589   ,

             L0000590   , L0000591   , L0000592   , L0000593   , L0000594   ,
L0000595   , L0000596   , L0000597   ,

             L0000598   , L0000599   , L0000600   , L0000601   , L0000602   ,
L0000603   , L0000604   , L0000605   ,

             L0000606   , L0000607   , L0000608   , L0000609   , L0000610   ,
L0000611   , L0000612   , L0000613   ,

             L0000614   ,

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                          *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP   SOURCE IDs
  --------   ---------   ----------

              2189641.   L0000550   , L0000551   , L0000552   , L0000553   ,
L0000554   , L0000555   , L0000556   ,
 L0000557   ,

             L0000558   , L0000559   , L0000560   , L0000561   , L0000562   ,
L0000563   , L0000564   , L0000565   ,

             L0000566   , L0000567   , L0000568   , L0000569   , L0000570   ,
L0000571   , L0000572   , L0000573   ,

             L0000574   , L0000575   , L0000576   , L0000577   , L0000578   ,
L0000579   , L0000580   , L0000581   ,

             L0000582   , L0000583   , L0000584   , L0000585   , L0000586   ,
L0000587   , L0000588   , L0000589   ,

             L0000590   , L0000591   , L0000592   , L0000593   , L0000594   ,
L0000595   , L0000596   , L0000597   ,

             L0000598   , L0000599   , L0000600   , L0000601   , L0000602   ,
L0000603   , L0000604   , L0000605   ,

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

(446596.5, 3749020.4, 195.0, 195.0, 0.0); (446605.3, 3749020.4, 195.0, 195.0, 0.0);
(446614.2, 3749020.4, 195.0, 195.0, 0.0); (446598.9, 3749026.0, 195.0, 195.0, 0.0);
(446605.3, 3749025.8, 195.0, 195.0, 0.0); (446614.2, 3749025.8, 195.0, 195.0, 0.0);
(446472.3, 3749031.2, 196.0, 196.0, 0.0); (446598.9, 3749031.4, 195.0, 195.0, 0.0);
(446605.3, 3749031.2, 195.0, 195.0, 0.0); (446614.2, 3749031.2, 195.0, 195.0, 0.0);
(446472.3, 3749036.6, 196.0, 196.0, 0.0); (446569.9, 3749036.6, 195.0, 195.0, 0.0);
(446578.7, 3749036.6, 195.0, 195.0, 0.0); (446587.6, 3749036.6, 195.0, 195.0, 0.0);
(446598.9, 3749036.7, 195.0, 195.0, 0.0); (446605.3, 3749036.6, 195.0, 195.0, 0.0);
(446614.2, 3749036.6, 195.0, 195.0, 0.0); (446472.3, 3749041.9, 196.0, 196.0, 0.0);
(446534.4, 3749041.9, 195.0, 195.0, 0.0); (446543.3, 3749041.9, 195.0, 195.0, 0.0);
(446552.1, 3749041.9, 195.0, 195.0, 0.0); (446561.0, 3749041.9, 195.0, 195.0, 0.0);
(446569.9, 3749041.9, 195.0, 195.0, 0.0); (446578.7, 3749041.9, 195.0, 195.0, 0.0);
(446587.6, 3749041.9, 195.0, 195.0, 0.0); (446598.9, 3749042.1, 195.0, 195.0, 0.0);
(446605.3, 3749041.9, 195.0, 195.0, 0.0); (446614.2, 3749041.9, 195.0, 195.0, 0.0);
(446472.3, 3749047.3, 195.9, 195.9, 0.0); (446676.2, 3749062.0, 195.0, 195.0, 0.0);
(446490.0, 3749047.3, 195.5, 195.5, 0.0); (446498.9, 3749047.3, 195.3, 195.3, 0.0);
(446507.8, 3749047.3, 195.2, 195.2, 0.0); (446516.6, 3749047.3, 195.1, 195.1, 0.0);

```
     ( 446525.5, 3749047.3,     195.0,     195.0,       0.0);         ( 446534.4,
3749047.3,     195.0,     195.0,       0.0);
     ( 446543.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446552.1,
3749047.3,     195.0,     195.0,       0.0);
     ( 446561.0, 3749047.3,     195.0,     195.0,       0.0);         ( 446569.9,
3749047.3,     195.0,     195.0,       0.0);
     ( 446578.7, 3749047.3,     195.0,     195.0,       0.0);         ( 446587.6,
3749047.3,     195.0,     195.0,       0.0);
     ( 446605.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446614.2,
3749047.3,     195.0,     195.0,       0.0);
     ( 446472.3, 3749052.7,     195.9,     195.9,       0.0);         ( 446658.5,
3749059.7,     195.0,     195.0,       0.0);
     ( 446490.0, 3749052.7,     195.4,     195.4,       0.0);         ( 446498.9,
3749052.7,     195.1,     195.1,       0.0);
     ( 446507.8, 3749052.7,     195.1,     195.1,       0.0);         ( 446516.6,
3749052.7,     195.1,     195.1,       0.0);
     ( 446525.5, 3749052.7,     195.0,     195.0,       0.0);         ( 446534.4,
3749052.7,     195.0,     195.0,       0.0);
     ( 446543.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446552.1,
3749052.7,     195.0,     195.0,       0.0);
     ( 446561.0, 3749052.7,     195.0,     195.0,       0.0);         ( 446569.9,
3749052.7,     195.0,     195.0,       0.0);
     ( 446578.7, 3749052.7,     195.0,     195.0,       0.0);         ( 446587.6,
3749052.7,     195.0,     195.0,       0.0);
     ( 446605.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446614.2,
3749052.7,     195.0,     195.0,       0.0);
     ( 446472.3, 3749058.1,     195.9,     195.9,       0.0);         ( 446659.3,
3749065.4,     195.0,     195.0,       0.0);
     ( 446490.0, 3749058.1,     195.3,     195.3,       0.0);         ( 446498.9,
3749058.1,     195.0,     195.0,       0.0);
     ( 446507.8, 3749058.1,     195.0,     195.0,       0.0);         ( 446516.6,
3749058.1,     195.0,     195.0,       0.0);
     ( 446525.5, 3749058.1,     195.0,     195.0,       0.0);         ( 446534.4,
3749058.1,     195.0,     195.0,       0.0);
     ( 446543.3, 3749058.1,     195.0,     195.0,       0.0);         ( 446552.1,
3749058.1,     195.0,     195.0,       0.0);
     ( 446561.0, 3749058.1,     195.0,     195.0,       0.0);         ( 446569.9,
3749058.1,     195.0,     195.0,       0.0);
     ( 446578.7, 3749058.1,     195.0,     195.0,       0.0);         ( 446587.6,
3749058.1,     195.0,     195.0,       0.0);
     ( 446605.3, 3749058.1,     195.0,     195.0,       0.0);         ( 446614.2,
3749058.1,     195.0,     195.0,       0.0);
     ( 446472.3, 3749063.5,     195.7,     195.7,       0.0);         ( 446666.0,
3749063.8,     195.0,     195.0,       0.0);
     ( 446490.0, 3749063.5,     195.2,     195.2,       0.0);         ( 446498.9,
3749063.5,     195.0,     195.0,       0.0);
     ( 446507.8, 3749063.5,     195.0,     195.0,       0.0);         ( 446516.6,
3749063.5,     195.0,     195.0,       0.0);
     ( 446525.5, 3749063.5,     195.0,     195.0,       0.0);         ( 446534.4,
3749063.5,     195.0,     195.0,       0.0);
```

(446543.3, 3749063.5, 195.0, 195.0, 0.0); (446552.1, 3749063.5, 195.0, 195.0, 0.0);
(446561.0, 3749063.5, 195.0, 195.0, 0.0); (446569.9, 3749063.5, 195.0, 195.0, 0.0);
(446578.7, 3749063.5, 195.0, 195.0, 0.0); (446587.6, 3749063.5, 195.0, 195.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

(446605.3, 3749063.5, 195.0, 195.0, 0.0); (446614.2, 3749063.5, 195.0, 195.0, 0.0);
(446472.3, 3749068.8, 195.5, 195.5, 0.0); (446651.3, 3749061.4, 195.0, 195.0, 0.0);
(446490.0, 3749068.8, 195.2, 195.2, 0.0); (446498.9, 3749068.8, 195.0, 195.0, 0.0);
(446507.8, 3749068.8, 195.0, 195.0, 0.0); (446516.6, 3749068.8, 195.0, 195.0, 0.0);
(446525.5, 3749068.8, 195.0, 195.0, 0.0); (446534.4, 3749068.8, 195.0, 195.0, 0.0);
(446543.3, 3749068.8, 195.0, 195.0, 0.0); (446552.1, 3749068.8, 195.0, 195.0, 0.0);
(446561.0, 3749068.8, 195.0, 195.0, 0.0); (446569.9, 3749068.8, 195.0, 195.0, 0.0);
(446578.7, 3749068.8, 195.0, 195.0, 0.0); (446587.6, 3749068.8, 195.0, 195.0, 0.0);
(446605.3, 3749068.8, 195.0, 195.0, 0.0); (446614.2, 3749068.8, 195.0, 195.0, 0.0);
(446477.1, 3749066.8, 195.5, 195.5, 0.0); (446651.3, 3749066.8, 195.0, 195.0, 0.0);
(446490.0, 3749074.2, 195.1, 195.1, 0.0); (446498.9, 3749074.2, 195.0, 195.0, 0.0);
(446507.8, 3749074.2, 195.0, 195.0, 0.0); (446516.6, 3749074.2, 195.0, 195.0, 0.0);
(446525.5, 3749074.2, 195.0, 195.0, 0.0); (446534.4, 3749074.2, 195.0, 195.0, 0.0);
(446543.3, 3749074.2, 195.0, 195.0, 0.0); (446552.1, 3749074.2, 195.0, 195.0, 0.0);
(446561.0, 3749074.2, 195.0, 195.0, 0.0); (446569.9, 3749074.2, 195.0, 195.0, 0.0);
(446578.7, 3749074.2, 195.0, 195.0, 0.0); (446587.6, 3749074.2, 195.0, 195.0, 0.0);

(446674.8, 3749056.4,   195.0,   195.0,   0.0);   (446665.9, 3749058.2,   195.0,   195.0,   0.0);

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** 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
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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
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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
```

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,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL

DATA ***

   Surface file: ..\KRAL_V9_ADJU\KRAL_V9.SFC
                 Met Version: 16216
   Profile file: ..\KRAL_V9_ADJU\KRAL_V9.PFL

   Surface format: FREE

   Profile format: FREE

   Surface station no.:   3171   Upper air station no.:   3190
                 Name: UNKNOWN   Name: UNKNOWN

                 Year: 2012   Year: 2012

 First 24 hours of scalar data
 YR MO DY JDY HR   H0   U*   W* DT/DZ ZICNV ZIMCH M-O LEN   Z0 BOWEN
ALBEDO REF WS   WD   HT REF TA   HT
- -
- - - - - - - - - - - - - - - - - - - -
 12 01 01   1 01 -25.6 0.266 -9.000 -9.000 -999. 330.   77.9 0.15   2.40
1.00   2.93   55.   10.1 288.1   2.0
 12 01 01   1 02 -26.8 0.277 -9.000 -9.000 -999. 351.   84.7 0.15   2.40
1.00   3.05   55.   10.1 287.0   2.0
 12 01 01   1 03 -21.5 0.221 -9.000 -9.000 -999. 250.   53.5 0.15   2.40
1.00   2.45   74.   10.1 284.2   2.0
 12 01 01   1 04 -22.0 0.227 -9.000 -9.000 -999. 260.   56.8 0.15   2.40
1.00   2.52   77.   10.1 285.9   2.0
 12 01 01   1 05 -20.0 0.206 -9.000 -9.000 -999. 225.   46.8 0.15   2.40
1.00   2.30   80.   10.1 285.4   2.0
 12 01 01   1 06 -14.4 0.171 -9.000 -9.000 -999. 170.   32.1 0.15   2.40
1.00   1.93   79.   10.1 287.0   2.0
 12 01 01   1 07 -14.9 0.174 -9.000 -9.000 -999. 174.   33.2 0.15   2.40
1.00   1.96   77.   10.1 284.2   2.0
 12 01 01   1 08 -11.9 0.169 -9.000 -9.000 -999. 167.   36.1 0.15   2.40
0.53   1.89   77.   10.1 288.1   2.0
 12 01 01   1 09   40.4 0.234 0.359 0.006   40. 272.   -28.1 0.15   2.40
0.31   2.10   81.   10.1 289.2   2.0
 12 01 01   1 10 112.6 0.246 0.742 0.005 129. 293.   -11.8 0.15   2.40
0.24   1.99 101.   10.1 296.4   2.0
 12 01 01   1 11 161.0 0.402 1.188 0.005 369. 611.   -35.6 0.15   2.40
0.21   3.68   78.   10.1 298.8   2.0
 12 01 01   1 12 184.7 0.337 1.516 0.005 668. 473.   -18.4 0.15   2.40
0.20   2.89   68.   10.1 300.4   2.0
 12 01 01   1 13 183.9 0.310 1.809 0.005 1139. 414.   -14.2 0.15   2.40
0.20   2.57   64.   10.1 302.5   2.0
 12 01 01   1 14 156.6 0.374 1.852 0.005 1434. 549.   -29.5 0.15   2.40
0.22   3.37   63.   10.1 303.1   2.0
 12 01 01   1 15 104.3 0.382 1.658 0.005 1546. 567.   -47.2 0.15   2.40
0.25   3.59   62.   10.1 302.5   2.0

```
 12 01 01   1 16   31.8  0.374  1.123  0.005 1573.  550.   -145.8  0.15   2.40
0.34    3.76   69.   10.1  300.9    2.0
 12 01 01   1 17  -23.3  0.276 -9.000 -9.000 -999.  354.     84.0  0.15   2.40
0.62    3.03   59.   10.1  297.5    2.0
 12 01 01   1 18  -21.5  0.229 -9.000 -9.000 -999.  264.     57.8  0.15   2.40
1.00    2.54   54.   10.1  295.4    2.0
 12 01 01   1 19  -19.3  0.204 -9.000 -9.000 -999.  221.     45.6  0.15   2.40
1.00    2.27   79.   10.1  292.0    2.0
 12 01 01   1 20  -20.7  0.218 -9.000 -9.000 -999.  244.     52.2  0.15   2.40
1.00    2.42   79.   10.1  292.5    2.0
 12 01 01   1 21  -19.7  0.206 -9.000 -9.000 -999.  225.     46.9  0.15   2.40
1.00    2.30   95.   10.1  290.9    2.0
 12 01 01   1 22  -17.6  0.190 -9.000 -9.000 -999.  199.     39.8  0.15   2.40
1.00    2.13   78.   10.1  290.4    2.0
 12 01 01   1 23  -20.3  0.211 -9.000 -9.000 -999.  233.     49.0  0.15   2.40
1.00    2.35   52.   10.1  289.2    2.0
 12 01 01   1 24  -16.4  0.183 -9.000 -9.000 -999.  189.     37.0  0.15   2.40
1.00    2.06   75.   10.1  288.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01   10.1 1   55.    2.93   288.2   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
CO\15669 CO.ISC                 ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                          ***        12:22:27

                                    PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000550    , L0000551
 , L0000552    , L0000553    , L0000554    ,
                 L0000555    , L0000556    , L0000557    , L0000558    , L0000559
 , L0000560    , L0000561    , L0000562    ,
                 L0000563    , L0000564    , L0000565    , L0000566    , L0000567
 , L0000568    , L0000569    , L0000570    ,
                 L0000571    , L0000572    , L0000573    , L0000574    , L0000575
 , L0000576    , L0000577    ,  . . .      ,

                                       *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                    ** CONC OF CO       IN MICROGRAMS/M**3
                    **
```

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446596.48	3749020.42	15.80961	(13041207)	446605.35	3749020.42	15.97661	(13041207)
446614.22	3749020.42	16.14677	(13041207)	446598.94	3749025.98	16.63979	(13041207)
446605.35	3749025.80	16.74552	(13041207)	446614.22	3749025.80	16.93174	(13041207)
446472.30	3749031.18	14.92677	(13041207)	446598.94	3749031.36	17.46918	(13041207)
446605.35	3749031.18	17.58517	(13041207)	446614.22	3749031.18	17.78970	(13041207)
446472.30	3749036.56	15.60282	(13041207)	446569.87	3749036.56	17.65726	(13041207)
446578.74	3749036.56	17.86205	(13041207)	446587.61	3749036.56	18.07128	(13041207)
446598.94	3749036.74	18.37787	(13041207)	446605.35	3749036.56	18.50559	(13041207)
446614.22	3749036.56	18.73097	(13041207)	446472.30	3749041.94	16.33724	(13041207)
446534.39	3749041.94	17.72267	(13041207)	446543.26	3749041.94	17.93269	(13041207)
446552.13	3749041.94	18.14617	(13041207)	446561.00	3749041.94	18.36313	(13041207)
446569.87	3749041.94	18.58400	(13041207)	446578.74	3749041.94	18.80923	(13041207)
446587.61	3749041.94	19.03944	(13041207)	446598.94	3749042.12	19.37736	(13041207)
446605.35	3749041.94	19.51848	(13041207)	446614.22	3749041.94	19.76773	(13041207)
446472.30	3749047.32	17.13777	(13041207)	446676.23	3749062.03	27.66258	(13041207)
446490.04	3749047.32	17.50997	(13041207)	446498.91	3749047.32	17.75198	(13041207)
446507.78	3749047.32	17.98606	(13041207)	446516.65	3749047.32	18.21420	(13041207)
446525.52	3749047.32	18.43338	(13041207)	446534.39	3749047.32	18.65457	(13041207)
446543.26	3749047.32	18.88588	(13041207)	446552.13	3749047.32	19.12115	(13041207)
446561.00	3749047.32	19.36046	(13041207)	446569.87	3749047.32	19.60430	(13041207)
446578.74	3749047.32	19.85302	(13041207)	446587.61	3749047.32	20.10725	(13041207)
446605.35	3749047.32	20.63765	(13041207)	446614.22	3749047.32	20.91424	(13041207)
446472.30	3749052.70	18.01355	(13041207)	446658.47	3749059.67	25.98186	(13041207)

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       446490.04   3749052.70       18.43346  (13041207)               446498.91
 3749052.70       18.70827  (13041207)
       446507.78   3749052.70       18.94823  (13041207)               446516.65
 3749052.70       19.18985  (13041207)
       446525.52   3749052.70       19.43296  (13041207)               446534.39
 3749052.70       19.68056  (13041207)
       446543.26   3749052.70       19.93637  (13041207)               446552.13
 3749052.70       20.19669  (13041207)
       446561.00   3749052.70       20.46174  (13041207)               446569.87
 3749052.70       20.73215  (13041207)
       446578.74   3749052.70       21.00790  (13041207)               446587.61
 3749052.70       21.28979  (13041207)
       446605.35   3749052.70       21.87928  (13041207)               446614.22
 3749052.70       22.18732  (13041207)
       446472.30   3749058.08       18.97404  (13041207)               446659.35
 3749065.41       28.06093  (13041207)
       446490.04   3749058.08       19.45369  (13041207)               446498.91
 3749058.08       19.74342  (13041207)
       446507.78   3749058.08       20.00145  (13041207)               446516.65
 3749058.08       20.26595  (13041207)
       446525.52   3749058.08       20.53688  (13041207)               446534.39
 3749058.08       20.81468  (13041207)
       446543.26   3749058.08       21.09869  (13041207)               446552.13
 3749058.08       21.38794  (13041207)
       446561.00   3749058.08       21.68264  (13041207)               446569.87
 3749058.08       21.98381  (13041207)
       446578.74   3749058.08       22.29106  (13041207)               446587.61
 3749058.08       22.60446  (13041207)
       446605.35   3749058.08       23.26268  (13041207)               446614.22
 3749058.08       23.60656  (13041207)
       446472.30   3749063.46       20.02240  (13041207)               446666.03
 3749063.75       27.78986  (13041207)
       446490.04   3749063.46       20.57287  (13041207)               446498.91
 3749063.46       20.88382  (13041207)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
CO\15669 CO.ISC                  ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:22:27

                                    PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                   INCLUDING SOURCE(S):     L0000550    , L0000551
 , L0000552    , L0000553    , L0000554    ,
                 L0000555    , L0000556    , L0000557    , L0000558    , L0000559
 , L0000560    , L0000561    , L0000562    ,
                 L0000563    , L0000564    , L0000565    , L0000566    , L0000567
 , L0000568    , L0000569    , L0000570    ,
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L0000571 , L0000572 , L0000573 , L0000574 , L0000575
, L0000576 , L0000577 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

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

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446507.78	3749063.46	21.16990	(13041207)	446516.65	3749063.46	21.46330	(13041207)
446525.52	3749063.46	21.76408	(13041207)	446534.39	3749063.46	22.07316	(13041207)
446543.26	3749063.46	22.39010	(13041207)	446552.13	3749063.46	22.71257	(13041207)
446561.00	3749063.46	23.04133	(13041207)	446569.87	3749063.46	23.37884	(13041207)
446578.74	3749063.46	23.72262	(13041207)	446587.61	3749063.46	24.07221	(13041207)
446605.35	3749063.46	24.81147	(13041207)	446614.22	3749063.46	25.19675	(13041207)
446472.30	3749068.84	21.17285	(13041207)	446651.26	3749061.39	26.22409	(13041207)
446490.04	3749068.84	21.81810	(13041207)	446498.91	3749068.84	22.14965	(13041207)
446507.78	3749068.84	22.46836	(13041207)	446516.65	3749068.84	22.79518	(13041207)
446525.52	3749068.84	23.12989	(13041207)	446534.39	3749068.84	23.47553	(13041207)
446543.26	3749068.84	23.83104	(13041207)	446552.13	3749068.84	24.19161	(13041207)
446561.00	3749068.84	24.56040	(13041207)	446569.87	3749068.84	24.94119	(13041207)
446578.74	3749068.84	25.32780	(13041207)	446587.61	3749068.84	25.71919	(13041207)
446605.35	3749068.84	26.55418	(13041207)	446614.22	3749068.84	26.98651	(13041207)
446477.06	3749066.77	20.84899	(13041207)	446651.26	3749066.77	28.14935	(13041207)
446490.04	3749074.22	23.20329	(13041207)	446498.91	3749074.22	23.56047	(13041207)
446507.78	3749074.22	23.91767	(13041207)	446516.65	3749074.22	24.28297	(13041207)
446525.52	3749074.22	24.65694	(13041207)	446534.39	3749074.22	25.04590	(13041207)
446543.26	3749074.22	25.44683	(13041207)	446552.13			

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000550 , L0000551 , L0000552 , L0000553 , L0000554 ,
L0000555 , L0000556 , L0000557 , L0000558 , L0000559 , L0000560 , L0000561 , L0000562 ,
L0000563 , L0000564 , L0000565 , L0000566 , L0000567 , L0000568 , L0000569 , L0000570 ,
L0000571 , L0000572 , L0000573 , L0000574 , L0000575 , L0000576 , L0000577 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446596.48	3749020.42	13.01579c	(12121708)	446605.35	3749020.42	13.14765c	(12121708)
446614.22	3749020.42	13.28046c	(12121708)	446598.94	3749025.98	13.63066c	(12121708)
446605.35	3749025.80	13.71440c	(12121708)	446614.22	3749025.80	13.85838c	(12121708)
446472.30	3749031.18	12.11622c	(12121708)	446598.94	3749031.36	14.23985c	(12121708)
446605.35	3749031.18	14.33085c	(12121708)	446614.22	3749031.18	14.48762c	(12121708)
446472.30	3749036.56	12.61491c	(12121708)	446569.87	3749036.56	14.33853c	(12121708)
446578.74	3749036.56	14.50224c	(12121708)	446587.61	3749036.56	14.66770c	(12121708)

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       446598.94   3749036.74       14.90508c (12121708)                446605.35
3749036.56       15.00445c (12121708)
       446614.22   3749036.56       15.17601c (12121708)                446472.30
3749041.94       13.15435c (12121708)
       446534.39   3749041.94       14.32010c (12121708)                446543.26
3749041.94       14.49128c (12121708)
       446552.13   3749041.94       14.66410c (12121708)                446561.00
3749041.94       14.83872c (12121708)
       446569.87   3749041.94       15.01528c (12121708)                446578.74
3749041.94       15.19396c (12121708)
       446587.61   3749041.94       15.37491c (12121708)                446598.94
3749042.12       15.63522c (12121708)
       446605.35   3749041.94       15.74434c (12121708)                446614.22
3749041.94       15.93315c (12121708)
       446472.30   3749047.32       13.74005c (12121708)                446676.23
3749062.03       21.87820c (12121708)
       446490.04   3749047.32       14.09426c (12121708)                446498.91
3749047.32       14.27264c (12121708)
       446507.78   3749047.32       14.45210c (12121708)                446516.65
3749047.32       14.63297c (12121708)
       446525.52   3749047.32       14.81545c (12121708)                446534.39
3749047.32       14.99975c (12121708)
       446543.26   3749047.32       15.18610c (12121708)                446552.13
3749047.32       15.37461c (12121708)
       446561.00   3749047.32       15.56547c (12121708)                446569.87
3749047.32       15.75887c (12121708)
       446578.74   3749047.32       15.95499c (12121708)                446587.61
3749047.32       16.15406c (12121708)
       446605.35   3749047.32       16.56186c (12121708)                446614.22
3749047.32       16.77103c (12121708)
       446472.30   3749052.70       14.37872c (12121708)                446658.47
3749059.67       20.56299c (12121708)
       446490.04   3749052.70       14.76167c (12121708)                446498.91
3749052.70       14.95473c (12121708)
       446507.78   3749052.70       15.14957c (12121708)                446516.65
3749052.70       15.34641c (12121708)
       446525.52   3749052.70       15.54540c (12121708)                446534.39
3749052.70       15.74680c (12121708)
       446543.26   3749052.70       15.95082c (12121708)                446552.13
3749052.70       16.15767c (12121708)
       446561.00   3749052.70       16.36756c (12121708)                446569.87
3749052.70       16.58074c (12121708)
       446578.74   3749052.70       16.79744c (12121708)                446587.61
3749052.70       17.01793c (12121708)
       446605.35   3749052.70       17.47133c (12121708)                446614.22
3749052.70       17.70477c (12121708)
       446472.30   3749058.08       15.07867c (12121708)                446659.35
3749065.41       22.17348c (12121708)
       446490.04   3749058.08       15.49453c (12121708)                446498.91
3749058.08       15.70464c (12121708)
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       446507.78   3749058.08       15.91749c (12121708)                446516.65
 3749058.08       16.13298c (12121708)
       446525.52   3749058.08       16.35133c (12121708)                446534.39
 3749058.08       16.57281c (12121708)
       446543.26   3749058.08       16.79766c (12121708)                446552.13
 3749058.08       17.02616c (12121708)
       446561.00   3749058.08       17.25864c (12121708)                446569.87
 3749058.08       17.49536c (12121708)
       446578.74   3749058.08       17.73659c (12121708)                446587.61
 3749058.08       17.98272c (12121708)
       446605.35   3749058.08       18.49106c (12121708)                446614.22
 3749058.08       18.75385c (12121708)
       446472.30   3749063.46       15.85023c (12121708)                446666.03
 3749063.75       21.96285c (12121708)
       446490.04   3749063.46       16.30397c (12121708)                446498.91
 3749063.46       16.53443c (12121708)
↟ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
CO\15669 CO.ISC                  ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:22:27

                                    PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  8-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000550    , L0000551
 , L0000552    , L0000553    , L0000554    ,
                 L0000555    , L0000556    , L0000557    , L0000558    , L0000559
 , L0000560    , L0000561    , L0000562    ,
                 L0000563    , L0000564    , L0000565    , L0000566    , L0000567
 , L0000568    , L0000569    , L0000570    ,
                 L0000571    , L0000572    , L0000573    , L0000574    , L0000575
 , L0000576    , L0000577    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

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

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
       446507.78   3749063.46       16.76841c (12121708)                446516.65
 3749063.46       17.00585c (12121708)
       446525.52   3749063.46       17.24706c (12121708)                446534.39
 3749063.46       17.49238c (12121708)
       446543.26   3749063.46       17.74206c (12121708)                446552.13
```

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 3749063.46       17.99648c (12121708)
       446561.00   3749063.46       18.25610c (12121708)               446569.87
 3749063.46       18.52123c (12121708)
       446578.74   3749063.46       18.79213c (12121708)               446587.61
 3749063.46       19.06941c (12121708)
       446605.35   3749063.46       19.64503c (12121708)               446614.22
 3749063.46       19.94383c (12121708)
       446472.30   3749068.84       16.70509c (12121708)               446651.26
 3749061.39       20.74093c (12121708)
       446490.04   3749068.84       17.20394c (12121708)               446498.91
 3749068.84       17.45861c (12121708)
       446507.78   3749068.84       17.71778c (12121708)               446516.65
 3749068.84       17.98146c (12121708)
       446525.52   3749068.84       18.25012c (12121708)               446534.39
 3749068.84       18.52420c (12121708)
       446543.26   3749068.84       18.80393c (12121708)               446552.13
 3749068.84       19.08979c (12121708)
       446561.00   3749068.84       19.38257c (12121708)               446569.87
 3749068.84       19.68260c (12121708)
       446578.74   3749068.84       19.98992c (12121708)               446587.61
 3749068.84       20.30561c (12121708)
       446605.35   3749068.84       20.96536c (12121708)               446614.22
 3749068.84       21.30898c (12121708)
       446477.06   3749066.77       16.49320c (12121708)               446651.26
 3749066.77       22.23491c (12121708)
       446490.04   3749074.22       18.21217c (12121708)               446498.91
 3749074.22       18.49606c (12121708)
       446507.78   3749074.22       18.78572c (12121708)               446516.65
 3749074.22       19.08122c (12121708)
       446525.52   3749074.22       19.38334c (12121708)               446534.39
 3749074.22       19.69276c (12121708)
       446543.26   3749074.22       20.00946c (12121708)               446552.13
 3749074.22       20.33401c (12121708)
       446561.00   3749074.22       20.66807c (12121708)               446569.87
 3749074.22       21.01195c (12121708)
       446578.74   3749074.22       21.36476c (12121708)               446587.61
 3749074.22       21.72856c (12121708)
       446674.83   3749056.45       20.33245c (12121708)               446665.93
 3749058.21       20.46034c (12121708)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
CO\15669 CO.ISC                  ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:22:27

                                   PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                                  *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***
```

```
                                        ** CONC OF CO       IN MICROGRAMS/M**3
                **

                                                              DATE
                                                  NETWORK
GROUP ID                                  AVERAGE CONC      (YYMMDDHH)              RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS      28.14935  ON 13041207: AT (  446651.26,
3749066.77,   195.00,   195.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
CO\15669 CO.ISC                 ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:22:27

                                   PAGE  15
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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


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

                                                              DATE
                                                  NETWORK
GROUP ID                                  AVERAGE CONC      (YYMMDDHH)              RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS      22.23491c ON 12121708: AT (  446651.26,
3749066.77,   195.00,   195.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
```

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

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

 A Total of   0 Fatal Error Message(s)
 A Total of   2 Warning Message(s)
 A Total of   1638 Informational Message(s)

 A Total of   43848 Hours Were Processed

 A Total of   1039 Calm Hours Identified

 A Total of   599 Missing Hours Identified (1.37 Percent)

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

    ********   WARNING MESSAGES   ********
 ME W186   225   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187   225   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

    ****
    *** AERMOD Finishes Successfully ***
    ****
**
****
**
** AERMOD INPUT PRODUCED BY:
** AERMOD VIEW VER. 12.0.0
** LAKES ENVIRONMENTAL SOFTWARE INC.
** DATE: 1/19/2024
** FILE: C:\LAKES\AERMOD VIEW\15669 HRA\15669 NO2\15669 NO2.ADI
**
****
**
**
****
** AERMOD CONTROL PATHWAY
****

```
**
**
CO STARTING
   TITLEONE C:\LAKES\AERMOD VIEW\15669 HRA\15669 NO2\15669 NO2.ISC
   MODELOPT DFAULT CONC
   AVERTIME 1 24 ANNUAL
   URBANOPT 2189641
   POLLUTID NO2
   RUNORNOT RUN
   ERRORFIL "15669 NO2.ERR"
CO FINISHED
**
**********************************
** AERMOD SOURCE PATHWAY
**********************************
**
**
SO STARTING
** SOURCE LOCATION **
** SOURCE ID - TYPE - X COORD. - Y COORD. **
** ------------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE1
** DESCRSRC 91 EB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.0361
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446149.796, 3749188.513, 197.76, 3.49, 14.88
** 447179.945, 3749035.478, 191.42, 3.49, 14.88
** ------------------------------------------------------------------
   LOCATION L0000485     VOLUME   446165.623 3749186.162 196.79
   LOCATION L0000486     VOLUME   446197.275 3749181.460 196.83
   LOCATION L0000487     VOLUME   446228.928 3749176.757 196.01
   LOCATION L0000488     VOLUME   446260.581 3749172.055 196.14
   LOCATION L0000489     VOLUME   446292.233 3749167.353 196.30
   LOCATION L0000490     VOLUME   446323.886 3749162.651 196.38
   LOCATION L0000491     VOLUME   446355.539 3749157.949 196.00
   LOCATION L0000492     VOLUME   446387.191 3749153.246 195.74
   LOCATION L0000493     VOLUME   446418.844 3749148.544 195.00
   LOCATION L0000494     VOLUME   446450.497 3749143.842 195.00
   LOCATION L0000495     VOLUME   446482.149 3749139.140 195.00
   LOCATION L0000496     VOLUME   446513.802 3749134.438 195.00
   LOCATION L0000497     VOLUME   446545.454 3749129.735 195.00
   LOCATION L0000498     VOLUME   446577.107 3749125.033 195.00
   LOCATION L0000499     VOLUME   446608.760 3749120.331 195.00
   LOCATION L0000500     VOLUME   446640.412 3749115.629 195.00
```

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   LOCATION L0000501     VOLUME   446672.065 3749110.927 195.00
   LOCATION L0000502     VOLUME   446703.718 3749106.224 195.00
   LOCATION L0000503     VOLUME   446735.370 3749101.522 195.00
   LOCATION L0000504     VOLUME   446767.023 3749096.820 195.33
   LOCATION L0000505     VOLUME   446798.675 3749092.118 195.20
   LOCATION L0000506     VOLUME   446830.328 3749087.416 195.00
   LOCATION L0000507     VOLUME   446861.981 3749082.713 195.00
   LOCATION L0000508     VOLUME   446893.633 3749078.011 195.00
   LOCATION L0000509     VOLUME   446925.286 3749073.309 194.89
   LOCATION L0000510     VOLUME   446956.939 3749068.607 194.69
   LOCATION L0000511     VOLUME   446988.591 3749063.905 195.08
   LOCATION L0000512     VOLUME   447020.244 3749059.202 195.06
   LOCATION L0000513     VOLUME   447051.897 3749054.500 195.00
   LOCATION L0000514     VOLUME   447083.549 3749049.798 194.90
   LOCATION L0000515     VOLUME   447115.202 3749045.096 194.63
   LOCATION L0000516     VOLUME   447146.854 3749040.394 193.31
   LOCATION L0000517     VOLUME   447178.507 3749035.691 191.48
** END OF LINE VOLUME SOURCE ID = SLINE1
** ----------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE2
** DESCRSRC 91 WB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.0313
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446153.936, 3749222.959, 196.45, 3.49, 14.88
** 447172.188, 3749092.095, 193.64, 3.49, 14.88
** ----------------------------------------------------------------
   LOCATION L0000518     VOLUME   446169.806 3749220.920 195.99
   LOCATION L0000519     VOLUME   446201.545 3749216.841 195.65
   LOCATION L0000520     VOLUME   446233.284 3749212.761 195.68
   LOCATION L0000521     VOLUME   446265.023 3749208.682 194.98
   LOCATION L0000522     VOLUME   446296.762 3749204.603 195.05
   LOCATION L0000523     VOLUME   446328.501 3749200.524 195.19
   LOCATION L0000524     VOLUME   446360.240 3749196.445 195.33
   LOCATION L0000525     VOLUME   446391.979 3749192.366 195.04
   LOCATION L0000526     VOLUME   446423.718 3749188.287 194.60
   LOCATION L0000527     VOLUME   446455.457 3749184.208 194.59
   LOCATION L0000528     VOLUME   446487.196 3749180.129 194.66
   LOCATION L0000529     VOLUME   446518.935 3749176.050 195.00
   LOCATION L0000530     VOLUME   446550.673 3749171.971 195.00
   LOCATION L0000531     VOLUME   446582.412 3749167.892 194.45
   LOCATION L0000532     VOLUME   446614.151 3749163.813 194.41
   LOCATION L0000533     VOLUME   446645.890 3749159.734 194.55
   LOCATION L0000534     VOLUME   446677.629 3749155.655 194.39
   LOCATION L0000535     VOLUME   446709.368 3749151.576 194.64
```

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   LOCATION L0000536     VOLUME   446741.107 3749147.497 194.87
   LOCATION L0000537     VOLUME   446772.846 3749143.418 194.99
   LOCATION L0000538     VOLUME   446804.585 3749139.339 194.29
   LOCATION L0000539     VOLUME   446836.324 3749135.260 193.44
   LOCATION L0000540     VOLUME   446868.063 3749131.181 192.72
   LOCATION L0000541     VOLUME   446899.802 3749127.102 192.42
   LOCATION L0000542     VOLUME   446931.541 3749123.023 192.55
   LOCATION L0000543     VOLUME   446963.280 3749118.944 192.64
   LOCATION L0000544     VOLUME   446995.019 3749114.865 193.61
   LOCATION L0000545     VOLUME   447026.758 3749110.786 193.78
   LOCATION L0000546     VOLUME   447058.497 3749106.707 193.20
   LOCATION L0000547     VOLUME   447090.236 3749102.627 193.36
   LOCATION L0000548     VOLUME   447121.975 3749098.548 193.01
   LOCATION L0000549     VOLUME   447153.714 3749094.469 193.76
** END OF LINE VOLUME SOURCE ID = SLINE2
** SOURCE PARAMETERS **
** LINE VOLUME SOURCE ID = SLINE1
   SRCPARAM L0000485     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000486     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000487     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000488     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000489     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000490     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000491     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000492     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000493     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000494     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000495     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000496     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000497     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000498     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000499     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000500     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000501     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000502     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000503     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000504     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000505     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000506     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000507     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000508     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000509     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000510     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000511     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000512     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000513     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000514     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000515     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000516     0.0010939394      3.49     14.88      3.25
   SRCPARAM L0000517     0.0010939394      3.49     14.88      3.25
```

```
** ------------------------------------------------------------------
** LINE VOLUME SOURCE ID = SLINE2
   SRCPARAM L0000518     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000519     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000520     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000521     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000522     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000523     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000524     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000525     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000526     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000527     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000528     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000529     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000530     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000531     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000532     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000533     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000534     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000535     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000536     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000537     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000538     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000539     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000540     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000541     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000542     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000543     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000544     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000545     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000546     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000547     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000548     0.000978125      3.49     14.88      3.25
   SRCPARAM L0000549     0.000978125      3.49     14.88      3.25
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD RECEPTOR PATHWAY
**************************************
**
**
RE STARTING
   INCLUDED "15669 NO2.ROU"
RE FINISHED
**
**************************************
** AERMOD METEOROLOGY PATHWAY
```

```
**************************************
**
**
ME STARTING
   SURFFILE ..\KRAL_V9_ADJU\KRAL_V9.SFC
   PROFFILE ..\KRAL_V9_ADJU\KRAL_V9.PFL
   SURFDATA 3171 2012
   UAIRDATA 3190 2012
   PROFBASE 245.0 METERS
ME FINISHED
**
**************************************
** AERMOD OUTPUT PATHWAY
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 24 1ST
** AUTO-GENERATED PLOTFILES
   PLOTFILE   1 ALL 1ST "15669 NO2.AD\01H1GALL.PLT" 31
   PLOTFILE   24 ALL 1ST "15669 NO2.AD\24H1GALL.PLT" 32
   PLOTFILE   ANNUAL ALL "15669 NO2.AD\AN00GALL.PLT" 33
   SUMMFILE "15669 NO2.SUM"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

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

 A Total of            0 Fatal Error Message(s)
 A Total of            4 Warning Message(s)
 A Total of            0 Informational Message(s)


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


    ********   WARNING MESSAGES   ********
 CO W361      26       COCARD: Multiyear PERIOD/ANNUAL values for NO2/SO2 require
MULTYEAR Opt
 CO W362      26       COCARD: Multiyear 1h NO2/SO2 processing not applicable for
 24-hr Ave
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
```

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

 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
NO2\15669 NO2.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        14:45:37

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Full Conversion Assumed for NO2.
      * Model Uses URBAN Dispersion Algorithm for the SBL for    65 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2189641.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: NO2

 **NOTE: Special processing requirements applicable for the 1-hour NO2 NAAQS have
been disabled!!!
         User has specified non-standard averaging periods:   24-HR

         High ranked 1-hour values are NOT averaged across the number of years
modeled, and
         complete years of data are NOT required.

 **Model Calculates  2 Short Term Average(s) of:   1-HR  24-HR
```

```
     and Calculates ANNUAL Averages

 **This Run Includes:     65 Source(s);       1 Source Group(s); and     124
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     65 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


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

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
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:  Base Elev. for Pot. Temp. Profile (m MSL) =   245.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   15669 NO2.ERR
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
L0000485	0	0.10939E-02	446165.6	3749186.2	196.8	3.49	14.88	3.25	YES	NO	
L0000486	0	0.10939E-02	446197.3	3749181.5	196.8	3.49	14.88	3.25	YES	NO	
L0000487	0	0.10939E-02	446228.9	3749176.8	196.0	3.49	14.88	3.25	YES	NO	
L0000488	0	0.10939E-02	446260.6	3749172.1	196.1	3.49	14.88	3.25	YES	NO	
L0000489	0	0.10939E-02	446292.2	3749167.4	196.3	3.49	14.88	3.25	YES	NO	
L0000490	0	0.10939E-02	446323.9	3749162.7	196.4	3.49	14.88	3.25	YES	NO	
L0000491	0	0.10939E-02	446355.5	3749157.9	196.0	3.49	14.88	3.25	YES	NO	
L0000492	0	0.10939E-02	446387.2	3749153.2	195.7	3.49	14.88	3.25	YES	NO	
L0000493	0	0.10939E-02	446418.8	3749148.5	195.0	3.49	14.88	3.25	YES	NO	
L0000494	0	0.10939E-02	446450.5	3749143.8	195.0	3.49	14.88	3.25	YES	NO	
L0000495	0	0.10939E-02	446482.1	3749139.1	195.0	3.49	14.88	3.25	YES	NO	
L0000496	0	0.10939E-02	446513.8	3749134.4	195.0	3.49	14.88	3.25	YES	NO	
L0000497	0	0.10939E-02	446545.5	3749129.7	195.0	3.49	14.88	3.25	YES	NO	
L0000498	0	0.10939E-02	446577.1	3749125.0	195.0	3.49	14.88	3.25	YES	NO	

L0000499	0	0.10939E-02	446608.8	3749120.3	195.0	3.49	14.88	
3.25	YES		NO					
L0000500	0	0.10939E-02	446640.4	3749115.6	195.0	3.49	14.88	
3.25	YES		NO					
L0000501	0	0.10939E-02	446672.1	3749110.9	195.0	3.49	14.88	
3.25	YES		NO					
L0000502	0	0.10939E-02	446703.7	3749106.2	195.0	3.49	14.88	
3.25	YES		NO					
L0000503	0	0.10939E-02	446735.4	3749101.5	195.0	3.49	14.88	
3.25	YES		NO					
L0000504	0	0.10939E-02	446767.0	3749096.8	195.3	3.49	14.88	
3.25	YES		NO					
L0000505	0	0.10939E-02	446798.7	3749092.1	195.2	3.49	14.88	
3.25	YES		NO					
L0000506	0	0.10939E-02	446830.3	3749087.4	195.0	3.49	14.88	
3.25	YES		NO					
L0000507	0	0.10939E-02	446862.0	3749082.7	195.0	3.49	14.88	
3.25	YES		NO					
L0000508	0	0.10939E-02	446893.6	3749078.0	195.0	3.49	14.88	
3.25	YES		NO					
L0000509	0	0.10939E-02	446925.3	3749073.3	194.9	3.49	14.88	
3.25	YES		NO					
L0000510	0	0.10939E-02	446956.9	3749068.6	194.7	3.49	14.88	
3.25	YES		NO					
L0000511	0	0.10939E-02	446988.6	3749063.9	195.1	3.49	14.88	
3.25	YES		NO					
L0000512	0	0.10939E-02	447020.2	3749059.2	195.1	3.49	14.88	
3.25	YES		NO					
L0000513	0	0.10939E-02	447051.9	3749054.5	195.0	3.49	14.88	
3.25	YES		NO					
L0000514	0	0.10939E-02	447083.5	3749049.8	194.9	3.49	14.88	
3.25	YES		NO					
L0000515	0	0.10939E-02	447115.2	3749045.1	194.6	3.49	14.88	
3.25	YES		NO					
L0000516	0	0.10939E-02	447146.9	3749040.4	193.3	3.49	14.88	
3.25	YES		NO					
L0000517	0	0.10939E-02	447178.5	3749035.7	191.5	3.49	14.88	
3.25	YES		NO					
L0000518	0	0.97813E-03	446169.8	3749220.9	196.0	3.49	14.88	
3.25	YES		NO					
L0000519	0	0.97813E-03	446201.5	3749216.8	195.7	3.49	14.88	
3.25	YES		NO					
L0000520	0	0.97813E-03	446233.3	3749212.8	195.7	3.49	14.88	
3.25	YES		NO					
L0000521	0	0.97813E-03	446265.0	3749208.7	195.0	3.49	14.88	
3.25	YES		NO					
L0000522	0	0.97813E-03	446296.8	3749204.6	195.1	3.49	14.88	
3.25	YES		NO					
L0000523	0	0.97813E-03	446328.5	3749200.5	195.2	3.49	14.88	
3.25	YES		NO					

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE BY	AIRCRAFT EMISSION RATE SCALAR VARY
L0000525	0	0.97813E-03	446392.0	3749192.4	195.0	3.49	14.88	3.25	YES	NO
L0000526	0	0.97813E-03	446423.7	3749188.3	194.6	3.49	14.88	3.25	YES	NO
L0000527	0	0.97813E-03	446455.5	3749184.2	194.6	3.49	14.88	3.25	YES	NO
L0000528	0	0.97813E-03	446487.2	3749180.1	194.7	3.49	14.88	3.25	YES	NO
L0000529	0	0.97813E-03	446518.9	3749176.0	195.0	3.49	14.88	3.25	YES	NO
L0000530	0	0.97813E-03	446550.7	3749172.0	195.0	3.49	14.88	3.25	YES	NO
L0000531	0	0.97813E-03	446582.4	3749167.9	194.5	3.49	14.88	3.25	YES	NO
L0000532	0	0.97813E-03	446614.2	3749163.8	194.4	3.49	14.88	3.25	YES	NO
L0000533	0	0.97813E-03	446645.9	3749159.7	194.6	3.49	14.88	3.25	YES	NO
L0000534	0	0.97813E-03	446677.6	3749155.7	194.4	3.49	14.88	3.25	YES	NO
L0000535	0	0.97813E-03	446709.4	3749151.6	194.6	3.49	14.88	3.25	YES	NO
L0000536	0	0.97813E-03	446741.1	3749147.5	194.9	3.49	14.88	3.25	YES	NO
L0000537	0	0.97813E-03	446772.8	3749143.4	195.0	3.49	14.88	3.25	YES	NO
L0000538	0	0.97813E-03	446804.6	3749139.3	194.3	3.49	14.88	3.25	YES	NO

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 L0000539         0   0.97813E-03  446836.3 3749135.3   193.4     3.49    14.88
3.25     YES                    NO
 L0000540         0   0.97813E-03  446868.1 3749131.2   192.7     3.49    14.88
3.25     YES                    NO
 L0000541         0   0.97813E-03  446899.8 3749127.1   192.4     3.49    14.88
3.25     YES                    NO
 L0000542         0   0.97813E-03  446931.5 3749123.0   192.6     3.49    14.88
3.25     YES                    NO
 L0000543         0   0.97813E-03  446963.3 3749118.9   192.6     3.49    14.88
3.25     YES                    NO
 L0000544         0   0.97813E-03  446995.0 3749114.9   193.6     3.49    14.88
3.25     YES                    NO
 L0000545         0   0.97813E-03  447026.8 3749110.8   193.8     3.49    14.88
3.25     YES                    NO
 L0000546         0   0.97813E-03  447058.5 3749106.7   193.2     3.49    14.88
3.25     YES                    NO
 L0000547         0   0.97813E-03  447090.2 3749102.6   193.4     3.49    14.88
3.25     YES                    NO
 L0000548         0   0.97813E-03  447122.0 3749098.5   193.0     3.49    14.88
3.25     YES                    NO
 L0000549         0   0.97813E-03  447153.7 3749094.5   193.8     3.49    14.88
3.25     YES                    NO
↟ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
NO2\15669 NO2.ISC                ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        14:45:37

                                  PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                              *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                                 SOURCE IDs
 -----------                                                 ----------


  ALL        L0000485    , L0000486    , L0000487    , L0000488    , L0000489    ,
L0000490    , L0000491    , L0000492    ,

             L0000493    , L0000494    , L0000495    , L0000496    , L0000497    ,
L0000498    , L0000499    , L0000500    ,

             L0000501    , L0000502    , L0000503    , L0000504    , L0000505    ,
L0000506    , L0000507    , L0000508    ,

             L0000509    , L0000510    , L0000511    , L0000512    , L0000513    ,
L0000514    , L0000515    , L0000516    ,
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L0000517 , L0000518 , L0000519 , L0000520 , L0000521 ,
L0000522 , L0000523 , L0000524 ,

L0000525 , L0000526 , L0000527 , L0000528 , L0000529 ,
L0000530 , L0000531 , L0000532 ,

L0000533 , L0000534 , L0000535 , L0000536 , L0000537 ,
L0000538 , L0000539 , L0000540 ,

L0000541 , L0000542 , L0000543 , L0000544 , L0000545 ,
L0000546 , L0000547 , L0000548 ,

L0000549 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	2189641.	L0000485 , L0000486 , L0000487 , L0000488 , L0000489 , L0000490 , L0000491 , L0000492 ,
		L0000493 , L0000494 , L0000495 , L0000496 , L0000497 , L0000498 , L0000499 , L0000500 ,
		L0000501 , L0000502 , L0000503 , L0000504 , L0000505 , L0000506 , L0000507 , L0000508 ,
		L0000509 , L0000510 , L0000511 , L0000512 , L0000513 , L0000514 , L0000515 , L0000516 ,
		L0000517 , L0000518 , L0000519 , L0000520 , L0000521 , L0000522 , L0000523 , L0000524 ,
		L0000525 , L0000526 , L0000527 , L0000528 , L0000529 , L0000530 , L0000531 , L0000532 ,
		L0000533 , L0000534 , L0000535 , L0000536 , L0000537 , L0000538 , L0000539 , L0000540 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

(446596.5, 3749020.4, 195.0, 195.0, 0.0); (446605.3, 3749020.4, 195.0, 195.0, 0.0);
(446614.2, 3749020.4, 195.0, 195.0, 0.0); (446598.9, 3749026.0, 195.0, 195.0, 0.0);
(446605.3, 3749025.8, 195.0, 195.0, 0.0); (446614.2, 3749025.8, 195.0, 195.0, 0.0);
(446472.3, 3749031.2, 196.0, 196.0, 0.0); (446598.9, 3749031.4, 195.0, 195.0, 0.0);
(446605.3, 3749031.2, 195.0, 195.0, 0.0); (446614.2, 3749031.2, 195.0, 195.0, 0.0);
(446472.3, 3749036.6, 196.0, 196.0, 0.0); (446569.9, 3749036.6, 195.0, 195.0, 0.0);
(446578.7, 3749036.6, 195.0, 195.0, 0.0); (446587.6, 3749036.6, 195.0, 195.0, 0.0);
(446598.9, 3749036.7, 195.0, 195.0, 0.0); (446605.3, 3749036.6, 195.0, 195.0, 0.0);
(446614.2, 3749036.6, 195.0, 195.0, 0.0); (446472.3, 3749041.9, 196.0, 196.0, 0.0);
(446534.4, 3749041.9, 195.0, 195.0, 0.0); (446543.3, 3749041.9, 195.0, 195.0, 0.0);
(446552.1, 3749041.9, 195.0, 195.0, 0.0); (446561.0, 3749041.9, 195.0, 195.0, 0.0);
(446569.9, 3749041.9, 195.0, 195.0, 0.0); (446578.7, 3749041.9, 195.0, 195.0, 0.0);
(446587.6, 3749041.9, 195.0, 195.0, 0.0); (446598.9, 3749042.1, 195.0, 195.0, 0.0);
(446605.3, 3749041.9, 195.0, 195.0, 0.0); (446614.2, 3749041.9, 195.0, 195.0, 0.0);
(446472.3, 3749047.3, 195.9, 195.9, 0.0); (446676.2, 3749062.0, 195.0, 195.0, 0.0);
(446490.0, 3749047.3, 195.5, 195.5, 0.0); (446498.9, 3749047.3, 195.3, 195.3, 0.0);
(446507.8, 3749047.3, 195.2, 195.2, 0.0); (446516.6,

```
3749047.3,     195.1,     195.1,       0.0);
     ( 446525.5, 3749047.3,     195.0,     195.0,       0.0);         ( 446534.4,
3749047.3,     195.0,     195.0,       0.0);
     ( 446543.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446552.1,
3749047.3,     195.0,     195.0,       0.0);
     ( 446561.0, 3749047.3,     195.0,     195.0,       0.0);         ( 446569.9,
3749047.3,     195.0,     195.0,       0.0);
     ( 446578.7, 3749047.3,     195.0,     195.0,       0.0);         ( 446587.6,
3749047.3,     195.0,     195.0,       0.0);
     ( 446605.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446614.2,
3749047.3,     195.0,     195.0,       0.0);
     ( 446472.3, 3749052.7,     195.9,     195.9,       0.0);         ( 446658.5,
3749059.7,     195.0,     195.0,       0.0);
     ( 446490.0, 3749052.7,     195.4,     195.4,       0.0);         ( 446498.9,
3749052.7,     195.1,     195.1,       0.0);
     ( 446507.8, 3749052.7,     195.1,     195.1,       0.0);         ( 446516.6,
3749052.7,     195.1,     195.1,       0.0);
     ( 446525.5, 3749052.7,     195.0,     195.0,       0.0);         ( 446534.4,
3749052.7,     195.0,     195.0,       0.0);
     ( 446543.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446552.1,
3749052.7,     195.0,     195.0,       0.0);
     ( 446561.0, 3749052.7,     195.0,     195.0,       0.0);         ( 446569.9,
3749052.7,     195.0,     195.0,       0.0);
     ( 446578.7, 3749052.7,     195.0,     195.0,       0.0);         ( 446587.6,
3749052.7,     195.0,     195.0,       0.0);
     ( 446605.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446614.2,
3749052.7,     195.0,     195.0,       0.0);
     ( 446472.3, 3749058.1,     195.9,     195.9,       0.0);         ( 446659.3,
3749065.4,     195.0,     195.0,       0.0);
     ( 446490.0, 3749058.1,     195.3,     195.3,       0.0);         ( 446498.9,
3749058.1,     195.0,     195.0,       0.0);
     ( 446507.8, 3749058.1,     195.0,     195.0,       0.0);         ( 446516.6,
3749058.1,     195.0,     195.0,       0.0);
     ( 446525.5, 3749058.1,     195.0,     195.0,       0.0);         ( 446534.4,
3749058.1,     195.0,     195.0,       0.0);
     ( 446543.3, 3749058.1,     195.0,     195.0,       0.0);         ( 446552.1,
3749058.1,     195.0,     195.0,       0.0);
     ( 446561.0, 3749058.1,     195.0,     195.0,       0.0);         ( 446569.9,
3749058.1,     195.0,     195.0,       0.0);
     ( 446578.7, 3749058.1,     195.0,     195.0,       0.0);         ( 446587.6,
3749058.1,     195.0,     195.0,       0.0);
     ( 446605.3, 3749058.1,     195.0,     195.0,       0.0);         ( 446614.2,
3749058.1,     195.0,     195.0,       0.0);
     ( 446472.3, 3749063.5,     195.7,     195.7,       0.0);         ( 446666.0,
3749063.8,     195.0,     195.0,       0.0);
     ( 446490.0, 3749063.5,     195.2,     195.2,       0.0);         ( 446498.9,
3749063.5,     195.0,     195.0,       0.0);
     ( 446507.8, 3749063.5,     195.0,     195.0,       0.0);         ( 446516.6,
3749063.5,     195.0,     195.0,       0.0);
     ( 446525.5, 3749063.5,     195.0,     195.0,       0.0);         ( 446534.4,
```

3749063.5,   195.0,   195.0,   0.0);
     (446543.3, 3749063.5,   195.0,   195.0,   0.0);   (446552.1,
3749063.5,   195.0,   195.0,   0.0);
     (446561.0, 3749063.5,   195.0,   195.0,   0.0);   (446569.9,
3749063.5,   195.0,   195.0,   0.0);
     (446578.7, 3749063.5,   195.0,   195.0,   0.0);   (446587.6,
3749063.5,   195.0,   195.0,   0.0);

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

     (446605.3, 3749063.5,   195.0,   195.0,   0.0);   (446614.2,
3749063.5,   195.0,   195.0,   0.0);
     (446472.3, 3749068.8,   195.5,   195.5,   0.0);   (446651.3,
3749061.4,   195.0,   195.0,   0.0);
     (446490.0, 3749068.8,   195.2,   195.2,   0.0);   (446498.9,
3749068.8,   195.0,   195.0,   0.0);
     (446507.8, 3749068.8,   195.0,   195.0,   0.0);   (446516.6,
3749068.8,   195.0,   195.0,   0.0);
     (446525.5, 3749068.8,   195.0,   195.0,   0.0);   (446534.4,
3749068.8,   195.0,   195.0,   0.0);
     (446543.3, 3749068.8,   195.0,   195.0,   0.0);   (446552.1,
3749068.8,   195.0,   195.0,   0.0);
     (446561.0, 3749068.8,   195.0,   195.0,   0.0);   (446569.9,
3749068.8,   195.0,   195.0,   0.0);
     (446578.7, 3749068.8,   195.0,   195.0,   0.0);   (446587.6,
3749068.8,   195.0,   195.0,   0.0);
     (446605.3, 3749068.8,   195.0,   195.0,   0.0);   (446614.2,
3749068.8,   195.0,   195.0,   0.0);
     (446477.1, 3749066.8,   195.5,   195.5,   0.0);   (446651.3,
3749066.8,   195.0,   195.0,   0.0);
     (446490.0, 3749074.2,   195.1,   195.1,   0.0);   (446498.9,
3749074.2,   195.0,   195.0,   0.0);
     (446507.8, 3749074.2,   195.0,   195.0,   0.0);   (446516.6,
3749074.2,   195.0,   195.0,   0.0);
     (446525.5, 3749074.2,   195.0,   195.0,   0.0);   (446534.4,
3749074.2,   195.0,   195.0,   0.0);
     (446543.3, 3749074.2,   195.0,   195.0,   0.0);   (446552.1,
3749074.2,   195.0,   195.0,   0.0);
     (446561.0, 3749074.2,   195.0,   195.0,   0.0);   (446569.9,
3749074.2,   195.0,   195.0,   0.0);
     (446578.7, 3749074.2,   195.0,   195.0,   0.0);   (446587.6,

3749074.2,   195.0,   195.0,   0.0);
     (446674.8, 3749056.4,   195.0,   195.0,   0.0);   (446665.9,
3749058.2,   195.0,   195.0,   0.0);

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

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

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

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54,   3.09,   5.14,   8.23,
10.80,

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

Surface file: ..\KRAL_V9_ADJU\KRAL_V9.SFC
Met Version: 16216
Profile file: ..\KRAL_V9_ADJU\KRAL_V9.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3171 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-25.6	0.266	-9.000	-9.000	-999.	330.	77.9	0.15	2.40	1.00	2.93	55.	10.1	288.1	2.0
12	01	01	1	02	-26.8	0.277	-9.000	-9.000	-999.	351.	84.7	0.15	2.40	1.00	3.05	55.	10.1	287.0	2.0
12	01	01	1	03	-21.5	0.221	-9.000	-9.000	-999.	250.	53.5	0.15	2.40	1.00	2.45	74.	10.1	284.2	2.0
12	01	01	1	04	-22.0	0.227	-9.000	-9.000	-999.	260.	56.8	0.15	2.40	1.00	2.52	77.	10.1	285.9	2.0
12	01	01	1	05	-20.0	0.206	-9.000	-9.000	-999.	225.	46.8	0.15	2.40	1.00	2.30	80.	10.1	285.4	2.0
12	01	01	1	06	-14.4	0.171	-9.000	-9.000	-999.	170.	32.1	0.15	2.40	1.00	1.93	79.	10.1	287.0	2.0
12	01	01	1	07	-14.9	0.174	-9.000	-9.000	-999.	174.	33.2	0.15	2.40	1.00	1.96	77.	10.1	284.2	2.0
12	01	01	1	08	-11.9	0.169	-9.000	-9.000	-999.	167.	36.1	0.15	2.40	0.53	1.89	77.	10.1	288.1	2.0
12	01	01	1	09	40.4	0.234	0.359	0.006	40.	272.	-28.1	0.15	2.40	0.31	2.10	81.	10.1	289.2	2.0
12	01	01	1	10	112.6	0.246	0.742	0.005	129.	293.	-11.8	0.15	2.40	0.24	1.99	101.	10.1	296.4	2.0
12	01	01	1	11	161.0	0.402	1.188	0.005	369.	611.	-35.6	0.15	2.40	0.21	3.68	78.	10.1	298.8	2.0
12	01	01	1	12	184.7	0.337	1.516	0.005	668.	473.	-18.4	0.15	2.40	0.20	2.89	68.	10.1	300.4	2.0
12	01	01	1	13	183.9	0.310	1.809	0.005	1139.	414.	-14.2	0.15	2.40	0.20	2.57	64.	10.1	302.5	2.0
12	01	01	1	14	156.6	0.374	1.852	0.005	1434.	549.	-29.5	0.15	2.40	0.22	3.37	63.	10.1	303.1	2.0
12	01	01	1	15	104.3	0.382	1.658	0.005	1546.	567.	-47.2	0.15	2.40

```
0.25    3.59   62.   10.1  302.5    2.0
 12 01 01   1 16   31.8  0.374  1.123  0.005 1573.  550.   -145.8  0.15   2.40
0.34    3.76   69.   10.1  300.9    2.0
 12 01 01   1 17  -23.3  0.276 -9.000 -9.000 -999.  354.     84.0  0.15   2.40
0.62    3.03   59.   10.1  297.5    2.0
 12 01 01   1 18  -21.5  0.229 -9.000 -9.000 -999.  264.     57.8  0.15   2.40
1.00    2.54   54.   10.1  295.4    2.0
 12 01 01   1 19  -19.3  0.204 -9.000 -9.000 -999.  221.     45.6  0.15   2.40
1.00    2.27   79.   10.1  292.0    2.0
 12 01 01   1 20  -20.7  0.218 -9.000 -9.000 -999.  244.     52.2  0.15   2.40
1.00    2.42   79.   10.1  292.5    2.0
 12 01 01   1 21  -19.7  0.206 -9.000 -9.000 -999.  225.     46.9  0.15   2.40
1.00    2.30   95.   10.1  290.9    2.0
 12 01 01   1 22  -17.6  0.190 -9.000 -9.000 -999.  199.     39.8  0.15   2.40
1.00    2.13   78.   10.1  290.4    2.0
 12 01 01   1 23  -20.3  0.211 -9.000 -9.000 -999.  233.     49.0  0.15   2.40
1.00    2.35   52.   10.1  289.2    2.0
 12 01 01   1 24  -16.4  0.183 -9.000 -9.000 -999.  189.     37.0  0.15   2.40
1.00    2.06   75.   10.1  288.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01   10.1 1   55.    2.93   288.2   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
NO2\15669 NO2.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        14:45:37

                                  PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000485    , L0000486
 , L0000487    , L0000488    , L0000489    ,
                   L0000490    , L0000491    , L0000492    , L0000493    , L0000494
 , L0000495    , L0000496    , L0000497    ,
                   L0000498    , L0000499    , L0000500    , L0000501    , L0000502
 , L0000503    , L0000504    , L0000505    ,
                   L0000506    , L0000507    , L0000508    , L0000509    , L0000510
 , L0000511    , L0000512    ,  . . .      ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                             ** CONC OF NO2      IN MICROGRAMS/M**3
                     **
```

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
446596.48	3749020.42	1.12825	446605.35	3749020.42	1.14223
446614.22	3749020.42	1.15637	446598.94	3749025.98	1.19032
446605.35	3749025.80	1.19940	446614.22	3749025.80	1.21487
446472.30	3749031.18	1.03081	446598.94	3749031.36	1.25223
446605.35	3749031.18	1.26219	446614.22	3749031.18	1.27919
446472.30	3749036.56	1.07911	446569.87	3749036.56	1.25947
446578.74	3749036.56	1.27704	446587.61	3749036.56	1.29490
446598.94	3749036.74	1.32053	446605.35	3749036.56	1.33149
446614.22	3749036.56	1.35027	446472.30	3749041.94	1.13191
446534.39	3749041.94	1.25438	446543.26	3749041.94	1.27256
446552.13	3749041.94	1.29102	446561.00	3749041.94	1.30977
446569.87	3749041.94	1.32882	446578.74	3749041.94	1.34819
446587.61	3749041.94	1.36790	446598.94	3749042.12	1.39628
446605.35	3749041.94	1.40842	446614.22	3749041.94	1.42927
446472.30	3749047.32	1.18983	446676.23	3749062.03	2.08771
446490.04	3749047.32	1.22774	446498.91	3749047.32	1.24657
446507.78	3749047.32	1.26547	446516.65	3749047.32	1.28462
446525.52	3749047.32	1.30402	446534.39	3749047.32	1.32370
446543.26	3749047.32	1.34371	446552.13	3749047.32	1.36406
446561.00	3749047.32	1.38476	446569.87	3749047.32	1.40584
446578.74	3749047.32	1.42731	446587.61	3749047.32	1.44921
446605.35	3749047.32	1.49437	446614.22	3749047.32	1.51768
446472.30	3749052.70	1.25368	446658.47		

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3749059.67        1.93705
         446490.04    3749052.70        1.29532                      446498.91
3749052.70        1.31589
         446507.78    3749052.70        1.33660                      446516.65
3749052.70        1.35763
         446525.52    3749052.70        1.37900                      446534.39
3749052.70        1.40075
         446543.26    3749052.70        1.42290                      446552.13
3749052.70        1.44546
         446561.00    3749052.70        1.46847                      446569.87
3749052.70        1.49193
         446578.74    3749052.70        1.51589                      446587.61
3749052.70        1.54039
         446605.35    3749052.70        1.59107                      446614.22
3749052.70        1.61733
         446472.30    3749058.08        1.32461                      446659.35
3749065.41        2.11760
         446490.04    3749058.08        1.37028                      446498.91
3749058.08        1.39285
         446507.78    3749058.08        1.41573                      446516.65
3749058.08        1.43902
         446525.52    3749058.08        1.46275                      446534.39
3749058.08        1.48694
         446543.26    3749058.08        1.51160                      446552.13
3749058.08        1.53679
         446561.00    3749058.08        1.56255                      446569.87
3749058.08        1.58887
         446578.74    3749058.08        1.61581                      446587.61
3749058.08        1.64343
         446605.35    3749058.08        1.70080                      446614.22
3749058.08        1.73064
         446472.30    3749063.46        1.40429                      446666.03
3749063.75        2.09504
         446490.04    3749063.46        1.45401                      446498.91
3749063.46        1.47903
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
NO2\15669 NO2.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        14:45:37

                                  PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                   INCLUDING SOURCE(S):     L0000485    , L0000486
 , L0000487    , L0000488    , L0000489    ,
                  L0000490    , L0000491    , L0000492    , L0000493    , L0000494
 , L0000495    , L0000496    , L0000497    ,
                  L0000498    , L0000499    , L0000500    , L0000501    , L0000502
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 , L0000503    , L0000504    , L0000505    ,
                 L0000506    , L0000507    , L0000508    , L0000509    , L0000510
 , L0000511    , L0000512    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                      ** CONC OF NO2      IN MICROGRAMS/M**3
                  **

       X-COORD (M)   Y-COORD (M)        CONC                        X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         446507.78    3749063.46        1.50448                       446516.65
3749063.46        1.53044
         446525.52    3749063.46        1.55695                       446534.39
3749063.46        1.58404
         446543.26    3749063.46        1.61172                       446552.13
3749063.46        1.64007
         446561.00    3749063.46        1.66915                       446569.87
3749063.46        1.69893
         446578.74    3749063.46        1.72949                       446587.61
3749063.46        1.76093
         446605.35    3749063.46        1.82654                       446614.22
3749063.46        1.86082
         446472.30    3749068.84        1.49369                       446651.26
3749061.39        1.95554
         446490.04    3749068.84        1.54826                       446498.91
3749068.84        1.57620
         446507.78    3749068.84        1.60472                       446516.65
3749068.84        1.63388
         446525.52    3749068.84        1.66376                       446534.39
3749068.84        1.69437
         446543.26    3749068.84        1.72571                       446552.13
3749068.84        1.75792
         446561.00    3749068.84        1.79108                       446569.87
3749068.84        1.82513
         446578.74    3749068.84        1.86016                       446587.61
3749068.84        1.89636
         446605.35    3749068.84        1.97231                       446614.22
3749068.84        2.01218
         446477.06    3749066.77        1.47219                       446651.26
3749066.77        2.12310
         446490.04    3749074.22        1.65519                       446498.91
3749074.22        1.68669
         446507.78    3749074.22        1.71894                       446516.65
3749074.22        1.75200
         446525.52    3749074.22        1.78601                       446534.39
3749074.22        1.82096
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3749036.56        3.69546  (13041207)
       446598.94   3749036.74        3.76209  (13041207)                446605.35
3749036.56        3.79004  (13041207)
       446614.22   3749036.56        3.83914  (13041207)                446472.30
3749041.94        3.32161  (13041207)
       446534.39   3749041.94        3.61615  (13041207)                446543.26
3749041.94        3.66151  (13041207)
       446552.13   3749041.94        3.70773  (13041207)                446561.00
3749041.94        3.75485  (13041207)
       446569.87   3749041.94        3.80294  (13041207)                446578.74
3749041.94        3.85208  (13041207)
       446587.61   3749041.94        3.90237  (13041207)                446598.94
3749042.12        3.97607  (13041207)
       446605.35   3749041.94        4.00706  (13041207)                446614.22
3749041.94        4.06153  (13041207)
       446472.30   3749047.32        3.49092  (13041207)                446676.23
3749062.03        5.79288  (13041207)
       446490.04   3749047.32        3.57131  (13041207)                446498.91
3749047.32        3.62124  (13041207)
       446507.78   3749047.32        3.67034  (13041207)                446516.65
3749047.32        3.71887  (13041207)
       446525.52   3749047.32        3.76639  (13041207)                446534.39
3749047.32        3.81458  (13041207)
       446543.26   3749047.32        3.86470  (13041207)                446552.13
3749047.32        3.91580  (13041207)
       446561.00   3749047.32        3.96793  (13041207)                446569.87
3749047.32        4.02122  (13041207)
       446578.74   3749047.32        4.07568  (13041207)                446587.61
3749047.32        4.13142  (13041207)
       446605.35   3749047.32        4.24779  (13041207)                446614.22
3749047.32        4.30844  (13041207)
       446472.30   3749052.70        3.67671  (13041207)                446658.47
3749059.67        5.41805  (13041207)
       446490.04   3749052.70        3.76705  (13041207)                446498.91
3749052.70        3.82356  (13041207)
       446507.78   3749052.70        3.87505  (13041207)                446516.65
3749052.70        3.92719  (13041207)
       446525.52   3749052.70        3.97996  (13041207)                446534.39
3749052.70        4.03385  (13041207)
       446543.26   3749052.70        4.08946  (13041207)                446552.13
3749052.70        4.14618  (13041207)
       446561.00   3749052.70        4.20411  (13041207)                446569.87
3749052.70        4.26342  (13041207)
       446578.74   3749052.70        4.32403  (13041207)                446587.61
3749052.70        4.38608  (13041207)
       446605.35   3749052.70        4.51594  (13041207)                446614.22
3749052.70        4.58373  (13041207)
       446472.30   3749058.08        3.88115  (13041207)                446659.35
3749065.41        5.87501  (13041207)
       446490.04   3749058.08        3.98394  (13041207)                446498.91
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 3749058.08        4.04437  (13041207)
       446507.78   3749058.08        4.10038  (13041207)               446516.65
 3749058.08        4.15782  (13041207)
       446525.52   3749058.08        4.21669  (13041207)               446534.39
 3749058.08        4.27715  (13041207)
       446543.26   3749058.08        4.33910  (13041207)               446552.13
 3749058.08        4.40234  (13041207)
       446561.00   3749058.08        4.46696  (13041207)               446569.87
 3749058.08        4.53325  (13041207)
       446578.74   3749058.08        4.60106  (13041207)               446587.61
 3749058.08        4.67031  (13041207)
       446605.35   3749058.08        4.81595  (13041207)               446614.22
 3749058.08        4.89190  (13041207)
       446472.30   3749063.46        4.10531  (13041207)               446666.03
 3749063.75        5.81778  (13041207)
       446490.04   3749063.46        4.22315  (13041207)               446498.91
 3749063.46        4.28878  (13041207)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
NO2\15669 NO2.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        14:45:37

                                   PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000485    , L0000486
 , L0000487    , L0000488    , L0000489    ,
                 L0000490    , L0000491    , L0000492    , L0000493    , L0000494
 , L0000495    , L0000496    , L0000497    ,
                 L0000498    , L0000499    , L0000500    , L0000501    , L0000502
 , L0000503    , L0000504    , L0000505    ,
                 L0000506    , L0000507    , L0000508    , L0000509    , L0000510
 , L0000511    , L0000512    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF NO2      IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        446507.78   3749063.46        4.35112  (13041207)               446516.65
 3749063.46        4.41508  (13041207)
       446525.52   3749063.46        4.48068  (13041207)               446534.39
 3749063.46        4.54819  (13041207)
```

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       446543.26   3749063.46        4.61758  (13041207)               446552.13
 3749063.46        4.68830  (13041207)
       446561.00   3749063.46        4.76063  (13041207)               446569.87
 3749063.46        4.83521  (13041207)
       446578.74   3749063.46        4.91138  (13041207)               446587.61
 3749063.46        4.98890  (13041207)
       446605.35   3749063.46        5.15327  (13041207)               446614.22
 3749063.46        5.23869  (13041207)
       446472.30   3749068.84        4.35234  (13041207)               446651.26
 3749061.39        5.46929  (13041207)
       446490.04   3749068.84        4.49009  (13041207)               446498.91
 3749068.84        4.56110  (13041207)
       446507.78   3749068.84        4.63084  (13041207)               446516.65
 3749068.84        4.70238  (13041207)
       446525.52   3749068.84        4.77564  (13041207)               446534.39
 3749068.84        4.85144  (13041207)
       446543.26   3749068.84        4.92957  (13041207)               446552.13
 3749068.84        5.00889  (13041207)
       446561.00   3749068.84        5.09030  (13041207)               446569.87
 3749068.84        5.17481  (13041207)
       446578.74   3749068.84        5.26080  (13041207)               446587.61
 3749068.84        5.34790  (13041207)
       446605.35   3749068.84        5.53450  (13041207)               446614.22
 3749068.84        5.63069  (13041207)
       446477.06   3749066.77        4.28372  (13041207)               446651.26
 3749066.77        5.89211  (13041207)
       446490.04   3749074.22        4.78825  (13041207)               446498.91
 3749074.22        4.86579  (13041207)
       446507.78   3749074.22        4.94432  (13041207)               446516.65
 3749074.22        5.02461  (13041207)
       446525.52   3749074.22        5.10675  (13041207)               446534.39
 3749074.22        5.19243  (13041207)
       446543.26   3749074.22        5.28093  (13041207)               446552.13
 3749074.22        5.37024  (13041207)
       446561.00   3749074.22        5.46209  (13041207)               446569.87
 3749074.22        5.55851  (13041207)
       446578.74   3749074.22        5.65615  (13041207)               446587.61
 3749074.22        5.75372  (13041207)
       446674.83   3749056.45        5.35184  (13041207)               446665.93
 3749058.21        5.38922  (13041207)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
NO2\15669 NO2.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        14:45:37

                                  PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
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```
                                  INCLUDING SOURCE(S):     L0000485    , L0000486
 , L0000487    , L0000488    , L0000489    ,
                 L0000490    , L0000491    , L0000492    , L0000493    , L0000494
 , L0000495    , L0000496    , L0000497    ,
                 L0000498    , L0000499    , L0000500    , L0000501    , L0000502
 , L0000503    , L0000504    , L0000505    ,
                 L0000506    , L0000507    , L0000508    , L0000509    , L0000510
 , L0000511    , L0000512    ,  . . .      ,

                                            *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                         ** CONC OF NO2      IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        446596.48   3749020.42        2.00803b (16120624)               446605.35
 3749020.42        2.03238b (16120624)
        446614.22   3749020.42        2.05692b (16120624)               446598.94
 3749025.98        2.11151b (16120624)
        446605.35   3749025.80        2.12725b (16120624)               446614.22
 3749025.80        2.15376b (16120624)
        446472.30   3749031.18        1.82608b (16120624)               446598.94
 3749031.36        2.21370b (16120624)
        446605.35   3749031.18        2.23073b (16120624)               446614.22
 3749031.18        2.25950b (16120624)
        446472.30   3749036.56        1.90826b (16120624)               446569.87
 3749036.56        2.22231b (16120624)
        446578.74   3749036.56        2.25225b (16120624)               446587.61
 3749036.56        2.28251b (16120624)
        446598.94   3749036.74        2.32561b (16120624)               446605.35
 3749036.56        2.34413b (16120624)
        446614.22   3749036.56        2.37550b (16120624)               446472.30
 3749041.94        1.99750b (16120624)
        446534.39   3749041.94        2.20927b (16120624)               446543.26
 3749041.94        2.24049b (16120624)
        446552.13   3749041.94        2.27201b (16120624)               446561.00
 3749041.94        2.30386b (16120624)
        446569.87   3749041.94        2.33608b (16120624)               446578.74
 3749041.94        2.36865b (16120624)
        446587.61   3749041.94        2.40165b (16120624)               446598.94
 3749042.12        2.44881b (16120624)
        446605.35   3749041.94        2.46904b (16120624)               446614.22
 3749041.94        2.50343b (16120624)
        446472.30   3749047.32        2.09475b (16120624)               446676.23
 3749062.03        3.53536b (16120624)
        446490.04   3749047.32        2.15894b (16120624)               446498.91
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3749047.32         2.19122b (16120624)
       446507.78    3749047.32         2.22378b (16120624)                446516.65
3749047.32         2.25663b (16120624)
       446525.52    3749047.32         2.28979b (16120624)                446534.39
3749047.32         2.32332b (16120624)
       446543.26    3749047.32         2.35723b (16120624)                446552.13
3749047.32         2.39151b (16120624)
       446561.00    3749047.32         2.42625b (16120624)                446569.87
3749047.32         2.46144b (16120624)
       446578.74    3749047.32         2.49708b (16120624)                446587.61
3749047.32         2.53327b (16120624)
       446605.35    3749047.32         2.60743b (16120624)                446614.22
3749047.32         2.64538b (16120624)
       446472.30    3749052.70         2.20118b (16120624)                446658.47
3749059.67         3.30516b (16120624)
       446490.04    3749052.70         2.27045b (16120624)                446498.91
3749052.70         2.30529b (16120624)
       446507.78    3749052.70         2.34065b (16120624)                446516.65
3749052.70         2.37636b (16120624)
       446525.52    3749052.70         2.41248b (16120624)                446534.39
3749052.70         2.44906b (16120624)
       446543.26    3749052.70         2.48609b (16120624)                446552.13
3749052.70         2.52359b (16120624)
       446561.00    3749052.70         2.56171b (16120624)                446569.87
3749052.70         2.60041b (16120624)
       446578.74    3749052.70         2.63964b (16120624)                446587.61
3749052.70         2.67960b (16120624)
       446605.35    3749052.70         2.76180b (16120624)                446614.22
3749052.70         2.80398b (16120624)
       446472.30    3749058.08         2.31827b (16120624)                446659.35
3749065.41         3.58089b (16120624)
       446490.04    3749058.08         2.39330b (16120624)                446498.91
3749058.08         2.43114b (16120624)
       446507.78    3749058.08         2.46975b (16120624)                446516.65
3749058.08         2.50877b (16120624)
       446525.52    3749058.08         2.54834b (16120624)                446534.39
3749058.08         2.58851b (16120624)
       446543.26    3749058.08         2.62920b (16120624)                446552.13
3749058.08         2.67050b (16120624)
       446561.00    3749058.08         2.71263b (16120624)                446569.87
3749058.08         2.75548b (16120624)
       446578.74    3749058.08         2.79898b (16120624)                446587.61
3749058.08         2.84346b (16120624)
       446605.35    3749058.08         2.93530b (16120624)                446614.22
3749058.08         2.98258b (16120624)
       446472.30    3749063.46         2.44781b (16120624)                446666.03
3749063.75         3.54723b (16120624)
       446490.04    3749063.46         2.52944b (16120624)                446498.91
3749063.46         2.57096b (16120624)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 24-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000485 , L0000486 , L0000487 , L0000488 , L0000489 ,
L0000490 , L0000491 , L0000492 , L0000493 , L0000494 , L0000495 , L0000496 , L0000497 ,
L0000498 , L0000499 , L0000500 , L0000501 , L0000502 , L0000503 , L0000504 , L0000505 ,
L0000506 , L0000507 , L0000508 , L0000509 , L0000510 , L0000511 , L0000512 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF NO2 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446507.78	3749063.46	2.61331b	(16120624)	446516.65	3749063.46	2.65618b	(16120624)
446525.52	3749063.46	2.69980b	(16120624)	446534.39	3749063.46	2.74421b	(16120624)
446543.26	3749063.46	2.78923b	(16120624)	446552.13	3749063.46	2.83506b	(16120624)
446561.00	3749063.46	2.88201b	(16120624)	446569.87	3749063.46	2.92986b	(16120624)
446578.74	3749063.46	2.97848b	(16120624)	446587.61	3749063.46	3.02844b	(16120624)
446605.35	3749063.46	3.13206b	(16120624)	446614.22	3749063.46	3.18554b	(16120624)
446472.30	3749068.84	2.59169b	(16120624)	446651.26	3749061.39	3.33319b	(16120624)
446490.04	3749068.84	2.68125b	(16120624)	446498.91	3749068.84	2.72716b	(16120624)
446507.78	3749068.84	2.77395b	(16120624)	446516.65	3749068.84	2.82139b	(16120624)
446525.52	3749068.84	2.86986b	(16120624)	446534.39	3749068.84	2.91938b	(16120624)
446543.26	3749068.84	2.96960b	(16120624)	446552.13	3749068.84	3.02091b	(16120624)

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       446561.00   3749068.84        3.07373b (16120624)                446569.87
 3749068.84        3.12769b (16120624)
       446578.74   3749068.84        3.18256b (16120624)                446587.61
 3749068.84        3.23924b (16120624)
       446605.35   3749068.84        3.35752b (16120624)                446614.22
 3749068.84        3.41868b (16120624)
       446477.06   3749066.77        2.55746b (16120624)                446651.26
 3749066.77        3.58845b (16120624)
       446490.04   3749074.22        2.85181b (16120624)                446498.91
 3749074.22        2.90298b (16120624)
       446507.78   3749074.22        2.95512b (16120624)                446516.65
 3749074.22        3.00806b (16120624)
       446525.52   3749074.22        3.06245b (16120624)                446534.39
 3749074.22        3.11822b (16120624)
       446543.26   3749074.22        3.17480b (16120624)                446552.13
 3749074.22        3.23277b (16120624)
       446561.00   3749074.22        3.29289b (16120624)                446569.87
 3749074.22        3.35452b (16120624)
       446578.74   3749074.22        3.41713b (16120624)                446587.61
 3749074.22        3.48218b (16120624)
       446674.83   3749056.45        3.27040b (16120624)                446665.93
 3749058.21        3.28992b (16120624)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
NO2\15669 NO2.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        14:45:37

                                   PAGE  16
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                   *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


                                    ** CONC OF NO2      IN MICROGRAMS/M**3
              **


                         NETWORK
GROUP ID                       AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       2.12310 AT (  446651.26,  3749066.77,
195.00,   195.00,    0.00)  DC
          2ND HIGHEST VALUE IS       2.11760 AT (  446659.35,  3749065.41,
195.00,   195.00,    0.00)  DC
          3RD HIGHEST VALUE IS       2.09504 AT (  446666.03,  3749063.75,
195.00,   195.00,    0.00)  DC
```

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          4TH HIGHEST VALUE IS       2.08771 AT (  446676.23,  3749062.03,
195.00,   195.00,    0.00)  DC
          5TH HIGHEST VALUE IS       2.05440 AT (  446587.61,  3749074.22,
195.00,   195.00,    0.00)  DC
          6TH HIGHEST VALUE IS       2.01220 AT (  446578.74,  3749074.22,
195.00,   195.00,    0.00)  DC
          7TH HIGHEST VALUE IS       2.01218 AT (  446614.22,  3749068.84,
195.00,   195.00,    0.00)  DC
          8TH HIGHEST VALUE IS       1.97231 AT (  446605.35,  3749068.84,
195.00,   195.00,    0.00)  DC
          9TH HIGHEST VALUE IS       1.97149 AT (  446569.87,  3749074.22,
195.00,   195.00,    0.00)  DC
         10TH HIGHEST VALUE IS       1.95554 AT (  446651.26,  3749061.39,
195.00,   195.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↟ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
NO2\15669 NO2.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        14:45:37

                                  PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


                                   ** CONC OF NO2      IN MICROGRAMS/M**3
              **

                                                      DATE
                                        NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       5.89211  ON 13041207: AT (  446651.26,
3749066.77,   195.00,   195.00,    0.00)  DC


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

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

** CONC OF NO2 IN MICROGRAMS/M**3 **

GROUP ID	AVERAGE	CONC OF TYPE	DATE (YYMMDDHH)	NETWORK GRID-ID	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)
ALL	HIGH 1ST HIGH VALUE IS	3.58845b	ON 16120624:		AT (446651.26, 3749066.77, 195.00, 195.00, 0.00) DC

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

*** Message Summary : AERMOD Model Execution ***

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

A Total of 0 Fatal Error Message(s)
A Total of 4 Warning Message(s)
A Total of 1638 Informational Message(s)

A Total of 43848 Hours Were Processed

A Total of 1039 Calm Hours Identified

```
 A Total of          599 Missing Hours Identified (  1.37 Percent)


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


    ********   WARNING MESSAGES   ********
 CO W361      26       COCARD: Multiyear PERIOD/ANNUAL values for NO2/SO2 require
MULTYEAR Opt
 CO W362      26       COCARD: Multiyear 1h NO2/SO2 processing not applicable for
 24-hr Ave
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


    ************************************
    *** AERMOD Finishes Successfully ***
    ************************************

**
****************************************
**
** AERMOD INPUT PRODUCED BY:
** AERMOD VIEW VER. 12.0.0
** LAKES ENVIRONMENTAL SOFTWARE INC.
** DATE: 1/19/2024
** FILE: C:\LAKES\AERMOD VIEW\15669 HRA\15669 PM10\15669 PM10.ADI
**
****************************************
**
**
****************************************
** AERMOD CONTROL PATHWAY
****************************************
**
**
CO STARTING
   TITLEONE C:\LAKES\AERMOD VIEW\15669 HRA\15669 PM10\15669 PM10.ISC
   MODELOPT DFAULT CONC
   AVERTIME 24 ANNUAL
   URBANOPT 2189641
   POLLUTID PM_10
   RUNORNOT RUN
   ERRORFIL "15669 PM10.ERR"
CO FINISHED
**
****************************************
** AERMOD SOURCE PATHWAY
```

```
**************************************
**
**
SO STARTING
** SOURCE LOCATION **
** SOURCE ID - TYPE - X COORD. - Y COORD. **
** ----------------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE1
** DESCRSRC 91 EB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.0164
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446149.796, 3749188.513, 197.76, 3.49, 14.88
** 447179.945, 3749035.478, 191.42, 3.49, 14.88
** ----------------------------------------------------------------------
   LOCATION L0000420     VOLUME   446165.623 3749186.162 196.79
   LOCATION L0000421     VOLUME   446197.275 3749181.460 196.83
   LOCATION L0000422     VOLUME   446228.928 3749176.757 196.01
   LOCATION L0000423     VOLUME   446260.581 3749172.055 196.14
   LOCATION L0000424     VOLUME   446292.233 3749167.353 196.30
   LOCATION L0000425     VOLUME   446323.886 3749162.651 196.38
   LOCATION L0000426     VOLUME   446355.539 3749157.949 196.00
   LOCATION L0000427     VOLUME   446387.191 3749153.246 195.74
   LOCATION L0000428     VOLUME   446418.844 3749148.544 195.00
   LOCATION L0000429     VOLUME   446450.497 3749143.842 195.00
   LOCATION L0000430     VOLUME   446482.149 3749139.140 195.00
   LOCATION L0000431     VOLUME   446513.802 3749134.438 195.00
   LOCATION L0000432     VOLUME   446545.454 3749129.735 195.00
   LOCATION L0000433     VOLUME   446577.107 3749125.033 195.00
   LOCATION L0000434     VOLUME   446608.760 3749120.331 195.00
   LOCATION L0000435     VOLUME   446640.412 3749115.629 195.00
   LOCATION L0000436     VOLUME   446672.065 3749110.927 195.00
   LOCATION L0000437     VOLUME   446703.718 3749106.224 195.00
   LOCATION L0000438     VOLUME   446735.370 3749101.522 195.00
   LOCATION L0000439     VOLUME   446767.023 3749096.820 195.33
   LOCATION L0000440     VOLUME   446798.675 3749092.118 195.20
   LOCATION L0000441     VOLUME   446830.328 3749087.416 195.00
   LOCATION L0000442     VOLUME   446861.981 3749082.713 195.00
   LOCATION L0000443     VOLUME   446893.633 3749078.011 195.00
   LOCATION L0000444     VOLUME   446925.286 3749073.309 194.89
   LOCATION L0000445     VOLUME   446956.939 3749068.607 194.69
   LOCATION L0000446     VOLUME   446988.591 3749063.905 195.08
   LOCATION L0000447     VOLUME   447020.244 3749059.202 195.06
   LOCATION L0000448     VOLUME   447051.897 3749054.500 195.00
   LOCATION L0000449     VOLUME   447083.549 3749049.798 194.90
```

```
   LOCATION L0000450     VOLUME   447115.202 3749045.096 194.63
   LOCATION L0000451     VOLUME   447146.854 3749040.394 193.31
   LOCATION L0000452     VOLUME   447178.507 3749035.691 191.48
** END OF LINE VOLUME SOURCE ID = SLINE1
** ----------------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE2
** DESCRSRC 91 WB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.0242
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446153.936, 3749222.959, 196.45, 3.49, 14.88
** 447172.188, 3749092.095, 193.64, 3.49, 14.88
** ----------------------------------------------------------------------
   LOCATION L0000453     VOLUME   446169.806 3749220.920 195.99
   LOCATION L0000454     VOLUME   446201.545 3749216.841 195.65
   LOCATION L0000455     VOLUME   446233.284 3749212.761 195.68
   LOCATION L0000456     VOLUME   446265.023 3749208.682 194.98
   LOCATION L0000457     VOLUME   446296.762 3749204.603 195.05
   LOCATION L0000458     VOLUME   446328.501 3749200.524 195.19
   LOCATION L0000459     VOLUME   446360.240 3749196.445 195.33
   LOCATION L0000460     VOLUME   446391.979 3749192.366 195.04
   LOCATION L0000461     VOLUME   446423.718 3749188.287 194.60
   LOCATION L0000462     VOLUME   446455.457 3749184.208 194.59
   LOCATION L0000463     VOLUME   446487.196 3749180.129 194.66
   LOCATION L0000464     VOLUME   446518.935 3749176.050 195.00
   LOCATION L0000465     VOLUME   446550.673 3749171.971 195.00
   LOCATION L0000466     VOLUME   446582.412 3749167.892 194.45
   LOCATION L0000467     VOLUME   446614.151 3749163.813 194.41
   LOCATION L0000468     VOLUME   446645.890 3749159.734 194.55
   LOCATION L0000469     VOLUME   446677.629 3749155.655 194.39
   LOCATION L0000470     VOLUME   446709.368 3749151.576 194.64
   LOCATION L0000471     VOLUME   446741.107 3749147.497 194.87
   LOCATION L0000472     VOLUME   446772.846 3749143.418 194.99
   LOCATION L0000473     VOLUME   446804.585 3749139.339 194.29
   LOCATION L0000474     VOLUME   446836.324 3749135.260 193.44
   LOCATION L0000475     VOLUME   446868.063 3749131.181 192.72
   LOCATION L0000476     VOLUME   446899.802 3749127.102 192.42
   LOCATION L0000477     VOLUME   446931.541 3749123.023 192.55
   LOCATION L0000478     VOLUME   446963.280 3749118.944 192.64
   LOCATION L0000479     VOLUME   446995.019 3749114.865 193.61
   LOCATION L0000480     VOLUME   447026.758 3749110.786 193.78
   LOCATION L0000481     VOLUME   447058.497 3749106.707 193.20
   LOCATION L0000482     VOLUME   447090.236 3749102.627 193.36
   LOCATION L0000483     VOLUME   447121.975 3749098.548 193.01
   LOCATION L0000484     VOLUME   447153.714 3749094.469 193.76
```

```
** END OF LINE VOLUME SOURCE ID = SLINE2
** SOURCE PARAMETERS **
** LINE VOLUME SOURCE ID = SLINE1
   SRCPARAM L0000420     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000421     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000422     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000423     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000424     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000425     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000426     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000427     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000428     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000429     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000430     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000431     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000432     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000433     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000434     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000435     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000436     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000437     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000438     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000439     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000440     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000441     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000442     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000443     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000444     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000445     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000446     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000447     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000448     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000449     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000450     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000451     0.0004969697      3.49     14.88      3.25
   SRCPARAM L0000452     0.0004969697      3.49     14.88      3.25
** ----------------------------------------------------------------
** LINE VOLUME SOURCE ID = SLINE2
   SRCPARAM L0000453     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000454     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000455     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000456     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000457     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000458     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000459     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000460     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000461     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000462     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000463     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000464     0.00075625      3.49     14.88      3.25
```

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   SRCPARAM L0000465     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000466     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000467     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000468     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000469     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000470     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000471     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000472     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000473     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000474     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000475     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000476     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000477     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000478     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000479     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000480     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000481     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000482     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000483     0.00075625      3.49     14.88      3.25
   SRCPARAM L0000484     0.00075625      3.49     14.88      3.25
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD RECEPTOR PATHWAY
**************************************
**
**
RE STARTING
   INCLUDED "15669 PM10.ROU"
RE FINISHED
**
**************************************
** AERMOD METEOROLOGY PATHWAY
**************************************
**
**
ME STARTING
   SURFFILE ..\KRAL_V9_ADJU\KRAL_V9.SFC
   PROFFILE ..\KRAL_V9_ADJU\KRAL_V9.PFL
   SURFDATA 3171 2012
   UAIRDATA 3190 2012
   PROFBASE 245.0 METERS
ME FINISHED
**
**************************************
** AERMOD OUTPUT PATHWAY
**************************************
```

```
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 24 1ST
** AUTO-GENERATED PLOTFILES
   PLOTFILE   24 ALL 1ST "15669 PM10.AD\24H1GALL.PLT" 31
   PLOTFILE   ANNUAL ALL "15669 PM10.AD\AN00GALL.PLT" 32
   SUMMFILE "15669 PM10.SUM"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

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

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


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


    ********   WARNING MESSAGES   ********
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


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

 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM10\15669 PM10.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:30:26

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
```

```
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for    65 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2189641.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: PM_10

 **Model Calculates  1 Short Term Average(s) of:  24-HR
     and Calculates ANNUAL Averages

 **This Run Includes:     65 Source(s);       1 Source Group(s); and     124
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     65 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


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

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
Keyword)
```

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
L0000420	0	0.49697E-03	446165.6	3749186.2	196.8	3.49	14.88	3.25	YES	NO	
L0000421	0	0.49697E-03	446197.3	3749181.5	196.8	3.49	14.88	3.25	YES	NO	
L0000422	0	0.49697E-03	446228.9	3749176.8	196.0	3.49	14.88	3.25	YES	NO	
L0000423	0	0.49697E-03	446260.6	3749172.1	196.1	3.49	14.88				

```
3.25     YES                    NO
 L0000424         0   0.49697E-03  446292.2 3749167.4   196.3     3.49    14.88
3.25     YES                    NO
 L0000425         0   0.49697E-03  446323.9 3749162.7   196.4     3.49    14.88
3.25     YES                    NO
 L0000426         0   0.49697E-03  446355.5 3749157.9   196.0     3.49    14.88
3.25     YES                    NO
 L0000427         0   0.49697E-03  446387.2 3749153.2   195.7     3.49    14.88
3.25     YES                    NO
 L0000428         0   0.49697E-03  446418.8 3749148.5   195.0     3.49    14.88
3.25     YES                    NO
 L0000429         0   0.49697E-03  446450.5 3749143.8   195.0     3.49    14.88
3.25     YES                    NO
 L0000430         0   0.49697E-03  446482.1 3749139.1   195.0     3.49    14.88
3.25     YES                    NO
 L0000431         0   0.49697E-03  446513.8 3749134.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000432         0   0.49697E-03  446545.5 3749129.7   195.0     3.49    14.88
3.25     YES                    NO
 L0000433         0   0.49697E-03  446577.1 3749125.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000434         0   0.49697E-03  446608.8 3749120.3   195.0     3.49    14.88
3.25     YES                    NO
 L0000435         0   0.49697E-03  446640.4 3749115.6   195.0     3.49    14.88
3.25     YES                    NO
 L0000436         0   0.49697E-03  446672.1 3749110.9   195.0     3.49    14.88
3.25     YES                    NO
 L0000437         0   0.49697E-03  446703.7 3749106.2   195.0     3.49    14.88
3.25     YES                    NO
 L0000438         0   0.49697E-03  446735.4 3749101.5   195.0     3.49    14.88
3.25     YES                    NO
 L0000439         0   0.49697E-03  446767.0 3749096.8   195.3     3.49    14.88
3.25     YES                    NO
 L0000440         0   0.49697E-03  446798.7 3749092.1   195.2     3.49    14.88
3.25     YES                    NO
 L0000441         0   0.49697E-03  446830.3 3749087.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000442         0   0.49697E-03  446862.0 3749082.7   195.0     3.49    14.88
3.25     YES                    NO
 L0000443         0   0.49697E-03  446893.6 3749078.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000444         0   0.49697E-03  446925.3 3749073.3   194.9     3.49    14.88
3.25     YES                    NO
 L0000445         0   0.49697E-03  446956.9 3749068.6   194.7     3.49    14.88
3.25     YES                    NO
 L0000446         0   0.49697E-03  446988.6 3749063.9   195.1     3.49    14.88
3.25     YES                    NO
 L0000447         0   0.49697E-03  447020.2 3749059.2   195.1     3.49    14.88
3.25     YES                    NO
 L0000448         0   0.49697E-03  447051.9 3749054.5   195.0     3.49    14.88
```

```
3.25     YES                    NO
 L0000449         0   0.49697E-03  447083.5 3749049.8   194.9     3.49    14.88
3.25     YES                    NO
 L0000450         0   0.49697E-03  447115.2 3749045.1   194.6     3.49    14.88
3.25     YES                    NO
 L0000451         0   0.49697E-03  447146.9 3749040.4   193.3     3.49    14.88
3.25     YES                    NO
 L0000452         0   0.49697E-03  447178.5 3749035.7   191.5     3.49    14.88
3.25     YES                    NO
 L0000453         0   0.75625E-03  446169.8 3749220.9   196.0     3.49    14.88
3.25     YES                    NO
 L0000454         0   0.75625E-03  446201.5 3749216.8   195.7     3.49    14.88
3.25     YES                    NO
 L0000455         0   0.75625E-03  446233.3 3749212.8   195.7     3.49    14.88
3.25     YES                    NO
 L0000456         0   0.75625E-03  446265.0 3749208.7   195.0     3.49    14.88
3.25     YES                    NO
 L0000457         0   0.75625E-03  446296.8 3749204.6   195.1     3.49    14.88
3.25     YES                    NO
 L0000458         0   0.75625E-03  446328.5 3749200.5   195.2     3.49    14.88
3.25     YES                    NO
 L0000459         0   0.75625E-03  446360.2 3749196.4   195.3     3.49    14.88
3.25     YES                    NO
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM10\15669 PM10.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***       12:30:26

                                   PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE   AIRCRAFT
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ      SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - 

 L0000460         0   0.75625E-03  446392.0 3749192.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000461         0   0.75625E-03  446423.7 3749188.3   194.6     3.49    14.88
3.25     YES                    NO
 L0000462         0   0.75625E-03  446455.5 3749184.2   194.6     3.49    14.88
3.25     YES                    NO
 L0000463         0   0.75625E-03  446487.2 3749180.1   194.7     3.49    14.88
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3.25     YES                    NO
 L0000464         0   0.75625E-03  446518.9 3749176.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000465         0   0.75625E-03  446550.7 3749172.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000466         0   0.75625E-03  446582.4 3749167.9   194.5     3.49    14.88
3.25     YES                    NO
 L0000467         0   0.75625E-03  446614.2 3749163.8   194.4     3.49    14.88
3.25     YES                    NO
 L0000468         0   0.75625E-03  446645.9 3749159.7   194.6     3.49    14.88
3.25     YES                    NO
 L0000469         0   0.75625E-03  446677.6 3749155.7   194.4     3.49    14.88
3.25     YES                    NO
 L0000470         0   0.75625E-03  446709.4 3749151.6   194.6     3.49    14.88
3.25     YES                    NO
 L0000471         0   0.75625E-03  446741.1 3749147.5   194.9     3.49    14.88
3.25     YES                    NO
 L0000472         0   0.75625E-03  446772.8 3749143.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000473         0   0.75625E-03  446804.6 3749139.3   194.3     3.49    14.88
3.25     YES                    NO
 L0000474         0   0.75625E-03  446836.3 3749135.3   193.4     3.49    14.88
3.25     YES                    NO
 L0000475         0   0.75625E-03  446868.1 3749131.2   192.7     3.49    14.88
3.25     YES                    NO
 L0000476         0   0.75625E-03  446899.8 3749127.1   192.4     3.49    14.88
3.25     YES                    NO
 L0000477         0   0.75625E-03  446931.5 3749123.0   192.6     3.49    14.88
3.25     YES                    NO
 L0000478         0   0.75625E-03  446963.3 3749118.9   192.6     3.49    14.88
3.25     YES                    NO
 L0000479         0   0.75625E-03  446995.0 3749114.9   193.6     3.49    14.88
3.25     YES                    NO
 L0000480         0   0.75625E-03  447026.8 3749110.8   193.8     3.49    14.88
3.25     YES                    NO
 L0000481         0   0.75625E-03  447058.5 3749106.7   193.2     3.49    14.88
3.25     YES                    NO
 L0000482         0   0.75625E-03  447090.2 3749102.6   193.4     3.49    14.88
3.25     YES                    NO
 L0000483         0   0.75625E-03  447122.0 3749098.5   193.0     3.49    14.88
3.25     YES                    NO
 L0000484         0   0.75625E-03  447153.7 3749094.5   193.8     3.49    14.88
3.25     YES                    NO
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM10\15669 PM10.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:30:26

                                    PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	L0000420 , L0000421 , L0000422 , L0000423 , L0000424 , L0000425 , L0000426 , L0000427 , L0000428 , L0000429 , L0000430 , L0000431 , L0000432 , L0000433 , L0000434 , L0000435 , L0000436 , L0000437 , L0000438 , L0000439 , L0000440 , L0000441 , L0000442 , L0000443 , L0000444 , L0000445 , L0000446 , L0000447 , L0000448 , L0000449 , L0000450 , L0000451 , L0000452 , L0000453 , L0000454 , L0000455 , L0000456 , L0000457 , L0000458 , L0000459 , L0000460 , L0000461 , L0000462 , L0000463 , L0000464 , L0000465 , L0000466 , L0000467 , L0000468 , L0000469 , L0000470 , L0000471 , L0000472 , L0000473 , L0000474 , L0000475 , L0000476 , L0000477 , L0000478 , L0000479 , L0000480 , L0000481 , L0000482 , L0000483 , L0000484 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs

```
              2189641.   L0000420    , L0000421    , L0000422    , L0000423    ,
L0000424    , L0000425    , L0000426    ,
 L0000427    ,

              L0000428    , L0000429    , L0000430    , L0000431    , L0000432    ,
L0000433    , L0000434    , L0000435    ,

              L0000436    , L0000437    , L0000438    , L0000439    , L0000440    ,
L0000441    , L0000442    , L0000443    ,

              L0000444    , L0000445    , L0000446    , L0000447    , L0000448    ,
L0000449    , L0000450    , L0000451    ,

              L0000452    , L0000453    , L0000454    , L0000455    , L0000456    ,
L0000457    , L0000458    , L0000459    ,

              L0000460    , L0000461    , L0000462    , L0000463    , L0000464    ,
L0000465    , L0000466    , L0000467    ,

              L0000468    , L0000469    , L0000470    , L0000471    , L0000472    ,
L0000473    , L0000474    , L0000475    ,

              L0000476    , L0000477    , L0000478    , L0000479    , L0000480    ,
L0000481    , L0000482    , L0000483    ,

              L0000484    ,
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM10\15669 PM10.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:30:26

                                   PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

     ( 446596.5, 3749020.4,     195.0,     195.0,       0.0);         ( 446605.3,
3749020.4,     195.0,     195.0,       0.0);
     ( 446614.2, 3749020.4,     195.0,     195.0,       0.0);         ( 446598.9,
3749026.0,     195.0,     195.0,       0.0);
     ( 446605.3, 3749025.8,     195.0,     195.0,       0.0);         ( 446614.2,
3749025.8,     195.0,     195.0,       0.0);
     ( 446472.3, 3749031.2,     196.0,     196.0,       0.0);         ( 446598.9,
3749031.4,     195.0,     195.0,       0.0);
     ( 446605.3, 3749031.2,     195.0,     195.0,       0.0);         ( 446614.2,
3749031.2,     195.0,     195.0,       0.0);
     ( 446472.3, 3749036.6,     196.0,     196.0,       0.0);         ( 446569.9,
3749036.6,     195.0,     195.0,       0.0);
```

```
     ( 446578.7, 3749036.6,     195.0,     195.0,       0.0);         ( 446587.6,
3749036.6,     195.0,     195.0,       0.0);
     ( 446598.9, 3749036.7,     195.0,     195.0,       0.0);         ( 446605.3,
3749036.6,     195.0,     195.0,       0.0);
     ( 446614.2, 3749036.6,     195.0,     195.0,       0.0);         ( 446472.3,
3749041.9,     196.0,     196.0,       0.0);
     ( 446534.4, 3749041.9,     195.0,     195.0,       0.0);         ( 446543.3,
3749041.9,     195.0,     195.0,       0.0);
     ( 446552.1, 3749041.9,     195.0,     195.0,       0.0);         ( 446561.0,
3749041.9,     195.0,     195.0,       0.0);
     ( 446569.9, 3749041.9,     195.0,     195.0,       0.0);         ( 446578.7,
3749041.9,     195.0,     195.0,       0.0);
     ( 446587.6, 3749041.9,     195.0,     195.0,       0.0);         ( 446598.9,
3749042.1,     195.0,     195.0,       0.0);
     ( 446605.3, 3749041.9,     195.0,     195.0,       0.0);         ( 446614.2,
3749041.9,     195.0,     195.0,       0.0);
     ( 446472.3, 3749047.3,     195.9,     195.9,       0.0);         ( 446676.2,
3749062.0,     195.0,     195.0,       0.0);
     ( 446490.0, 3749047.3,     195.5,     195.5,       0.0);         ( 446498.9,
3749047.3,     195.3,     195.3,       0.0);
     ( 446507.8, 3749047.3,     195.2,     195.2,       0.0);         ( 446516.6,
3749047.3,     195.1,     195.1,       0.0);
     ( 446525.5, 3749047.3,     195.0,     195.0,       0.0);         ( 446534.4,
3749047.3,     195.0,     195.0,       0.0);
     ( 446543.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446552.1,
3749047.3,     195.0,     195.0,       0.0);
     ( 446561.0, 3749047.3,     195.0,     195.0,       0.0);         ( 446569.9,
3749047.3,     195.0,     195.0,       0.0);
     ( 446578.7, 3749047.3,     195.0,     195.0,       0.0);         ( 446587.6,
3749047.3,     195.0,     195.0,       0.0);
     ( 446605.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446614.2,
3749047.3,     195.0,     195.0,       0.0);
     ( 446472.3, 3749052.7,     195.9,     195.9,       0.0);         ( 446658.5,
3749059.7,     195.0,     195.0,       0.0);
     ( 446490.0, 3749052.7,     195.4,     195.4,       0.0);         ( 446498.9,
3749052.7,     195.1,     195.1,       0.0);
     ( 446507.8, 3749052.7,     195.1,     195.1,       0.0);         ( 446516.6,
3749052.7,     195.1,     195.1,       0.0);
     ( 446525.5, 3749052.7,     195.0,     195.0,       0.0);         ( 446534.4,
3749052.7,     195.0,     195.0,       0.0);
     ( 446543.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446552.1,
3749052.7,     195.0,     195.0,       0.0);
     ( 446561.0, 3749052.7,     195.0,     195.0,       0.0);         ( 446569.9,
3749052.7,     195.0,     195.0,       0.0);
     ( 446578.7, 3749052.7,     195.0,     195.0,       0.0);         ( 446587.6,
3749052.7,     195.0,     195.0,       0.0);
     ( 446605.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446614.2,
3749052.7,     195.0,     195.0,       0.0);
     ( 446472.3, 3749058.1,     195.9,     195.9,       0.0);         ( 446659.3,
3749065.4,     195.0,     195.0,       0.0);
```

(446490.0, 3749058.1, 195.3, 195.3, 0.0); (446498.9, 3749058.1, 195.0, 195.0, 0.0);
(446507.8, 3749058.1, 195.0, 195.0, 0.0); (446516.6, 3749058.1, 195.0, 195.0, 0.0);
(446525.5, 3749058.1, 195.0, 195.0, 0.0); (446534.4, 3749058.1, 195.0, 195.0, 0.0);
(446543.3, 3749058.1, 195.0, 195.0, 0.0); (446552.1, 3749058.1, 195.0, 195.0, 0.0);
(446561.0, 3749058.1, 195.0, 195.0, 0.0); (446569.9, 3749058.1, 195.0, 195.0, 0.0);
(446578.7, 3749058.1, 195.0, 195.0, 0.0); (446587.6, 3749058.1, 195.0, 195.0, 0.0);
(446605.3, 3749058.1, 195.0, 195.0, 0.0); (446614.2, 3749058.1, 195.0, 195.0, 0.0);
(446472.3, 3749063.5, 195.7, 195.7, 0.0); (446666.0, 3749063.8, 195.0, 195.0, 0.0);
(446490.0, 3749063.5, 195.2, 195.2, 0.0); (446498.9, 3749063.5, 195.0, 195.0, 0.0);
(446507.8, 3749063.5, 195.0, 195.0, 0.0); (446516.6, 3749063.5, 195.0, 195.0, 0.0);
(446525.5, 3749063.5, 195.0, 195.0, 0.0); (446534.4, 3749063.5, 195.0, 195.0, 0.0);
(446543.3, 3749063.5, 195.0, 195.0, 0.0); (446552.1, 3749063.5, 195.0, 195.0, 0.0);
(446561.0, 3749063.5, 195.0, 195.0, 0.0); (446569.9, 3749063.5, 195.0, 195.0, 0.0);
(446578.7, 3749063.5, 195.0, 195.0, 0.0); (446587.6, 3749063.5, 195.0, 195.0, 0.0);

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

(446605.3, 3749063.5, 195.0, 195.0, 0.0); (446614.2, 3749063.5, 195.0, 195.0, 0.0);
(446472.3, 3749068.8, 195.5, 195.5, 0.0); (446651.3, 3749061.4, 195.0, 195.0, 0.0);
(446490.0, 3749068.8, 195.2, 195.2, 0.0); (446498.9, 3749068.8, 195.0, 195.0, 0.0);
(446507.8, 3749068.8, 195.0, 195.0, 0.0); (446516.6, 3749068.8, 195.0, 195.0, 0.0);
(446525.5, 3749068.8, 195.0, 195.0, 0.0); (446534.4, 3749068.8, 195.0, 195.0, 0.0);

```
     ( 446543.3, 3749068.8,     195.0,     195.0,       0.0);         ( 446552.1,
3749068.8,     195.0,     195.0,       0.0);
     ( 446561.0, 3749068.8,     195.0,     195.0,       0.0);         ( 446569.9,
3749068.8,     195.0,     195.0,       0.0);
     ( 446578.7, 3749068.8,     195.0,     195.0,       0.0);         ( 446587.6,
3749068.8,     195.0,     195.0,       0.0);
     ( 446605.3, 3749068.8,     195.0,     195.0,       0.0);         ( 446614.2,
3749068.8,     195.0,     195.0,       0.0);
     ( 446477.1, 3749066.8,     195.5,     195.5,       0.0);         ( 446651.3,
3749066.8,     195.0,     195.0,       0.0);
     ( 446490.0, 3749074.2,     195.1,     195.1,       0.0);         ( 446498.9,
3749074.2,     195.0,     195.0,       0.0);
     ( 446507.8, 3749074.2,     195.0,     195.0,       0.0);         ( 446516.6,
3749074.2,     195.0,     195.0,       0.0);
     ( 446525.5, 3749074.2,     195.0,     195.0,       0.0);         ( 446534.4,
3749074.2,     195.0,     195.0,       0.0);
     ( 446543.3, 3749074.2,     195.0,     195.0,       0.0);         ( 446552.1,
3749074.2,     195.0,     195.0,       0.0);
     ( 446561.0, 3749074.2,     195.0,     195.0,       0.0);         ( 446569.9,
3749074.2,     195.0,     195.0,       0.0);
     ( 446578.7, 3749074.2,     195.0,     195.0,       0.0);         ( 446587.6,
3749074.2,     195.0,     195.0,       0.0);
     ( 446674.8, 3749056.4,     195.0,     195.0,       0.0);         ( 446665.9,
3749058.2,     195.0,     195.0,       0.0);
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM10\15669 PM10.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:30:26

                                           PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                            *** 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 1 1

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

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

Surface file: ..\KRAL_V9_ADJU\KRAL_V9.SFC
Met Version: 16216
Profile file: ..\KRAL_V9_ADJU\KRAL_V9.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3171 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-25.6	0.266	-9.000	-9.000	-999.	330.	77.9	0.15	2.40	1.00	2.93	55.	10.1	288.1	2.0
12	01	01	1	02	-26.8	0.277	-9.000	-9.000	-999.	351.	84.7	0.15	2.40	1.00	3.05	55.	10.1	287.0	2.0
12	01	01	1	03	-21.5	0.221	-9.000	-9.000	-999.	250.	53.5	0.15	2.40	1.00	2.45	74.	10.1	284.2	2.0
12	01	01	1	04	-22.0	0.227	-9.000	-9.000	-999.	260.	56.8	0.15	2.40	1.00	2.52	77.	10.1	285.9	2.0

```
 12 01 01   1 05  -20.0  0.206 -9.000 -9.000 -999.  225.     46.8  0.15   2.40
1.00    2.30   80.   10.1  285.4    2.0
 12 01 01   1 06  -14.4  0.171 -9.000 -9.000 -999.  170.     32.1  0.15   2.40
1.00    1.93   79.   10.1  287.0    2.0
 12 01 01   1 07  -14.9  0.174 -9.000 -9.000 -999.  174.     33.2  0.15   2.40
1.00    1.96   77.   10.1  284.2    2.0
 12 01 01   1 08  -11.9  0.169 -9.000 -9.000 -999.  167.     36.1  0.15   2.40
0.53    1.89   77.   10.1  288.1    2.0
 12 01 01   1 09   40.4  0.234  0.359  0.006   40.  272.    -28.1  0.15   2.40
0.31    2.10   81.   10.1  289.2    2.0
 12 01 01   1 10  112.6  0.246  0.742  0.005  129.  293.    -11.8  0.15   2.40
0.24    1.99  101.   10.1  296.4    2.0
 12 01 01   1 11  161.0  0.402  1.188  0.005  369.  611.    -35.6  0.15   2.40
0.21    3.68   78.   10.1  298.8    2.0
 12 01 01   1 12  184.7  0.337  1.516  0.005  668.  473.    -18.4  0.15   2.40
0.20    2.89   68.   10.1  300.4    2.0
 12 01 01   1 13  183.9  0.310  1.809  0.005 1139.  414.    -14.2  0.15   2.40
0.20    2.57   64.   10.1  302.5    2.0
 12 01 01   1 14  156.6  0.374  1.852  0.005 1434.  549.    -29.5  0.15   2.40
0.22    3.37   63.   10.1  303.1    2.0
 12 01 01   1 15  104.3  0.382  1.658  0.005 1546.  567.    -47.2  0.15   2.40
0.25    3.59   62.   10.1  302.5    2.0
 12 01 01   1 16   31.8  0.374  1.123  0.005 1573.  550.   -145.8  0.15   2.40
0.34    3.76   69.   10.1  300.9    2.0
 12 01 01   1 17  -23.3  0.276 -9.000 -9.000 -999.  354.     84.0  0.15   2.40
0.62    3.03   59.   10.1  297.5    2.0
 12 01 01   1 18  -21.5  0.229 -9.000 -9.000 -999.  264.     57.8  0.15   2.40
1.00    2.54   54.   10.1  295.4    2.0
 12 01 01   1 19  -19.3  0.204 -9.000 -9.000 -999.  221.     45.6  0.15   2.40
1.00    2.27   79.   10.1  292.0    2.0
 12 01 01   1 20  -20.7  0.218 -9.000 -9.000 -999.  244.     52.2  0.15   2.40
1.00    2.42   79.   10.1  292.5    2.0
 12 01 01   1 21  -19.7  0.206 -9.000 -9.000 -999.  225.     46.9  0.15   2.40
1.00    2.30   95.   10.1  290.9    2.0
 12 01 01   1 22  -17.6  0.190 -9.000 -9.000 -999.  199.     39.8  0.15   2.40
1.00    2.13   78.   10.1  290.4    2.0
 12 01 01   1 23  -20.3  0.211 -9.000 -9.000 -999.  233.     49.0  0.15   2.40
1.00    2.35   52.   10.1  289.2    2.0
 12 01 01   1 24  -16.4  0.183 -9.000 -9.000 -999.  189.     37.0  0.15   2.40
1.00    2.06   75.   10.1  288.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01   10.1 1   55.    2.93   288.2   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM10\15669 PM10.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000420 , L0000421 , L0000422 , L0000423 , L0000424 ,
L0000425 , L0000426 , L0000427 , L0000428 , L0000429 , L0000430 , L0000431 , L0000432 ,
L0000433 , L0000434 , L0000435 , L0000436 , L0000437 , L0000438 , L0000439 , L0000440 ,
L0000441 , L0000442 , L0000443 , L0000444 , L0000445 , L0000446 , L0000447 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
446596.48	3749020.42	0.64959	446605.35	3749020.42	0.65724
446614.22	3749020.42	0.66496	446598.94	3749025.98	0.68394
446605.35	3749025.80	0.68888	446614.22	3749025.80	0.69730
446472.30	3749031.18	0.59614	446598.94	3749031.36	0.71810
446605.35	3749031.18	0.72349	446614.22	3749031.18	0.73272
446472.30	3749036.56	0.62309	446569.87	3749036.56	0.72243
446578.74	3749036.56	0.73200	446587.61	3749036.56	0.74171
446598.94	3749036.74	0.75563	446605.35	3749036.56	0.76155
446614.22	3749036.56	0.77170	446472.30	3749041.94	0.65245
446534.39	3749041.94	0.71996	446543.26	3749041.94	0.72990
446552.13	3749041.94	0.73997	446561.00	3749041.94	0.75018
446569.87	3749041.94	0.76054	446578.74	3749041.94	0.77105

```
         446587.61    3749041.94        0.78172                    446598.94
3749042.12        0.79706
         446605.35    3749041.94        0.80360                    446614.22
3749041.94        0.81482
         446472.30    3749047.32        0.68455                    446676.23
3749062.03        1.16481
         446490.04    3749047.32        0.70546                    446498.91
3749047.32        0.71584
         446507.78    3749047.32        0.72623                    446516.65
3749047.32        0.73673
         446525.52    3749047.32        0.74734                    446534.39
3749047.32        0.75808
         446543.26    3749047.32        0.76897                    446552.13
3749047.32        0.78003
         446561.00    3749047.32        0.79126                    446569.87
3749047.32        0.80267
         446578.74    3749047.32        0.81427                    446587.61
3749047.32        0.82607
         446605.35    3749047.32        0.85034                    446614.22
3749047.32        0.86283
         446472.30    3749052.70        0.71979                    446658.47
3749059.67        1.08611
         446490.04    3749052.70        0.74270                    446498.91
3749052.70        0.75402
         446507.78    3749052.70        0.76534                    446516.65
3749052.70        0.77681
         446525.52    3749052.70        0.78844                    446534.39
3749052.70        0.80026
         446543.26    3749052.70        0.81226                    446552.13
3749052.70        0.82447
         446561.00    3749052.70        0.83689                    446569.87
3749052.70        0.84953
         446578.74    3749052.70        0.86241                    446587.61
3749052.70        0.87556
         446605.35    3749052.70        0.90265                    446614.22
3749052.70        0.91665
         446472.30    3749058.08        0.75880                    446659.35
3749065.41        1.18101
         446490.04    3749058.08        0.78384                    446498.91
3749058.08        0.79619
         446507.78    3749058.08        0.80864                    446516.65
3749058.08        0.82128
         446525.52    3749058.08        0.83413                    446534.39
3749058.08        0.84721
         446543.26    3749058.08        0.86052                    446552.13
3749058.08        0.87408
         446561.00    3749058.08        0.88791                    446569.87
3749058.08        0.90202
         446578.74    3749058.08        0.91642                    446587.61
3749058.08        0.93116
```

                  *** THE ANNUAL AVERAGE CONCENTRATION   VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL   ***
                                    INCLUDING SOURCE(S):   L0000420   , L0000421
 , L0000422   , L0000423   , L0000424   ,
                  L0000425   , L0000426   , L0000427   , L0000428   , L0000429
 , L0000430   , L0000431   , L0000432   ,
                  L0000433   , L0000434   , L0000435   , L0000436   , L0000437
 , L0000438   , L0000439   , L0000440   ,
                  L0000441   , L0000442   , L0000443   , L0000444   , L0000445
 , L0000446   , L0000447   , . . .   ,

                                             *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                          ** CONC OF PM_10   IN MICROGRAMS/M**3
                   **

       X-COORD (M)   Y-COORD (M)   CONC   X-COORD (M)
Y-COORD (M)   CONC
 -
- -
        446507.78   3749063.46   0.85695   446516.65
3749063.46   0.87097
        446525.52   3749063.46   0.88526   446534.39
3749063.46   0.89983
        446543.26   3749063.46   0.91468   446552.13
3749063.46   0.92986
        446561.00   3749063.46   0.94538   446569.87
3749063.46   0.96125
        446578.74   3749063.46   0.97750   446587.61
3749063.46   0.99417
        446605.35   3749063.46   1.02882   446614.22
3749063.46   1.04686
        446472.30   3749068.84   0.85113   446651.26
3749061.39   1.09609
        446490.04   3749068.84   0.88077   446498.91

```
3749068.84        0.89587
         446507.78    3749068.84        0.91122                       446516.65
3749068.84        0.92689
         446525.52    3749068.84        0.94290                       446534.39
3749068.84        0.95926
         446543.26    3749068.84        0.97598                       446552.13
3749068.84        0.99311
         446561.00    3749068.84        1.01070                       446569.87
3749068.84        1.02873
         446578.74    3749068.84        1.04722                       446587.61
3749068.84        1.06628
         446605.35    3749068.84        1.10611                       446614.22
3749068.84        1.12694
         446477.06    3749066.77        0.83944                       446651.26
3749066.77        1.18415
         446490.04    3749074.22        0.93853                       446498.91
3749074.22        0.95543
         446507.78    3749074.22        0.97269                       446516.65
3749074.22        0.99034
         446525.52    3749074.22        1.00844                       446534.39
3749074.22        1.02700
         446543.26    3749074.22        1.04601                       446552.13
3749074.22        1.06555
         446561.00    3749074.22        1.08571                       446569.87
3749074.22        1.10641
         446578.74    3749074.22        1.12774                       446587.61
3749074.22        1.14979
         446674.83    3749056.45        1.07362                       446665.93
3749058.21        1.08055
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM10\15669 PM10.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:30:26

                                   PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000420    , L0000421
 , L0000422    , L0000423    , L0000424    ,
                 L0000425    , L0000426    , L0000427    , L0000428    , L0000429
 , L0000430    , L0000431    , L0000432    ,
                 L0000433    , L0000434    , L0000435    , L0000436    , L0000437
 , L0000438    , L0000439    , L0000440    ,
                 L0000441    , L0000442    , L0000443    , L0000444    , L0000445
 , L0000446    , L0000447    ,  . . .      ,

                                                *** DISCRETE CARTESIAN RECEPTOR POINTS
***
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** CONC OF PM_10 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
446596.48	3749020.42	1.15942b (16120624)	446605.35	3749020.42	1.17291b (16120624)
446614.22	3749020.42	1.18647b (16120624)	446598.94	3749025.98	1.21701b (16120624)
446605.35	3749025.80	1.22568b (16120624)	446614.22	3749025.80	1.24029b (16120624)
446472.30	3749031.18	1.05768b (16120624)	446598.94	3749031.36	1.27370b (16120624)
446605.35	3749031.18	1.28305b (16120624)	446614.22	3749031.18	1.29885b (16120624)
446472.30	3749036.56	1.10375b (16120624)	446569.87	3749036.56	1.27876b (16120624)
446578.74	3749036.56	1.29525b (16120624)	446587.61	3749036.56	1.31190b (16120624)
446598.94	3749036.74	1.33556b (16120624)	446605.35	3749036.56	1.34568b (16120624)
446614.22	3749036.56	1.36283b (16120624)	446472.30	3749041.94	1.15363b (16120624)
446534.39	3749041.94	1.27171b (16120624)	446543.26	3749041.94	1.28898b (16120624)
446552.13	3749041.94	1.30637b (16120624)	446561.00	3749041.94	1.32392b (16120624)
446569.87	3749041.94	1.34164b (16120624)	446578.74	3749041.94	1.35951b (16120624)
446587.61	3749041.94	1.37759b (16120624)	446598.94	3749042.12	1.40336b (16120624)
446605.35	3749041.94	1.41437b (16120624)	446614.22	3749041.94	1.43309b (16120624)
446472.30	3749047.32	1.20782b (16120624)	446676.23	3749062.03	1.98617b (16120624)
446490.04	3749047.32	1.24368b (16120624)	446498.91	3749047.32	1.26165b (16120624)
446507.78	3749047.32	1.27973b (16120624)	446516.65	3749047.32	1.29793b (16120624)
446525.52	3749047.32	1.31629b (16120624)	446534.39	3749047.32	1.33479b (16120624)
446543.26	3749047.32	1.35347b (16120624)	446552.13	3749047.32	1.37232b (16120624)
446561.00	3749047.32	1.39137b (16120624)	446569.87	3749047.32	1.41064b (16120624)
446578.74	3749047.32	1.43011b (16120624)	446587.61	3749047.32	1.44984b (16120624)

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       446605.35   3749047.32        1.49013b (16120624)                446614.22
 3749047.32        1.51068b (16120624)
       446472.30   3749052.70        1.26692b (16120624)                446658.47
 3749059.67        1.86485b (16120624)
       446490.04   3749052.70        1.30549b (16120624)                446498.91
 3749052.70        1.32481b (16120624)
       446507.78   3749052.70        1.34436b (16120624)                446516.65
 3749052.70        1.36407b (16120624)
       446525.52   3749052.70        1.38396b (16120624)                446534.39
 3749052.70        1.40406b (16120624)
       446543.26   3749052.70        1.42436b (16120624)                446552.13
 3749052.70        1.44489b (16120624)
       446561.00   3749052.70        1.46570b (16120624)                446569.87
 3749052.70        1.48678b (16120624)
       446578.74   3749052.70        1.50811b (16120624)                446587.61
 3749052.70        1.52978b (16120624)
       446605.35   3749052.70        1.57420b (16120624)                446614.22
 3749052.70        1.59692b (16120624)
       446472.30   3749058.08        1.33171b (16120624)                446659.35
 3749065.41        2.01094b (16120624)
       446490.04   3749058.08        1.37331b (16120624)                446498.91
 3749058.08        1.39421b (16120624)
       446507.78   3749058.08        1.41545b (16120624)                446516.65
 3749058.08        1.43689b (16120624)
       446525.52   3749058.08        1.45857b (16120624)                446534.39
 3749058.08        1.48053b (16120624)
       446543.26   3749058.08        1.50273b (16120624)                446552.13
 3749058.08        1.52522b (16120624)
       446561.00   3749058.08        1.54809b (16120624)                446569.87
 3749058.08        1.57131b (16120624)
       446578.74   3749058.08        1.59483b (16120624)                446587.61
 3749058.08        1.61882b (16120624)
       446605.35   3749058.08        1.66815b (16120624)                446614.22
 3749058.08        1.69347b (16120624)
       446472.30   3749063.46        1.40312b (16120624)                446666.03
 3749063.75        1.99285b (16120624)
       446490.04   3749063.46        1.44814b (16120624)                446498.91
 3749063.46        1.47095b (16120624)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM10\15669 PM10.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:30:26

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000420    , L0000421
 , L0000422    , L0000423    , L0000424    ,
```

```
                 L0000425    , L0000426    , L0000427    , L0000428    , L0000429
 , L0000430    , L0000431    , L0000432    ,
                 L0000433    , L0000434    , L0000435    , L0000436    , L0000437
 , L0000438    , L0000439    , L0000440    ,
                 L0000441    , L0000442    , L0000443    , L0000444    , L0000445
 , L0000446    , L0000447    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_10    IN MICROGRAMS/M**3
                  **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        446507.78   3749063.46        1.49413b (16120624)               446516.65
 3749063.46        1.51756b (16120624)
        446525.52   3749063.46        1.54134b (16120624)               446534.39
 3749063.46        1.56548b (16120624)
        446543.26   3749063.46        1.58991b (16120624)               446552.13
 3749063.46        1.61473b (16120624)
        446561.00   3749063.46        1.64006b (16120624)               446569.87
 3749063.46        1.66583b (16120624)
        446578.74   3749063.46        1.69197b (16120624)               446587.61
 3749063.46        1.71874b (16120624)
        446605.35   3749063.46        1.77403b (16120624)               446614.22
 3749063.46        1.80248b (16120624)
        446472.30   3749068.84        1.48207b (16120624)               446651.26
 3749061.39        1.88007b (16120624)
        446490.04   3749068.84        1.53117b (16120624)               446498.91
 3749068.84        1.55624b (16120624)
        446507.78   3749068.84        1.58172b (16120624)               446516.65
 3749068.84        1.60750b (16120624)
        446525.52   3749068.84        1.63377b (16120624)               446534.39
 3749068.84        1.66052b (16120624)
        446543.26   3749068.84        1.68761b (16120624)               446552.13
 3749068.84        1.71522b (16120624)
        446561.00   3749068.84        1.74353b (16120624)               446569.87
 3749068.84        1.77240b (16120624)
        446578.74   3749068.84        1.80170b (16120624)               446587.61
 3749068.84        1.83186b (16120624)
        446605.35   3749068.84        1.89451b (16120624)               446614.22
 3749068.84        1.92681b (16120624)
        446477.06   3749066.77        1.46338b (16120624)               446651.26
 3749066.77        2.01534b (16120624)
        446490.04   3749074.22        1.62397b (16120624)               446498.91
 3749074.22        1.65173b (16120624)
        446507.78   3749074.22        1.67995b (16120624)               446516.65
```

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

** CONC OF PM_10   IN MICROGRAMS/M**3
             **

GROUP ID	NETWORK AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	1.18415 AT (446651.26, 3749066.77, 195.00, 195.00, 0.00)	DC	
	2ND HIGHEST VALUE IS	1.18101 AT (446659.35, 3749065.41, 195.00, 195.00, 0.00)	DC	
	3RD HIGHEST VALUE IS	1.16899 AT (446666.03, 3749063.75, 195.00, 195.00, 0.00)	DC	
	4TH HIGHEST VALUE IS	1.16481 AT (446676.23, 3749062.03, 195.00, 195.00, 0.00)	DC	
	5TH HIGHEST VALUE IS	1.14979 AT (446587.61, 3749074.22, 195.00, 195.00, 0.00)	DC	
	6TH HIGHEST VALUE IS	1.12774 AT (446578.74, 3749074.22, 195.00, 195.00, 0.00)	DC	
	7TH HIGHEST VALUE IS	1.12694 AT (446614.22, 3749068.84, 195.00, 195.00, 0.00)	DC	
	8TH HIGHEST VALUE IS	1.10641 AT (446569.87, 3749074.22, 195.00, 195.00, 0.00)	DC	
	9TH HIGHEST VALUE IS	1.10611 AT (446605.35, 3749068.84,		

195.00,   195.00,   0.00) DC
         10TH HIGHEST VALUE IS   1.09609 AT (446651.26, 3749061.39,
195.00,   195.00,   0.00) DC

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

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

                                   ** CONC OF PM_10   IN MICROGRAMS/M**3
              **

                                                        DATE
                                          NETWORK
GROUP ID   AVERAGE CONC   (YYMMDDHH)   RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)   OF TYPE GRID-ID
- -
- -

ALL   HIGH   1ST HIGH VALUE IS   2.01534b ON 16120624: AT (446651.26,
3749066.77,   195.00,   195.00,   0.00) DC

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

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

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

```
 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         1638 Informational Message(s)

 A Total of        43848 Hours Were Processed

 A Total of         1039 Calm Hours Identified

 A Total of          599 Missing Hours Identified (  1.37 Percent)


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


    ********   WARNING MESSAGES   ********
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************

**
**************************************
**
** AERMOD INPUT PRODUCED BY:
** AERMOD VIEW VER. 12.0.0
** LAKES ENVIRONMENTAL SOFTWARE INC.
** DATE: 1/19/2024
** FILE: C:\LAKES\AERMOD VIEW\15669 HRA\15669 PM25\15669 PM25.ADI
**
**************************************
**
**
**************************************
** AERMOD CONTROL PATHWAY
**************************************
**
**
CO STARTING
   TITLEONE C:\LAKES\AERMOD VIEW\15669 HRA\15669 PM25\15669 PM25.ISC
   MODELOPT DFAULT CONC
   AVERTIME 24 ANNUAL
   URBANOPT 2189641
   POLLUTID PM_2.5
   RUNORNOT RUN
```

```
   ERRORFIL "15669 PM25.ERR"
CO FINISHED
**
**************************************
** AERMOD SOURCE PATHWAY
**************************************
**
**
SO STARTING
** SOURCE LOCATION **
** SOURCE ID - TYPE - X COORD. - Y COORD. **
** ------------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE1
** DESCRSRC 91 EB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.0142
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446149.796, 3749188.513, 197.76, 3.49, 14.88
** 447179.945, 3749035.478, 191.42, 3.49, 14.88
** ------------------------------------------------------------------
   LOCATION L0000355     VOLUME   446165.623 3749186.162 196.79
   LOCATION L0000356     VOLUME   446197.275 3749181.460 196.83
   LOCATION L0000357     VOLUME   446228.928 3749176.757 196.01
   LOCATION L0000358     VOLUME   446260.581 3749172.055 196.14
   LOCATION L0000359     VOLUME   446292.233 3749167.353 196.30
   LOCATION L0000360     VOLUME   446323.886 3749162.651 196.38
   LOCATION L0000361     VOLUME   446355.539 3749157.949 196.00
   LOCATION L0000362     VOLUME   446387.191 3749153.246 195.74
   LOCATION L0000363     VOLUME   446418.844 3749148.544 195.00
   LOCATION L0000364     VOLUME   446450.497 3749143.842 195.00
   LOCATION L0000365     VOLUME   446482.149 3749139.140 195.00
   LOCATION L0000366     VOLUME   446513.802 3749134.438 195.00
   LOCATION L0000367     VOLUME   446545.454 3749129.735 195.00
   LOCATION L0000368     VOLUME   446577.107 3749125.033 195.00
   LOCATION L0000369     VOLUME   446608.760 3749120.331 195.00
   LOCATION L0000370     VOLUME   446640.412 3749115.629 195.00
   LOCATION L0000371     VOLUME   446672.065 3749110.927 195.00
   LOCATION L0000372     VOLUME   446703.718 3749106.224 195.00
   LOCATION L0000373     VOLUME   446735.370 3749101.522 195.00
   LOCATION L0000374     VOLUME   446767.023 3749096.820 195.33
   LOCATION L0000375     VOLUME   446798.675 3749092.118 195.20
   LOCATION L0000376     VOLUME   446830.328 3749087.416 195.00
   LOCATION L0000377     VOLUME   446861.981 3749082.713 195.00
   LOCATION L0000378     VOLUME   446893.633 3749078.011 195.00
   LOCATION L0000379     VOLUME   446925.286 3749073.309 194.89
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   LOCATION L0000380     VOLUME   446956.939 3749068.607 194.69
   LOCATION L0000381     VOLUME   446988.591 3749063.905 195.08
   LOCATION L0000382     VOLUME   447020.244 3749059.202 195.06
   LOCATION L0000383     VOLUME   447051.897 3749054.500 195.00
   LOCATION L0000384     VOLUME   447083.549 3749049.798 194.90
   LOCATION L0000385     VOLUME   447115.202 3749045.096 194.63
   LOCATION L0000386     VOLUME   447146.854 3749040.394 193.31
   LOCATION L0000387     VOLUME   447178.507 3749035.691 191.48
** END OF LINE VOLUME SOURCE ID = SLINE1
** ----------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE2
** DESCRSRC 91 WB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.0209
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446153.936, 3749222.959, 196.45, 3.49, 14.88
** 447172.188, 3749092.095, 193.64, 3.49, 14.88
** ----------------------------------------------------------------
   LOCATION L0000388     VOLUME   446169.806 3749220.920 195.99
   LOCATION L0000389     VOLUME   446201.545 3749216.841 195.65
   LOCATION L0000390     VOLUME   446233.284 3749212.761 195.68
   LOCATION L0000391     VOLUME   446265.023 3749208.682 194.98
   LOCATION L0000392     VOLUME   446296.762 3749204.603 195.05
   LOCATION L0000393     VOLUME   446328.501 3749200.524 195.19
   LOCATION L0000394     VOLUME   446360.240 3749196.445 195.33
   LOCATION L0000395     VOLUME   446391.979 3749192.366 195.04
   LOCATION L0000396     VOLUME   446423.718 3749188.287 194.60
   LOCATION L0000397     VOLUME   446455.457 3749184.208 194.59
   LOCATION L0000398     VOLUME   446487.196 3749180.129 194.66
   LOCATION L0000399     VOLUME   446518.935 3749176.050 195.00
   LOCATION L0000400     VOLUME   446550.673 3749171.971 195.00
   LOCATION L0000401     VOLUME   446582.412 3749167.892 194.45
   LOCATION L0000402     VOLUME   446614.151 3749163.813 194.41
   LOCATION L0000403     VOLUME   446645.890 3749159.734 194.55
   LOCATION L0000404     VOLUME   446677.629 3749155.655 194.39
   LOCATION L0000405     VOLUME   446709.368 3749151.576 194.64
   LOCATION L0000406     VOLUME   446741.107 3749147.497 194.87
   LOCATION L0000407     VOLUME   446772.846 3749143.418 194.99
   LOCATION L0000408     VOLUME   446804.585 3749139.339 194.29
   LOCATION L0000409     VOLUME   446836.324 3749135.260 193.44
   LOCATION L0000410     VOLUME   446868.063 3749131.181 192.72
   LOCATION L0000411     VOLUME   446899.802 3749127.102 192.42
   LOCATION L0000412     VOLUME   446931.541 3749123.023 192.55
   LOCATION L0000413     VOLUME   446963.280 3749118.944 192.64
   LOCATION L0000414     VOLUME   446995.019 3749114.865 193.61
```

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   LOCATION L0000415     VOLUME   447026.758 3749110.786 193.78
   LOCATION L0000416     VOLUME   447058.497 3749106.707 193.20
   LOCATION L0000417     VOLUME   447090.236 3749102.627 193.36
   LOCATION L0000418     VOLUME   447121.975 3749098.548 193.01
   LOCATION L0000419     VOLUME   447153.714 3749094.469 193.76
** END OF LINE VOLUME SOURCE ID = SLINE2
** SOURCE PARAMETERS **
** LINE VOLUME SOURCE ID = SLINE1
   SRCPARAM L0000355     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000356     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000357     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000358     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000359     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000360     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000361     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000362     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000363     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000364     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000365     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000366     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000367     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000368     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000369     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000370     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000371     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000372     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000373     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000374     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000375     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000376     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000377     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000378     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000379     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000380     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000381     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000382     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000383     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000384     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000385     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000386     0.000430303      3.49     14.88      3.25
   SRCPARAM L0000387     0.000430303      3.49     14.88      3.25
** ----------------------------------------------------------------
** LINE VOLUME SOURCE ID = SLINE2
   SRCPARAM L0000388     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000389     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000390     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000391     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000392     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000393     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000394     0.000653125      3.49     14.88      3.25
```

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   SRCPARAM L0000395     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000396     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000397     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000398     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000399     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000400     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000401     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000402     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000403     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000404     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000405     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000406     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000407     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000408     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000409     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000410     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000411     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000412     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000413     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000414     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000415     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000416     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000417     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000418     0.000653125      3.49     14.88      3.25
   SRCPARAM L0000419     0.000653125      3.49     14.88      3.25
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD RECEPTOR PATHWAY
**************************************
**
**
RE STARTING
   INCLUDED "15669 PM25.ROU"
RE FINISHED
**
**************************************
** AERMOD METEOROLOGY PATHWAY
**************************************
**
**
ME STARTING
   SURFFILE ..\KRAL_V9_ADJU\KRAL_V9.SFC
   PROFFILE ..\KRAL_V9_ADJU\KRAL_V9.PFL
   SURFDATA 3171 2012
   UAIRDATA 3190 2012
   PROFBASE 245.0 METERS
```

```
ME FINISHED
**
**************************************
** AERMOD OUTPUT PATHWAY
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 24 1ST
** AUTO-GENERATED PLOTFILES
   PLOTFILE   24 ALL 1ST "15669 PM25.AD\24H1GALL.PLT" 31
   PLOTFILE   ANNUAL ALL "15669 PM25.AD\AN00GALL.PLT" 32
   SUMMFILE "15669 PM25.SUM"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

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

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


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


    ********   WARNING MESSAGES   ********
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


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

 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM25\15669 PM25.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:34:21

                                  PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                             ***     MODEL SETUP OPTIONS SUMMARY
  ***
```

```
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - -

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for    65 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2189641.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: PM_2.5

 **Model Calculates  1 Short Term Average(s) of:  24-HR
     and Calculates ANNUAL Averages

 **This Run Includes:     65 Source(s);       1 Source Group(s); and     124
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     65 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


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

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
```

```
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
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:  Base Elev. for Pot. Temp. Profile (m MSL) =   245.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                              ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp

 **Output Print File:             aermod.out


 **Detailed Error/Message File:   15669 PM25.ERR

 **File for Summary of Results:   15669 PM25.SUM

 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM25\15669 PM25.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:34:21

                                   PAGE   2
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE   AIRCRAFT
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - -

 L0000355         0   0.43030E-03  446165.6 3749186.2   196.8     3.49    14.88
3.25     YES                   NO
```

```
 L0000356         0   0.43030E-03  446197.3 3749181.5   196.8     3.49    14.88
3.25     YES                   NO
 L0000357         0   0.43030E-03  446228.9 3749176.8   196.0     3.49    14.88
3.25     YES                   NO
 L0000358         0   0.43030E-03  446260.6 3749172.1   196.1     3.49    14.88
3.25     YES                   NO
 L0000359         0   0.43030E-03  446292.2 3749167.4   196.3     3.49    14.88
3.25     YES                   NO
 L0000360         0   0.43030E-03  446323.9 3749162.7   196.4     3.49    14.88
3.25     YES                   NO
 L0000361         0   0.43030E-03  446355.5 3749157.9   196.0     3.49    14.88
3.25     YES                   NO
 L0000362         0   0.43030E-03  446387.2 3749153.2   195.7     3.49    14.88
3.25     YES                   NO
 L0000363         0   0.43030E-03  446418.8 3749148.5   195.0     3.49    14.88
3.25     YES                   NO
 L0000364         0   0.43030E-03  446450.5 3749143.8   195.0     3.49    14.88
3.25     YES                   NO
 L0000365         0   0.43030E-03  446482.1 3749139.1   195.0     3.49    14.88
3.25     YES                   NO
 L0000366         0   0.43030E-03  446513.8 3749134.4   195.0     3.49    14.88
3.25     YES                   NO
 L0000367         0   0.43030E-03  446545.5 3749129.7   195.0     3.49    14.88
3.25     YES                   NO
 L0000368         0   0.43030E-03  446577.1 3749125.0   195.0     3.49    14.88
3.25     YES                   NO
 L0000369         0   0.43030E-03  446608.8 3749120.3   195.0     3.49    14.88
3.25     YES                   NO
 L0000370         0   0.43030E-03  446640.4 3749115.6   195.0     3.49    14.88
3.25     YES                   NO
 L0000371         0   0.43030E-03  446672.1 3749110.9   195.0     3.49    14.88
3.25     YES                   NO
 L0000372         0   0.43030E-03  446703.7 3749106.2   195.0     3.49    14.88
3.25     YES                   NO
 L0000373         0   0.43030E-03  446735.4 3749101.5   195.0     3.49    14.88
3.25     YES                   NO
 L0000374         0   0.43030E-03  446767.0 3749096.8   195.3     3.49    14.88
3.25     YES                   NO
 L0000375         0   0.43030E-03  446798.7 3749092.1   195.2     3.49    14.88
3.25     YES                   NO
 L0000376         0   0.43030E-03  446830.3 3749087.4   195.0     3.49    14.88
3.25     YES                   NO
 L0000377         0   0.43030E-03  446862.0 3749082.7   195.0     3.49    14.88
3.25     YES                   NO
 L0000378         0   0.43030E-03  446893.6 3749078.0   195.0     3.49    14.88
3.25     YES                   NO
 L0000379         0   0.43030E-03  446925.3 3749073.3   194.9     3.49    14.88
3.25     YES                   NO
 L0000380         0   0.43030E-03  446956.9 3749068.6   194.7     3.49    14.88
3.25     YES                   NO
```

```
 L0000381         0   0.43030E-03  446988.6 3749063.9   195.1     3.49    14.88
3.25     YES                    NO
 L0000382         0   0.43030E-03  447020.2 3749059.2   195.1     3.49    14.88
3.25     YES                    NO
 L0000383         0   0.43030E-03  447051.9 3749054.5   195.0     3.49    14.88
3.25     YES                    NO
 L0000384         0   0.43030E-03  447083.5 3749049.8   194.9     3.49    14.88
3.25     YES                    NO
 L0000385         0   0.43030E-03  447115.2 3749045.1   194.6     3.49    14.88
3.25     YES                    NO
 L0000386         0   0.43030E-03  447146.9 3749040.4   193.3     3.49    14.88
3.25     YES                    NO
 L0000387         0   0.43030E-03  447178.5 3749035.7   191.5     3.49    14.88
3.25     YES                    NO
 L0000388         0   0.65313E-03  446169.8 3749220.9   196.0     3.49    14.88
3.25     YES                    NO
 L0000389         0   0.65313E-03  446201.5 3749216.8   195.7     3.49    14.88
3.25     YES                    NO
 L0000390         0   0.65313E-03  446233.3 3749212.8   195.7     3.49    14.88
3.25     YES                    NO
 L0000391         0   0.65313E-03  446265.0 3749208.7   195.0     3.49    14.88
3.25     YES                    NO
 L0000392         0   0.65313E-03  446296.8 3749204.6   195.1     3.49    14.88
3.25     YES                    NO
 L0000393         0   0.65313E-03  446328.5 3749200.5   195.2     3.49    14.88
3.25     YES                    NO
 L0000394         0   0.65313E-03  446360.2 3749196.4   195.3     3.49    14.88
3.25     YES                    NO
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM25\15669 PM25.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:34:21

                                    PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                    *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE   AIRCRAFT
   SOURCE       PART.  (GRAMS/SEC)     X         Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - -

 L0000395         0   0.65313E-03  446392.0 3749192.4   195.0     3.49    14.88
3.25     YES                    NO
```

```
 L0000396         0   0.65313E-03  446423.7 3749188.3   194.6     3.49    14.88
3.25     YES                    NO
 L0000397         0   0.65313E-03  446455.5 3749184.2   194.6     3.49    14.88
3.25     YES                    NO
 L0000398         0   0.65313E-03  446487.2 3749180.1   194.7     3.49    14.88
3.25     YES                    NO
 L0000399         0   0.65313E-03  446518.9 3749176.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000400         0   0.65313E-03  446550.7 3749172.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000401         0   0.65313E-03  446582.4 3749167.9   194.5     3.49    14.88
3.25     YES                    NO
 L0000402         0   0.65313E-03  446614.2 3749163.8   194.4     3.49    14.88
3.25     YES                    NO
 L0000403         0   0.65313E-03  446645.9 3749159.7   194.6     3.49    14.88
3.25     YES                    NO
 L0000404         0   0.65313E-03  446677.6 3749155.7   194.4     3.49    14.88
3.25     YES                    NO
 L0000405         0   0.65313E-03  446709.4 3749151.6   194.6     3.49    14.88
3.25     YES                    NO
 L0000406         0   0.65313E-03  446741.1 3749147.5   194.9     3.49    14.88
3.25     YES                    NO
 L0000407         0   0.65313E-03  446772.8 3749143.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000408         0   0.65313E-03  446804.6 3749139.3   194.3     3.49    14.88
3.25     YES                    NO
 L0000409         0   0.65313E-03  446836.3 3749135.3   193.4     3.49    14.88
3.25     YES                    NO
 L0000410         0   0.65313E-03  446868.1 3749131.2   192.7     3.49    14.88
3.25     YES                    NO
 L0000411         0   0.65313E-03  446899.8 3749127.1   192.4     3.49    14.88
3.25     YES                    NO
 L0000412         0   0.65313E-03  446931.5 3749123.0   192.6     3.49    14.88
3.25     YES                    NO
 L0000413         0   0.65313E-03  446963.3 3749118.9   192.6     3.49    14.88
3.25     YES                    NO
 L0000414         0   0.65313E-03  446995.0 3749114.9   193.6     3.49    14.88
3.25     YES                    NO
 L0000415         0   0.65313E-03  447026.8 3749110.8   193.8     3.49    14.88
3.25     YES                    NO
 L0000416         0   0.65313E-03  447058.5 3749106.7   193.2     3.49    14.88
3.25     YES                    NO
 L0000417         0   0.65313E-03  447090.2 3749102.6   193.4     3.49    14.88
3.25     YES                    NO
 L0000418         0   0.65313E-03  447122.0 3749098.5   193.0     3.49    14.88
3.25     YES                    NO
 L0000419         0   0.65313E-03  447153.7 3749094.5   193.8     3.49    14.88
3.25     YES                    NO
↟ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM25\15669 PM25.ISC             ***        01/19/24
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*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	L0000355 , L0000356 , L0000357 , L0000358 , L0000359 , L0000360 , L0000361 , L0000362 , L0000363 , L0000364 , L0000365 , L0000366 , L0000367 , L0000368 , L0000369 , L0000370 , L0000371 , L0000372 , L0000373 , L0000374 , L0000375 , L0000376 , L0000377 , L0000378 , L0000379 , L0000380 , L0000381 , L0000382 , L0000383 , L0000384 , L0000385 , L0000386 , L0000387 , L0000388 , L0000389 , L0000390 , L0000391 , L0000392 , L0000393 , L0000394 , L0000395 , L0000396 , L0000397 , L0000398 , L0000399 , L0000400 , L0000401 , L0000402 , L0000403 , L0000404 , L0000405 , L0000406 , L0000407 , L0000408 , L0000409 , L0000410 , L0000411 , L0000412 , L0000413 , L0000414 , L0000415 , L0000416 , L0000417 , L0000418 , L0000419 ,

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

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  URBAN ID   URBAN POP                                        SOURCE IDs
  --------   ---------                                        ----------


              2189641.   L0000355    , L0000356    , L0000357    , L0000358    ,
L0000359    , L0000360    , L0000361    ,
 L0000362    ,

              L0000363    , L0000364    , L0000365    , L0000366    , L0000367    ,
L0000368    , L0000369    , L0000370    ,

              L0000371    , L0000372    , L0000373    , L0000374    , L0000375    ,
L0000376    , L0000377    , L0000378    ,

              L0000379    , L0000380    , L0000381    , L0000382    , L0000383    ,
L0000384    , L0000385    , L0000386    ,

              L0000387    , L0000388    , L0000389    , L0000390    , L0000391    ,
L0000392    , L0000393    , L0000394    ,

              L0000395    , L0000396    , L0000397    , L0000398    , L0000399    ,
L0000400    , L0000401    , L0000402    ,

              L0000403    , L0000404    , L0000405    , L0000406    , L0000407    ,
L0000408    , L0000409    , L0000410    ,

              L0000411    , L0000412    , L0000413    , L0000414    , L0000415    ,
L0000416    , L0000417    , L0000418    ,

              L0000419    ,
```



```
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

     ( 446596.5, 3749020.4,     195.0,     195.0,       0.0);         ( 446605.3,
3749020.4,     195.0,     195.0,       0.0);
     ( 446614.2, 3749020.4,     195.0,     195.0,       0.0);         ( 446598.9,
3749026.0,     195.0,     195.0,       0.0);
     ( 446605.3, 3749025.8,     195.0,     195.0,       0.0);         ( 446614.2,
3749025.8,     195.0,     195.0,       0.0);
     ( 446472.3, 3749031.2,     196.0,     196.0,       0.0);         ( 446598.9,
```

```
3749031.4,     195.0,     195.0,       0.0);
     ( 446605.3, 3749031.2,     195.0,     195.0,       0.0);         ( 446614.2,
3749031.2,     195.0,     195.0,       0.0);
     ( 446472.3, 3749036.6,     196.0,     196.0,       0.0);         ( 446569.9,
3749036.6,     195.0,     195.0,       0.0);
     ( 446578.7, 3749036.6,     195.0,     195.0,       0.0);         ( 446587.6,
3749036.6,     195.0,     195.0,       0.0);
     ( 446598.9, 3749036.7,     195.0,     195.0,       0.0);         ( 446605.3,
3749036.6,     195.0,     195.0,       0.0);
     ( 446614.2, 3749036.6,     195.0,     195.0,       0.0);         ( 446472.3,
3749041.9,     196.0,     196.0,       0.0);
     ( 446534.4, 3749041.9,     195.0,     195.0,       0.0);         ( 446543.3,
3749041.9,     195.0,     195.0,       0.0);
     ( 446552.1, 3749041.9,     195.0,     195.0,       0.0);         ( 446561.0,
3749041.9,     195.0,     195.0,       0.0);
     ( 446569.9, 3749041.9,     195.0,     195.0,       0.0);         ( 446578.7,
3749041.9,     195.0,     195.0,       0.0);
     ( 446587.6, 3749041.9,     195.0,     195.0,       0.0);         ( 446598.9,
3749042.1,     195.0,     195.0,       0.0);
     ( 446605.3, 3749041.9,     195.0,     195.0,       0.0);         ( 446614.2,
3749041.9,     195.0,     195.0,       0.0);
     ( 446472.3, 3749047.3,     195.9,     195.9,       0.0);         ( 446676.2,
3749062.0,     195.0,     195.0,       0.0);
     ( 446490.0, 3749047.3,     195.5,     195.5,       0.0);         ( 446498.9,
3749047.3,     195.3,     195.3,       0.0);
     ( 446507.8, 3749047.3,     195.2,     195.2,       0.0);         ( 446516.6,
3749047.3,     195.1,     195.1,       0.0);
     ( 446525.5, 3749047.3,     195.0,     195.0,       0.0);         ( 446534.4,
3749047.3,     195.0,     195.0,       0.0);
     ( 446543.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446552.1,
3749047.3,     195.0,     195.0,       0.0);
     ( 446561.0, 3749047.3,     195.0,     195.0,       0.0);         ( 446569.9,
3749047.3,     195.0,     195.0,       0.0);
     ( 446578.7, 3749047.3,     195.0,     195.0,       0.0);         ( 446587.6,
3749047.3,     195.0,     195.0,       0.0);
     ( 446605.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446614.2,
3749047.3,     195.0,     195.0,       0.0);
     ( 446472.3, 3749052.7,     195.9,     195.9,       0.0);         ( 446658.5,
3749059.7,     195.0,     195.0,       0.0);
     ( 446490.0, 3749052.7,     195.4,     195.4,       0.0);         ( 446498.9,
3749052.7,     195.1,     195.1,       0.0);
     ( 446507.8, 3749052.7,     195.1,     195.1,       0.0);         ( 446516.6,
3749052.7,     195.1,     195.1,       0.0);
     ( 446525.5, 3749052.7,     195.0,     195.0,       0.0);         ( 446534.4,
3749052.7,     195.0,     195.0,       0.0);
     ( 446543.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446552.1,
3749052.7,     195.0,     195.0,       0.0);
     ( 446561.0, 3749052.7,     195.0,     195.0,       0.0);         ( 446569.9,
3749052.7,     195.0,     195.0,       0.0);
     ( 446578.7, 3749052.7,     195.0,     195.0,       0.0);         ( 446587.6,
```

3749052.7,   195.0,   195.0,   0.0);
     (446605.3, 3749052.7,   195.0,   195.0,   0.0);   (446614.2,
3749052.7,   195.0,   195.0,   0.0);
     (446472.3, 3749058.1,   195.9,   195.9,   0.0);   (446659.3,
3749065.4,   195.0,   195.0,   0.0);
     (446490.0, 3749058.1,   195.3,   195.3,   0.0);   (446498.9,
3749058.1,   195.0,   195.0,   0.0);
     (446507.8, 3749058.1,   195.0,   195.0,   0.0);   (446516.6,
3749058.1,   195.0,   195.0,   0.0);
     (446525.5, 3749058.1,   195.0,   195.0,   0.0);   (446534.4,
3749058.1,   195.0,   195.0,   0.0);
     (446543.3, 3749058.1,   195.0,   195.0,   0.0);   (446552.1,
3749058.1,   195.0,   195.0,   0.0);
     (446561.0, 3749058.1,   195.0,   195.0,   0.0);   (446569.9,
3749058.1,   195.0,   195.0,   0.0);
     (446578.7, 3749058.1,   195.0,   195.0,   0.0);   (446587.6,
3749058.1,   195.0,   195.0,   0.0);
     (446605.3, 3749058.1,   195.0,   195.0,   0.0);   (446614.2,
3749058.1,   195.0,   195.0,   0.0);
     (446472.3, 3749063.5,   195.7,   195.7,   0.0);   (446666.0,
3749063.8,   195.0,   195.0,   0.0);
     (446490.0, 3749063.5,   195.2,   195.2,   0.0);   (446498.9,
3749063.5,   195.0,   195.0,   0.0);
     (446507.8, 3749063.5,   195.0,   195.0,   0.0);   (446516.6,
3749063.5,   195.0,   195.0,   0.0);
     (446525.5, 3749063.5,   195.0,   195.0,   0.0);   (446534.4,
3749063.5,   195.0,   195.0,   0.0);
     (446543.3, 3749063.5,   195.0,   195.0,   0.0);   (446552.1,
3749063.5,   195.0,   195.0,   0.0);
     (446561.0, 3749063.5,   195.0,   195.0,   0.0);   (446569.9,
3749063.5,   195.0,   195.0,   0.0);
     (446578.7, 3749063.5,   195.0,   195.0,   0.0);   (446587.6,
3749063.5,   195.0,   195.0,   0.0);

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

     (446605.3, 3749063.5,   195.0,   195.0,   0.0);   (446614.2,
3749063.5,   195.0,   195.0,   0.0);
     (446472.3, 3749068.8,   195.5,   195.5,   0.0);   (446651.3,
3749061.4,   195.0,   195.0,   0.0);
     (446490.0, 3749068.8,   195.2,   195.2,   0.0);   (446498.9,

```
3749068.8,     195.0,     195.0,       0.0);
     ( 446507.8, 3749068.8,     195.0,     195.0,       0.0);         ( 446516.6,
3749068.8,     195.0,     195.0,       0.0);
     ( 446525.5, 3749068.8,     195.0,     195.0,       0.0);         ( 446534.4,
3749068.8,     195.0,     195.0,       0.0);
     ( 446543.3, 3749068.8,     195.0,     195.0,       0.0);         ( 446552.1,
3749068.8,     195.0,     195.0,       0.0);
     ( 446561.0, 3749068.8,     195.0,     195.0,       0.0);         ( 446569.9,
3749068.8,     195.0,     195.0,       0.0);
     ( 446578.7, 3749068.8,     195.0,     195.0,       0.0);         ( 446587.6,
3749068.8,     195.0,     195.0,       0.0);
     ( 446605.3, 3749068.8,     195.0,     195.0,       0.0);         ( 446614.2,
3749068.8,     195.0,     195.0,       0.0);
     ( 446477.1, 3749066.8,     195.5,     195.5,       0.0);         ( 446651.3,
3749066.8,     195.0,     195.0,       0.0);
     ( 446490.0, 3749074.2,     195.1,     195.1,       0.0);         ( 446498.9,
3749074.2,     195.0,     195.0,       0.0);
     ( 446507.8, 3749074.2,     195.0,     195.0,       0.0);         ( 446516.6,
3749074.2,     195.0,     195.0,       0.0);
     ( 446525.5, 3749074.2,     195.0,     195.0,       0.0);         ( 446534.4,
3749074.2,     195.0,     195.0,       0.0);
     ( 446543.3, 3749074.2,     195.0,     195.0,       0.0);         ( 446552.1,
3749074.2,     195.0,     195.0,       0.0);
     ( 446561.0, 3749074.2,     195.0,     195.0,       0.0);         ( 446569.9,
3749074.2,     195.0,     195.0,       0.0);
     ( 446578.7, 3749074.2,     195.0,     195.0,       0.0);         ( 446587.6,
3749074.2,     195.0,     195.0,       0.0);
     ( 446674.8, 3749056.4,     195.0,     195.0,       0.0);         ( 446665.9,
3749058.2,     195.0,     195.0,       0.0);
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM25\15669 PM25.ISC            ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***       12:34:21

                                   PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

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

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

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



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

                                                  1.54,   3.09,   5.14,   8.23,
10.80,
↟ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM25\15669 PM25.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:34:21

                                    PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

   Surface file:   ..\KRAL_V9_ADJU\KRAL_V9.SFC
                 Met Version:  16216
   Profile file:   ..\KRAL_V9_ADJU\KRAL_V9.PFL

   Surface format: FREE

   Profile format: FREE

   Surface station no.:     3171                  Upper air station no.:     3190
                 Name: UNKNOWN                                   Name: UNKNOWN

                 Year:   2012                                    Year:   2012

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - -
 12 01 01   1 01  -25.6  0.266 -9.000 -9.000 -999.  330.     77.9  0.15   2.40
1.00    2.93   55.   10.1  288.1    2.0
 12 01 01   1 02  -26.8  0.277 -9.000 -9.000 -999.  351.     84.7  0.15   2.40
```

```
1.00    3.05   55.   10.1  287.0    2.0
 12 01 01   1 03  -21.5  0.221 -9.000 -9.000 -999.  250.     53.5  0.15   2.40
1.00    2.45   74.   10.1  284.2    2.0
 12 01 01   1 04  -22.0  0.227 -9.000 -9.000 -999.  260.     56.8  0.15   2.40
1.00    2.52   77.   10.1  285.9    2.0
 12 01 01   1 05  -20.0  0.206 -9.000 -9.000 -999.  225.     46.8  0.15   2.40
1.00    2.30   80.   10.1  285.4    2.0
 12 01 01   1 06  -14.4  0.171 -9.000 -9.000 -999.  170.     32.1  0.15   2.40
1.00    1.93   79.   10.1  287.0    2.0
 12 01 01   1 07  -14.9  0.174 -9.000 -9.000 -999.  174.     33.2  0.15   2.40
1.00    1.96   77.   10.1  284.2    2.0
 12 01 01   1 08  -11.9  0.169 -9.000 -9.000 -999.  167.     36.1  0.15   2.40
0.53    1.89   77.   10.1  288.1    2.0
 12 01 01   1 09   40.4  0.234  0.359  0.006   40.  272.    -28.1  0.15   2.40
0.31    2.10   81.   10.1  289.2    2.0
 12 01 01   1 10  112.6  0.246  0.742  0.005  129.  293.    -11.8  0.15   2.40
0.24    1.99  101.   10.1  296.4    2.0
 12 01 01   1 11  161.0  0.402  1.188  0.005  369.  611.    -35.6  0.15   2.40
0.21    3.68   78.   10.1  298.8    2.0
 12 01 01   1 12  184.7  0.337  1.516  0.005  668.  473.    -18.4  0.15   2.40
0.20    2.89   68.   10.1  300.4    2.0
 12 01 01   1 13  183.9  0.310  1.809  0.005 1139.  414.    -14.2  0.15   2.40
0.20    2.57   64.   10.1  302.5    2.0
 12 01 01   1 14  156.6  0.374  1.852  0.005 1434.  549.    -29.5  0.15   2.40
0.22    3.37   63.   10.1  303.1    2.0
 12 01 01   1 15  104.3  0.382  1.658  0.005 1546.  567.    -47.2  0.15   2.40
0.25    3.59   62.   10.1  302.5    2.0
 12 01 01   1 16   31.8  0.374  1.123  0.005 1573.  550.   -145.8  0.15   2.40
0.34    3.76   69.   10.1  300.9    2.0
 12 01 01   1 17  -23.3  0.276 -9.000 -9.000 -999.  354.     84.0  0.15   2.40
0.62    3.03   59.   10.1  297.5    2.0
 12 01 01   1 18  -21.5  0.229 -9.000 -9.000 -999.  264.     57.8  0.15   2.40
1.00    2.54   54.   10.1  295.4    2.0
 12 01 01   1 19  -19.3  0.204 -9.000 -9.000 -999.  221.     45.6  0.15   2.40
1.00    2.27   79.   10.1  292.0    2.0
 12 01 01   1 20  -20.7  0.218 -9.000 -9.000 -999.  244.     52.2  0.15   2.40
1.00    2.42   79.   10.1  292.5    2.0
 12 01 01   1 21  -19.7  0.206 -9.000 -9.000 -999.  225.     46.9  0.15   2.40
1.00    2.30   95.   10.1  290.9    2.0
 12 01 01   1 22  -17.6  0.190 -9.000 -9.000 -999.  199.     39.8  0.15   2.40
1.00    2.13   78.   10.1  290.4    2.0
 12 01 01   1 23  -20.3  0.211 -9.000 -9.000 -999.  233.     49.0  0.15   2.40
1.00    2.35   52.   10.1  289.2    2.0
 12 01 01   1 24  -16.4  0.183 -9.000 -9.000 -999.  189.     37.0  0.15   2.40
1.00    2.06   75.   10.1  288.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01   10.1 1   55.    2.93   288.2   99.0  -99.00  -99.00
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000355 , L0000356 , L0000357 , L0000358 , L0000359 , L0000360 , L0000361 , L0000362 , L0000363 , L0000364 , L0000365 , L0000366 , L0000367 , L0000368 , L0000369 , L0000370 , L0000371 , L0000372 , L0000373 , L0000374 , L0000375 , L0000376 , L0000377 , L0000378 , L0000379 , L0000380 , L0000381 , L0000382 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
446596.48	3749020.42	0.56172	446605.35	3749020.42	0.56833
446614.22	3749020.42	0.57501	446598.94	3749025.98	0.59142
446605.35	3749025.80	0.59569	446614.22	3749025.80	0.60298
446472.30	3749031.18	0.51548	446598.94	3749031.36	0.62097
446605.35	3749031.18	0.62563	446614.22	3749031.18	0.63361
446472.30	3749036.56	0.53879	446569.87	3749036.56	0.62471
446578.74	3749036.56	0.63299	446587.61	3749036.56	0.64139
446598.94	3749036.74	0.65342	446605.35	3749036.56	0.65855
446614.22	3749036.56	0.66732	446472.30	3749041.94	0.56418
446534.39	3749041.94	0.62257	446543.26		

3749041.94 0.63117
446552.13 3749041.94 0.63988 446561.00
3749041.94 0.64871
446569.87 3749041.94 0.65767 446578.74
3749041.94 0.66676
446587.61 3749041.94 0.67599 446598.94
3749042.12 0.68927
446605.35 3749041.94 0.69492 446614.22
3749041.94 0.70463
446472.30 3749047.32 0.59194 446676.23
3749062.03 1.00739
446490.04 3749047.32 0.61003 446498.91
3749047.32 0.61901
446507.78 3749047.32 0.62799 446516.65
3749047.32 0.63707
446525.52 3749047.32 0.64625 446534.39
3749047.32 0.65554
446543.26 3749047.32 0.66497 446552.13
3749047.32 0.67453
446561.00 3749047.32 0.68424 446569.87
3749047.32 0.69411
446578.74 3749047.32 0.70415 446587.61
3749047.32 0.71436
446605.35 3749047.32 0.73535 446614.22
3749047.32 0.74615
446472.30 3749052.70 0.62243 446658.47
3749059.67 0.93931
446490.04 3749052.70 0.64224 446498.91
3749052.70 0.65203
446507.78 3749052.70 0.66182 446516.65
3749052.70 0.67174
446525.52 3749052.70 0.68181 446534.39
3749052.70 0.69203
446543.26 3749052.70 0.70241 446552.13
3749052.70 0.71297
446561.00 3749052.70 0.72371 446569.87
3749052.70 0.73465
446578.74 3749052.70 0.74579 446587.61
3749052.70 0.75716
446605.35 3749052.70 0.78060 446614.22
3749052.70 0.79270
446472.30 3749058.08 0.65617 446659.35
3749065.41 1.02141
446490.04 3749058.08 0.67782 446498.91
3749058.08 0.68851
446507.78 3749058.08 0.69927 446516.65
3749058.08 0.71021
446525.52 3749058.08 0.72133 446534.39
3749058.08 0.73264
446543.26 3749058.08 0.74415 446552.13

3749058.08 0.75588
446561.00 3749058.08 0.76784 446569.87
3749058.08 0.78005
446578.74 3749058.08 0.79251 446587.61
3749058.08 0.80525
446605.35 3749058.08 0.83164 446614.22
3749058.08 0.84532
446472.30 3749063.46 0.69390 446666.03
3749063.75 1.01101
446490.04 3749063.46 0.71737 446498.91
3749063.46 0.72914

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000355 , L0000356 , L0000357 , L0000358 , L0000359 ,
L0000360 , L0000361 , L0000362 , L0000363 , L0000364 , L0000365 , L0000366 , L0000367 ,
L0000368 , L0000369 , L0000370 , L0000371 , L0000372 , L0000373 , L0000374 , L0000375 ,
L0000376 , L0000377 , L0000378 , L0000379 , L0000380 , L0000381 , L0000382 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M) Y-COORD (M) CONC X-COORD (M) Y-COORD (M) CONC
- -
446507.78 3749063.46 0.74106 446516.65
3749063.46 0.75319
446525.52 3749063.46 0.76555 446534.39
3749063.46 0.77815
446543.26 3749063.46 0.79100 446552.13
3749063.46 0.80413
446561.00 3749063.46 0.81756 446569.87
3749063.46 0.83129
446578.74 3749063.46 0.84534 446587.61
3749063.46 0.85976

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         446605.35    3749063.46        0.88974                      446614.22
3749063.46        0.90535
         446472.30    3749068.84        0.73603                      446651.26
3749061.39        0.94793
         446490.04    3749068.84        0.76166                      446498.91
3749068.84        0.77472
         446507.78    3749068.84        0.78801                      446516.65
3749068.84        0.80155
         446525.52    3749068.84        0.81540                      446534.39
3749068.84        0.82956
         446543.26    3749068.84        0.84402                      446552.13
3749068.84        0.85884
         446561.00    3749068.84        0.87406                      446569.87
3749068.84        0.88965
         446578.74    3749068.84        0.90565                      446587.61
3749068.84        0.92214
         446605.35    3749068.84        0.95660                      446614.22
3749068.84        0.97462
         446477.06    3749066.77        0.72591                      446651.26
3749066.77        1.02412
         446490.04    3749074.22        0.81163                      446498.91
3749074.22        0.82625
         446507.78    3749074.22        0.84118                      446516.65
3749074.22        0.85644
         446525.52    3749074.22        0.87211                      446534.39
3749074.22        0.88816
         446543.26    3749074.22        0.90460                      446552.13
3749074.22        0.92151
         446561.00    3749074.22        0.93894                      446569.87
3749074.22        0.95685
         446578.74    3749074.22        0.97531                      446587.61
3749074.22        0.99438
         446674.83    3749056.45        0.92850                      446665.93
3749058.21        0.93450
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM25\15669 PM25.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:34:21

                                   PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST 24-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000355    , L0000356
 , L0000357    , L0000358    , L0000359    ,
                 L0000360    , L0000361    , L0000362    , L0000363    , L0000364
 , L0000365    , L0000366    , L0000367    ,
                 L0000368    , L0000369    , L0000370    , L0000371    , L0000372
 , L0000373    , L0000374    , L0000375    ,
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                 L0000376    , L0000377    , L0000378    , L0000379    , L0000380
 , L0000381    , L0000382    ,  . . .      ,

                                          *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                       ** CONC OF PM_2.5   IN MICROGRAMS/M**3
                   **

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        446596.48   3749020.42        1.00256b (16120624)               446605.35
 3749020.42        1.01422b (16120624)
        446614.22   3749020.42        1.02596b (16120624)               446598.94
 3749025.98        1.05237b (16120624)
        446605.35   3749025.80        1.05987b (16120624)               446614.22
 3749025.80        1.07250b (16120624)
        446472.30   3749031.18        0.91457b (16120624)               446598.94
 3749031.36        1.10140b (16120624)
        446605.35   3749031.18        1.10949b (16120624)               446614.22
 3749031.18        1.12315b (16120624)
        446472.30   3749036.56        0.95441b (16120624)               446569.87
 3749036.56        1.10577b (16120624)
        446578.74   3749036.56        1.12004b (16120624)               446587.61
 3749036.56        1.13443b (16120624)
        446598.94   3749036.74        1.15490b (16120624)               446605.35
 3749036.56        1.16365b (16120624)
        446614.22   3749036.56        1.17849b (16120624)               446472.30
 3749041.94        0.99755b (16120624)
        446534.39   3749041.94        1.09967b (16120624)               446543.26
 3749041.94        1.11461b (16120624)
        446552.13   3749041.94        1.12965b (16120624)               446561.00
 3749041.94        1.14483b (16120624)
        446569.87   3749041.94        1.16015b (16120624)               446578.74
 3749041.94        1.17562b (16120624)
        446587.61   3749041.94        1.19125b (16120624)               446598.94
 3749042.12        1.21354b (16120624)
        446605.35   3749041.94        1.22307b (16120624)               446614.22
 3749041.94        1.23926b (16120624)
        446472.30   3749047.32        1.04442b (16120624)               446676.23
 3749062.03        1.71769b (16120624)
        446490.04   3749047.32        1.07543b (16120624)               446498.91
 3749047.32        1.09097b (16120624)
        446507.78   3749047.32        1.10661b (16120624)               446516.65
 3749047.32        1.12235b (16120624)
        446525.52   3749047.32        1.13823b (16120624)               446534.39
 3749047.32        1.15423b (16120624)
        446543.26   3749047.32        1.17039b (16120624)               446552.13
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 3749047.32         1.18669b (16120624)
       446561.00    3749047.32         1.20317b (16120624)                446569.87
 3749047.32         1.21984b (16120624)
       446578.74    3749047.32         1.23668b (16120624)                446587.61
 3749047.32         1.25374b (16120624)
       446605.35    3749047.32         1.28859b (16120624)                446614.22
 3749047.32         1.30637b (16120624)
       446472.30    3749052.70         1.09553b (16120624)                446658.47
 3749059.67         1.61274b (16120624)
       446490.04    3749052.70         1.12889b (16120624)                446498.91
 3749052.70         1.14560b (16120624)
       446507.78    3749052.70         1.16251b (16120624)                446516.65
 3749052.70         1.17955b (16120624)
       446525.52    3749052.70         1.19676b (16120624)                446534.39
 3749052.70         1.21414b (16120624)
       446543.26    3749052.70         1.23170b (16120624)                446552.13
 3749052.70         1.24946b (16120624)
       446561.00    3749052.70         1.26746b (16120624)                446569.87
 3749052.70         1.28569b (16120624)
       446578.74    3749052.70         1.30414b (16120624)                446587.61
 3749052.70         1.32289b (16120624)
       446605.35    3749052.70         1.36131b (16120624)                446614.22
 3749052.70         1.38096b (16120624)
       446472.30    3749058.08         1.15157b (16120624)                446659.35
 3749065.41         1.73912b (16120624)
       446490.04    3749058.08         1.18755b (16120624)                446498.91
 3749058.08         1.20563b (16120624)
       446507.78    3749058.08         1.22400b (16120624)                446516.65
 3749058.08         1.24254b (16120624)
       446525.52    3749058.08         1.26129b (16120624)                446534.39
 3749058.08         1.28029b (16120624)
       446543.26    3749058.08         1.29949b (16120624)                446552.13
 3749058.08         1.31894b (16120624)
       446561.00    3749058.08         1.33873b (16120624)                446569.87
 3749058.08         1.35881b (16120624)
       446578.74    3749058.08         1.37915b (16120624)                446587.61
 3749058.08         1.39990b (16120624)
       446605.35    3749058.08         1.44258b (16120624)                446614.22
 3749058.08         1.46448b (16120624)
       446472.30    3749063.46         1.21334b (16120624)                446666.03
 3749063.75         1.72347b (16120624)
       446490.04    3749063.46         1.25227b (16120624)                446498.91
 3749063.46         1.27200b (16120624)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM25\15669 PM25.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:34:21

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

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

INCLUDING SOURCE(S): L0000355 , L0000356 , L0000357 , L0000358 , L0000359 , L0000360 , L0000361 , L0000362 , L0000363 , L0000364 , L0000365 , L0000366 , L0000367 , L0000368 , L0000369 , L0000370 , L0000371 , L0000372 , L0000373 , L0000374 , L0000375 , L0000376 , L0000377 , L0000378 , L0000379 , L0000380 , L0000381 , L0000382 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446507.78	3749063.46	1.29205b	(16120624)	446516.65	3749063.46	1.31231b	(16120624)
446525.52	3749063.46	1.33288b	(16120624)	446534.39	3749063.46	1.35376b	(16120624)
446543.26	3749063.46	1.37490b	(16120624)	446552.13	3749063.46	1.39636b	(16120624)
446561.00	3749063.46	1.41828b	(16120624)	446569.87	3749063.46	1.44056b	(16120624)
446578.74	3749063.46	1.46317b	(16120624)	446587.61	3749063.46	1.48633b	(16120624)
446605.35	3749063.46	1.53416b	(16120624)	446614.22	3749063.46	1.55877b	(16120624)
446472.30	3749068.84	1.28162b	(16120624)	446651.26	3749061.39	1.62590b	(16120624)
446490.04	3749068.84	1.32409b	(16120624)	446498.91	3749068.84	1.34577b	(16120624)
446507.78	3749068.84	1.36781b	(16120624)	446516.65	3749068.84	1.39011b	(16120624)
446525.52	3749068.84	1.41283b	(16120624)	446534.39	3749068.84	1.43597b	(16120624)
446543.26	3749068.84	1.45941b	(16120624)	446552.13	3749068.84	1.48329b	(16120624)
446561.00	3749068.84	1.50778b	(16120624)	446569.87	3749068.84	1.53275b	(16120624)
446578.74	3749068.84	1.55810b	(16120624)	446587.61	3749068.84	1.58418b	(16120624)
446605.35	3749068.84	1.63838b	(16120624)	446614.22	3749068.84	1.66632b	(16120624)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE SUMMARY OF MAXIMUM ANNUAL RESULTS AVERAGED OVER 5 YEARS ***

** CONC OF PM_2.5 IN MICROGRAMS/M**3 **

GROUP ID	NETWORK AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG) OF TYPE	GRID-ID
ALL	1ST HIGHEST VALUE IS	1.02412 AT (446651.26, 3749066.77, 195.00, 195.00, 0.00)	DC
	2ND HIGHEST VALUE IS	1.02141 AT (446659.35, 3749065.41, 195.00, 195.00, 0.00)	DC
	3RD HIGHEST VALUE IS	1.01101 AT (446666.03, 3749063.75, 195.00, 195.00, 0.00)	DC
	4TH HIGHEST VALUE IS	1.00739 AT (446676.23, 3749062.03, 195.00, 195.00, 0.00)	DC
	5TH HIGHEST VALUE IS	0.99438 AT (446587.61, 3749074.22, 195.00, 195.00, 0.00)	DC
	6TH HIGHEST VALUE IS	0.97531 AT (446578.74, 3749074.22, 195.00, 195.00, 0.00)	DC

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          7TH HIGHEST VALUE IS       0.97462 AT (  446614.22,  3749068.84,
195.00,   195.00,    0.00)  DC
          8TH HIGHEST VALUE IS       0.95685 AT (  446569.87,  3749074.22,
195.00,   195.00,    0.00)  DC
          9TH HIGHEST VALUE IS       0.95660 AT (  446605.35,  3749068.84,
195.00,   195.00,    0.00)  DC
         10TH HIGHEST VALUE IS       0.94793 AT (  446651.26,  3749061.39,
195.00,   195.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM25\15669 PM25.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:34:21

                                  PAGE  15
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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


                                   ** CONC OF PM_2.5   IN MICROGRAMS/M**3
               **

                                                      DATE
                                          NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       1.74292b ON 16120624: AT (  446651.26,
3749066.77,   195.00,   195.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
PM25\15669 PM25.ISC             ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:34:21

                                  PAGE  16
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 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

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

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         1638 Informational Message(s)

 A Total of        43848 Hours Were Processed

 A Total of         1039 Calm Hours Identified

 A Total of          599 Missing Hours Identified (  1.37 Percent)


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


    ********   WARNING MESSAGES   ********
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************

**
**************************************
**
** AERMOD INPUT PRODUCED BY:
** AERMOD VIEW VER. 12.0.0
** LAKES ENVIRONMENTAL SOFTWARE INC.
** DATE: 1/18/2024
** FILE: C:\LAKES\AERMOD VIEW\15669 HRA\15669 DPM\15669 DPM.ADI
**
**************************************
**
**
**************************************
** AERMOD CONTROL PATHWAY
**************************************
**
**
CO STARTING
   TITLEONE C:\LAKES\AERMOD VIEW\15669 HRA\15669 DPM\15669 DPM.ISC
```

```
   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 2189641
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "15669 DPM.ERR"
CO FINISHED
**
**************************************
** AERMOD SOURCE PATHWAY
**************************************
**
**
SO STARTING
** SOURCE LOCATION **
** SOURCE ID - TYPE - X COORD. - Y COORD. **
** ------------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE1
** DESCRSRC 91 EB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.000244
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446149.796, 3749188.513, 197.76, 3.49, 14.88
** 447179.945, 3749035.478, 191.42, 3.49, 14.88
** ------------------------------------------------------------------
   LOCATION L0000160     VOLUME   446165.623 3749186.162 196.79
   LOCATION L0000161     VOLUME   446197.275 3749181.460 196.83
   LOCATION L0000162     VOLUME   446228.928 3749176.757 196.01
   LOCATION L0000163     VOLUME   446260.581 3749172.055 196.14
   LOCATION L0000164     VOLUME   446292.233 3749167.353 196.30
   LOCATION L0000165     VOLUME   446323.886 3749162.651 196.38
   LOCATION L0000166     VOLUME   446355.539 3749157.949 196.00
   LOCATION L0000167     VOLUME   446387.191 3749153.246 195.74
   LOCATION L0000168     VOLUME   446418.844 3749148.544 195.00
   LOCATION L0000169     VOLUME   446450.497 3749143.842 195.00
   LOCATION L0000170     VOLUME   446482.149 3749139.140 195.00
   LOCATION L0000171     VOLUME   446513.802 3749134.438 195.00
   LOCATION L0000172     VOLUME   446545.454 3749129.735 195.00
   LOCATION L0000173     VOLUME   446577.107 3749125.033 195.00
   LOCATION L0000174     VOLUME   446608.760 3749120.331 195.00
   LOCATION L0000175     VOLUME   446640.412 3749115.629 195.00
   LOCATION L0000176     VOLUME   446672.065 3749110.927 195.00
   LOCATION L0000177     VOLUME   446703.718 3749106.224 195.00
   LOCATION L0000178     VOLUME   446735.370 3749101.522 195.00
   LOCATION L0000179     VOLUME   446767.023 3749096.820 195.33
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   LOCATION L0000180     VOLUME   446798.675 3749092.118 195.20
   LOCATION L0000181     VOLUME   446830.328 3749087.416 195.00
   LOCATION L0000182     VOLUME   446861.981 3749082.713 195.00
   LOCATION L0000183     VOLUME   446893.633 3749078.011 195.00
   LOCATION L0000184     VOLUME   446925.286 3749073.309 194.89
   LOCATION L0000185     VOLUME   446956.939 3749068.607 194.69
   LOCATION L0000186     VOLUME   446988.591 3749063.905 195.08
   LOCATION L0000187     VOLUME   447020.244 3749059.202 195.06
   LOCATION L0000188     VOLUME   447051.897 3749054.500 195.00
   LOCATION L0000189     VOLUME   447083.549 3749049.798 194.90
   LOCATION L0000190     VOLUME   447115.202 3749045.096 194.63
   LOCATION L0000191     VOLUME   447146.854 3749040.394 193.31
   LOCATION L0000192     VOLUME   447178.507 3749035.691 191.48
** END OF LINE VOLUME SOURCE ID = SLINE1
** ----------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE2
** DESCRSRC 91 WB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.000359
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446153.936, 3749222.959, 196.45, 3.49, 14.88
** 447172.188, 3749092.095, 193.64, 3.49, 14.88
** ----------------------------------------------------------------
   LOCATION L0000193     VOLUME   446169.806 3749220.920 195.99
   LOCATION L0000194     VOLUME   446201.545 3749216.841 195.65
   LOCATION L0000195     VOLUME   446233.284 3749212.761 195.68
   LOCATION L0000196     VOLUME   446265.023 3749208.682 194.98
   LOCATION L0000197     VOLUME   446296.762 3749204.603 195.05
   LOCATION L0000198     VOLUME   446328.501 3749200.524 195.19
   LOCATION L0000199     VOLUME   446360.240 3749196.445 195.33
   LOCATION L0000200     VOLUME   446391.979 3749192.366 195.04
   LOCATION L0000201     VOLUME   446423.718 3749188.287 194.60
   LOCATION L0000202     VOLUME   446455.457 3749184.208 194.59
   LOCATION L0000203     VOLUME   446487.196 3749180.129 194.66
   LOCATION L0000204     VOLUME   446518.935 3749176.050 195.00
   LOCATION L0000205     VOLUME   446550.673 3749171.971 195.00
   LOCATION L0000206     VOLUME   446582.412 3749167.892 194.45
   LOCATION L0000207     VOLUME   446614.151 3749163.813 194.41
   LOCATION L0000208     VOLUME   446645.890 3749159.734 194.55
   LOCATION L0000209     VOLUME   446677.629 3749155.655 194.39
   LOCATION L0000210     VOLUME   446709.368 3749151.576 194.64
   LOCATION L0000211     VOLUME   446741.107 3749147.497 194.87
   LOCATION L0000212     VOLUME   446772.846 3749143.418 194.99
   LOCATION L0000213     VOLUME   446804.585 3749139.339 194.29
   LOCATION L0000214     VOLUME   446836.324 3749135.260 193.44
```

```
   LOCATION L0000215     VOLUME   446868.063 3749131.181 192.72
   LOCATION L0000216     VOLUME   446899.802 3749127.102 192.42
   LOCATION L0000217     VOLUME   446931.541 3749123.023 192.55
   LOCATION L0000218     VOLUME   446963.280 3749118.944 192.64
   LOCATION L0000219     VOLUME   446995.019 3749114.865 193.61
   LOCATION L0000220     VOLUME   447026.758 3749110.786 193.78
   LOCATION L0000221     VOLUME   447058.497 3749106.707 193.20
   LOCATION L0000222     VOLUME   447090.236 3749102.627 193.36
   LOCATION L0000223     VOLUME   447121.975 3749098.548 193.01
   LOCATION L0000224     VOLUME   447153.714 3749094.469 193.76
** END OF LINE VOLUME SOURCE ID = SLINE2
** SOURCE PARAMETERS **
** LINE VOLUME SOURCE ID = SLINE1
   SRCPARAM L0000160     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000161     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000162     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000163     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000164     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000165     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000166     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000167     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000168     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000169     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000170     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000171     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000172     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000173     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000174     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000175     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000176     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000177     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000178     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000179     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000180     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000181     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000182     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000183     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000184     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000185     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000186     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000187     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000188     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000189     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000190     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000191     0.000007394      3.49     14.88      3.25
   SRCPARAM L0000192     0.000007394      3.49     14.88      3.25
** ----------------------------------------------------------------
** LINE VOLUME SOURCE ID = SLINE2
   SRCPARAM L0000193     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000194     0.0000112188      3.49     14.88      3.25
```

```
   SRCPARAM L0000195     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000196     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000197     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000198     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000199     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000200     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000201     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000202     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000203     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000204     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000205     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000206     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000207     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000208     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000209     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000210     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000211     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000212     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000213     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000214     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000215     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000216     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000217     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000218     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000219     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000220     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000221     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000222     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000223     0.0000112188      3.49     14.88      3.25
   SRCPARAM L0000224     0.0000112188      3.49     14.88      3.25
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD RECEPTOR PATHWAY
****************************************
**
**
RE STARTING
   INCLUDED "15669 DPM.ROU"
RE FINISHED
**
****************************************
** AERMOD METEOROLOGY PATHWAY
****************************************
**
**
ME STARTING
```

```
   SURFFILE ..\KRAL_V9_ADJU\KRAL_V9.SFC
   PROFFILE ..\KRAL_V9_ADJU\KRAL_V9.PFL
   SURFDATA 3171 2012
   UAIRDATA 3190 2012
   PROFBASE 245.0 METERS
ME FINISHED
**
************************************
** AERMOD OUTPUT PATHWAY
************************************
**
**
OU STARTING
** AUTO-GENERATED PLOTFILES
   PLOTFILE   ANNUAL ALL "15669 DPM.AD\AN00GALL.PLT" 31
   SUMMFILE "15669 DPM.SUM"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

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

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


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


    ********   WARNING MESSAGES   ********
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


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

 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
DPM\15669 DPM.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:26:30

                                    PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

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

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for    65 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2189641.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: DPM

 **Model Calculates ANNUAL Averages Only

 **This Run Includes:     65 Source(s);       1 Source Group(s); and     124
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     65 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


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

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
```

Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
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: Base Elev. for Pot. Temp. Profile (m MSL) =   245.00 ; Decay
Coef. =   0.000   ; Rot. Angle =   0.0
                  Emission Units = GRAMS/SEC   ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =   3.5 MB of RAM.

 **Input Runstream File: aermod.inp

 **Output Print File: aermod.out

 **Detailed Error/Message File: 15669 DPM.ERR

 **File for Summary of Results: 15669 DPM.SUM

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE   BASE   RELEASE   INIT.
INIT.   URBAN EMISSION RATE   AIRCRAFT
   SOURCE   PART. (GRAMS/SEC)   X   Y   ELEV.   HEIGHT   SY
SZ   SOURCE SCALAR VARY
     ID   CATS.   (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)   BY
 -
- -

 L0000160   0   0.73940E-05 446165.6 3749186.2   196.8   3.49   14.88
3.25   YES   NO
 L0000161   0   0.73940E-05 446197.3 3749181.5   196.8   3.49   14.88

```
3.25     YES                  NO
 L0000162         0   0.73940E-05  446228.9 3749176.8   196.0     3.49    14.88
3.25     YES                  NO
 L0000163         0   0.73940E-05  446260.6 3749172.1   196.1     3.49    14.88
3.25     YES                  NO
 L0000164         0   0.73940E-05  446292.2 3749167.4   196.3     3.49    14.88
3.25     YES                  NO
 L0000165         0   0.73940E-05  446323.9 3749162.7   196.4     3.49    14.88
3.25     YES                  NO
 L0000166         0   0.73940E-05  446355.5 3749157.9   196.0     3.49    14.88
3.25     YES                  NO
 L0000167         0   0.73940E-05  446387.2 3749153.2   195.7     3.49    14.88
3.25     YES                  NO
 L0000168         0   0.73940E-05  446418.8 3749148.5   195.0     3.49    14.88
3.25     YES                  NO
 L0000169         0   0.73940E-05  446450.5 3749143.8   195.0     3.49    14.88
3.25     YES                  NO
 L0000170         0   0.73940E-05  446482.1 3749139.1   195.0     3.49    14.88
3.25     YES                  NO
 L0000171         0   0.73940E-05  446513.8 3749134.4   195.0     3.49    14.88
3.25     YES                  NO
 L0000172         0   0.73940E-05  446545.5 3749129.7   195.0     3.49    14.88
3.25     YES                  NO
 L0000173         0   0.73940E-05  446577.1 3749125.0   195.0     3.49    14.88
3.25     YES                  NO
 L0000174         0   0.73940E-05  446608.8 3749120.3   195.0     3.49    14.88
3.25     YES                  NO
 L0000175         0   0.73940E-05  446640.4 3749115.6   195.0     3.49    14.88
3.25     YES                  NO
 L0000176         0   0.73940E-05  446672.1 3749110.9   195.0     3.49    14.88
3.25     YES                  NO
 L0000177         0   0.73940E-05  446703.7 3749106.2   195.0     3.49    14.88
3.25     YES                  NO
 L0000178         0   0.73940E-05  446735.4 3749101.5   195.0     3.49    14.88
3.25     YES                  NO
 L0000179         0   0.73940E-05  446767.0 3749096.8   195.3     3.49    14.88
3.25     YES                  NO
 L0000180         0   0.73940E-05  446798.7 3749092.1   195.2     3.49    14.88
3.25     YES                  NO
 L0000181         0   0.73940E-05  446830.3 3749087.4   195.0     3.49    14.88
3.25     YES                  NO
 L0000182         0   0.73940E-05  446862.0 3749082.7   195.0     3.49    14.88
3.25     YES                  NO
 L0000183         0   0.73940E-05  446893.6 3749078.0   195.0     3.49    14.88
3.25     YES                  NO
 L0000184         0   0.73940E-05  446925.3 3749073.3   194.9     3.49    14.88
3.25     YES                  NO
 L0000185         0   0.73940E-05  446956.9 3749068.6   194.7     3.49    14.88
3.25     YES                  NO
 L0000186         0   0.73940E-05  446988.6 3749063.9   195.1     3.49    14.88
```

```
3.25     YES                    NO
 L0000187         0   0.73940E-05  447020.2 3749059.2   195.1     3.49    14.88
3.25     YES                    NO
 L0000188         0   0.73940E-05  447051.9 3749054.5   195.0     3.49    14.88
3.25     YES                    NO
 L0000189         0   0.73940E-05  447083.5 3749049.8   194.9     3.49    14.88
3.25     YES                    NO
 L0000190         0   0.73940E-05  447115.2 3749045.1   194.6     3.49    14.88
3.25     YES                    NO
 L0000191         0   0.73940E-05  447146.9 3749040.4   193.3     3.49    14.88
3.25     YES                    NO
 L0000192         0   0.73940E-05  447178.5 3749035.7   191.5     3.49    14.88
3.25     YES                    NO
 L0000193         0   0.11219E-04  446169.8 3749220.9   196.0     3.49    14.88
3.25     YES                    NO
 L0000194         0   0.11219E-04  446201.5 3749216.8   195.7     3.49    14.88
3.25     YES                    NO
 L0000195         0   0.11219E-04  446233.3 3749212.8   195.7     3.49    14.88
3.25     YES                    NO
 L0000196         0   0.11219E-04  446265.0 3749208.7   195.0     3.49    14.88
3.25     YES                    NO
 L0000197         0   0.11219E-04  446296.8 3749204.6   195.1     3.49    14.88
3.25     YES                    NO
 L0000198         0   0.11219E-04  446328.5 3749200.5   195.2     3.49    14.88
3.25     YES                    NO
 L0000199         0   0.11219E-04  446360.2 3749196.4   195.3     3.49    14.88
3.25     YES                    NO
↟ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
DPM\15669 DPM.ISC                ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:26:30

                                  PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                    *** VOLUME SOURCE DATA ***

              NUMBER EMISSION RATE                      BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE   AIRCRAFT
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.               (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)             BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - -

 L0000200         0   0.11219E-04  446392.0 3749192.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000201         0   0.11219E-04  446423.7 3749188.3   194.6     3.49    14.88
```

```
3.25     YES                    NO
 L0000202         0   0.11219E-04  446455.5 3749184.2   194.6     3.49    14.88
3.25     YES                    NO
 L0000203         0   0.11219E-04  446487.2 3749180.1   194.7     3.49    14.88
3.25     YES                    NO
 L0000204         0   0.11219E-04  446518.9 3749176.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000205         0   0.11219E-04  446550.7 3749172.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000206         0   0.11219E-04  446582.4 3749167.9   194.5     3.49    14.88
3.25     YES                    NO
 L0000207         0   0.11219E-04  446614.2 3749163.8   194.4     3.49    14.88
3.25     YES                    NO
 L0000208         0   0.11219E-04  446645.9 3749159.7   194.6     3.49    14.88
3.25     YES                    NO
 L0000209         0   0.11219E-04  446677.6 3749155.7   194.4     3.49    14.88
3.25     YES                    NO
 L0000210         0   0.11219E-04  446709.4 3749151.6   194.6     3.49    14.88
3.25     YES                    NO
 L0000211         0   0.11219E-04  446741.1 3749147.5   194.9     3.49    14.88
3.25     YES                    NO
 L0000212         0   0.11219E-04  446772.8 3749143.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000213         0   0.11219E-04  446804.6 3749139.3   194.3     3.49    14.88
3.25     YES                    NO
 L0000214         0   0.11219E-04  446836.3 3749135.3   193.4     3.49    14.88
3.25     YES                    NO
 L0000215         0   0.11219E-04  446868.1 3749131.2   192.7     3.49    14.88
3.25     YES                    NO
 L0000216         0   0.11219E-04  446899.8 3749127.1   192.4     3.49    14.88
3.25     YES                    NO
 L0000217         0   0.11219E-04  446931.5 3749123.0   192.6     3.49    14.88
3.25     YES                    NO
 L0000218         0   0.11219E-04  446963.3 3749118.9   192.6     3.49    14.88
3.25     YES                    NO
 L0000219         0   0.11219E-04  446995.0 3749114.9   193.6     3.49    14.88
3.25     YES                    NO
 L0000220         0   0.11219E-04  447026.8 3749110.8   193.8     3.49    14.88
3.25     YES                    NO
 L0000221         0   0.11219E-04  447058.5 3749106.7   193.2     3.49    14.88
3.25     YES                    NO
 L0000222         0   0.11219E-04  447090.2 3749102.6   193.4     3.49    14.88
3.25     YES                    NO
 L0000223         0   0.11219E-04  447122.0 3749098.5   193.0     3.49    14.88
3.25     YES                    NO
 L0000224         0   0.11219E-04  447153.7 3749094.5   193.8     3.49    14.88
3.25     YES                    NO
↟ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
DPM\15669 DPM.ISC                ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
```

                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID   SOURCE IDs
 -----------   ----------

  ALL   L0000160   , L0000161   , L0000162   , L0000163   , L0000164   ,
L0000165   , L0000166   , L0000167   ,

             L0000168   , L0000169   , L0000170   , L0000171   , L0000172   ,
L0000173   , L0000174   , L0000175   ,

             L0000176   , L0000177   , L0000178   , L0000179   , L0000180   ,
L0000181   , L0000182   , L0000183   ,

             L0000184   , L0000185   , L0000186   , L0000187   , L0000188   ,
L0000189   , L0000190   , L0000191   ,

             L0000192   , L0000193   , L0000194   , L0000195   , L0000196   ,
L0000197   , L0000198   , L0000199   ,

             L0000200   , L0000201   , L0000202   , L0000203   , L0000204   ,
L0000205   , L0000206   , L0000207   ,

             L0000208   , L0000209   , L0000210   , L0000211   , L0000212   ,
L0000213   , L0000214   , L0000215   ,

             L0000216   , L0000217   , L0000218   , L0000219   , L0000220   ,
L0000221   , L0000222   , L0000223   ,

             L0000224   ,

                                          *** SOURCE IDs DEFINED AS URBAN SOURCES
***

```
  URBAN ID   URBAN POP                                        SOURCE IDs
  --------   ---------                                        ----------


              2189641.   L0000160    , L0000161    , L0000162    , L0000163    ,
L0000164    , L0000165    , L0000166    ,
 L0000167    ,

              L0000168    , L0000169    , L0000170    , L0000171    , L0000172    ,
L0000173    , L0000174    , L0000175    ,

              L0000176    , L0000177    , L0000178    , L0000179    , L0000180    ,
L0000181    , L0000182    , L0000183    ,

              L0000184    , L0000185    , L0000186    , L0000187    , L0000188    ,
L0000189    , L0000190    , L0000191    ,

              L0000192    , L0000193    , L0000194    , L0000195    , L0000196    ,
L0000197    , L0000198    , L0000199    ,

              L0000200    , L0000201    , L0000202    , L0000203    , L0000204    ,
L0000205    , L0000206    , L0000207    ,

              L0000208    , L0000209    , L0000210    , L0000211    , L0000212    ,
L0000213    , L0000214    , L0000215    ,

              L0000216    , L0000217    , L0000218    , L0000219    , L0000220    ,
L0000221    , L0000222    , L0000223    ,

              L0000224    ,
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
DPM\15669 DPM.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:26:30

                                    PAGE   6
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

     ( 446596.5, 3749020.4,     195.0,     195.0,       0.0);         ( 446605.3,
3749020.4,     195.0,     195.0,       0.0);
     ( 446614.2, 3749020.4,     195.0,     195.0,       0.0);         ( 446598.9,
3749026.0,     195.0,     195.0,       0.0);
     ( 446605.3, 3749025.8,     195.0,     195.0,       0.0);         ( 446614.2,
3749025.8,     195.0,     195.0,       0.0);
     ( 446472.3, 3749031.2,     196.0,     196.0,       0.0);         ( 446598.9,
3749031.4,     195.0,     195.0,       0.0);
```

```
     ( 446605.3, 3749031.2,     195.0,     195.0,       0.0);         ( 446614.2,
3749031.2,     195.0,     195.0,       0.0);
     ( 446472.3, 3749036.6,     196.0,     196.0,       0.0);         ( 446569.9,
3749036.6,     195.0,     195.0,       0.0);
     ( 446578.7, 3749036.6,     195.0,     195.0,       0.0);         ( 446587.6,
3749036.6,     195.0,     195.0,       0.0);
     ( 446598.9, 3749036.7,     195.0,     195.0,       0.0);         ( 446605.3,
3749036.6,     195.0,     195.0,       0.0);
     ( 446614.2, 3749036.6,     195.0,     195.0,       0.0);         ( 446472.3,
3749041.9,     196.0,     196.0,       0.0);
     ( 446534.4, 3749041.9,     195.0,     195.0,       0.0);         ( 446543.3,
3749041.9,     195.0,     195.0,       0.0);
     ( 446552.1, 3749041.9,     195.0,     195.0,       0.0);         ( 446561.0,
3749041.9,     195.0,     195.0,       0.0);
     ( 446569.9, 3749041.9,     195.0,     195.0,       0.0);         ( 446578.7,
3749041.9,     195.0,     195.0,       0.0);
     ( 446587.6, 3749041.9,     195.0,     195.0,       0.0);         ( 446598.9,
3749042.1,     195.0,     195.0,       0.0);
     ( 446605.3, 3749041.9,     195.0,     195.0,       0.0);         ( 446614.2,
3749041.9,     195.0,     195.0,       0.0);
     ( 446472.3, 3749047.3,     195.9,     195.9,       0.0);         ( 446676.2,
3749062.0,     195.0,     195.0,       0.0);
     ( 446490.0, 3749047.3,     195.5,     195.5,       0.0);         ( 446498.9,
3749047.3,     195.3,     195.3,       0.0);
     ( 446507.8, 3749047.3,     195.2,     195.2,       0.0);         ( 446516.6,
3749047.3,     195.1,     195.1,       0.0);
     ( 446525.5, 3749047.3,     195.0,     195.0,       0.0);         ( 446534.4,
3749047.3,     195.0,     195.0,       0.0);
     ( 446543.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446552.1,
3749047.3,     195.0,     195.0,       0.0);
     ( 446561.0, 3749047.3,     195.0,     195.0,       0.0);         ( 446569.9,
3749047.3,     195.0,     195.0,       0.0);
     ( 446578.7, 3749047.3,     195.0,     195.0,       0.0);         ( 446587.6,
3749047.3,     195.0,     195.0,       0.0);
     ( 446605.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446614.2,
3749047.3,     195.0,     195.0,       0.0);
     ( 446472.3, 3749052.7,     195.9,     195.9,       0.0);         ( 446658.5,
3749059.7,     195.0,     195.0,       0.0);
     ( 446490.0, 3749052.7,     195.4,     195.4,       0.0);         ( 446498.9,
3749052.7,     195.1,     195.1,       0.0);
     ( 446507.8, 3749052.7,     195.1,     195.1,       0.0);         ( 446516.6,
3749052.7,     195.1,     195.1,       0.0);
     ( 446525.5, 3749052.7,     195.0,     195.0,       0.0);         ( 446534.4,
3749052.7,     195.0,     195.0,       0.0);
     ( 446543.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446552.1,
3749052.7,     195.0,     195.0,       0.0);
     ( 446561.0, 3749052.7,     195.0,     195.0,       0.0);         ( 446569.9,
3749052.7,     195.0,     195.0,       0.0);
     ( 446578.7, 3749052.7,     195.0,     195.0,       0.0);         ( 446587.6,
3749052.7,     195.0,     195.0,       0.0);
```

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     ( 446605.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446614.2,
3749052.7,     195.0,     195.0,       0.0);
     ( 446472.3, 3749058.1,     195.9,     195.9,       0.0);         ( 446659.3,
3749065.4,     195.0,     195.0,       0.0);
     ( 446490.0, 3749058.1,     195.3,     195.3,       0.0);         ( 446498.9,
3749058.1,     195.0,     195.0,       0.0);
     ( 446507.8, 3749058.1,     195.0,     195.0,       0.0);         ( 446516.6,
3749058.1,     195.0,     195.0,       0.0);
     ( 446525.5, 3749058.1,     195.0,     195.0,       0.0);         ( 446534.4,
3749058.1,     195.0,     195.0,       0.0);
     ( 446543.3, 3749058.1,     195.0,     195.0,       0.0);         ( 446552.1,
3749058.1,     195.0,     195.0,       0.0);
     ( 446561.0, 3749058.1,     195.0,     195.0,       0.0);         ( 446569.9,
3749058.1,     195.0,     195.0,       0.0);
     ( 446578.7, 3749058.1,     195.0,     195.0,       0.0);         ( 446587.6,
3749058.1,     195.0,     195.0,       0.0);
     ( 446605.3, 3749058.1,     195.0,     195.0,       0.0);         ( 446614.2,
3749058.1,     195.0,     195.0,       0.0);
     ( 446472.3, 3749063.5,     195.7,     195.7,       0.0);         ( 446666.0,
3749063.8,     195.0,     195.0,       0.0);
     ( 446490.0, 3749063.5,     195.2,     195.2,       0.0);         ( 446498.9,
3749063.5,     195.0,     195.0,       0.0);
     ( 446507.8, 3749063.5,     195.0,     195.0,       0.0);         ( 446516.6,
3749063.5,     195.0,     195.0,       0.0);
     ( 446525.5, 3749063.5,     195.0,     195.0,       0.0);         ( 446534.4,
3749063.5,     195.0,     195.0,       0.0);
     ( 446543.3, 3749063.5,     195.0,     195.0,       0.0);         ( 446552.1,
3749063.5,     195.0,     195.0,       0.0);
     ( 446561.0, 3749063.5,     195.0,     195.0,       0.0);         ( 446569.9,
3749063.5,     195.0,     195.0,       0.0);
     ( 446578.7, 3749063.5,     195.0,     195.0,       0.0);         ( 446587.6,
3749063.5,     195.0,     195.0,       0.0);
```



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

     ( 446605.3, 3749063.5,     195.0,     195.0,       0.0);         ( 446614.2,
3749063.5,     195.0,     195.0,       0.0);
     ( 446472.3, 3749068.8,     195.5,     195.5,       0.0);         ( 446651.3,
3749061.4,     195.0,     195.0,       0.0);
     ( 446490.0, 3749068.8,     195.2,     195.2,       0.0);         ( 446498.9,
3749068.8,     195.0,     195.0,       0.0);
```

```
     ( 446507.8, 3749068.8,     195.0,     195.0,       0.0);         ( 446516.6,
3749068.8,     195.0,     195.0,       0.0);
     ( 446525.5, 3749068.8,     195.0,     195.0,       0.0);         ( 446534.4,
3749068.8,     195.0,     195.0,       0.0);
     ( 446543.3, 3749068.8,     195.0,     195.0,       0.0);         ( 446552.1,
3749068.8,     195.0,     195.0,       0.0);
     ( 446561.0, 3749068.8,     195.0,     195.0,       0.0);         ( 446569.9,
3749068.8,     195.0,     195.0,       0.0);
     ( 446578.7, 3749068.8,     195.0,     195.0,       0.0);         ( 446587.6,
3749068.8,     195.0,     195.0,       0.0);
     ( 446605.3, 3749068.8,     195.0,     195.0,       0.0);         ( 446614.2,
3749068.8,     195.0,     195.0,       0.0);
     ( 446477.1, 3749066.8,     195.5,     195.5,       0.0);         ( 446651.3,
3749066.8,     195.0,     195.0,       0.0);
     ( 446490.0, 3749074.2,     195.1,     195.1,       0.0);         ( 446498.9,
3749074.2,     195.0,     195.0,       0.0);
     ( 446507.8, 3749074.2,     195.0,     195.0,       0.0);         ( 446516.6,
3749074.2,     195.0,     195.0,       0.0);
     ( 446525.5, 3749074.2,     195.0,     195.0,       0.0);         ( 446534.4,
3749074.2,     195.0,     195.0,       0.0);
     ( 446543.3, 3749074.2,     195.0,     195.0,       0.0);         ( 446552.1,
3749074.2,     195.0,     195.0,       0.0);
     ( 446561.0, 3749074.2,     195.0,     195.0,       0.0);         ( 446569.9,
3749074.2,     195.0,     195.0,       0.0);
     ( 446578.7, 3749074.2,     195.0,     195.0,       0.0);         ( 446587.6,
3749074.2,     195.0,     195.0,       0.0);
     ( 446674.8, 3749056.4,     195.0,     195.0,       0.0);         ( 446665.9,
3749058.2,     195.0,     195.0,       0.0);
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
DPM\15669 DPM.ISC                ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***       12:26:30

                                   PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                            *** 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
```

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,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

Surface file: ..\KRAL_V9_ADJU\KRAL_V9.SFC
Met Version: 16216
Profile file: ..\KRAL_V9_ADJU\KRAL_V9.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3171 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-25.6	0.266	-9.000	-9.000	-999.	330.	77.9	0.15	2.40	1.00	2.93	55.	10.1	288.1	2.0
12	01	01	1	02	-26.8	0.277	-9.000	-9.000	-999.	351.	84.7	0.15	2.40	1.00	3.05	55.	10.1	287.0	2.0

```
 12 01 01   1 03  -21.5  0.221 -9.000 -9.000 -999.  250.     53.5  0.15   2.40
1.00    2.45   74.   10.1  284.2    2.0
 12 01 01   1 04  -22.0  0.227 -9.000 -9.000 -999.  260.     56.8  0.15   2.40
1.00    2.52   77.   10.1  285.9    2.0
 12 01 01   1 05  -20.0  0.206 -9.000 -9.000 -999.  225.     46.8  0.15   2.40
1.00    2.30   80.   10.1  285.4    2.0
 12 01 01   1 06  -14.4  0.171 -9.000 -9.000 -999.  170.     32.1  0.15   2.40
1.00    1.93   79.   10.1  287.0    2.0
 12 01 01   1 07  -14.9  0.174 -9.000 -9.000 -999.  174.     33.2  0.15   2.40
1.00    1.96   77.   10.1  284.2    2.0
 12 01 01   1 08  -11.9  0.169 -9.000 -9.000 -999.  167.     36.1  0.15   2.40
0.53    1.89   77.   10.1  288.1    2.0
 12 01 01   1 09   40.4  0.234  0.359  0.006   40.  272.    -28.1  0.15   2.40
0.31    2.10   81.   10.1  289.2    2.0
 12 01 01   1 10  112.6  0.246  0.742  0.005  129.  293.    -11.8  0.15   2.40
0.24    1.99  101.   10.1  296.4    2.0
 12 01 01   1 11  161.0  0.402  1.188  0.005  369.  611.    -35.6  0.15   2.40
0.21    3.68   78.   10.1  298.8    2.0
 12 01 01   1 12  184.7  0.337  1.516  0.005  668.  473.    -18.4  0.15   2.40
0.20    2.89   68.   10.1  300.4    2.0
 12 01 01   1 13  183.9  0.310  1.809  0.005 1139.  414.    -14.2  0.15   2.40
0.20    2.57   64.   10.1  302.5    2.0
 12 01 01   1 14  156.6  0.374  1.852  0.005 1434.  549.    -29.5  0.15   2.40
0.22    3.37   63.   10.1  303.1    2.0
 12 01 01   1 15  104.3  0.382  1.658  0.005 1546.  567.    -47.2  0.15   2.40
0.25    3.59   62.   10.1  302.5    2.0
 12 01 01   1 16   31.8  0.374  1.123  0.005 1573.  550.   -145.8  0.15   2.40
0.34    3.76   69.   10.1  300.9    2.0
 12 01 01   1 17  -23.3  0.276 -9.000 -9.000 -999.  354.     84.0  0.15   2.40
0.62    3.03   59.   10.1  297.5    2.0
 12 01 01   1 18  -21.5  0.229 -9.000 -9.000 -999.  264.     57.8  0.15   2.40
1.00    2.54   54.   10.1  295.4    2.0
 12 01 01   1 19  -19.3  0.204 -9.000 -9.000 -999.  221.     45.6  0.15   2.40
1.00    2.27   79.   10.1  292.0    2.0
 12 01 01   1 20  -20.7  0.218 -9.000 -9.000 -999.  244.     52.2  0.15   2.40
1.00    2.42   79.   10.1  292.5    2.0
 12 01 01   1 21  -19.7  0.206 -9.000 -9.000 -999.  225.     46.9  0.15   2.40
1.00    2.30   95.   10.1  290.9    2.0
 12 01 01   1 22  -17.6  0.190 -9.000 -9.000 -999.  199.     39.8  0.15   2.40
1.00    2.13   78.   10.1  290.4    2.0
 12 01 01   1 23  -20.3  0.211 -9.000 -9.000 -999.  233.     49.0  0.15   2.40
1.00    2.35   52.   10.1  289.2    2.0
 12 01 01   1 24  -16.4  0.183 -9.000 -9.000 -999.  189.     37.0  0.15   2.40
1.00    2.06   75.   10.1  288.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01   10.1 1   55.    2.93   288.2   99.0  -99.00  -99.00
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE ANNUAL AVERAGE CONCENTRATION VALUES AVERAGED OVER 5 YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000160 , L0000161 , L0000162 , L0000163 , L0000164 ,
L0000165 , L0000166 , L0000167 , L0000168 , L0000169 , L0000170 , L0000171 , L0000172 ,
L0000173 , L0000174 , L0000175 , L0000176 , L0000177 , L0000178 , L0000179 , L0000180 ,
L0000181 , L0000182 , L0000183 , L0000184 , L0000185 , L0000186 , L0000187 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
446596.48	3749020.42	0.00965	446605.35	3749020.42	0.00976
446614.22	3749020.42	0.00988	446598.94	3749025.98	0.01016
446605.35	3749025.80	0.01023	446614.22	3749025.80	0.01036
446472.30	3749031.18	0.00886	446598.94	3749031.36	0.01067
446605.35	3749031.18	0.01075	446614.22	3749031.18	0.01089
446472.30	3749036.56	0.00926	446569.87	3749036.56	0.01073
446578.74	3749036.56	0.01087	446587.61	3749036.56	0.01102
446598.94	3749036.74	0.01123	446605.35	3749036.56	0.01131
446614.22	3749036.56	0.01146	446472.30	3749041.94	0.00969
446534.39	3749041.94	0.01070	446543.26	3749041.94	0.01084

```
        446552.13    3749041.94        0.01099                    446561.00
3749041.94        0.01114
        446569.87    3749041.94        0.01130                    446578.74
3749041.94        0.01146
        446587.61    3749041.94        0.01161                    446598.94
3749042.12        0.01184
        446605.35    3749041.94        0.01194                    446614.22
3749041.94        0.01211
        446472.30    3749047.32        0.01017                    446676.23
3749062.03        0.01731
        446490.04    3749047.32        0.01048                    446498.91
3749047.32        0.01063
        446507.78    3749047.32        0.01079                    446516.65
3749047.32        0.01095
        446525.52    3749047.32        0.01110                    446534.39
3749047.32        0.01126
        446543.26    3749047.32        0.01142                    446552.13
3749047.32        0.01159
        446561.00    3749047.32        0.01176                    446569.87
3749047.32        0.01192
        446578.74    3749047.32        0.01210                    446587.61
3749047.32        0.01227
        446605.35    3749047.32        0.01263                    446614.22
3749047.32        0.01282
        446472.30    3749052.70        0.01069                    446658.47
3749059.67        0.01614
        446490.04    3749052.70        0.01103                    446498.91
3749052.70        0.01120
        446507.78    3749052.70        0.01137                    446516.65
3749052.70        0.01154
        446525.52    3749052.70        0.01171                    446534.39
3749052.70        0.01189
        446543.26    3749052.70        0.01207                    446552.13
3749052.70        0.01225
        446561.00    3749052.70        0.01243                    446569.87
3749052.70        0.01262
        446578.74    3749052.70        0.01281                    446587.61
3749052.70        0.01301
        446605.35    3749052.70        0.01341                    446614.22
3749052.70        0.01362
        446472.30    3749058.08        0.01127                    446659.35
3749065.41        0.01755
        446490.04    3749058.08        0.01165                    446498.91
3749058.08        0.01183
        446507.78    3749058.08        0.01201                    446516.65
3749058.08        0.01220
        446525.52    3749058.08        0.01239                    446534.39
3749058.08        0.01259
        446543.26    3749058.08        0.01278                    446552.13
3749058.08        0.01299
```

```
         446561.00    3749058.08        0.01319                      446569.87
3749058.08        0.01340
         446578.74    3749058.08        0.01362                      446587.61
3749058.08        0.01383
         446605.35    3749058.08        0.01429                      446614.22
3749058.08        0.01452
         446472.30    3749063.46        0.01192                      446666.03
3749063.75        0.01737
         446490.04    3749063.46        0.01232                      446498.91
3749063.46        0.01253
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
DPM\15669 DPM.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:26:30

                                    PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                    INCLUDING SOURCE(S):     L0000160    , L0000161
 , L0000162    , L0000163    , L0000164    ,
                   L0000165    , L0000166    , L0000167    , L0000168    , L0000169
 , L0000170    , L0000171    , L0000172    ,
                   L0000173    , L0000174    , L0000175    , L0000176    , L0000177
 , L0000178    , L0000179    , L0000180    ,
                   L0000181    , L0000182    , L0000183    , L0000184    , L0000185
 , L0000186    , L0000187    ,  . . .      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

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

       X-COORD (M)   Y-COORD (M)        CONC                      X-COORD (M)
Y-COORD (M)        CONC
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
         446507.78    3749063.46        0.01273                      446516.65
3749063.46        0.01294
         446525.52    3749063.46        0.01315                      446534.39
3749063.46        0.01337
         446543.26    3749063.46        0.01359                      446552.13
3749063.46        0.01382
         446561.00    3749063.46        0.01405                      446569.87
3749063.46        0.01428
         446578.74    3749063.46        0.01452                      446587.61
3749063.46        0.01477
         446605.35    3749063.46        0.01529                      446614.22
```

3749063.46   0.01555
         446472.30   3749068.84   0.01265   446651.26
3749061.39   0.01629
         446490.04   3749068.84   0.01309   446498.91
3749068.84   0.01331
         446507.78   3749068.84   0.01354   446516.65
3749068.84   0.01377
         446525.52   3749068.84   0.01401   446534.39
3749068.84   0.01425
         446543.26   3749068.84   0.01450   446552.13
3749068.84   0.01476
         446561.00   3749068.84   0.01502   446569.87
3749068.84   0.01528
         446578.74   3749068.84   0.01556   446587.61
3749068.84   0.01584
         446605.35   3749068.84   0.01643   446614.22
3749068.84   0.01674
         446477.06   3749066.77   0.01247   446651.26
3749066.77   0.01759
         446490.04   3749074.22   0.01394   446498.91
3749074.22   0.01420
         446507.78   3749074.22   0.01445   446516.65
3749074.22   0.01471
         446525.52   3749074.22   0.01498   446534.39
3749074.22   0.01526
         446543.26   3749074.22   0.01554   446552.13
3749074.22   0.01583
         446561.00   3749074.22   0.01613   446569.87
3749074.22   0.01644
         446578.74   3749074.22   0.01676   446587.61
3749074.22   0.01708
         446674.83   3749056.45   0.01595   446665.93
3749058.21   0.01606

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                  *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***

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

                          NETWORK

```
GROUP ID                          AVERAGE CONC                RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -

ALL       1ST HIGHEST VALUE IS       0.01759 AT (  446651.26,  3749066.77,
195.00,   195.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.01755 AT (  446659.35,  3749065.41,
195.00,   195.00,    0.00)  DC
          3RD HIGHEST VALUE IS       0.01737 AT (  446666.03,  3749063.75,
195.00,   195.00,    0.00)  DC
          4TH HIGHEST VALUE IS       0.01731 AT (  446676.23,  3749062.03,
195.00,   195.00,    0.00)  DC
          5TH HIGHEST VALUE IS       0.01708 AT (  446587.61,  3749074.22,
195.00,   195.00,    0.00)  DC
          6TH HIGHEST VALUE IS       0.01676 AT (  446578.74,  3749074.22,
195.00,   195.00,    0.00)  DC
          7TH HIGHEST VALUE IS       0.01674 AT (  446614.22,  3749068.84,
195.00,   195.00,    0.00)  DC
          8TH HIGHEST VALUE IS       0.01644 AT (  446569.87,  3749074.22,
195.00,   195.00,    0.00)  DC
          9TH HIGHEST VALUE IS       0.01643 AT (  446605.35,  3749068.84,
195.00,   195.00,    0.00)  DC
         10TH HIGHEST VALUE IS       0.01629 AT (  446651.26,  3749061.39,
195.00,   195.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
DPM\15669 DPM.ISC               ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:26:30

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

 *** Message Summary : AERMOD Model Execution ***

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

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of         1638 Informational Message(s)

 A Total of        43848 Hours Were Processed

 A Total of         1039 Calm Hours Identified
```

```
 A Total of          599 Missing Hours Identified (  1.37 Percent)


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


    ********   WARNING MESSAGES   ********
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


    ***********************************
    *** AERMOD Finishes Successfully ***
    ***********************************

**
****************************************
**
** AERMOD INPUT PRODUCED BY:
** AERMOD VIEW VER. 12.0.0
** LAKES ENVIRONMENTAL SOFTWARE INC.
** DATE: 1/19/2024
** FILE: C:\LAKES\AERMOD VIEW\15669 HRA\15669 TOGDSL\15669 TOGDSL.ADI
**
****************************************
**
**
****************************************
** AERMOD CONTROL PATHWAY
****************************************
**
**
CO STARTING
   TITLEONE C:\LAKES\AERMOD VIEW\15669 HRA\15669 TOGDSL\15669 TOGDSL.ISC
   MODELOPT DFAULT CONC
   AVERTIME 1 8
   URBANOPT 2189641
   POLLUTID TOGDSL
   RUNORNOT RUN
   ERRORFIL "15669 TOGDSL.ERR"
CO FINISHED
**
****************************************
** AERMOD SOURCE PATHWAY
****************************************
**
**
```

```
SO STARTING
** SOURCE LOCATION **
** SOURCE ID - TYPE - X COORD. - Y COORD. **
** ----------------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE1
** DESCRSRC 91 EB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.0001
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446149.796, 3749188.513, 197.76, 3.49, 14.88
** 447179.945, 3749035.478, 191.42, 3.49, 14.88
** ----------------------------------------------------------------------
   LOCATION L0000290     VOLUME   446165.623 3749186.162 196.79
   LOCATION L0000291     VOLUME   446197.275 3749181.460 196.83
   LOCATION L0000292     VOLUME   446228.928 3749176.757 196.01
   LOCATION L0000293     VOLUME   446260.581 3749172.055 196.14
   LOCATION L0000294     VOLUME   446292.233 3749167.353 196.30
   LOCATION L0000295     VOLUME   446323.886 3749162.651 196.38
   LOCATION L0000296     VOLUME   446355.539 3749157.949 196.00
   LOCATION L0000297     VOLUME   446387.191 3749153.246 195.74
   LOCATION L0000298     VOLUME   446418.844 3749148.544 195.00
   LOCATION L0000299     VOLUME   446450.497 3749143.842 195.00
   LOCATION L0000300     VOLUME   446482.149 3749139.140 195.00
   LOCATION L0000301     VOLUME   446513.802 3749134.438 195.00
   LOCATION L0000302     VOLUME   446545.454 3749129.735 195.00
   LOCATION L0000303     VOLUME   446577.107 3749125.033 195.00
   LOCATION L0000304     VOLUME   446608.760 3749120.331 195.00
   LOCATION L0000305     VOLUME   446640.412 3749115.629 195.00
   LOCATION L0000306     VOLUME   446672.065 3749110.927 195.00
   LOCATION L0000307     VOLUME   446703.718 3749106.224 195.00
   LOCATION L0000308     VOLUME   446735.370 3749101.522 195.00
   LOCATION L0000309     VOLUME   446767.023 3749096.820 195.33
   LOCATION L0000310     VOLUME   446798.675 3749092.118 195.20
   LOCATION L0000311     VOLUME   446830.328 3749087.416 195.00
   LOCATION L0000312     VOLUME   446861.981 3749082.713 195.00
   LOCATION L0000313     VOLUME   446893.633 3749078.011 195.00
   LOCATION L0000314     VOLUME   446925.286 3749073.309 194.89
   LOCATION L0000315     VOLUME   446956.939 3749068.607 194.69
   LOCATION L0000316     VOLUME   446988.591 3749063.905 195.08
   LOCATION L0000317     VOLUME   447020.244 3749059.202 195.06
   LOCATION L0000318     VOLUME   447051.897 3749054.500 195.00
   LOCATION L0000319     VOLUME   447083.549 3749049.798 194.90
   LOCATION L0000320     VOLUME   447115.202 3749045.096 194.63
   LOCATION L0000321     VOLUME   447146.854 3749040.394 193.31
   LOCATION L0000322     VOLUME   447178.507 3749035.691 191.48
```

```
** END OF LINE VOLUME SOURCE ID = SLINE1
** ----------------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE2
** DESCRSRC 91 WB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.000148
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446153.936, 3749222.959, 196.45, 3.49, 14.88
** 447172.188, 3749092.095, 193.64, 3.49, 14.88
** ----------------------------------------------------------------------
   LOCATION L0000258     VOLUME   446169.806 3749220.920 195.99
   LOCATION L0000259     VOLUME   446201.545 3749216.841 195.65
   LOCATION L0000260     VOLUME   446233.284 3749212.761 195.68
   LOCATION L0000261     VOLUME   446265.023 3749208.682 194.98
   LOCATION L0000262     VOLUME   446296.762 3749204.603 195.05
   LOCATION L0000263     VOLUME   446328.501 3749200.524 195.19
   LOCATION L0000264     VOLUME   446360.240 3749196.445 195.33
   LOCATION L0000265     VOLUME   446391.979 3749192.366 195.04
   LOCATION L0000266     VOLUME   446423.718 3749188.287 194.60
   LOCATION L0000267     VOLUME   446455.457 3749184.208 194.59
   LOCATION L0000268     VOLUME   446487.196 3749180.129 194.66
   LOCATION L0000269     VOLUME   446518.935 3749176.050 195.00
   LOCATION L0000270     VOLUME   446550.673 3749171.971 195.00
   LOCATION L0000271     VOLUME   446582.412 3749167.892 194.45
   LOCATION L0000272     VOLUME   446614.151 3749163.813 194.41
   LOCATION L0000273     VOLUME   446645.890 3749159.734 194.55
   LOCATION L0000274     VOLUME   446677.629 3749155.655 194.39
   LOCATION L0000275     VOLUME   446709.368 3749151.576 194.64
   LOCATION L0000276     VOLUME   446741.107 3749147.497 194.87
   LOCATION L0000277     VOLUME   446772.846 3749143.418 194.99
   LOCATION L0000278     VOLUME   446804.585 3749139.339 194.29
   LOCATION L0000279     VOLUME   446836.324 3749135.260 193.44
   LOCATION L0000280     VOLUME   446868.063 3749131.181 192.72
   LOCATION L0000281     VOLUME   446899.802 3749127.102 192.42
   LOCATION L0000282     VOLUME   446931.541 3749123.023 192.55
   LOCATION L0000283     VOLUME   446963.280 3749118.944 192.64
   LOCATION L0000284     VOLUME   446995.019 3749114.865 193.61
   LOCATION L0000285     VOLUME   447026.758 3749110.786 193.78
   LOCATION L0000286     VOLUME   447058.497 3749106.707 193.20
   LOCATION L0000287     VOLUME   447090.236 3749102.627 193.36
   LOCATION L0000288     VOLUME   447121.975 3749098.548 193.01
   LOCATION L0000289     VOLUME   447153.714 3749094.469 193.76
** END OF LINE VOLUME SOURCE ID = SLINE2
** SOURCE PARAMETERS **
** LINE VOLUME SOURCE ID = SLINE1
```

```
   SRCPARAM L0000290     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000291     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000292     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000293     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000294     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000295     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000296     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000297     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000298     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000299     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000300     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000301     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000302     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000303     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000304     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000305     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000306     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000307     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000308     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000309     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000310     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000311     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000312     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000313     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000314     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000315     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000316     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000317     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000318     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000319     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000320     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000321     0.00000303      3.49     14.88      3.25
   SRCPARAM L0000322     0.00000303      3.49     14.88      3.25
** ------------------------------------------------------------------
** LINE VOLUME SOURCE ID = SLINE2
   SRCPARAM L0000258     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000259     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000260     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000261     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000262     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000263     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000264     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000265     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000266     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000267     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000268     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000269     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000270     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000271     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000272     0.000004625      3.49     14.88      3.25
```

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   SRCPARAM L0000273     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000274     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000275     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000276     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000277     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000278     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000279     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000280     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000281     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000282     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000283     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000284     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000285     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000286     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000287     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000288     0.000004625      3.49     14.88      3.25
   SRCPARAM L0000289     0.000004625      3.49     14.88      3.25
** ------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
****************************************
** AERMOD RECEPTOR PATHWAY
****************************************
**
**
RE STARTING
   INCLUDED "15669 TOGDSL.ROU"
RE FINISHED
**
****************************************
** AERMOD METEOROLOGY PATHWAY
****************************************
**
**
ME STARTING
   SURFFILE ..\KRAL_V9_ADJU\KRAL_V9.SFC
   PROFFILE ..\KRAL_V9_ADJU\KRAL_V9.PFL
   SURFDATA 3171 2012
   UAIRDATA 3190 2012
   PROFBASE 245.0 METERS
ME FINISHED
**
****************************************
** AERMOD OUTPUT PATHWAY
****************************************
**
**
OU STARTING
```

```
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 8 1ST
** AUTO-GENERATED PLOTFILES
   PLOTFILE   1 ALL 1ST "15669 TOGDSL.AD\01H1GALL.PLT" 31
   PLOTFILE   8 ALL 1ST "15669 TOGDSL.AD\08H1GALL.PLT" 32
   SUMMFILE "15669 TOGDSL.SUM"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

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

 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


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


    ********   WARNING MESSAGES   ********
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


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

 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGDSL\15669 TOGDSL.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:38:46

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
```

```
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for    65 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2189641.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: TOGDSL

 **Model Calculates  2 Short Term Average(s) of:   1-HR   8-HR

 **This Run Includes:     65 Source(s);       1 Source Group(s); and     124
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     65 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


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

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
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: Base Elev. for Pot. Temp. Profile (m MSL) = 245.00 ; Decay Coef. = 0.000 ; Rot. Angle = 0.0
Emission Units = GRAMS/SEC ; Emission Rate Unit Factor = 0.10000E+07
Output Units = MICROGRAMS/M**3

**Approximate Storage Requirements of Model = 3.5 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: 15669 TOGDSL.ERR

**File for Summary of Results: 15669 TOGDSL.SUM

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
L0000290	0	0.30300E-05	446165.6	3749186.2	196.8	3.49	14.88	3.25	YES		NO
L0000291	0	0.30300E-05	446197.3	3749181.5	196.8	3.49	14.88	3.25	YES		NO
L0000292	0	0.30300E-05	446228.9	3749176.8	196.0	3.49	14.88	3.25	YES		NO
L0000293	0	0.30300E-05	446260.6	3749172.1	196.1	3.49	14.88	3.25	YES		NO
L0000294	0	0.30300E-05	446292.2	3749167.4	196.3	3.49	14.88	3.25	YES		NO
L0000295	0	0.30300E-05	446323.9	3749162.7	196.4	3.49	14.88				

```
3.25     YES                    NO
 L0000296         0   0.30300E-05  446355.5 3749157.9   196.0     3.49    14.88
3.25     YES                    NO
 L0000297         0   0.30300E-05  446387.2 3749153.2   195.7     3.49    14.88
3.25     YES                    NO
 L0000298         0   0.30300E-05  446418.8 3749148.5   195.0     3.49    14.88
3.25     YES                    NO
 L0000299         0   0.30300E-05  446450.5 3749143.8   195.0     3.49    14.88
3.25     YES                    NO
 L0000300         0   0.30300E-05  446482.1 3749139.1   195.0     3.49    14.88
3.25     YES                    NO
 L0000301         0   0.30300E-05  446513.8 3749134.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000302         0   0.30300E-05  446545.5 3749129.7   195.0     3.49    14.88
3.25     YES                    NO
 L0000303         0   0.30300E-05  446577.1 3749125.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000304         0   0.30300E-05  446608.8 3749120.3   195.0     3.49    14.88
3.25     YES                    NO
 L0000305         0   0.30300E-05  446640.4 3749115.6   195.0     3.49    14.88
3.25     YES                    NO
 L0000306         0   0.30300E-05  446672.1 3749110.9   195.0     3.49    14.88
3.25     YES                    NO
 L0000307         0   0.30300E-05  446703.7 3749106.2   195.0     3.49    14.88
3.25     YES                    NO
 L0000308         0   0.30300E-05  446735.4 3749101.5   195.0     3.49    14.88
3.25     YES                    NO
 L0000309         0   0.30300E-05  446767.0 3749096.8   195.3     3.49    14.88
3.25     YES                    NO
 L0000310         0   0.30300E-05  446798.7 3749092.1   195.2     3.49    14.88
3.25     YES                    NO
 L0000311         0   0.30300E-05  446830.3 3749087.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000312         0   0.30300E-05  446862.0 3749082.7   195.0     3.49    14.88
3.25     YES                    NO
 L0000313         0   0.30300E-05  446893.6 3749078.0   195.0     3.49    14.88
3.25     YES                    NO
 L0000314         0   0.30300E-05  446925.3 3749073.3   194.9     3.49    14.88
3.25     YES                    NO
 L0000315         0   0.30300E-05  446956.9 3749068.6   194.7     3.49    14.88
3.25     YES                    NO
 L0000316         0   0.30300E-05  446988.6 3749063.9   195.1     3.49    14.88
3.25     YES                    NO
 L0000317         0   0.30300E-05  447020.2 3749059.2   195.1     3.49    14.88
3.25     YES                    NO
 L0000318         0   0.30300E-05  447051.9 3749054.5   195.0     3.49    14.88
3.25     YES                    NO
 L0000319         0   0.30300E-05  447083.5 3749049.8   194.9     3.49    14.88
3.25     YES                    NO
 L0000320         0   0.30300E-05  447115.2 3749045.1   194.6     3.49    14.88
```

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3.25     YES                     NO
 L0000321         0   0.30300E-05  447146.9 3749040.4   193.3     3.49    14.88
3.25     YES                     NO
 L0000322         0   0.30300E-05  447178.5 3749035.7   191.5     3.49    14.88
3.25     YES                     NO
 L0000258         0   0.46250E-05  446169.8 3749220.9   196.0     3.49    14.88
3.25     YES                     NO
 L0000259         0   0.46250E-05  446201.5 3749216.8   195.7     3.49    14.88
3.25     YES                     NO
 L0000260         0   0.46250E-05  446233.3 3749212.8   195.7     3.49    14.88
3.25     YES                     NO
 L0000261         0   0.46250E-05  446265.0 3749208.7   195.0     3.49    14.88
3.25     YES                     NO
 L0000262         0   0.46250E-05  446296.8 3749204.6   195.1     3.49    14.88
3.25     YES                     NO
 L0000263         0   0.46250E-05  446328.5 3749200.5   195.2     3.49    14.88
3.25     YES                     NO
 L0000264         0   0.46250E-05  446360.2 3749196.4   195.3     3.49    14.88
3.25     YES                     NO
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGDSL\15669 TOGDSL.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:38:46

                                   PAGE   3
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                                  *** VOLUME SOURCE DATA ***

               NUMBER EMISSION RATE                    BASE    RELEASE    INIT.
INIT.   URBAN  EMISSION RATE   AIRCRAFT
   SOURCE       PART.  (GRAMS/SEC)     X        Y      ELEV.   HEIGHT      SY
SZ     SOURCE  SCALAR VARY
     ID         CATS.                (METERS) (METERS) (METERS) (METERS) (METERS)
(METERS)              BY
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - -

 L0000265         0   0.46250E-05  446392.0 3749192.4   195.0     3.49    14.88
3.25     YES                     NO
 L0000266         0   0.46250E-05  446423.7 3749188.3   194.6     3.49    14.88
3.25     YES                     NO
 L0000267         0   0.46250E-05  446455.5 3749184.2   194.6     3.49    14.88
3.25     YES                     NO
 L0000268         0   0.46250E-05  446487.2 3749180.1   194.7     3.49    14.88
3.25     YES                     NO
 L0000269         0   0.46250E-05  446518.9 3749176.0   195.0     3.49    14.88
3.25     YES                     NO
 L0000270         0   0.46250E-05  446550.7 3749172.0   195.0     3.49    14.88
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3.25     YES                    NO
 L0000271         0   0.46250E-05  446582.4 3749167.9   194.5     3.49    14.88
3.25     YES                    NO
 L0000272         0   0.46250E-05  446614.2 3749163.8   194.4     3.49    14.88
3.25     YES                    NO
 L0000273         0   0.46250E-05  446645.9 3749159.7   194.6     3.49    14.88
3.25     YES                    NO
 L0000274         0   0.46250E-05  446677.6 3749155.7   194.4     3.49    14.88
3.25     YES                    NO
 L0000275         0   0.46250E-05  446709.4 3749151.6   194.6     3.49    14.88
3.25     YES                    NO
 L0000276         0   0.46250E-05  446741.1 3749147.5   194.9     3.49    14.88
3.25     YES                    NO
 L0000277         0   0.46250E-05  446772.8 3749143.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000278         0   0.46250E-05  446804.6 3749139.3   194.3     3.49    14.88
3.25     YES                    NO
 L0000279         0   0.46250E-05  446836.3 3749135.3   193.4     3.49    14.88
3.25     YES                    NO
 L0000280         0   0.46250E-05  446868.1 3749131.2   192.7     3.49    14.88
3.25     YES                    NO
 L0000281         0   0.46250E-05  446899.8 3749127.1   192.4     3.49    14.88
3.25     YES                    NO
 L0000282         0   0.46250E-05  446931.5 3749123.0   192.6     3.49    14.88
3.25     YES                    NO
 L0000283         0   0.46250E-05  446963.3 3749118.9   192.6     3.49    14.88
3.25     YES                    NO
 L0000284         0   0.46250E-05  446995.0 3749114.9   193.6     3.49    14.88
3.25     YES                    NO
 L0000285         0   0.46250E-05  447026.8 3749110.8   193.8     3.49    14.88
3.25     YES                    NO
 L0000286         0   0.46250E-05  447058.5 3749106.7   193.2     3.49    14.88
3.25     YES                    NO
 L0000287         0   0.46250E-05  447090.2 3749102.6   193.4     3.49    14.88
3.25     YES                    NO
 L0000288         0   0.46250E-05  447122.0 3749098.5   193.0     3.49    14.88
3.25     YES                    NO
 L0000289         0   0.46250E-05  447153.7 3749094.5   193.8     3.49    14.88
3.25     YES                    NO
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGDSL\15669 TOGDSL.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:38:46

                                   PAGE   4
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                              *** SOURCE IDs DEFINING SOURCE GROUPS
***
```

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 SRCGROUP ID                                                SOURCE IDs
 -----------                                                ----------


  ALL        L0000290    , L0000291    , L0000292    , L0000293    , L0000294    ,
L0000295    , L0000296    , L0000297    ,

             L0000298    , L0000299    , L0000300    , L0000301    , L0000302    ,
L0000303    , L0000304    , L0000305    ,

             L0000306    , L0000307    , L0000308    , L0000309    , L0000310    ,
L0000311    , L0000312    , L0000313    ,

             L0000314    , L0000315    , L0000316    , L0000317    , L0000318    ,
L0000319    , L0000320    , L0000321    ,

             L0000322    , L0000258    , L0000259    , L0000260    , L0000261    ,
L0000262    , L0000263    , L0000264    ,

             L0000265    , L0000266    , L0000267    , L0000268    , L0000269    ,
L0000270    , L0000271    , L0000272    ,

             L0000273    , L0000274    , L0000275    , L0000276    , L0000277    ,
L0000278    , L0000279    , L0000280    ,

             L0000281    , L0000282    , L0000283    , L0000284    , L0000285    ,
L0000286    , L0000287    , L0000288    ,

             L0000289    ,
↟ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGDSL\15669 TOGDSL.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:38:46

                                    PAGE   5
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*


                                          *** SOURCE IDs DEFINED AS URBAN SOURCES
***

  URBAN ID   URBAN POP                                  SOURCE IDs
  --------   ---------                                  ----------


              2189641.   L0000290    , L0000291    , L0000292    , L0000293    ,
L0000294    , L0000295    , L0000296    ,
 L0000297    ,
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

(446596.5, 3749020.4, 195.0, 195.0, 0.0); (446605.3,
3749020.4, 195.0, 195.0, 0.0);
(446614.2, 3749020.4, 195.0, 195.0, 0.0); (446598.9,
3749026.0, 195.0, 195.0, 0.0);
(446605.3, 3749025.8, 195.0, 195.0, 0.0); (446614.2,
3749025.8, 195.0, 195.0, 0.0);
(446472.3, 3749031.2, 196.0, 196.0, 0.0); (446598.9,
3749031.4, 195.0, 195.0, 0.0);
(446605.3, 3749031.2, 195.0, 195.0, 0.0); (446614.2,
3749031.2, 195.0, 195.0, 0.0);
(446472.3, 3749036.6, 196.0, 196.0, 0.0); (446569.9,
3749036.6, 195.0, 195.0, 0.0);
(446578.7, 3749036.6, 195.0, 195.0, 0.0); (446587.6,
3749036.6, 195.0, 195.0, 0.0);
(446598.9, 3749036.7, 195.0, 195.0, 0.0); (446605.3,
3749036.6, 195.0, 195.0, 0.0);

```
     ( 446614.2, 3749036.6,     195.0,     195.0,       0.0);         ( 446472.3,
3749041.9,     196.0,     196.0,       0.0);
     ( 446534.4, 3749041.9,     195.0,     195.0,       0.0);         ( 446543.3,
3749041.9,     195.0,     195.0,       0.0);
     ( 446552.1, 3749041.9,     195.0,     195.0,       0.0);         ( 446561.0,
3749041.9,     195.0,     195.0,       0.0);
     ( 446569.9, 3749041.9,     195.0,     195.0,       0.0);         ( 446578.7,
3749041.9,     195.0,     195.0,       0.0);
     ( 446587.6, 3749041.9,     195.0,     195.0,       0.0);         ( 446598.9,
3749042.1,     195.0,     195.0,       0.0);
     ( 446605.3, 3749041.9,     195.0,     195.0,       0.0);         ( 446614.2,
3749041.9,     195.0,     195.0,       0.0);
     ( 446472.3, 3749047.3,     195.9,     195.9,       0.0);         ( 446676.2,
3749062.0,     195.0,     195.0,       0.0);
     ( 446490.0, 3749047.3,     195.5,     195.5,       0.0);         ( 446498.9,
3749047.3,     195.3,     195.3,       0.0);
     ( 446507.8, 3749047.3,     195.2,     195.2,       0.0);         ( 446516.6,
3749047.3,     195.1,     195.1,       0.0);
     ( 446525.5, 3749047.3,     195.0,     195.0,       0.0);         ( 446534.4,
3749047.3,     195.0,     195.0,       0.0);
     ( 446543.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446552.1,
3749047.3,     195.0,     195.0,       0.0);
     ( 446561.0, 3749047.3,     195.0,     195.0,       0.0);         ( 446569.9,
3749047.3,     195.0,     195.0,       0.0);
     ( 446578.7, 3749047.3,     195.0,     195.0,       0.0);         ( 446587.6,
3749047.3,     195.0,     195.0,       0.0);
     ( 446605.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446614.2,
3749047.3,     195.0,     195.0,       0.0);
     ( 446472.3, 3749052.7,     195.9,     195.9,       0.0);         ( 446658.5,
3749059.7,     195.0,     195.0,       0.0);
     ( 446490.0, 3749052.7,     195.4,     195.4,       0.0);         ( 446498.9,
3749052.7,     195.1,     195.1,       0.0);
     ( 446507.8, 3749052.7,     195.1,     195.1,       0.0);         ( 446516.6,
3749052.7,     195.1,     195.1,       0.0);
     ( 446525.5, 3749052.7,     195.0,     195.0,       0.0);         ( 446534.4,
3749052.7,     195.0,     195.0,       0.0);
     ( 446543.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446552.1,
3749052.7,     195.0,     195.0,       0.0);
     ( 446561.0, 3749052.7,     195.0,     195.0,       0.0);         ( 446569.9,
3749052.7,     195.0,     195.0,       0.0);
     ( 446578.7, 3749052.7,     195.0,     195.0,       0.0);         ( 446587.6,
3749052.7,     195.0,     195.0,       0.0);
     ( 446605.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446614.2,
3749052.7,     195.0,     195.0,       0.0);
     ( 446472.3, 3749058.1,     195.9,     195.9,       0.0);         ( 446659.3,
3749065.4,     195.0,     195.0,       0.0);
     ( 446490.0, 3749058.1,     195.3,     195.3,       0.0);         ( 446498.9,
3749058.1,     195.0,     195.0,       0.0);
     ( 446507.8, 3749058.1,     195.0,     195.0,       0.0);         ( 446516.6,
3749058.1,     195.0,     195.0,       0.0);
```

```
     ( 446525.5, 3749058.1,     195.0,     195.0,       0.0);         ( 446534.4,
3749058.1,     195.0,     195.0,       0.0);
     ( 446543.3, 3749058.1,     195.0,     195.0,       0.0);         ( 446552.1,
3749058.1,     195.0,     195.0,       0.0);
     ( 446561.0, 3749058.1,     195.0,     195.0,       0.0);         ( 446569.9,
3749058.1,     195.0,     195.0,       0.0);
     ( 446578.7, 3749058.1,     195.0,     195.0,       0.0);         ( 446587.6,
3749058.1,     195.0,     195.0,       0.0);
     ( 446605.3, 3749058.1,     195.0,     195.0,       0.0);         ( 446614.2,
3749058.1,     195.0,     195.0,       0.0);
     ( 446472.3, 3749063.5,     195.7,     195.7,       0.0);         ( 446666.0,
3749063.8,     195.0,     195.0,       0.0);
     ( 446490.0, 3749063.5,     195.2,     195.2,       0.0);         ( 446498.9,
3749063.5,     195.0,     195.0,       0.0);
     ( 446507.8, 3749063.5,     195.0,     195.0,       0.0);         ( 446516.6,
3749063.5,     195.0,     195.0,       0.0);
     ( 446525.5, 3749063.5,     195.0,     195.0,       0.0);         ( 446534.4,
3749063.5,     195.0,     195.0,       0.0);
     ( 446543.3, 3749063.5,     195.0,     195.0,       0.0);         ( 446552.1,
3749063.5,     195.0,     195.0,       0.0);
     ( 446561.0, 3749063.5,     195.0,     195.0,       0.0);         ( 446569.9,
3749063.5,     195.0,     195.0,       0.0);
     ( 446578.7, 3749063.5,     195.0,     195.0,       0.0);         ( 446587.6,
3749063.5,     195.0,     195.0,       0.0);
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGDSL\15669 TOGDSL.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:38:46

                                    PAGE   7
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

     ( 446605.3, 3749063.5,     195.0,     195.0,       0.0);         ( 446614.2,
3749063.5,     195.0,     195.0,       0.0);
     ( 446472.3, 3749068.8,     195.5,     195.5,       0.0);         ( 446651.3,
3749061.4,     195.0,     195.0,       0.0);
     ( 446490.0, 3749068.8,     195.2,     195.2,       0.0);         ( 446498.9,
3749068.8,     195.0,     195.0,       0.0);
     ( 446507.8, 3749068.8,     195.0,     195.0,       0.0);         ( 446516.6,
3749068.8,     195.0,     195.0,       0.0);
     ( 446525.5, 3749068.8,     195.0,     195.0,       0.0);         ( 446534.4,
3749068.8,     195.0,     195.0,       0.0);
     ( 446543.3, 3749068.8,     195.0,     195.0,       0.0);         ( 446552.1,
3749068.8,     195.0,     195.0,       0.0);
     ( 446561.0, 3749068.8,     195.0,     195.0,       0.0);         ( 446569.9,
3749068.8,     195.0,     195.0,       0.0);
```

```
     ( 446578.7, 3749068.8,     195.0,     195.0,       0.0);         ( 446587.6,
3749068.8,     195.0,     195.0,       0.0);
     ( 446605.3, 3749068.8,     195.0,     195.0,       0.0);         ( 446614.2,
3749068.8,     195.0,     195.0,       0.0);
     ( 446477.1, 3749066.8,     195.5,     195.5,       0.0);         ( 446651.3,
3749066.8,     195.0,     195.0,       0.0);
     ( 446490.0, 3749074.2,     195.1,     195.1,       0.0);         ( 446498.9,
3749074.2,     195.0,     195.0,       0.0);
     ( 446507.8, 3749074.2,     195.0,     195.0,       0.0);         ( 446516.6,
3749074.2,     195.0,     195.0,       0.0);
     ( 446525.5, 3749074.2,     195.0,     195.0,       0.0);         ( 446534.4,
3749074.2,     195.0,     195.0,       0.0);
     ( 446543.3, 3749074.2,     195.0,     195.0,       0.0);         ( 446552.1,
3749074.2,     195.0,     195.0,       0.0);
     ( 446561.0, 3749074.2,     195.0,     195.0,       0.0);         ( 446569.9,
3749074.2,     195.0,     195.0,       0.0);
     ( 446578.7, 3749074.2,     195.0,     195.0,       0.0);         ( 446587.6,
3749074.2,     195.0,     195.0,       0.0);
     ( 446674.8, 3749056.4,     195.0,     195.0,       0.0);         ( 446665.9,
3749058.2,     195.0,     195.0,       0.0);
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGDSL\15669 TOGDSL.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:38:46

                                            PAGE   8
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1  1 1 1
1 1 1 1 1 1 1  1 1 1 1 1 1 1 1 1 1
            1 1 1 1 1 1 1 1 1 1  1 1 1 1 1 1

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

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

Surface file: ..\KRAL_V9_ADJU\KRAL_V9.SFC
Met Version: 16216
Profile file: ..\KRAL_V9_ADJU\KRAL_V9.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3171 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-25.6	0.266	-9.000	-9.000	-999.	330.	77.9	0.15	2.40	1.00	2.93	55.	10.1	288.1	2.0
12	01	01	1	02	-26.8	0.277	-9.000	-9.000	-999.	351.	84.7	0.15	2.40	1.00	3.05	55.	10.1	287.0	2.0
12	01	01	1	03	-21.5	0.221	-9.000	-9.000	-999.	250.	53.5	0.15	2.40	1.00	2.45	74.	10.1	284.2	2.0
12	01	01	1	04	-22.0	0.227	-9.000	-9.000	-999.	260.	56.8	0.15	2.40	1.00	2.52	77.	10.1	285.9	2.0
12	01	01	1	05	-20.0	0.206	-9.000	-9.000	-999.	225.	46.8	0.15	2.40	1.00	2.30	80.	10.1	285.4	2.0
12	01	01	1	06	-14.4	0.171	-9.000	-9.000	-999.	170.	32.1	0.15	2.40	1.00	1.93	79.	10.1	287.0	2.0

```
 12 01 01   1 07  -14.9  0.174 -9.000 -9.000 -999.  174.     33.2  0.15   2.40
1.00    1.96   77.   10.1  284.2    2.0
 12 01 01   1 08  -11.9  0.169 -9.000 -9.000 -999.  167.     36.1  0.15   2.40
0.53    1.89   77.   10.1  288.1    2.0
 12 01 01   1 09   40.4  0.234  0.359  0.006   40.  272.    -28.1  0.15   2.40
0.31    2.10   81.   10.1  289.2    2.0
 12 01 01   1 10  112.6  0.246  0.742  0.005  129.  293.    -11.8  0.15   2.40
0.24    1.99  101.   10.1  296.4    2.0
 12 01 01   1 11  161.0  0.402  1.188  0.005  369.  611.    -35.6  0.15   2.40
0.21    3.68   78.   10.1  298.8    2.0
 12 01 01   1 12  184.7  0.337  1.516  0.005  668.  473.    -18.4  0.15   2.40
0.20    2.89   68.   10.1  300.4    2.0
 12 01 01   1 13  183.9  0.310  1.809  0.005 1139.  414.    -14.2  0.15   2.40
0.20    2.57   64.   10.1  302.5    2.0
 12 01 01   1 14  156.6  0.374  1.852  0.005 1434.  549.    -29.5  0.15   2.40
0.22    3.37   63.   10.1  303.1    2.0
 12 01 01   1 15  104.3  0.382  1.658  0.005 1546.  567.    -47.2  0.15   2.40
0.25    3.59   62.   10.1  302.5    2.0
 12 01 01   1 16   31.8  0.374  1.123  0.005 1573.  550.   -145.8  0.15   2.40
0.34    3.76   69.   10.1  300.9    2.0
 12 01 01   1 17  -23.3  0.276 -9.000 -9.000 -999.  354.     84.0  0.15   2.40
0.62    3.03   59.   10.1  297.5    2.0
 12 01 01   1 18  -21.5  0.229 -9.000 -9.000 -999.  264.     57.8  0.15   2.40
1.00    2.54   54.   10.1  295.4    2.0
 12 01 01   1 19  -19.3  0.204 -9.000 -9.000 -999.  221.     45.6  0.15   2.40
1.00    2.27   79.   10.1  292.0    2.0
 12 01 01   1 20  -20.7  0.218 -9.000 -9.000 -999.  244.     52.2  0.15   2.40
1.00    2.42   79.   10.1  292.5    2.0
 12 01 01   1 21  -19.7  0.206 -9.000 -9.000 -999.  225.     46.9  0.15   2.40
1.00    2.30   95.   10.1  290.9    2.0
 12 01 01   1 22  -17.6  0.190 -9.000 -9.000 -999.  199.     39.8  0.15   2.40
1.00    2.13   78.   10.1  290.4    2.0
 12 01 01   1 23  -20.3  0.211 -9.000 -9.000 -999.  233.     49.0  0.15   2.40
1.00    2.35   52.   10.1  289.2    2.0
 12 01 01   1 24  -16.4  0.183 -9.000 -9.000 -999.  189.     37.0  0.15   2.40
1.00    2.06   75.   10.1  288.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01   10.1 1   55.    2.93   288.2   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGDSL\15669 TOGDSL.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                         ***        12:38:46

                                    PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*
```

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

INCLUDING SOURCE(S): L0000290 , L0000291 , L0000292 , L0000293 , L0000294 ,
L0000295 , L0000296 , L0000297 , L0000298 , L0000299 , L0000300 , L0000301 , L0000302 ,
L0000303 , L0000304 , L0000305 , L0000306 , L0000307 , L0000308 , L0000309 , L0000310 ,
L0000311 , L0000312 , L0000313 , L0000314 , L0000315 , L0000316 , L0000317 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446596.48	3749020.42	0.01131	(13041207)	446605.35	3749020.42	0.01143	(13041207)
446614.22	3749020.42	0.01155	(13041207)	446598.94	3749025.98	0.01190	(13041207)
446605.35	3749025.80	0.01198	(13041207)	446614.22	3749025.80	0.01211	(13041207)
446472.30	3749031.18	0.01068	(13041207)	446598.94	3749031.36	0.01250	(13041207)
446605.35	3749031.18	0.01258	(13041207)	446614.22	3749031.18	0.01273	(13041207)
446472.30	3749036.56	0.01116	(13041207)	446569.87	3749036.56	0.01263	(13041207)
446578.74	3749036.56	0.01278	(13041207)	446587.61	3749036.56	0.01293	(13041207)
446598.94	3749036.74	0.01315	(13041207)	446605.35	3749036.56	0.01324	(13041207)
446614.22	3749036.56	0.01340	(13041207)	446472.30	3749041.94	0.01169	(13041207)
446534.39	3749041.94	0.01268	(13041207)	446543.26	3749041.94	0.01283	(13041207)
446552.13	3749041.94	0.01298	(13041207)	446561.00	3749041.94	0.01314	(13041207)
446569.87	3749041.94	0.01330	(13041207)	446578.74	3749041.94	0.01346	(13041207)
446587.61	3749041.94	0.01362	(13041207)	446598.94	3749042.12	0.01386	(13041207)
446605.35	3749041.94	0.01396	(13041207)	446614.22	3749041.94	0.01414	(13041207)

```
       446472.30   3749047.32        0.01226  (13041207)              446676.23
3749062.03        0.01980  (13041207)
       446490.04   3749047.32        0.01253  (13041207)              446498.91
3749047.32        0.01270  (13041207)
       446507.78   3749047.32        0.01287  (13041207)              446516.65
3749047.32        0.01303  (13041207)
       446525.52   3749047.32        0.01319  (13041207)              446534.39
3749047.32        0.01335  (13041207)
       446543.26   3749047.32        0.01351  (13041207)              446552.13
3749047.32        0.01368  (13041207)
       446561.00   3749047.32        0.01385  (13041207)              446569.87
3749047.32        0.01403  (13041207)
       446578.74   3749047.32        0.01420  (13041207)              446587.61
3749047.32        0.01439  (13041207)
       446605.35   3749047.32        0.01477  (13041207)              446614.22
3749047.32        0.01496  (13041207)
       446472.30   3749052.70        0.01289  (13041207)              446658.47
3749059.67        0.01859  (13041207)
       446490.04   3749052.70        0.01319  (13041207)              446498.91
3749052.70        0.01338  (13041207)
       446507.78   3749052.70        0.01356  (13041207)              446516.65
3749052.70        0.01373  (13041207)
       446525.52   3749052.70        0.01390  (13041207)              446534.39
3749052.70        0.01408  (13041207)
       446543.26   3749052.70        0.01426  (13041207)              446552.13
3749052.70        0.01445  (13041207)
       446561.00   3749052.70        0.01464  (13041207)              446569.87
3749052.70        0.01483  (13041207)
       446578.74   3749052.70        0.01503  (13041207)              446587.61
3749052.70        0.01523  (13041207)
       446605.35   3749052.70        0.01566  (13041207)              446614.22
3749052.70        0.01588  (13041207)
       446472.30   3749058.08        0.01357  (13041207)              446659.35
3749065.41        0.02008  (13041207)
       446490.04   3749058.08        0.01392  (13041207)              446498.91
3749058.08        0.01412  (13041207)
       446507.78   3749058.08        0.01431  (13041207)              446516.65
3749058.08        0.01450  (13041207)
       446525.52   3749058.08        0.01469  (13041207)              446534.39
3749058.08        0.01489  (13041207)
       446543.26   3749058.08        0.01510  (13041207)              446552.13
3749058.08        0.01530  (13041207)
       446561.00   3749058.08        0.01551  (13041207)              446569.87
3749058.08        0.01573  (13041207)
       446578.74   3749058.08        0.01595  (13041207)              446587.61
3749058.08        0.01617  (13041207)
       446605.35   3749058.08        0.01665  (13041207)              446614.22
3749058.08        0.01689  (13041207)
       446472.30   3749063.46        0.01432  (13041207)              446666.03
3749063.75        0.01989  (13041207)
```

*** THE 1ST HIGHEST 1-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000290 , L0000291 , L0000292 , L0000293 , L0000294 ,
L0000295 , L0000296 , L0000297 , L0000298 , L0000299 , L0000300 , L0000301 , L0000302 ,
L0000303 , L0000304 , L0000305 , L0000306 , L0000307 , L0000308 , L0000309 , L0000310 ,
L0000311 , L0000312 , L0000313 , L0000314 , L0000315 , L0000316 , L0000317 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446507.78	3749063.46	0.01515	(13041207)	446516.65	3749063.46	0.01536	(13041207)
446525.52	3749063.46	0.01557	(13041207)	446534.39	3749063.46	0.01579	(13041207)
446543.26	3749063.46	0.01602	(13041207)	446552.13	3749063.46	0.01625	(13041207)
446561.00	3749063.46	0.01649	(13041207)	446569.87	3749063.46	0.01673	(13041207)
446578.74	3749063.46	0.01698	(13041207)	446587.61	3749063.46	0.01723	(13041207)
446605.35	3749063.46	0.01776	(13041207)	446614.22	3749063.46	0.01803	(13041207)
446472.30	3749068.84	0.01515	(13041207)	446651.26	3749061.39	0.01877	(13041207)
446490.04	3749068.84	0.01561	(13041207)	446498.91	3749068.84	0.01585	(13041207)
446507.78	3749068.84	0.01608	(13041207)	446516.65	3749068.84	0.01631	(13041207)
446525.52	3749068.84	0.01655	(13041207)	446534.39			

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 3749068.84        0.01680  (13041207)
       446543.26   3749068.84        0.01705  (13041207)               446552.13
 3749068.84        0.01731  (13041207)
       446561.00   3749068.84        0.01758  (13041207)               446569.87
 3749068.84        0.01785  (13041207)
       446578.74   3749068.84        0.01813  (13041207)               446587.61
 3749068.84        0.01841  (13041207)
       446605.35   3749068.84        0.01900  (13041207)               446614.22
 3749068.84        0.01931  (13041207)
       446477.06   3749066.77        0.01492  (13041207)               446651.26
 3749066.77        0.02015  (13041207)
       446490.04   3749074.22        0.01660  (13041207)               446498.91
 3749074.22        0.01686  (13041207)
       446507.78   3749074.22        0.01711  (13041207)               446516.65
 3749074.22        0.01738  (13041207)
       446525.52   3749074.22        0.01764  (13041207)               446534.39
 3749074.22        0.01792  (13041207)
       446543.26   3749074.22        0.01821  (13041207)               446552.13
 3749074.22        0.01850  (13041207)
       446561.00   3749074.22        0.01880  (13041207)               446569.87
 3749074.22        0.01911  (13041207)
       446578.74   3749074.22        0.01942  (13041207)               446587.61
 3749074.22        0.01973  (13041207)
       446674.83   3749056.45        0.01836  (13041207)               446665.93
 3749058.21        0.01849  (13041207)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGDSL\15669 TOGDSL.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:38:46

                                   PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                              *** THE   1ST HIGHEST  8-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                 INCLUDING SOURCE(S):     L0000290    , L0000291
 , L0000292    , L0000293    , L0000294    ,
                  L0000295    , L0000296    , L0000297    , L0000298    , L0000299
 , L0000300    , L0000301    , L0000302    ,
                  L0000303    , L0000304    , L0000305    , L0000306    , L0000307
 , L0000308    , L0000309    , L0000310    ,
                  L0000311    , L0000312    , L0000313    , L0000314    , L0000315
 , L0000316    , L0000317    ,  . . .      ,

                                        *** DISCRETE CARTESIAN RECEPTOR POINTS
***

                                     ** CONC OF TOGDSL   IN MICROGRAMS/M**3
                    **
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      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        446596.48   3749020.42        0.00931c (12121708)               446605.35
 3749020.42        0.00940c (12121708)
        446614.22   3749020.42        0.00950c (12121708)               446598.94
 3749025.98        0.00975c (12121708)
        446605.35   3749025.80        0.00981c (12121708)               446614.22
 3749025.80        0.00991c (12121708)
        446472.30   3749031.18        0.00867c (12121708)               446598.94
 3749031.36        0.01019c (12121708)
        446605.35   3749031.18        0.01025c (12121708)               446614.22
 3749031.18        0.01036c (12121708)
        446472.30   3749036.56        0.00902c (12121708)               446569.87
 3749036.56        0.01026c (12121708)
        446578.74   3749036.56        0.01037c (12121708)               446587.61
 3749036.56        0.01049c (12121708)
        446598.94   3749036.74        0.01066c (12121708)               446605.35
 3749036.56        0.01073c (12121708)
        446614.22   3749036.56        0.01086c (12121708)               446472.30
 3749041.94        0.00941c (12121708)
        446534.39   3749041.94        0.01024c (12121708)               446543.26
 3749041.94        0.01037c (12121708)
        446552.13   3749041.94        0.01049c (12121708)               446561.00
 3749041.94        0.01061c (12121708)
        446569.87   3749041.94        0.01074c (12121708)               446578.74
 3749041.94        0.01087c (12121708)
        446587.61   3749041.94        0.01100c (12121708)               446598.94
 3749042.12        0.01119c (12121708)
        446605.35   3749041.94        0.01126c (12121708)               446614.22
 3749041.94        0.01140c (12121708)
        446472.30   3749047.32        0.00983c (12121708)               446676.23
 3749062.03        0.01566c (12121708)
        446490.04   3749047.32        0.01008c (12121708)               446498.91
 3749047.32        0.01021c (12121708)
        446507.78   3749047.32        0.01034c (12121708)               446516.65
 3749047.32        0.01047c (12121708)
        446525.52   3749047.32        0.01060c (12121708)               446534.39
 3749047.32        0.01073c (12121708)
        446543.26   3749047.32        0.01086c (12121708)               446552.13
 3749047.32        0.01100c (12121708)
        446561.00   3749047.32        0.01114c (12121708)               446569.87
 3749047.32        0.01127c (12121708)
        446578.74   3749047.32        0.01141c (12121708)               446587.61
 3749047.32        0.01156c (12121708)
        446605.35   3749047.32        0.01185c (12121708)               446614.22
 3749047.32        0.01200c (12121708)
        446472.30   3749052.70        0.01029c (12121708)               446658.47
 3749059.67        0.01472c (12121708)
```

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       446490.04   3749052.70        0.01056c (12121708)               446498.91
 3749052.70        0.01070c (12121708)
       446507.78   3749052.70        0.01084c (12121708)               446516.65
 3749052.70        0.01098c (12121708)
       446525.52   3749052.70        0.01112c (12121708)               446534.39
 3749052.70        0.01126c (12121708)
       446543.26   3749052.70        0.01141c (12121708)               446552.13
 3749052.70        0.01156c (12121708)
       446561.00   3749052.70        0.01171c (12121708)               446569.87
 3749052.70        0.01186c (12121708)
       446578.74   3749052.70        0.01202c (12121708)               446587.61
 3749052.70        0.01218c (12121708)
       446605.35   3749052.70        0.01250c (12121708)               446614.22
 3749052.70        0.01267c (12121708)
       446472.30   3749058.08        0.01079c (12121708)               446659.35
 3749065.41        0.01587c (12121708)
       446490.04   3749058.08        0.01108c (12121708)               446498.91
 3749058.08        0.01123c (12121708)
       446507.78   3749058.08        0.01139c (12121708)               446516.65
 3749058.08        0.01154c (12121708)
       446525.52   3749058.08        0.01170c (12121708)               446534.39
 3749058.08        0.01186c (12121708)
       446543.26   3749058.08        0.01202c (12121708)               446552.13
 3749058.08        0.01218c (12121708)
       446561.00   3749058.08        0.01235c (12121708)               446569.87
 3749058.08        0.01252c (12121708)
       446578.74   3749058.08        0.01269c (12121708)               446587.61
 3749058.08        0.01287c (12121708)
       446605.35   3749058.08        0.01323c (12121708)               446614.22
 3749058.08        0.01342c (12121708)
       446472.30   3749063.46        0.01134c (12121708)               446666.03
 3749063.75        0.01572c (12121708)
       446490.04   3749063.46        0.01166c (12121708)               446498.91
 3749063.46        0.01183c (12121708)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGDSL\15669 TOGDSL.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:38:46

                                  PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  8-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000290    , L0000291
 , L0000292    , L0000293    , L0000294    ,
                 L0000295    , L0000296    , L0000297    , L0000298    , L0000299
 , L0000300    , L0000301    , L0000302    ,
                 L0000303    , L0000304    , L0000305    , L0000306    , L0000307
 , L0000308    , L0000309    , L0000310    ,
```

L0000311 , L0000312 , L0000313 , L0000314 , L0000315
, L0000316 , L0000317 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS
***

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

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
446507.78	3749063.46	0.01200c (12121708)	446516.65	3749063.46	0.01217c (12121708)
446525.52	3749063.46	0.01234c (12121708)	446534.39	3749063.46	0.01251c (12121708)
446543.26	3749063.46	0.01269c (12121708)	446552.13	3749063.46	0.01288c (12121708)
446561.00	3749063.46	0.01306c (12121708)	446569.87	3749063.46	0.01325c (12121708)
446578.74	3749063.46	0.01345c (12121708)	446587.61	3749063.46	0.01364c (12121708)
446605.35	3749063.46	0.01406c (12121708)	446614.22	3749063.46	0.01427c (12121708)
446472.30	3749068.84	0.01195c (12121708)	446651.26	3749061.39	0.01484c (12121708)
446490.04	3749068.84	0.01231c (12121708)	446498.91	3749068.84	0.01249c (12121708)
446507.78	3749068.84	0.01268c (12121708)	446516.65	3749068.84	0.01287c (12121708)
446525.52	3749068.84	0.01306c (12121708)	446534.39	3749068.84	0.01325c (12121708)
446543.26	3749068.84	0.01345c (12121708)	446552.13	3749068.84	0.01366c (12121708)
446561.00	3749068.84	0.01387c (12121708)	446569.87	3749068.84	0.01408c (12121708)
446578.74	3749068.84	0.01430c (12121708)	446587.61	3749068.84	0.01453c (12121708)
446605.35	3749068.84	0.01500c (12121708)	446614.22	3749068.84	0.01525c (12121708)
446477.06	3749066.77	0.01180c (12121708)	446651.26	3749066.77	0.01591c (12121708)
446490.04	3749074.22	0.01303c (12121708)	446498.91	3749074.22	0.01323c (12121708)
446507.78	3749074.22	0.01344c (12121708)	446516.65	3749074.22	0.01365c (12121708)
446525.52	3749074.22	0.01387c (12121708)	446534.39	3749074.22	0.01409c (12121708)
446543.26	3749074.22	0.01432c (12121708)	446552.13		

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

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

GROUP ID	AVERAGE	CONC OF TYPE	NETWORK GRID-ID	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)
ALL	HIGH 1ST HIGH VALUE IS	0.02015	ON 13041207:	AT (	446651.26, 3749066.77, 195.00, 195.00, 0.00) DC

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

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

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

**

GROUP ID	AVERAGE	NETWORK CONC	DATE (YYMMDDHH)	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)	OF TYPE	GRID-ID
ALL	HIGH	1ST HIGH VALUE IS	0.01591c	ON 12121708: AT (446651.26, 3749066.77, 195.00, 195.00, 0.00)	DC	

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

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** Message Summary : AERMOD Model Execution ***

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

A Total of 0 Fatal Error Message(s)
A Total of 2 Warning Message(s)
A Total of 1638 Informational Message(s)

A Total of 43848 Hours Were Processed

A Total of 1039 Calm Hours Identified

A Total of 599 Missing Hours Identified (1.37 Percent)

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

******** WARNING MESSAGES ********
ME W186 225 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used 0.50
ME W187 225 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

```
    ************************************
    *** AERMOD Finishes Successfully ***
    ************************************

**
**************************************
**
** AERMOD INPUT PRODUCED BY:
** AERMOD VIEW VER. 12.0.0
** LAKES ENVIRONMENTAL SOFTWARE INC.
** DATE: 1/19/2024
** FILE: C:\LAKES\AERMOD VIEW\15669 HRA\15669 TOGGAS\15669 TOGGAS.ADI
**
**************************************
**
**
**************************************
** AERMOD CONTROL PATHWAY
**************************************
**
**
CO STARTING
   TITLEONE C:\LAKES\AERMOD VIEW\15669 HRA\15669 TOGGAS\15669 TOGGAS.ISC
   MODELOPT DFAULT CONC
   AVERTIME 1 8 ANNUAL
   URBANOPT 2189641
   POLLUTID TOGGAS
   RUNORNOT RUN
   ERRORFIL "15669 TOGGAS.ERR"
CO FINISHED
**
**************************************
** AERMOD SOURCE PATHWAY
**************************************
**
**
SO STARTING
** SOURCE LOCATION **
** SOURCE ID - TYPE - X COORD. - Y COORD. **
** ------------------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE1
** DESCRSRC 91 EB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.000292
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
```

```
** 446149.796, 3749188.513, 197.76, 3.49, 14.88
** 447179.945, 3749035.478, 191.42, 3.49, 14.88
** ----------------------------------------------------------------
   LOCATION L0000290     VOLUME   446165.623 3749186.162 196.79
   LOCATION L0000291     VOLUME   446197.275 3749181.460 196.83
   LOCATION L0000292     VOLUME   446228.928 3749176.757 196.01
   LOCATION L0000293     VOLUME   446260.581 3749172.055 196.14
   LOCATION L0000294     VOLUME   446292.233 3749167.353 196.30
   LOCATION L0000295     VOLUME   446323.886 3749162.651 196.38
   LOCATION L0000296     VOLUME   446355.539 3749157.949 196.00
   LOCATION L0000297     VOLUME   446387.191 3749153.246 195.74
   LOCATION L0000298     VOLUME   446418.844 3749148.544 195.00
   LOCATION L0000299     VOLUME   446450.497 3749143.842 195.00
   LOCATION L0000300     VOLUME   446482.149 3749139.140 195.00
   LOCATION L0000301     VOLUME   446513.802 3749134.438 195.00
   LOCATION L0000302     VOLUME   446545.454 3749129.735 195.00
   LOCATION L0000303     VOLUME   446577.107 3749125.033 195.00
   LOCATION L0000304     VOLUME   446608.760 3749120.331 195.00
   LOCATION L0000305     VOLUME   446640.412 3749115.629 195.00
   LOCATION L0000306     VOLUME   446672.065 3749110.927 195.00
   LOCATION L0000307     VOLUME   446703.718 3749106.224 195.00
   LOCATION L0000308     VOLUME   446735.370 3749101.522 195.00
   LOCATION L0000309     VOLUME   446767.023 3749096.820 195.33
   LOCATION L0000310     VOLUME   446798.675 3749092.118 195.20
   LOCATION L0000311     VOLUME   446830.328 3749087.416 195.00
   LOCATION L0000312     VOLUME   446861.981 3749082.713 195.00
   LOCATION L0000313     VOLUME   446893.633 3749078.011 195.00
   LOCATION L0000314     VOLUME   446925.286 3749073.309 194.89
   LOCATION L0000315     VOLUME   446956.939 3749068.607 194.69
   LOCATION L0000316     VOLUME   446988.591 3749063.905 195.08
   LOCATION L0000317     VOLUME   447020.244 3749059.202 195.06
   LOCATION L0000318     VOLUME   447051.897 3749054.500 195.00
   LOCATION L0000319     VOLUME   447083.549 3749049.798 194.90
   LOCATION L0000320     VOLUME   447115.202 3749045.096 194.63
   LOCATION L0000321     VOLUME   447146.854 3749040.394 193.31
   LOCATION L0000322     VOLUME   447178.507 3749035.691 191.48
** END OF LINE VOLUME SOURCE ID = SLINE1
** ----------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE2
** DESCRSRC 91 WB
** PREFIX
** LENGTH OF SIDE = 32.00
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.00043
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 446153.936, 3749222.959, 196.45, 3.49, 14.88
** 447172.188, 3749092.095, 193.64, 3.49, 14.88
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** ----------------------------------------------------------------
   LOCATION L0000323     VOLUME   446169.806 3749220.920 195.99
   LOCATION L0000324     VOLUME   446201.545 3749216.841 195.65
   LOCATION L0000325     VOLUME   446233.284 3749212.761 195.68
   LOCATION L0000326     VOLUME   446265.023 3749208.682 194.98
   LOCATION L0000327     VOLUME   446296.762 3749204.603 195.05
   LOCATION L0000328     VOLUME   446328.501 3749200.524 195.19
   LOCATION L0000329     VOLUME   446360.240 3749196.445 195.33
   LOCATION L0000330     VOLUME   446391.979 3749192.366 195.04
   LOCATION L0000331     VOLUME   446423.718 3749188.287 194.60
   LOCATION L0000332     VOLUME   446455.457 3749184.208 194.59
   LOCATION L0000333     VOLUME   446487.196 3749180.129 194.66
   LOCATION L0000334     VOLUME   446518.935 3749176.050 195.00
   LOCATION L0000335     VOLUME   446550.673 3749171.971 195.00
   LOCATION L0000336     VOLUME   446582.412 3749167.892 194.45
   LOCATION L0000337     VOLUME   446614.151 3749163.813 194.41
   LOCATION L0000338     VOLUME   446645.890 3749159.734 194.55
   LOCATION L0000339     VOLUME   446677.629 3749155.655 194.39
   LOCATION L0000340     VOLUME   446709.368 3749151.576 194.64
   LOCATION L0000341     VOLUME   446741.107 3749147.497 194.87
   LOCATION L0000342     VOLUME   446772.846 3749143.418 194.99
   LOCATION L0000343     VOLUME   446804.585 3749139.339 194.29
   LOCATION L0000344     VOLUME   446836.324 3749135.260 193.44
   LOCATION L0000345     VOLUME   446868.063 3749131.181 192.72
   LOCATION L0000346     VOLUME   446899.802 3749127.102 192.42
   LOCATION L0000347     VOLUME   446931.541 3749123.023 192.55
   LOCATION L0000348     VOLUME   446963.280 3749118.944 192.64
   LOCATION L0000349     VOLUME   446995.019 3749114.865 193.61
   LOCATION L0000350     VOLUME   447026.758 3749110.786 193.78
   LOCATION L0000351     VOLUME   447058.497 3749106.707 193.20
   LOCATION L0000352     VOLUME   447090.236 3749102.627 193.36
   LOCATION L0000353     VOLUME   447121.975 3749098.548 193.01
   LOCATION L0000354     VOLUME   447153.714 3749094.469 193.76
** END OF LINE VOLUME SOURCE ID = SLINE2
** SOURCE PARAMETERS **
** LINE VOLUME SOURCE ID = SLINE1
   SRCPARAM L0000290     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000291     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000292     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000293     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000294     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000295     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000296     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000297     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000298     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000299     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000300     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000301     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000302     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000303     0.000008848      3.49     14.88      3.25
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   SRCPARAM L0000304     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000305     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000306     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000307     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000308     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000309     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000310     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000311     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000312     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000313     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000314     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000315     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000316     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000317     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000318     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000319     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000320     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000321     0.000008848      3.49     14.88      3.25
   SRCPARAM L0000322     0.000008848      3.49     14.88      3.25
** ----------------------------------------------------------------
** LINE VOLUME SOURCE ID = SLINE2
   SRCPARAM L0000323     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000324     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000325     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000326     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000327     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000328     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000329     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000330     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000331     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000332     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000333     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000334     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000335     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000336     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000337     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000338     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000339     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000340     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000341     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000342     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000343     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000344     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000345     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000346     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000347     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000348     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000349     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000350     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000351     0.0000134375      3.49     14.88      3.25
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   SRCPARAM L0000352     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000353     0.0000134375      3.49     14.88      3.25
   SRCPARAM L0000354     0.0000134375      3.49     14.88      3.25
** ----------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD RECEPTOR PATHWAY
**************************************
**
**
RE STARTING
   INCLUDED "15669 TOGGAS.ROU"
RE FINISHED
**
**************************************
** AERMOD METEOROLOGY PATHWAY
**************************************
**
**
ME STARTING
   SURFFILE ..\KRAL_V9_ADJU\KRAL_V9.SFC
   PROFFILE ..\KRAL_V9_ADJU\KRAL_V9.PFL
   SURFDATA 3171 2012
   UAIRDATA 3190 2012
   PROFBASE 245.0 METERS
ME FINISHED
**
**************************************
** AERMOD OUTPUT PATHWAY
**************************************
**
**
OU STARTING
   RECTABLE ALLAVE 1ST
   RECTABLE 1 1ST
   RECTABLE 8 1ST
** AUTO-GENERATED PLOTFILES
   PLOTFILE   1 ALL 1ST "15669 TOGGAS.AD\01H1GALL.PLT" 31
   PLOTFILE   8 ALL 1ST "15669 TOGGAS.AD\08H1GALL.PLT" 32
   PLOTFILE   ANNUAL ALL "15669 TOGGAS.AD\AN00GALL.PLT" 33
   SUMMFILE "15669 TOGGAS.SUM"
OU FINISHED


  *** Message Summary For AERMOD Model Setup ***

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

```
 A Total of            0 Fatal Error Message(s)
 A Total of            2 Warning Message(s)
 A Total of            0 Informational Message(s)


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


    ********   WARNING MESSAGES   ********
 ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


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

↟ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGGAS\15669 TOGGAS.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:42:54

                                   PAGE   1
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

 ** Model Options Selected:
      * Model Uses Regulatory DEFAULT Options
      * Model Is Setup For Calculation of Average CONCentration Values.
      * NO GAS DEPOSITION Data Provided.
      * NO PARTICLE DEPOSITION Data Provided.
      * Model Uses NO DRY DEPLETION. DDPLETE  =  F
      * Model Uses NO WET DEPLETION. WETDPLT  =  F
      * Stack-tip Downwash.
      * Model Accounts for ELEVated Terrain Effects.
      * Use Calms Processing Routine.
      * Use Missing Data Processing Routine.
      * No Exponential Decay.
      * Model Uses URBAN Dispersion Algorithm for the SBL for    65 Source(s),
        for Total of    1 Urban Area(s):
   Urban Population =   2189641.0 ;  Urban Roughness Length =  1.000 m
      * Urban Roughness Length of 1.0 Meter Used.
      * ADJ_U*   - Use ADJ_U* option for SBL in AERMET
```

```
      * CCVR_Sub - Meteorological data includes CCVR substitutions
      * TEMP_Sub - Meteorological data includes TEMP substitutions
      * Model Assumes No FLAGPOLE Receptor Heights.
      * The User Specified a Pollutant Type of: TOGGAS

 **Model Calculates  2 Short Term Average(s) of:   1-HR   8-HR
     and Calculates ANNUAL Averages

 **This Run Includes:     65 Source(s);       1 Source Group(s); and     124
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:     65 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with a total of     0 line(s)
                 and:      0 SWPOINT source(s)


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

 **The AERMET Input Meteorological Data Version Date:  16216

 **Output Options Selected:
          Model Outputs Tables of ANNUAL Averages by Receptor
          Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE
Keyword)
          Model Outputs External File(s) of High Values for Plotting (PLOTFILE
Keyword)
          Model Outputs Separate Summary File of High Ranked Values (SUMMFILE
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:  Base Elev. for Pot. Temp. Profile (m MSL) =   245.00 ;  Decay
Coef. =    0.000     ;  Rot. Angle =     0.0
                  Emission Units = GRAMS/SEC                                ;
Emission Rate Unit Factor =   0.10000E+07
                  Output Units   = MICROGRAMS/M**3

 **Approximate Storage Requirements of Model =      3.5 MB of RAM.

 **Input Runstream File:          aermod.inp
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER EMISSION RATE PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY	AIRCRAFT
L0000290	0	0.88480E-05	446165.6	3749186.2	196.8	3.49	14.88	3.25	YES	NO	
L0000291	0	0.88480E-05	446197.3	3749181.5	196.8	3.49	14.88	3.25	YES	NO	
L0000292	0	0.88480E-05	446228.9	3749176.8	196.0	3.49	14.88	3.25	YES	NO	
L0000293	0	0.88480E-05	446260.6	3749172.1	196.1	3.49	14.88	3.25	YES	NO	
L0000294	0	0.88480E-05	446292.2	3749167.4	196.3	3.49	14.88	3.25	YES	NO	
L0000295	0	0.88480E-05	446323.9	3749162.7	196.4	3.49	14.88	3.25	YES	NO	
L0000296	0	0.88480E-05	446355.5	3749157.9	196.0	3.49	14.88	3.25	YES	NO	
L0000297	0	0.88480E-05	446387.2	3749153.2	195.7	3.49	14.88	3.25	YES	NO	
L0000298	0	0.88480E-05	446418.8	3749148.5	195.0	3.49	14.88	3.25	YES	NO	
L0000299	0	0.88480E-05	446450.5	3749143.8	195.0	3.49	14.88	3.25	YES	NO	
L0000300	0	0.88480E-05	446482.1	3749139.1	195.0	3.49	14.88	3.25	YES	NO	

L0000301	0	0.88480E-05	446513.8	3749134.4	195.0	3.49	14.88	
3.25	YES		NO					
L0000302	0	0.88480E-05	446545.5	3749129.7	195.0	3.49	14.88	
3.25	YES		NO					
L0000303	0	0.88480E-05	446577.1	3749125.0	195.0	3.49	14.88	
3.25	YES		NO					
L0000304	0	0.88480E-05	446608.8	3749120.3	195.0	3.49	14.88	
3.25	YES		NO					
L0000305	0	0.88480E-05	446640.4	3749115.6	195.0	3.49	14.88	
3.25	YES		NO					
L0000306	0	0.88480E-05	446672.1	3749110.9	195.0	3.49	14.88	
3.25	YES		NO					
L0000307	0	0.88480E-05	446703.7	3749106.2	195.0	3.49	14.88	
3.25	YES		NO					
L0000308	0	0.88480E-05	446735.4	3749101.5	195.0	3.49	14.88	
3.25	YES		NO					
L0000309	0	0.88480E-05	446767.0	3749096.8	195.3	3.49	14.88	
3.25	YES		NO					
L0000310	0	0.88480E-05	446798.7	3749092.1	195.2	3.49	14.88	
3.25	YES		NO					
L0000311	0	0.88480E-05	446830.3	3749087.4	195.0	3.49	14.88	
3.25	YES		NO					
L0000312	0	0.88480E-05	446862.0	3749082.7	195.0	3.49	14.88	
3.25	YES		NO					
L0000313	0	0.88480E-05	446893.6	3749078.0	195.0	3.49	14.88	
3.25	YES		NO					
L0000314	0	0.88480E-05	446925.3	3749073.3	194.9	3.49	14.88	
3.25	YES		NO					
L0000315	0	0.88480E-05	446956.9	3749068.6	194.7	3.49	14.88	
3.25	YES		NO					
L0000316	0	0.88480E-05	446988.6	3749063.9	195.1	3.49	14.88	
3.25	YES		NO					
L0000317	0	0.88480E-05	447020.2	3749059.2	195.1	3.49	14.88	
3.25	YES		NO					
L0000318	0	0.88480E-05	447051.9	3749054.5	195.0	3.49	14.88	
3.25	YES		NO					
L0000319	0	0.88480E-05	447083.5	3749049.8	194.9	3.49	14.88	
3.25	YES		NO					
L0000320	0	0.88480E-05	447115.2	3749045.1	194.6	3.49	14.88	
3.25	YES		NO					
L0000321	0	0.88480E-05	447146.9	3749040.4	193.3	3.49	14.88	
3.25	YES		NO					
L0000322	0	0.88480E-05	447178.5	3749035.7	191.5	3.49	14.88	
3.25	YES		NO					
L0000323	0	0.13438E-04	446169.8	3749220.9	196.0	3.49	14.88	
3.25	YES		NO					
L0000324	0	0.13438E-04	446201.5	3749216.8	195.7	3.49	14.88	
3.25	YES		NO					
L0000325	0	0.13438E-04	446233.3	3749212.8	195.7	3.49	14.88	
3.25	YES		NO					

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ	URBAN SOURCE ID	EMISSION RATE SCALAR VARY BY	AIRCRAFT
L0000330	0	0.13438E-04	446392.0	3749192.4	195.0	3.49	14.88	3.25	YES	NO	
L0000331	0	0.13438E-04	446423.7	3749188.3	194.6	3.49	14.88	3.25	YES	NO	
L0000332	0	0.13438E-04	446455.5	3749184.2	194.6	3.49	14.88	3.25	YES	NO	
L0000333	0	0.13438E-04	446487.2	3749180.1	194.7	3.49	14.88	3.25	YES	NO	
L0000334	0	0.13438E-04	446518.9	3749176.0	195.0	3.49	14.88	3.25	YES	NO	
L0000335	0	0.13438E-04	446550.7	3749172.0	195.0	3.49	14.88	3.25	YES	NO	
L0000336	0	0.13438E-04	446582.4	3749167.9	194.5	3.49	14.88	3.25	YES	NO	
L0000337	0	0.13438E-04	446614.2	3749163.8	194.4	3.49	14.88	3.25	YES	NO	
L0000338	0	0.13438E-04	446645.9	3749159.7	194.6	3.49	14.88	3.25	YES	NO	
L0000339	0	0.13438E-04	446677.6	3749155.7	194.4	3.49	14.88	3.25	YES	NO	
L0000340	0	0.13438E-04	446709.4	3749151.6	194.6	3.49	14.88	3.25	YES	NO	

```
 L0000341         0   0.13438E-04  446741.1 3749147.5   194.9     3.49    14.88
3.25     YES                    NO
 L0000342         0   0.13438E-04  446772.8 3749143.4   195.0     3.49    14.88
3.25     YES                    NO
 L0000343         0   0.13438E-04  446804.6 3749139.3   194.3     3.49    14.88
3.25     YES                    NO
 L0000344         0   0.13438E-04  446836.3 3749135.3   193.4     3.49    14.88
3.25     YES                    NO
 L0000345         0   0.13438E-04  446868.1 3749131.2   192.7     3.49    14.88
3.25     YES                    NO
 L0000346         0   0.13438E-04  446899.8 3749127.1   192.4     3.49    14.88
3.25     YES                    NO
 L0000347         0   0.13438E-04  446931.5 3749123.0   192.6     3.49    14.88
3.25     YES                    NO
 L0000348         0   0.13438E-04  446963.3 3749118.9   192.6     3.49    14.88
3.25     YES                    NO
 L0000349         0   0.13438E-04  446995.0 3749114.9   193.6     3.49    14.88
3.25     YES                    NO
 L0000350         0   0.13438E-04  447026.8 3749110.8   193.8     3.49    14.88
3.25     YES                    NO
 L0000351         0   0.13438E-04  447058.5 3749106.7   193.2     3.49    14.88
3.25     YES                    NO
 L0000352         0   0.13438E-04  447090.2 3749102.6   193.4     3.49    14.88
3.25     YES                    NO
 L0000353         0   0.13438E-04  447122.0 3749098.5   193.0     3.49    14.88
3.25     YES                    NO
 L0000354         0   0.13438E-04  447153.7 3749094.5   193.8     3.49    14.88
3.25     YES                    NO
```



```
                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

 SRCGROUP ID                                          SOURCE IDs
 -----------                                          ----------


  ALL        L0000290    , L0000291    , L0000292    , L0000293    , L0000294    ,
L0000295    , L0000296    , L0000297    ,

             L0000298    , L0000299    , L0000300    , L0000301    , L0000302    ,
L0000303    , L0000304    , L0000305    ,
```

*** SOURCE IDs DEFINED AS URBAN SOURCES ***

URBAN ID	URBAN POP	SOURCE IDs
	2189641.	L0000290 , L0000291 , L0000292 , L0000293 , L0000294 , L0000295 , L0000296 , L0000297 ,
		L0000298 , L0000299 , L0000300 , L0000301 , L0000302 , L0000303 , L0000304 , L0000305 ,
		L0000306 , L0000307 , L0000308 , L0000309 , L0000310 , L0000311 , L0000312 , L0000313 ,
		L0000314 , L0000315 , L0000316 , L0000317 , L0000318 , L0000319 , L0000320 , L0000321 ,
		L0000322 , L0000323 , L0000324 , L0000325 , L0000326 , L0000327 , L0000328 , L0000329 ,

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

(446596.5, 3749020.4, 195.0, 195.0, 0.0); (446605.3, 3749020.4, 195.0, 195.0, 0.0);
(446614.2, 3749020.4, 195.0, 195.0, 0.0); (446598.9, 3749026.0, 195.0, 195.0, 0.0);
(446605.3, 3749025.8, 195.0, 195.0, 0.0); (446614.2, 3749025.8, 195.0, 195.0, 0.0);
(446472.3, 3749031.2, 196.0, 196.0, 0.0); (446598.9, 3749031.4, 195.0, 195.0, 0.0);
(446605.3, 3749031.2, 195.0, 195.0, 0.0); (446614.2, 3749031.2, 195.0, 195.0, 0.0);
(446472.3, 3749036.6, 196.0, 196.0, 0.0); (446569.9, 3749036.6, 195.0, 195.0, 0.0);
(446578.7, 3749036.6, 195.0, 195.0, 0.0); (446587.6, 3749036.6, 195.0, 195.0, 0.0);
(446598.9, 3749036.7, 195.0, 195.0, 0.0); (446605.3, 3749036.6, 195.0, 195.0, 0.0);
(446614.2, 3749036.6, 195.0, 195.0, 0.0); (446472.3, 3749041.9, 196.0, 196.0, 0.0);
(446534.4, 3749041.9, 195.0, 195.0, 0.0); (446543.3, 3749041.9, 195.0, 195.0, 0.0);
(446552.1, 3749041.9, 195.0, 195.0, 0.0); (446561.0, 3749041.9, 195.0, 195.0, 0.0);
(446569.9, 3749041.9, 195.0, 195.0, 0.0); (446578.7, 3749041.9, 195.0, 195.0, 0.0);
(446587.6, 3749041.9, 195.0, 195.0, 0.0); (446598.9, 3749042.1, 195.0, 195.0, 0.0);
(446605.3, 3749041.9, 195.0, 195.0, 0.0); (446614.2,

```
3749041.9,     195.0,     195.0,       0.0);
     ( 446472.3, 3749047.3,     195.9,     195.9,       0.0);         ( 446676.2,
3749062.0,     195.0,     195.0,       0.0);
     ( 446490.0, 3749047.3,     195.5,     195.5,       0.0);         ( 446498.9,
3749047.3,     195.3,     195.3,       0.0);
     ( 446507.8, 3749047.3,     195.2,     195.2,       0.0);         ( 446516.6,
3749047.3,     195.1,     195.1,       0.0);
     ( 446525.5, 3749047.3,     195.0,     195.0,       0.0);         ( 446534.4,
3749047.3,     195.0,     195.0,       0.0);
     ( 446543.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446552.1,
3749047.3,     195.0,     195.0,       0.0);
     ( 446561.0, 3749047.3,     195.0,     195.0,       0.0);         ( 446569.9,
3749047.3,     195.0,     195.0,       0.0);
     ( 446578.7, 3749047.3,     195.0,     195.0,       0.0);         ( 446587.6,
3749047.3,     195.0,     195.0,       0.0);
     ( 446605.3, 3749047.3,     195.0,     195.0,       0.0);         ( 446614.2,
3749047.3,     195.0,     195.0,       0.0);
     ( 446472.3, 3749052.7,     195.9,     195.9,       0.0);         ( 446658.5,
3749059.7,     195.0,     195.0,       0.0);
     ( 446490.0, 3749052.7,     195.4,     195.4,       0.0);         ( 446498.9,
3749052.7,     195.1,     195.1,       0.0);
     ( 446507.8, 3749052.7,     195.1,     195.1,       0.0);         ( 446516.6,
3749052.7,     195.1,     195.1,       0.0);
     ( 446525.5, 3749052.7,     195.0,     195.0,       0.0);         ( 446534.4,
3749052.7,     195.0,     195.0,       0.0);
     ( 446543.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446552.1,
3749052.7,     195.0,     195.0,       0.0);
     ( 446561.0, 3749052.7,     195.0,     195.0,       0.0);         ( 446569.9,
3749052.7,     195.0,     195.0,       0.0);
     ( 446578.7, 3749052.7,     195.0,     195.0,       0.0);         ( 446587.6,
3749052.7,     195.0,     195.0,       0.0);
     ( 446605.3, 3749052.7,     195.0,     195.0,       0.0);         ( 446614.2,
3749052.7,     195.0,     195.0,       0.0);
     ( 446472.3, 3749058.1,     195.9,     195.9,       0.0);         ( 446659.3,
3749065.4,     195.0,     195.0,       0.0);
     ( 446490.0, 3749058.1,     195.3,     195.3,       0.0);         ( 446498.9,
3749058.1,     195.0,     195.0,       0.0);
     ( 446507.8, 3749058.1,     195.0,     195.0,       0.0);         ( 446516.6,
3749058.1,     195.0,     195.0,       0.0);
     ( 446525.5, 3749058.1,     195.0,     195.0,       0.0);         ( 446534.4,
3749058.1,     195.0,     195.0,       0.0);
     ( 446543.3, 3749058.1,     195.0,     195.0,       0.0);         ( 446552.1,
3749058.1,     195.0,     195.0,       0.0);
     ( 446561.0, 3749058.1,     195.0,     195.0,       0.0);         ( 446569.9,
3749058.1,     195.0,     195.0,       0.0);
     ( 446578.7, 3749058.1,     195.0,     195.0,       0.0);         ( 446587.6,
3749058.1,     195.0,     195.0,       0.0);
     ( 446605.3, 3749058.1,     195.0,     195.0,       0.0);         ( 446614.2,
3749058.1,     195.0,     195.0,       0.0);
     ( 446472.3, 3749063.5,     195.7,     195.7,       0.0);         ( 446666.0,
```

3749063.8,   195.0,   195.0,   0.0);
     (446490.0, 3749063.5,   195.2,   195.2,   0.0);   (446498.9,
3749063.5,   195.0,   195.0,   0.0);
     (446507.8, 3749063.5,   195.0,   195.0,   0.0);   (446516.6,
3749063.5,   195.0,   195.0,   0.0);
     (446525.5, 3749063.5,   195.0,   195.0,   0.0);   (446534.4,
3749063.5,   195.0,   195.0,   0.0);
     (446543.3, 3749063.5,   195.0,   195.0,   0.0);   (446552.1,
3749063.5,   195.0,   195.0,   0.0);
     (446561.0, 3749063.5,   195.0,   195.0,   0.0);   (446569.9,
3749063.5,   195.0,   195.0,   0.0);
     (446578.7, 3749063.5,   195.0,   195.0,   0.0);   (446587.6,
3749063.5,   195.0,   195.0,   0.0);

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

     (446605.3, 3749063.5,   195.0,   195.0,   0.0);   (446614.2,
3749063.5,   195.0,   195.0,   0.0);
     (446472.3, 3749068.8,   195.5,   195.5,   0.0);   (446651.3,
3749061.4,   195.0,   195.0,   0.0);
     (446490.0, 3749068.8,   195.2,   195.2,   0.0);   (446498.9,
3749068.8,   195.0,   195.0,   0.0);
     (446507.8, 3749068.8,   195.0,   195.0,   0.0);   (446516.6,
3749068.8,   195.0,   195.0,   0.0);
     (446525.5, 3749068.8,   195.0,   195.0,   0.0);   (446534.4,
3749068.8,   195.0,   195.0,   0.0);
     (446543.3, 3749068.8,   195.0,   195.0,   0.0);   (446552.1,
3749068.8,   195.0,   195.0,   0.0);
     (446561.0, 3749068.8,   195.0,   195.0,   0.0);   (446569.9,
3749068.8,   195.0,   195.0,   0.0);
     (446578.7, 3749068.8,   195.0,   195.0,   0.0);   (446587.6,
3749068.8,   195.0,   195.0,   0.0);
     (446605.3, 3749068.8,   195.0,   195.0,   0.0);   (446614.2,
3749068.8,   195.0,   195.0,   0.0);
     (446477.1, 3749066.8,   195.5,   195.5,   0.0);   (446651.3,
3749066.8,   195.0,   195.0,   0.0);
     (446490.0, 3749074.2,   195.1,   195.1,   0.0);   (446498.9,
3749074.2,   195.0,   195.0,   0.0);
     (446507.8, 3749074.2,   195.0,   195.0,   0.0);   (446516.6,
3749074.2,   195.0,   195.0,   0.0);
     (446525.5, 3749074.2,   195.0,   195.0,   0.0);   (446534.4,

3749074.2,   195.0,   195.0,   0.0);
     (446543.3, 3749074.2,   195.0,   195.0,   0.0);   (446552.1,
3749074.2,   195.0,   195.0,   0.0);
     (446561.0, 3749074.2,   195.0,   195.0,   0.0);   (446569.9,
3749074.2,   195.0,   195.0,   0.0);
     (446578.7, 3749074.2,   195.0,   195.0,   0.0);   (446587.6,
3749074.2,   195.0,   195.0,   0.0);
     (446674.8, 3749056.4,   195.0,   195.0,   0.0);   (446665.9,
3749058.2,   195.0,   195.0,   0.0);

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** METEOROLOGICAL DAYS SELECTED FOR PROCESSING ***

(1=YES; 0=NO)

1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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

*** UPPER BOUND OF FIRST THROUGH FIFTH WIND SPEED CATEGORIES ***

(METERS/SEC)

1.54,   3.09,   5.14,   8.23,
10.80,

```
 *** AERMET - VERSION  16216 ***   ***
                       ***         12:42:54

                                   PAGE   9
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

   Surface file:   ..\KRAL_V9_ADJU\KRAL_V9.SFC
                  Met Version:  16216
   Profile file:   ..\KRAL_V9_ADJU\KRAL_V9.PFL

   Surface format: FREE

   Profile format: FREE

   Surface station no.:     3171                  Upper air station no.:     3190
                  Name: UNKNOWN                                Name: UNKNOWN

                  Year:   2012                                 Year:   2012

 First 24 hours of scalar data
 YR MO DY JDY HR     H0     U*     W*  DT/DZ ZICNV ZIMCH  M-O LEN    Z0  BOWEN
ALBEDO  REF WS   WD     HT  REF TA     HT
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - -
 12 01 01   1 01  -25.6  0.266 -9.000 -9.000 -999.  330.     77.9  0.15   2.40
1.00    2.93   55.   10.1  288.1    2.0
 12 01 01   1 02  -26.8  0.277 -9.000 -9.000 -999.  351.     84.7  0.15   2.40
1.00    3.05   55.   10.1  287.0    2.0
 12 01 01   1 03  -21.5  0.221 -9.000 -9.000 -999.  250.     53.5  0.15   2.40
1.00    2.45   74.   10.1  284.2    2.0
 12 01 01   1 04  -22.0  0.227 -9.000 -9.000 -999.  260.     56.8  0.15   2.40
1.00    2.52   77.   10.1  285.9    2.0
 12 01 01   1 05  -20.0  0.206 -9.000 -9.000 -999.  225.     46.8  0.15   2.40
1.00    2.30   80.   10.1  285.4    2.0
 12 01 01   1 06  -14.4  0.171 -9.000 -9.000 -999.  170.     32.1  0.15   2.40
1.00    1.93   79.   10.1  287.0    2.0
 12 01 01   1 07  -14.9  0.174 -9.000 -9.000 -999.  174.     33.2  0.15   2.40
1.00    1.96   77.   10.1  284.2    2.0
 12 01 01   1 08  -11.9  0.169 -9.000 -9.000 -999.  167.     36.1  0.15   2.40
0.53    1.89   77.   10.1  288.1    2.0
 12 01 01   1 09   40.4  0.234  0.359  0.006   40.  272.    -28.1  0.15   2.40
0.31    2.10   81.   10.1  289.2    2.0
 12 01 01   1 10  112.6  0.246  0.742  0.005  129.  293.    -11.8  0.15   2.40
0.24    1.99  101.   10.1  296.4    2.0
 12 01 01   1 11  161.0  0.402  1.188  0.005  369.  611.    -35.6  0.15   2.40
0.21    3.68   78.   10.1  298.8    2.0
 12 01 01   1 12  184.7  0.337  1.516  0.005  668.  473.    -18.4  0.15   2.40
```

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0.20    2.89   68.   10.1  300.4    2.0
 12 01 01   1 13  183.9  0.310  1.809  0.005 1139.  414.    -14.2  0.15   2.40
0.20    2.57   64.   10.1  302.5    2.0
 12 01 01   1 14  156.6  0.374  1.852  0.005 1434.  549.    -29.5  0.15   2.40
0.22    3.37   63.   10.1  303.1    2.0
 12 01 01   1 15  104.3  0.382  1.658  0.005 1546.  567.    -47.2  0.15   2.40
0.25    3.59   62.   10.1  302.5    2.0
 12 01 01   1 16   31.8  0.374  1.123  0.005 1573.  550.   -145.8  0.15   2.40
0.34    3.76   69.   10.1  300.9    2.0
 12 01 01   1 17  -23.3  0.276 -9.000 -9.000 -999.  354.     84.0  0.15   2.40
0.62    3.03   59.   10.1  297.5    2.0
 12 01 01   1 18  -21.5  0.229 -9.000 -9.000 -999.  264.     57.8  0.15   2.40
1.00    2.54   54.   10.1  295.4    2.0
 12 01 01   1 19  -19.3  0.204 -9.000 -9.000 -999.  221.     45.6  0.15   2.40
1.00    2.27   79.   10.1  292.0    2.0
 12 01 01   1 20  -20.7  0.218 -9.000 -9.000 -999.  244.     52.2  0.15   2.40
1.00    2.42   79.   10.1  292.5    2.0
 12 01 01   1 21  -19.7  0.206 -9.000 -9.000 -999.  225.     46.9  0.15   2.40
1.00    2.30   95.   10.1  290.9    2.0
 12 01 01   1 22  -17.6  0.190 -9.000 -9.000 -999.  199.     39.8  0.15   2.40
1.00    2.13   78.   10.1  290.4    2.0
 12 01 01   1 23  -20.3  0.211 -9.000 -9.000 -999.  233.     49.0  0.15   2.40
1.00    2.35   52.   10.1  289.2    2.0
 12 01 01   1 24  -16.4  0.183 -9.000 -9.000 -999.  189.     37.0  0.15   2.40
1.00    2.06   75.   10.1  288.8    2.0


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 12 01 01 01   10.1 1   55.    2.93   288.2   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
↑ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGGAS\15669 TOGGAS.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:42:54

                                   PAGE  10
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                   *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
YEARS FOR SOURCE GROUP: ALL      ***
                                    INCLUDING SOURCE(S):     L0000290    , L0000291
 , L0000292    , L0000293    , L0000294    ,
                  L0000295    , L0000296    , L0000297    , L0000298    , L0000299
 , L0000300    , L0000301    , L0000302    ,
                  L0000303    , L0000304    , L0000305    , L0000306    , L0000307
 , L0000308    , L0000309    , L0000310    ,
                  L0000311    , L0000312    , L0000313    , L0000314    , L0000315
 , L0000316    , L0000317    ,  . . .      ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
446596.48	3749020.42	0.01155	446605.35	3749020.42	0.01169
446614.22	3749020.42	0.01183	446598.94	3749025.98	0.01216
446605.35	3749025.80	0.01225	446614.22	3749025.80	0.01240
446472.30	3749031.18	0.01060	446598.94	3749031.36	0.01277
446605.35	3749031.18	0.01287	446614.22	3749031.18	0.01303
446472.30	3749036.56	0.01108	446569.87	3749036.56	0.01285
446578.74	3749036.56	0.01302	446587.61	3749036.56	0.01319
446598.94	3749036.74	0.01344	446605.35	3749036.56	0.01355
446614.22	3749036.56	0.01373	446472.30	3749041.94	0.01160
446534.39	3749041.94	0.01281	446543.26	3749041.94	0.01298
446552.13	3749041.94	0.01316	446561.00	3749041.94	0.01334
446569.87	3749041.94	0.01353	446578.74	3749041.94	0.01371
446587.61	3749041.94	0.01390	446598.94	3749042.12	0.01418
446605.35	3749041.94	0.01429	446614.22	3749041.94	0.01449
446472.30	3749047.32	0.01218	446676.23	3749062.03	0.02072
446490.04	3749047.32	0.01255	446498.91	3749047.32	0.01273
446507.78	3749047.32	0.01292	446516.65	3749047.32	0.01310
446525.52	3749047.32	0.01329	446534.39	3749047.32	0.01348
446543.26	3749047.32	0.01368	446552.13	3749047.32	0.01387
446561.00	3749047.32	0.01407	446569.87		

```
3749047.32        0.01428
         446578.74    3749047.32        0.01448                      446587.61
3749047.32        0.01469
         446605.35    3749047.32        0.01512                      446614.22
3749047.32        0.01535
         446472.30    3749052.70        0.01280                      446658.47
3749059.67        0.01932
         446490.04    3749052.70        0.01321                      446498.91
3749052.70        0.01341
         446507.78    3749052.70        0.01361                      446516.65
3749052.70        0.01382
         446525.52    3749052.70        0.01402                      446534.39
3749052.70        0.01423
         446543.26    3749052.70        0.01445                      446552.13
3749052.70        0.01466
         446561.00    3749052.70        0.01489                      446569.87
3749052.70        0.01511
         446578.74    3749052.70        0.01534                      446587.61
3749052.70        0.01557
         446605.35    3749052.70        0.01606                      446614.22
3749052.70        0.01630
         446472.30    3749058.08        0.01350                      446659.35
3749065.41        0.02101
         446490.04    3749058.08        0.01394                      446498.91
3749058.08        0.01416
         446507.78    3749058.08        0.01438                      446516.65
3749058.08        0.01461
         446525.52    3749058.08        0.01484                      446534.39
3749058.08        0.01507
         446543.26    3749058.08        0.01531                      446552.13
3749058.08        0.01555
         446561.00    3749058.08        0.01579                      446569.87
3749058.08        0.01604
         446578.74    3749058.08        0.01630                      446587.61
3749058.08        0.01656
         446605.35    3749058.08        0.01711                      446614.22
3749058.08        0.01739
         446472.30    3749063.46        0.01427                      446666.03
3749063.75        0.02079
         446490.04    3749063.46        0.01475                      446498.91
3749063.46        0.01500
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGGAS\15669 TOGGAS.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:42:54

                                  PAGE  11
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                  *** THE ANNUAL AVERAGE CONCENTRATION    VALUES AVERAGED OVER   5
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YEARS FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000290 , L0000291
, L0000292 , L0000293 , L0000294 ,
L0000295 , L0000296 , L0000297 , L0000298 , L0000299
, L0000300 , L0000301 , L0000302 ,
L0000303 , L0000304 , L0000305 , L0000306 , L0000307
, L0000308 , L0000309 , L0000310 ,
L0000311 , L0000312 , L0000313 , L0000314 , L0000315
, L0000316 , L0000317 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
446507.78	3749063.46	0.01524	446516.65	3749063.46	0.01549
446525.52	3749063.46	0.01575	446534.39	3749063.46	0.01600
446543.26	3749063.46	0.01627	446552.13	3749063.46	0.01654
446561.00	3749063.46	0.01682	446569.87	3749063.46	0.01710
446578.74	3749063.46	0.01739	446587.61	3749063.46	0.01768
446605.35	3749063.46	0.01830	446614.22	3749063.46	0.01862
446472.30	3749068.84	0.01514	446651.26	3749061.39	0.01950
446490.04	3749068.84	0.01567	446498.91	3749068.84	0.01593
446507.78	3749068.84	0.01621	446516.65	3749068.84	0.01649
446525.52	3749068.84	0.01677	446534.39	3749068.84	0.01706
446543.26	3749068.84	0.01736	446552.13	3749068.84	0.01766
446561.00	3749068.84	0.01798	446569.87	3749068.84	0.01830
446578.74	3749068.84	0.01863	446587.61	3749068.84	0.01897
446605.35	3749068.84	0.01968	446614.22	3749068.84	0.02005
446477.06	3749066.77	0.01493	446651.26	3749066.77	0.02106

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         446490.04    3749074.22        0.01669                      446498.91
3749074.22        0.01699
         446507.78    3749074.22        0.01730                      446516.65
3749074.22        0.01762
         446525.52    3749074.22        0.01794                      446534.39
3749074.22        0.01827
         446543.26    3749074.22        0.01861                      446552.13
3749074.22        0.01895
         446561.00    3749074.22        0.01931                      446569.87
3749074.22        0.01968
         446578.74    3749074.22        0.02006                      446587.61
3749074.22        0.02045
         446674.83    3749056.45        0.01910                      446665.93
3749058.21        0.01922
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGGAS\15669 TOGGAS.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:42:54

                                   PAGE  12
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000290    , L0000291
 , L0000292    , L0000293    , L0000294    ,
                 L0000295    , L0000296    , L0000297    , L0000298    , L0000299
 , L0000300    , L0000301    , L0000302    ,
                 L0000303    , L0000304    , L0000305    , L0000306    , L0000307
 , L0000308    , L0000309    , L0000310    ,
                 L0000311    , L0000312    , L0000313    , L0000314    , L0000315
 , L0000316    , L0000317    ,  . . .      ,

                                     *** DISCRETE CARTESIAN RECEPTOR POINTS
***

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

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
 - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
        446596.48   3749020.42        0.03294  (13041207)               446605.35
 3749020.42        0.03329  (13041207)
        446614.22   3749020.42        0.03364  (13041207)               446598.94
 3749025.98        0.03467  (13041207)
        446605.35   3749025.80        0.03489  (13041207)               446614.22
 3749025.80        0.03528  (13041207)
        446472.30   3749031.18        0.03110  (13041207)               446598.94
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3749031.36        0.03640  (13041207)
       446605.35   3749031.18        0.03664  (13041207)               446614.22
3749031.18        0.03707  (13041207)
       446472.30   3749036.56        0.03251  (13041207)               446569.87
3749036.56        0.03679  (13041207)
       446578.74   3749036.56        0.03722  (13041207)               446587.61
3749036.56        0.03766  (13041207)
       446598.94   3749036.74        0.03830  (13041207)               446605.35
3749036.56        0.03856  (13041207)
       446614.22   3749036.56        0.03903  (13041207)               446472.30
3749041.94        0.03404  (13041207)
       446534.39   3749041.94        0.03693  (13041207)               446543.26
3749041.94        0.03737  (13041207)
       446552.13   3749041.94        0.03781  (13041207)               446561.00
3749041.94        0.03826  (13041207)
       446569.87   3749041.94        0.03873  (13041207)               446578.74
3749041.94        0.03920  (13041207)
       446587.61   3749041.94        0.03968  (13041207)               446598.94
3749042.12        0.04038  (13041207)
       446605.35   3749041.94        0.04068  (13041207)               446614.22
3749041.94        0.04120  (13041207)
       446472.30   3749047.32        0.03571  (13041207)               446676.23
3749062.03        0.05768  (13041207)
       446490.04   3749047.32        0.03648  (13041207)               446498.91
3749047.32        0.03699  (13041207)
       446507.78   3749047.32        0.03748  (13041207)               446516.65
3749047.32        0.03795  (13041207)
       446525.52   3749047.32        0.03841  (13041207)               446534.39
3749047.32        0.03887  (13041207)
       446543.26   3749047.32        0.03935  (13041207)               446552.13
3749047.32        0.03985  (13041207)
       446561.00   3749047.32        0.04035  (13041207)               446569.87
3749047.32        0.04085  (13041207)
       446578.74   3749047.32        0.04137  (13041207)               446587.61
3749047.32        0.04190  (13041207)
       446605.35   3749047.32        0.04301  (13041207)               446614.22
3749047.32        0.04359  (13041207)
       446472.30   3749052.70        0.03753  (13041207)               446658.47
3749059.67        0.05417  (13041207)
       446490.04   3749052.70        0.03841  (13041207)               446498.91
3749052.70        0.03898  (13041207)
       446507.78   3749052.70        0.03948  (13041207)               446516.65
3749052.70        0.03999  (13041207)
       446525.52   3749052.70        0.04050  (13041207)               446534.39
3749052.70        0.04101  (13041207)
       446543.26   3749052.70        0.04155  (13041207)               446552.13
3749052.70        0.04209  (13041207)
       446561.00   3749052.70        0.04264  (13041207)               446569.87
3749052.70        0.04321  (13041207)
       446578.74   3749052.70        0.04378  (13041207)               446587.61
```

```
 3749052.70         0.04437  (13041207)
       446605.35   3749052.70         0.04560  (13041207)                446614.22
 3749052.70         0.04625  (13041207)
       446472.30   3749058.08         0.03954  (13041207)                446659.35
 3749065.41         0.05851  (13041207)
       446490.04   3749058.08         0.04054  (13041207)                446498.91
 3749058.08         0.04114  (13041207)
       446507.78   3749058.08         0.04168  (13041207)                446516.65
 3749058.08         0.04223  (13041207)
       446525.52   3749058.08         0.04280  (13041207)                446534.39
 3749058.08         0.04338  (13041207)
       446543.26   3749058.08         0.04397  (13041207)                446552.13
 3749058.08         0.04458  (13041207)
       446561.00   3749058.08         0.04519  (13041207)                446569.87
 3749058.08         0.04582  (13041207)
       446578.74   3749058.08         0.04646  (13041207)                446587.61
 3749058.08         0.04712  (13041207)
       446605.35   3749058.08         0.04849  (13041207)                446614.22
 3749058.08         0.04921  (13041207)
       446472.30   3749063.46         0.04173  (13041207)                446666.03
 3749063.75         0.05795  (13041207)
       446490.04   3749063.46         0.04287  (13041207)                446498.91
 3749063.46         0.04352  (13041207)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGGAS\15669 TOGGAS.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:42:54

                                   PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                               *** THE   1ST HIGHEST  1-HR AVERAGE CONCENTRATION
VALUES FOR SOURCE GROUP:  ALL      ***
                                  INCLUDING SOURCE(S):     L0000290    , L0000291
 , L0000292    , L0000293    , L0000294    ,
                 L0000295    , L0000296    , L0000297    , L0000298    , L0000299
 , L0000300    , L0000301    , L0000302    ,
                 L0000303    , L0000304    , L0000305    , L0000306    , L0000307
 , L0000308    , L0000309    , L0000310    ,
                 L0000311    , L0000312    , L0000313    , L0000314    , L0000315
 , L0000316    , L0000317    ,  . . .      ,

                                              *** DISCRETE CARTESIAN RECEPTOR POINTS
***

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

      X-COORD (M)  Y-COORD (M)        CONC     (YYMMDDHH)              X-COORD (M)
Y-COORD (M)        CONC     (YYMMDDHH)
```

- -
446507.78 3749063.46 0.04412 (13041207) 446516.65
3749063.46 0.04473 (13041207)
446525.52 3749063.46 0.04536 (13041207) 446534.39
3749063.46 0.04601 (13041207)
446543.26 3749063.46 0.04667 (13041207) 446552.13
3749063.46 0.04734 (13041207)
446561.00 3749063.46 0.04803 (13041207) 446569.87
3749063.46 0.04873 (13041207)
446578.74 3749063.46 0.04945 (13041207) 446587.61
3749063.46 0.05018 (13041207)
446605.35 3749063.46 0.05173 (13041207) 446614.22
3749063.46 0.05253 (13041207)
446472.30 3749068.84 0.04413 (13041207) 446651.26
3749061.39 0.05468 (13041207)
446490.04 3749068.84 0.04547 (13041207) 446498.91
3749068.84 0.04616 (13041207)
446507.78 3749068.84 0.04683 (13041207) 446516.65
3749068.84 0.04751 (13041207)
446525.52 3749068.84 0.04821 (13041207) 446534.39
3749068.84 0.04893 (13041207)
446543.26 3749068.84 0.04968 (13041207) 446552.13
3749068.84 0.05043 (13041207)
446561.00 3749068.84 0.05120 (13041207) 446569.87
3749068.84 0.05199 (13041207)
446578.74 3749068.84 0.05280 (13041207) 446587.61
3749068.84 0.05362 (13041207)
446605.35 3749068.84 0.05536 (13041207) 446614.22
3749068.84 0.05627 (13041207)
446477.06 3749066.77 0.04345 (13041207) 446651.26
3749066.77 0.05870 (13041207)
446490.04 3749074.22 0.04836 (13041207) 446498.91
3749074.22 0.04911 (13041207)
446507.78 3749074.22 0.04986 (13041207) 446516.65
3749074.22 0.05062 (13041207)
446525.52 3749074.22 0.05140 (13041207) 446534.39
3749074.22 0.05221 (13041207)
446543.26 3749074.22 0.05305 (13041207) 446552.13
3749074.22 0.05389 (13041207)
446561.00 3749074.22 0.05476 (13041207) 446569.87
3749074.22 0.05566 (13041207)
446578.74 3749074.22 0.05658 (13041207) 446587.61
3749074.22 0.05749 (13041207)
446674.83 3749056.45 0.05350 (13041207) 446665.93
3749058.21 0.05388 (13041207)

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

INCLUDING SOURCE(S): L0000290 , L0000291 , L0000292 , L0000293 , L0000294 , L0000295 , L0000296 , L0000297 , L0000298 , L0000299 , L0000300 , L0000301 , L0000302 , L0000303 , L0000304 , L0000305 , L0000306 , L0000307 , L0000308 , L0000309 , L0000310 , L0000311 , L0000312 , L0000313 , L0000314 , L0000315 , L0000316 , L0000317 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC (YYMMDDHH)
446596.48	3749020.42	0.02711c (12121708)	446605.35	3749020.42	0.02739c (12121708)
446614.22	3749020.42	0.02767c (12121708)	446598.94	3749025.98	0.02840c (12121708)
446605.35	3749025.80	0.02857c (12121708)	446614.22	3749025.80	0.02887c (12121708)
446472.30	3749031.18	0.02524c (12121708)	446598.94	3749031.36	0.02967c (12121708)
446605.35	3749031.18	0.02986c (12121708)	446614.22	3749031.18	0.03018c (12121708)
446472.30	3749036.56	0.02628c (12121708)	446569.87	3749036.56	0.02987c (12121708)
446578.74	3749036.56	0.03021c (12121708)	446587.61	3749036.56	0.03056c (12121708)
446598.94	3749036.74	0.03106c (12121708)	446605.35	3749036.56	0.03126c (12121708)
446614.22	3749036.56	0.03162c (12121708)	446472.30	3749041.94	0.02740c (12121708)
446534.39	3749041.94	0.02983c (12121708)	446543.26	3749041.94	0.03019c (12121708)
446552.13	3749041.94	0.03055c (12121708)	446561.00	3749041.94	0.03092c (12121708)
446569.87	3749041.94	0.03128c (12121708)	446578.74	3749041.94	0.03166c (12121708)
446587.61	3749041.94	0.03204c (12121708)	446598.94		

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3749042.12        0.03258c (12121708)
       446605.35   3749041.94        0.03281c (12121708)              446614.22
3749041.94        0.03320c (12121708)
       446472.30   3749047.32        0.02862c (12121708)              446676.23
3749062.03        0.04562c (12121708)
       446490.04   3749047.32        0.02936c (12121708)              446498.91
3749047.32        0.02973c (12121708)
       446507.78   3749047.32        0.03011c (12121708)              446516.65
3749047.32        0.03049c (12121708)
       446525.52   3749047.32        0.03087c (12121708)              446534.39
3749047.32        0.03125c (12121708)
       446543.26   3749047.32        0.03164c (12121708)              446552.13
3749047.32        0.03203c (12121708)
       446561.00   3749047.32        0.03243c (12121708)              446569.87
3749047.32        0.03284c (12121708)
       446578.74   3749047.32        0.03325c (12121708)              446587.61
3749047.32        0.03366c (12121708)
       446605.35   3749047.32        0.03451c (12121708)              446614.22
3749047.32        0.03495c (12121708)
       446472.30   3749052.70        0.02996c (12121708)              446658.47
3749059.67        0.04287c (12121708)
       446490.04   3749052.70        0.03075c (12121708)              446498.91
3749052.70        0.03116c (12121708)
       446507.78   3749052.70        0.03156c (12121708)              446516.65
3749052.70        0.03197c (12121708)
       446525.52   3749052.70        0.03239c (12121708)              446534.39
3749052.70        0.03281c (12121708)
       446543.26   3749052.70        0.03324c (12121708)              446552.13
3749052.70        0.03367c (12121708)
       446561.00   3749052.70        0.03411c (12121708)              446569.87
3749052.70        0.03455c (12121708)
       446578.74   3749052.70        0.03500c (12121708)              446587.61
3749052.70        0.03546c (12121708)
       446605.35   3749052.70        0.03641c (12121708)              446614.22
3749052.70        0.03690c (12121708)
       446472.30   3749058.08        0.03142c (12121708)              446659.35
3749065.41        0.04623c (12121708)
       446490.04   3749058.08        0.03228c (12121708)              446498.91
3749058.08        0.03272c (12121708)
       446507.78   3749058.08        0.03317c (12121708)              446516.65
3749058.08        0.03362c (12121708)
       446525.52   3749058.08        0.03407c (12121708)              446534.39
3749058.08        0.03453c (12121708)
       446543.26   3749058.08        0.03500c (12121708)              446552.13
3749058.08        0.03548c (12121708)
       446561.00   3749058.08        0.03597c (12121708)              446569.87
3749058.08        0.03646c (12121708)
       446578.74   3749058.08        0.03696c (12121708)              446587.61
3749058.08        0.03748c (12121708)
       446605.35   3749058.08        0.03854c (12121708)              446614.22
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** THE 1ST HIGHEST 8-HR AVERAGE CONCENTRATION VALUES FOR SOURCE GROUP: ALL ***
INCLUDING SOURCE(S): L0000290 , L0000291 , L0000292 , L0000293 , L0000294 ,
L0000295 , L0000296 , L0000297 , L0000298 , L0000299 , L0000300 , L0000301 , L0000302 ,
L0000303 , L0000304 , L0000305 , L0000306 , L0000307 , L0000308 , L0000309 , L0000310 ,
L0000311 , L0000312 , L0000313 , L0000314 , L0000315 , L0000316 , L0000317 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)	X-COORD (M)	Y-COORD (M)	CONC	(YYMMDDHH)
446507.78	3749063.46	0.03494c	(12121708)	446516.65	3749063.46	0.03544c	(12121708)
446525.52	3749063.46	0.03594c	(12121708)	446534.39	3749063.46	0.03645c	(12121708)
446543.26	3749063.46	0.03697c	(12121708)	446552.13	3749063.46	0.03751c	(12121708)
446561.00	3749063.46	0.03805c	(12121708)	446569.87	3749063.46	0.03860c	(12121708)
446578.74	3749063.46	0.03917c	(12121708)	446587.61	3749063.46	0.03975c	(12121708)
446605.35	3749063.46	0.04095c	(12121708)	446614.22	3749063.46	0.04157c	(12121708)
446472.30	3749068.84	0.03481c	(12121708)	446651.26	3749061.39	0.04324c	(12121708)
446490.04	3749068.84	0.03585c	(12121708)	446498.91	3749068.84	0.03638c	(12121708)

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       446507.78   3749068.84        0.03692c (12121708)               446516.65
 3749068.84        0.03747c (12121708)
       446525.52   3749068.84        0.03803c (12121708)               446534.39
 3749068.84        0.03861c (12121708)
       446543.26   3749068.84        0.03919c (12121708)               446552.13
 3749068.84        0.03979c (12121708)
       446561.00   3749068.84        0.04040c (12121708)               446569.87
 3749068.84        0.04103c (12121708)
       446578.74   3749068.84        0.04167c (12121708)               446587.61
 3749068.84        0.04233c (12121708)
       446605.35   3749068.84        0.04371c (12121708)               446614.22
 3749068.84        0.04443c (12121708)
       446477.06   3749066.77        0.03437c (12121708)               446651.26
 3749066.77        0.04636c (12121708)
       446490.04   3749074.22        0.03796c (12121708)               446498.91
 3749074.22        0.03855c (12121708)
       446507.78   3749074.22        0.03915c (12121708)               446516.65
 3749074.22        0.03977c (12121708)
       446525.52   3749074.22        0.04040c (12121708)               446534.39
 3749074.22        0.04105c (12121708)
       446543.26   3749074.22        0.04171c (12121708)               446552.13
 3749074.22        0.04239c (12121708)
       446561.00   3749074.22        0.04308c (12121708)               446569.87
 3749074.22        0.04380c (12121708)
       446578.74   3749074.22        0.04454c (12121708)               446587.61
 3749074.22        0.04530c (12121708)
       446674.83   3749056.45        0.04239c (12121708)               446665.93
 3749058.21        0.04265c (12121708)
 *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGGAS\15669 TOGGAS.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                        ***        12:42:54

                                   PAGE  16
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                   *** THE SUMMARY OF MAXIMUM ANNUAL RESULTS
AVERAGED OVER   5 YEARS ***


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


                        NETWORK
GROUP ID                      AVERAGE CONC               RECEPTOR  (XR, YR,
ZELEV, ZHILL, ZFLAG)  OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - -
```

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ALL       1ST HIGHEST VALUE IS       0.02106 AT (  446651.26,  3749066.77,
195.00,   195.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.02101 AT (  446659.35,  3749065.41,
195.00,   195.00,    0.00)  DC
          3RD HIGHEST VALUE IS       0.02079 AT (  446666.03,  3749063.75,
195.00,   195.00,    0.00)  DC
          4TH HIGHEST VALUE IS       0.02072 AT (  446676.23,  3749062.03,
195.00,   195.00,    0.00)  DC
          5TH HIGHEST VALUE IS       0.02045 AT (  446587.61,  3749074.22,
195.00,   195.00,    0.00)  DC
          6TH HIGHEST VALUE IS       0.02006 AT (  446578.74,  3749074.22,
195.00,   195.00,    0.00)  DC
          7TH HIGHEST VALUE IS       0.02005 AT (  446614.22,  3749068.84,
195.00,   195.00,    0.00)  DC
          8TH HIGHEST VALUE IS       0.01968 AT (  446569.87,  3749074.22,
195.00,   195.00,    0.00)  DC
          9TH HIGHEST VALUE IS       0.01968 AT (  446605.35,  3749068.84,
195.00,   195.00,    0.00)  DC
         10TH HIGHEST VALUE IS       0.01950 AT (  446651.26,  3749061.39,
195.00,   195.00,    0.00)  DC


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↟ *** AERMOD - VERSION 23132  ***   *** C:\LAKES\AERMOD VIEW\15669 HRA\15669
TOGGAS\15669 TOGGAS.ISC         ***        01/19/24
 *** AERMET - VERSION  16216 ***   ***
                       ***        12:42:54

                                  PAGE  17
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

                                                *** THE SUMMARY OF HIGHEST  1-HR
RESULTS ***


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

                                                      DATE
                                          NETWORK
GROUP ID                           AVERAGE CONC     (YYMMDDHH)             RECEPTOR
(XR, YR, ZELEV, ZHILL, ZFLAG)    OF TYPE  GRID-ID
- - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -
- - - - - - - - - - - - - - - - - - - - - - - - -

ALL      HIGH   1ST HIGH VALUE IS       0.05870  ON 13041207: AT (  446651.26,
3749066.77,   195.00,   195.00,    0.00)  DC
```

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

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

GROUP ID	AVERAGE	NETWORK CONC OF TYPE	DATE (YYMMDDHH) GRID-ID	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)
ALL	HIGH	1ST HIGH VALUE IS	0.04636c ON 12121708:	AT (446651.26, 3749066.77, 195.00, 195.00, 0.00) DC

 *** Message Summary : AERMOD Model Execution ***

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

 A Total of   0 Fatal Error Message(s)
 A Total of   2 Warning Message(s)

```
A Total of         1638 Informational Message(s)

A Total of        43848 Hours Were Processed

A Total of         1039 Calm Hours Identified

A Total of          599 Missing Hours Identified (  1.37 Percent)


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


   ********   WARNING MESSAGES   ********
ME W186     225       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
ME W187     225       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


   ***********************************
   *** AERMOD Finishes Successfully ***
   ***********************************
```

APPENDIX 5.1:

RISK CALCULATION WORKSHEETS

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Table A1
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
30 Year Exposure Scenario / Maximum Residential Receptor

Source	Concentration		Weight Fraction	Contaminant	Carcinogenic Risk			Noncarcinogenic Hazards / Toxicological Endpoints*								
					URF	CPF	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(ug/m3)	(mg/m3)			(ug/m3)	(mg/kg/day)		(ug/m3)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)
Freeway	0.02106	2.1E-05	4.67E-01	Benzene	2.9E-05	1.0E-01	1.2E-07	3.0E+00	8.6E-04			3.1E-03					
			3.28E-01	Formaldehyde	6.0E-06	2.1E-02	1.7E-08	9.0E+00	2.6E-03	7.4E-04							
			1.06E-01	1,3-Butadiene	1.7E-04	6.0E-01	1.6E-07	2.0E+00	5.7E-04							1.1E-03	
			7.40E-02	Acetaldehyde	2.7E-06	1.0E-02	1.8E-09	1.4E+02	4.0E-02	1.1E-05							
			2.50E-02	Acrolein				3.5E-01	1.0E-04	1.4E-03							
	0.00880	8.8E-06	1.00E+00	Diesel Particulates	3.0E-04	1.1E+00	1.1E-06	5.0E+00	1.4E-03	1.7E-03							
Total							1.38E-06			3.9E-03	0.0E+00	3.1E-03	0.0E+00	0.0E+00	0.0E+00	1.1E-03	0.0E+00

* Key to Toxocological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g., teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Note: Exposure factors used to calculate contaminant intake

exposure frequency (days/year)	350
exposure duration (years)	30
inhalation rate (m3/day)	20
average body weight (kg)	70
averaging time$_{(cancer)}$ (days)	25550
averaging time$_{(noncancer)}$ (days)	10950

Table A2
Quantification of Noncarcinogenic Acute Hazards
1-Hour Exposure Scenario / Maximum Exposed Receptor

Source	Concentration (ug/m3)	Weight Fraction	Contaminant	Noncarcinogenic Hazards / Toxicological Endpoints*								
				REL (ug/m3)	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
Freeway	0.05870	4.67E-01	Benzene	2.7E+01			1.0E-03	1.0E-03			1.0E-03	
TOG		3.28E-01	Formaldehyde	5.5E+01								3.5E-04
		1.06E-01	1,3-Butadiene	6.6E+02							9.4E-06	
		7.40E-02	Acetaldehyde	4.7E+02	9.2E-06							9.2E-06
		2.50E-02	Acrolein	2.5E+00	5.9E-04							5.9E-04
Freeway	0.02015	8.20E-02	Benzene	2.7E+01			6.1E-05	6.1E-05			6.1E-05	
Diesel/TOG		6.07E-01	Formaldehyde	5.5E+01								2.2E-04
		8.00E-03	1,3-Butadiene	6.6E+02							2.4E-07	
		3.03E-01	Acetaldehyde	4.7E+02	1.3E-05							1.3E-05
Total					6.1E-04	0.0E+00	1.1E-03	1.1E-03	0.0E+00	0.0E+00	1.1E-03	1.2E-03

* Key to Toxocological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g., teratogenic and developmental effects)
EYES	Eye irritation and/or other effects

Table A3
Quantification of Noncarcinogenic Acute Hazards
8-Hour Exposure Scenario / Maximum Exposed Receptor

Source	Concentration (ug/m3)	Weight Fraction	Contaminant	Noncarcinogenic Hazards / Toxicological Endpoints*								
				REL (ug/m3)	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)
Freeway	0.04636	3.28E-01	Formaldehyde	9.0E+00	1.7E-03							
TOG		1.06E-01	1,3-Butadiene	9.0E+00							5.5E-04	
		7.40E-02	Acetaldehyde	3.0E+02	1.1E-05							
		2.50E-02	Acrolein	7.0E-01	1.7E-03							
Freeway	0.01591	6.07E-01	Formaldehyde	9.0E+00	1.1E-03							
Diesel/TOG		8.00E-03	1,3-Butadiene	9.0E+00							1.4E-05	
		3.03E-01	Acetaldehyde	3.0E+02	1.6E-05							
Total					4.4E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	5.6E-04	0.0E+00

* Key to Toxocological Endpoints

RESP	Respiratory System
CNS/PNS	Central/Peripheral Nervous System
CV/BL	Cardiovascular/Blood System
IMMUN	Immune System
KIDN	Kidney
GI/LV	Gastrointestinal System/Liver
REPRO	Reproductive System (e.g., teratogenic and developmental effects)
EYES	Eye irritation and/or other effects