



Perris Truck Yard (CUP20-05100) MOBILE SOURCE HEALTH RISK ASSESSMENT CITY OF PERRIS

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LIST OF ABBREVIATED TERMS

(1)	Reference
µg	Microgram
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
APS	Auxiliary Power System
AQMD	Air Quality Management District
ARB	Air Resources Board
CEQA	California Environmental Quality Act
CPF	Cancer Potency Factor
DPM	Diesel Particulate Matter
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
HHD	Heavy Heavy-Duty
HI	Hazard Index
HRA	Health Risk Assessment
LHD	Light Heavy-Duty
MATES	Multiple Air Toxics Exposure Study
MEIR	Maximally Exposed Individual Receptor
MEIW	Maximally Exposed Individual Worker
MHD	Medium Heavy-Duty
NAD	North American Datum
OEHHA	Office of Environmental Health Hazard Assessment
PM10	Particulate Matter 10 microns in diameter or less
Project	Perris Truck Yard
REL	Reference Exposure Level
RM	Recommended Measures
SCAQMD	South Coast Air Quality Management District
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
TA	Traffic Analysis
URF	Unit Risk Factor
UTM	Universal Transverse Mercator
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

This report evaluates the potential health risk impacts to sensitive receptors (which are residents) and adjacent workers associated with the development of the proposed Project, more specifically, health risk impacts as a result of exposure to Toxic Air Contaminants (TACs) including diesel particulate matter (DPM) as a result of heavy-duty diesel trucks accessing the site. This section summarizes the significance criteria and Project health risks.

The results of the health risk assessment (HRA) of lifetime cancer risk from Project-generated TAC emissions are provided in Table ES-1.

Individual Exposure Scenario:

The residential land use with the greatest potential exposure to Project TAC source emissions is Location R4, which represents the existing residence, approximately 376 feet northwest of the Project site. Receptor R4 is placed at the private outdoor living areas (backyards) facing the Project site. At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project TAC source emissions is estimated at 3.14 in one million, which is less than the South Coast Air Quality Management District's (SCAQMD's) significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled residential receptors are exposed to lesser concentrations and are located at a greater distance from the Project site and primary truck route than the MEIR analyzed herein, and TACs generally dissipates with distance from the source, all other residential receptors in the vicinity of the Project site would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby residences.

Worker Exposure Scenario:

The worker receptor land use with the greatest potential exposure to Project TAC source emissions is Location R2, which represents the Penske Logistics Building, approximately 70 feet east of the Project site. R2 is placed at the building façade where a worker could remain for a typical workday. At the maximally exposed individual worker (MEIW), the maximum incremental cancer risk impact is 0.84 in one million which is less than the SCAQMD's threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyze herein, and DPM dissipates with distance from the source, all other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent workers.

School Child Exposure Scenario:

There are no schools located within a ¼ mile of the Project site. As such, there would be no significant impacts that would occur to any schools in the vicinity of the Project.

Proximity to sources of toxics is critical to determining the impact. In traffic-related studies, the additional non-cancer health risk attributable to proximity was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70-percent drop-off in particulate pollution levels at 500 feet. Based on California Air Resources Board (CARB) and SCAQMD emissions and modeling analyses, an 80-percent drop-off in pollutant concentrations is expected at approximately 1,000 feet from a distribution center (1).

The 1,000-foot evaluation distance is supported by research-based findings concerning Toxic Air Contaminant (TAC) emission dispersion rates from roadways and large sources showing that emissions diminish substantially between 500 and 1,000 feet from emission sources.

For purposes of this assessment, a one-quarter mile radius or 1,320 feet geographic scope is utilized for determining potential impacts to nearby schools. This radius is more robust than, and therefore provides a more health protective scenario for evaluation than the 1,000-foot impact radius identified above.

TABLE ES-1: SUMMARY OF CANCER AND NON-CANCER RISKS

Time Period	Location	Maximum Lifetime Cancer Risk (Risk per Million)	Significance Threshold (Risk per Million)	Exceeds Significance Threshold
30 Year Exposure	Maximum Exposed Individual Receptor	3.14	10	NO
25 Year Exposure	Maximum Exposed Worker Receptor	0.84	10	NO
Time Period	Location	Maximum Hazard Index	Significance Threshold	Exceeds Significance Threshold
Annual Average	Maximum Exposed Sensitive Receptor	<0.01	1.0	NO
Annual Average	Maximum Exposed Worker Receptor	<0.01	1.0	NO

1 INTRODUCTION

The South Coast Air Quality Management District (SCAQMD) typically issues a comment letter on the Notice of Preparation of a CEQA Document. Per the SCAQMD's typical comment letter, if a proposed Project is expected to generate/attract diesel trucks, which emit diesel particulate matter (DPM) or other Toxic Air Contaminants (TACs), preparation of a HRA is necessary. This document serves to meet the SCAQMD's request for preparation of a HRA. This HRA has been prepared in accordance with the document Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (2) and is comprised of all relevant and appropriate procedures presented by the United States Environmental Protection Agency (U.S. EPA), California EPA and SCAQMD. Cancer risk is expressed in terms of expected incremental incidence per million population. The SCAQMD has established an incidence rate of ten (10) persons per million as the maximum acceptable incremental cancer risk due to TAC exposure from a project such as the proposed Project. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulatively considerable impact.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (3). In this report the AQMD states (Page D-3):

"...the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for toxic air contaminant (TAC) emissions. The project specific (project increment) significance threshold is $HI > 1.0$ while the cumulative (facility-wide) is $HI > 3.0$. It should be noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."

The SCAQMD has also established non-carcinogenic risk parameters for use in HRAs. Non-carcinogenic risks are quantified by calculating a "hazard index," expressed as the ratio between the ambient pollutant concentration and its toxicity or Reference Exposure Level (REL). An REL is a concentration at or below which health effects are not likely to occur. A hazard index less than one (1.0) means that adverse health effects are not expected. In this HRA, non-carcinogenic exposures of less than 1.0 are considered less-than-significant. Both the cancer risk and non-carcinogenic risk thresholds are applied to the nearest sensitive receptors below.

1.1 SITE LOCATION

The proposed Perris Truck Yard site is located on the southwest corner of Perris Boulevard and Ramona Expressway, within the City of Perris' PVCC SP as shown on Exhibit 1-A. The March Air Reserve Base/Inland Port Airport (MARB/IPA) is located approximately 1.29 miles northwest of the Project site boundary.

The Project is located adjacent to existing industrial and commercial land use with residential homes are located to the east of the Project site. As per the City of Perris General Plan, the Project site is located within the PVCC SP area. As per the PVCC SP, the Project site is designated for Commercial uses. The Commercial designation provides for retail, professional office, and service-oriented business activities which serve the entire City, as well as the surrounding neighborhoods. This designation combines the General Plan Land Use designation of Community Commercial and Commercial Neighborhood (4).

1.2 PROJECT DESCRIPTION

Exhibit 1-B illustrates a preliminary site plan for the Project. The Project is proposed to consist of a 250-parking stall truck yard on 9.52 acres. The Project is anticipated to be constructed in a single phase in 2021.

As summarized in the *Perris Truck Yard Traffic Analysis (TA)*, the Project is expected to generate a total of approximately 464 two-way vehicular trips per day (232 inbound and 232 outbound) which includes 316 two-way truck trips per day (158 inbound and 158 outbound). DPM-related impacts are associated with diesel exhaust from the 316 two-way truck trips per day generated by the Project (5).

EXHIBIT 1-A: LOCATION MAP

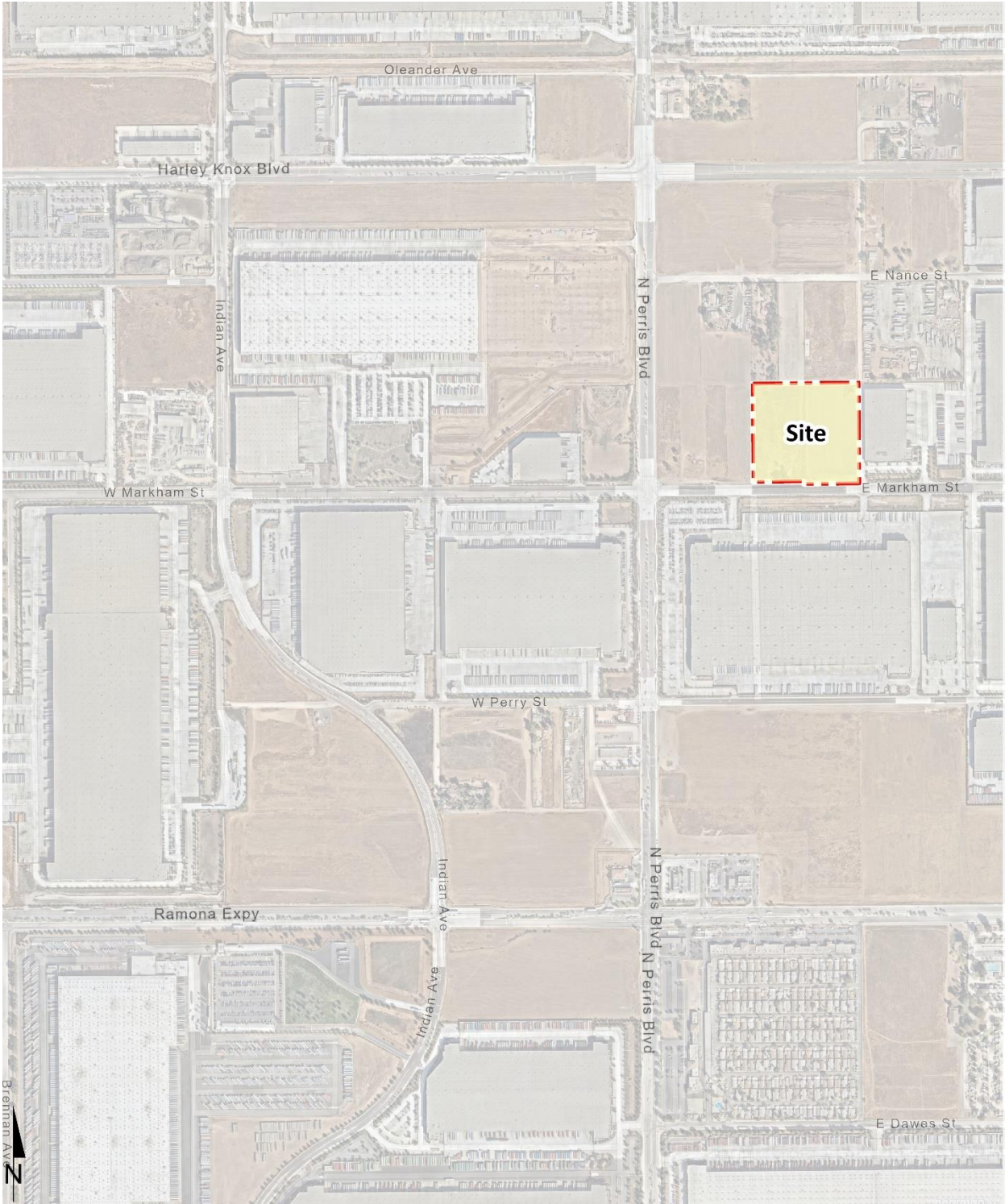
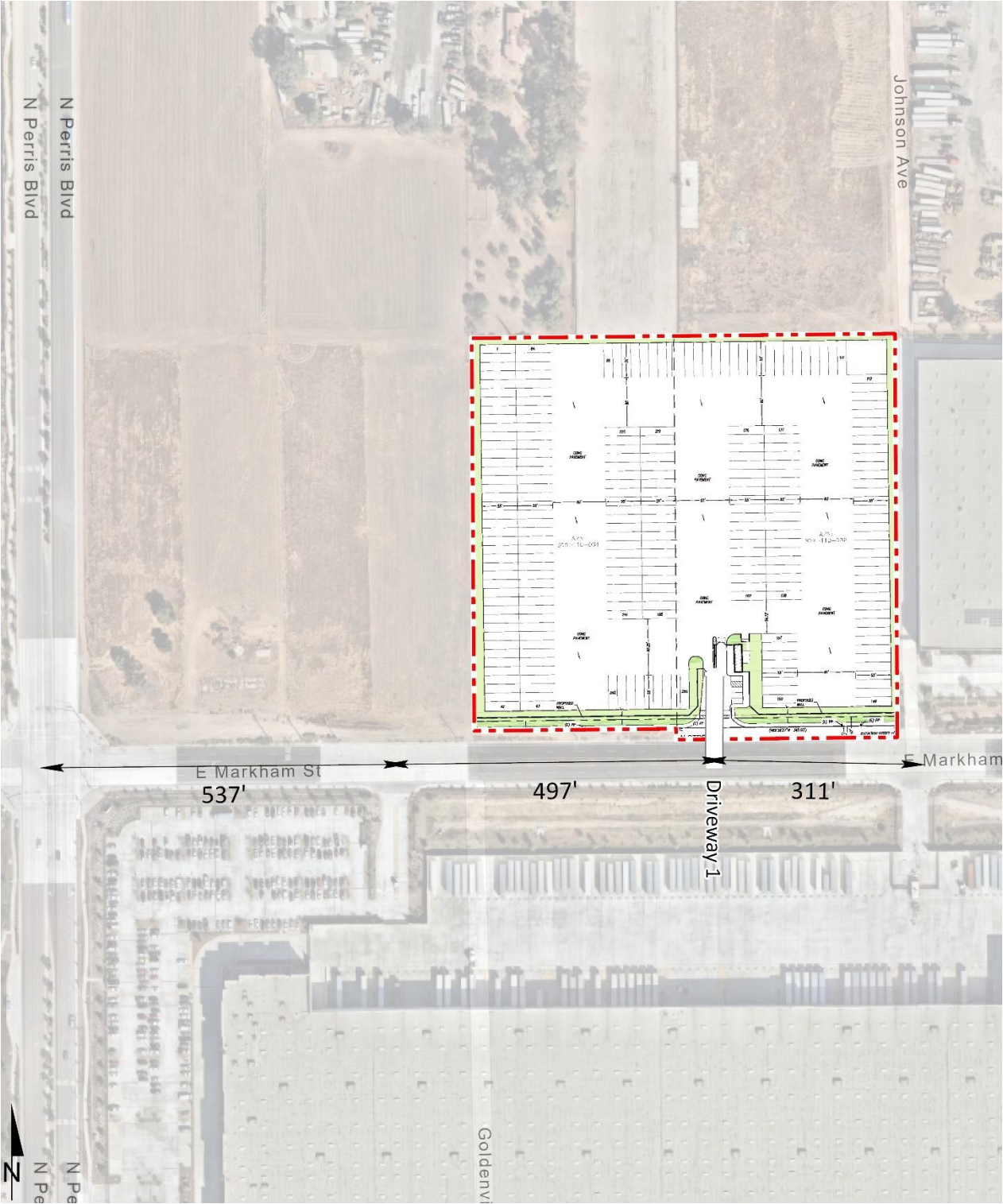


EXHIBIT 1-B: PRELIMINARY SITE PLAN



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2 BACKGROUND

2.1 BACKGROUND ON RECOMMENDED METHODOLOGY

This HRA is based on SCAQMD guidelines to produce conservative estimates of human health risk posed by exposure to DPM. The conservative nature of this analysis is due primarily to the following factors:

- The ARB-adopted diesel exhaust Unit Risk Factor (URF) of 300 in one million per $\mu\text{g}/\text{m}^3$ is based upon the upper 95 percentile of estimated risk for each of the epidemiological studies utilized to develop the URF. Using the 95th percentile URF represents a very conservative (health-protective) risk posed by DPM because it represents breathing rates that are high for the human body (95% higher than the average population).
- The emissions derived assume that every truck accessing the Project site will idle for 15 minutes under the unmitigated scenario, and this is an overestimation of actual idling times and thus conservative.¹ The California Air Resources Board (CARB's) anti-idling requirements impose a 5-minute maximum idling time and therefore the analysis conservatively overestimates DPM emissions from idling by a factor of 3.

2.2 EMISSIONS ESTIMATION

2.2.1 ON-SITE AND OFF-SITE TRUCK ACTIVITY

Vehicle DPM emissions were calculated using emission factors for particulate matter less than $10\mu\text{m}$ in diameter (PM_{10}) generated with the 2017 version of the Emission FACtor model (EMFAC) developed by the CARB. EMFAC 2017 is a mathematical model that CARB developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the ARB to project changes in future emissions from on-road mobile sources (6). The most recent version of this model, EMFAC 2017, incorporates regional motor vehicle data, information and estimates regarding the distribution of vehicle miles traveled (VMT) by speed, and number of starts per day.

Several distinct emission processes are included in EMFAC 2017. Emission factors calculated using EMFAC 2017 are expressed in units of grams per vehicle miles traveled (g/VMT) or grams per idle-hour (g/idle-hr), depending on the emission process. The emission processes and corresponding emission factor units associated with diesel particulate exhaust for this Project are presented below.

For this Project, annual average PM_{10} emission factors were generated by running EMFAC 2017 in EMFAC Mode for vehicles in the Riverside County jurisdiction. The EMFAC Mode generates emission factors in terms of grams of pollutant emitted per vehicle activity and can calculate a matrix of emission factors at specific values of temperature, relative humidity, and vehicle speed.

¹ Although the Project is required to comply with ARB's idling limit of 5 minutes, staff at SCAQMD recommends that the on-site idling emissions should be estimated for 15 minutes of truck idling (personal communication, in person, with Jillian Wong, December 22, 2016), which would take into account on-site idling which occurs while the trucks are waiting to pull up to the truck bays, idling at the bays, idling at check-in and check-out, etc.

The model was run for speeds traveled in the vicinity of the Project. The vehicle travel speeds for each segment modeled are summarized below.

- Idling – on-site loading/unloading and truck gate
- 5 miles per hour – on-site vehicle movement including driving and maneuvering
- 25 miles per hour – off-site vehicle movement including driving and maneuvering.

Calculated emission factors are shown at Table 2-1. As a conservative measure, a 2021 EMFAC 2017 run was conducted and a static 2021 emissions factor data set was used for the entire duration of analysis herein (e.g., 30 years). Use of 2021 emission factors would overstate potential impacts since this approach assumes that emission factors remain “static” and do not change over time due to fleet turnover or cleaner technology with lower emissions that would be incorporated into vehicles after 2021. Additionally, based on EMFAC 2017, Light-Heavy-Duty Trucks are comprised of 47.7% diesel, Medium-Heavy-Duty Trucks are comprised of 88.3% diesel, and Heavy-Heavy-Duty Trucks are comprised of 96.1% diesel. Trucks fueled by diesel are accounted for by these percentages accordingly in the emissions factor generation. Appendix 2.1 includes additional details on the emissions estimates from EMFAC.

The vehicle DPM exhaust emissions were calculated for running exhaust emissions. The running exhaust emissions were calculated by applying the running exhaust PM₁₀ emission factor (g/VMT) from EMFAC over the total distance traveled. The following equation was used to estimate off-site emissions for each of the different vehicle classes comprising the mobile sources (7):

$$\text{Emissions}_{\text{speedA}} \text{ (g/s)} = \text{EF}_{\text{RunExhaust}} \text{ (g/VMT)} * \text{Distance (VMT/trip)} * \text{Number of Trips (trips/day)} / \text{seconds per day}$$

Where:

$\text{Emissions}_{\text{speedA}}$ (g/s): Vehicle emissions at a given speed A;

$\text{EF}_{\text{RunExhaust}}$ (g/VMT): EMFAC running exhaust PM₁₀ emission factor at speed A;

Distance (VMT/trip): Total distance traveled per trip.

Similar to off-site traffic, on-site vehicle running emissions were calculated by applying the running exhaust PM₁₀ emission factor (g/VMT) from EMFAC and the total vehicle trip number over the length of the driving path using the same formula presented above for on-site emissions. In addition, on-site vehicle idling exhaust emissions were calculated by applying the idle exhaust PM₁₀ emission factor (g/idle-hr) from EMFAC and the total truck trip over the total assumed idle time (15 minutes). The following equation was used to estimate the on-site vehicle idling emissions for each of the different vehicle classes (7):

$$\text{Emissions}_{\text{idle}} \text{ (g/s)} = \text{EF}_{\text{idle}} \text{ (g/hr)} * \text{Number of Trips (trips/day)} * \text{Idling Time (min/trip)} * \frac{60 \text{ minutes}}{\text{per hour}} / \text{seconds per day}$$

Where:

Emissions_{idle} (g/s): Vehicle emissions during idling;

EF_{idle} (g/s): EMFAC idle exhaust PM₁₀ emission factor.

TABLE 2-1: 2021 WEIGHTED AVERAGE DPM EMISSIONS FACTORS

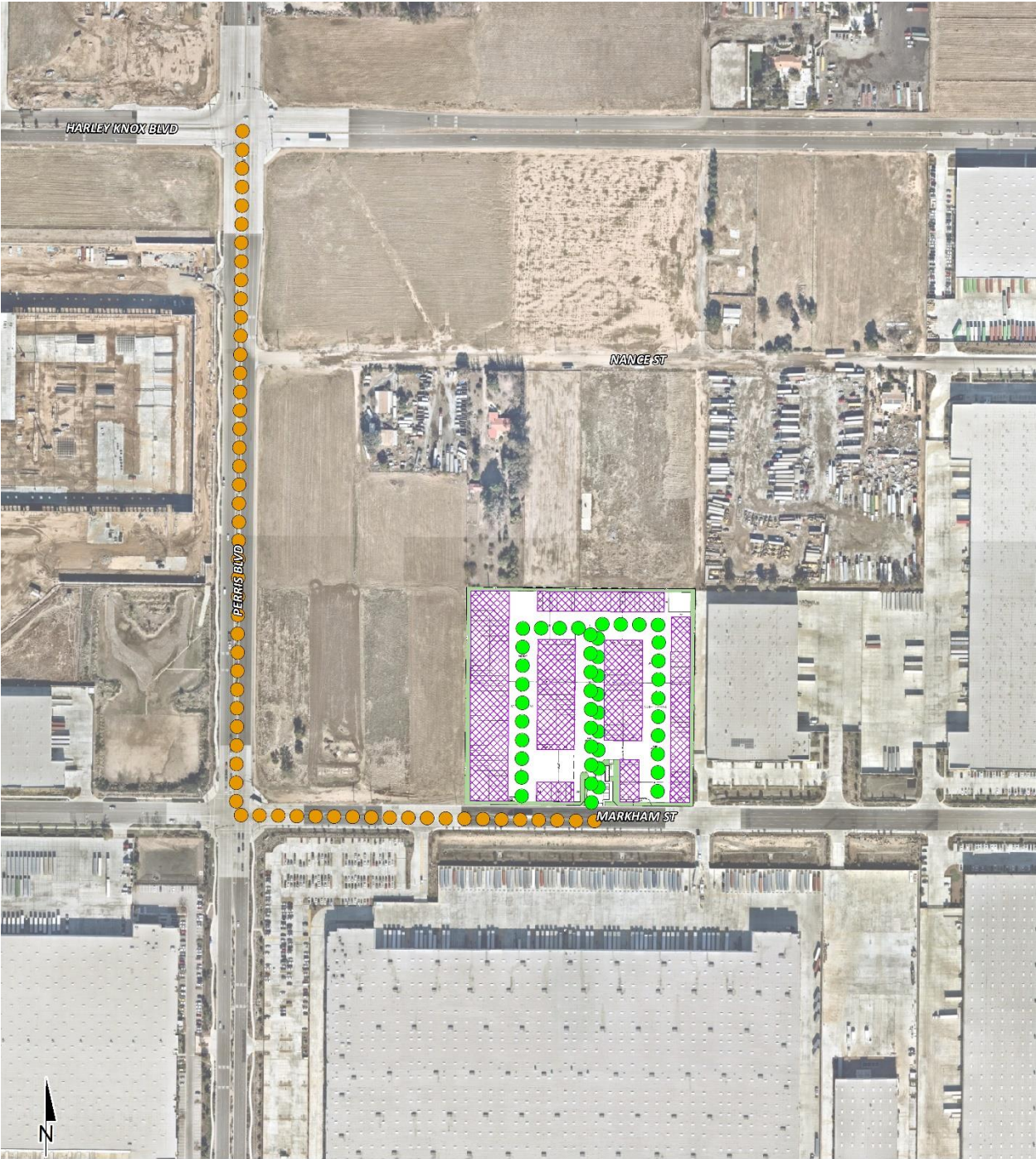
Speed	Weighted Average
0 (idling)	0.22484 (g/idle-hr)
5	0.08552 (g/s)
25	0.03367 (g/s)

Each roadway was modeled as a line source (made up of multiple adjacent volume sources). Due to the large number of volume sources modeled for this analysis, the corresponding coordinates of each volume source have not been included in this report but are included in Appendix 2.2. The DPM emission rate for each volume source was calculated by multiplying the emission factor (based on the average travel speed along the roadway) by the number of trips and the distance traveled along each roadway segment and dividing the result by the number of volume sources along that roadway, as illustrated on Table 2-2. The modeled emission sources are illustrated on Exhibit 2-A. The modeling domain is limited to the Project's primary truck route and includes off-site sources in the study area for more than 1 mile. This modeling domain is more inclusive and conservative than using only a ¼ mile modeling domain which is the distance supported by several reputable studies which conclude that the greatest potential risks occur within a ¼ mile of the primary source of emissions (1) (in the case of the Project, the primary source of emissions is the on-site idling and on-site travel).

On-site truck idling was estimated to occur as trucks enter and travel through the Project site. Although the Project's diesel-fueled truck and equipment operators will be required by State law to comply with CARB's idling limit of 5 minutes, staff at SCAQMD recommends that the on-site idling emissions be calculated assuming 15 minutes of truck idling (8), which would take into account on-site idling which occurs while the trucks are waiting to pull up to the truck bays, idling at the bays, idling at check-in and check-out, etc. As such, this analysis calculates truck idling at 15 minutes, consistent with SCAQMD's recommendation.

As summarized in the TA, the Project is expected to generate a total of approximately 464 two-way vehicular trips per day (232 inbound and 232 outbound) which includes 316 two-way truck trips per day (158 inbound and 158 outbound). DPM-related impacts are associated with diesel exhaust from the 316 two-way truck trips per day generated by the Project (5).

EXHIBIT 2-A: MODELED EMISSION SOURCES



LEGEND:

- On-Site Truck Travel
- Off-Site Truck Travel
- On-Site Truck Idling

TABLE 2-2: DPM EMISSIONS FROM PROJECT TRUCKS (2021 ANALYSIS YEAR)

Truck Emission Rates						
Source	Trucks Per Day	VM ^a (miles/day)	Truck Emission Rate ^b (grams/mile)	Truck Emission Rate ^b (grams/idle-hour)	Daily Truck Emissions ^c (grams/day)	Modeled Emission Rates (g/second)
On-Site Idling	158			0.2248	8.88	1.028E-04
On-Site Travel West Side	158	37.22	0.0855		3.18	3.684E-05
On-Site Travel East Side	158	35.63	0.0855		3.05	3.527E-05
Off-Site Travel	316	184.63	0.0337		6.22	7.195E-05
^a Vehicle miles traveled are for modeled truck route only. ^b Emission rates determined using EMFAC 2017. Idle emission rates are expressed in grams per idle hour rather than grams per mile. ^c This column includes the total truck travel and truck idle emissions. For idle emissions this column includes emissions based on the assumption that each truck idles for 15 minutes.						

2.3 EXPOSURE QUANTIFICATION

The analysis herein has been conducted in accordance with the guidelines in the Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis (2). SCAQMD recommends using the Environmental Protection Agency's (U.S. EPA's) AERMOD model. For purposes of this analysis, the Lakes AERMOD View (Version 9.9.0) was used to calculate annual average particulate concentrations associated with site operations. Lakes AERMOD View was utilized to incorporate the U.S. EPA's latest AERMOD Version 19191 (9).

The model offers additional flexibility by allowing the user to assign an initial release height and vertical dispersion parameters for mobile sources representative of a roadway. For this HRA, the roadways were modeled as adjacent volume sources. Roadways were modeled using the U.S. EPA's haul route methodology for modeling of on-site and off-site truck movement. More specifically, the Haul Road Volume Source Calculator in Lakes AERMOD View has been utilized to determine the release height parameters. Based on the US EPA methodology, the Project's modeled sources would result in a release height of 3.49 meters, and an initial lateral dimension of 4.0 meters, and an initial vertical dimension of 3.25 meters.

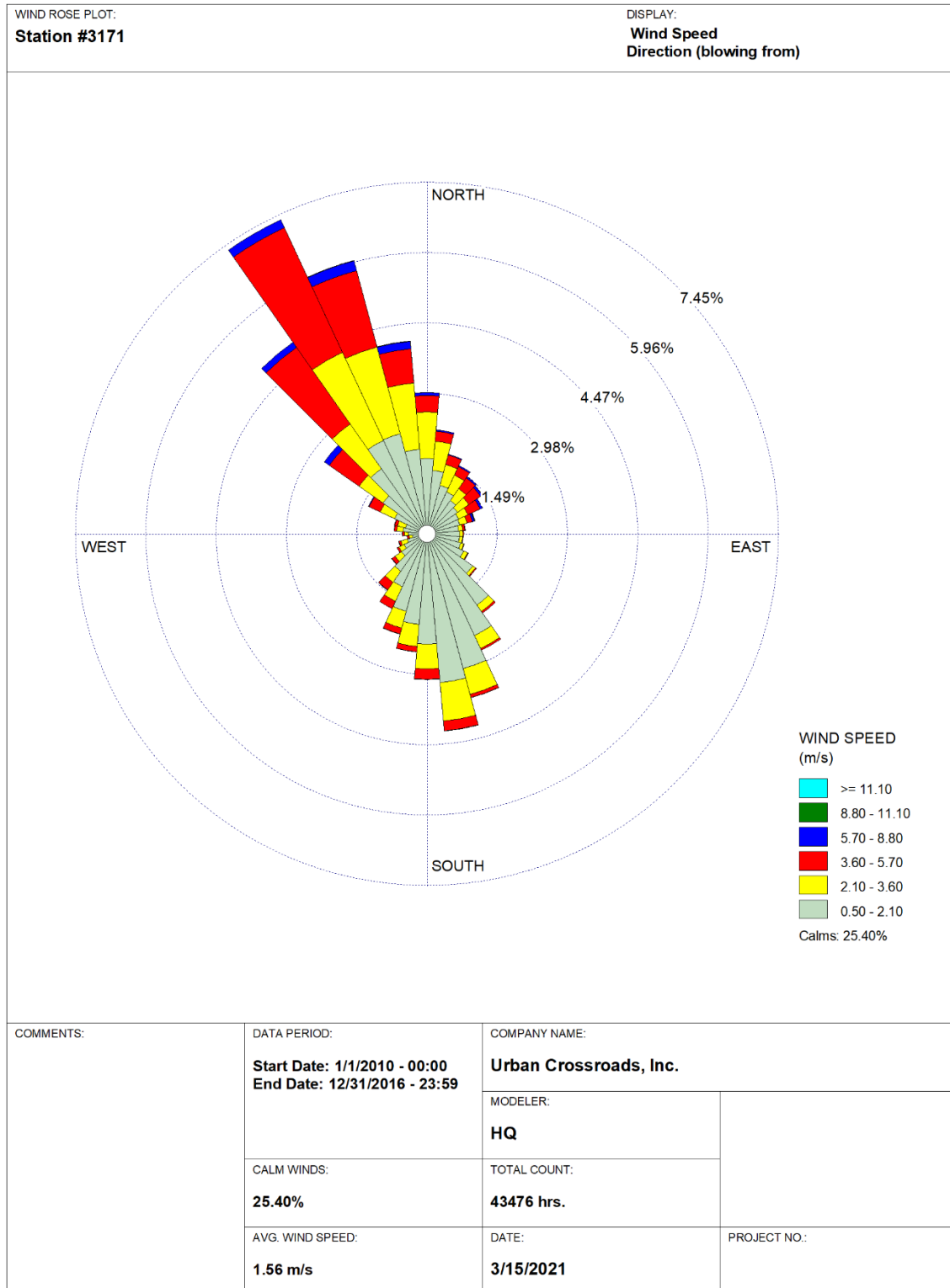
SCAQMD-recommended model parameters are presented in Table 2-3 (10). The model requires additional input parameters including emission data and local meteorology. Meteorological data from the SCAQMD's Perris monitoring station (SRA 24) was used to represent local weather conditions and prevailing winds (11). A wind rose exhibit of the Perris monitoring station is provided at Exhibit 2-B.

TABLE 2-3: AERMOD MODEL PARAMETERS

Dispersion Coefficient (Urban/Rural)	Urban (Population 2,189,641)
Terrain (Flat/Elevated)	Elevated (Regulatory Default)
Averaging Time	1 year (5-year Meteorological Data Set)
Receptor Height	0 meters (Regulatory Default)

Universal Transverse Mercator (UTM) coordinates for World Geodetic System (WGS) 84 were used to locate the Project site boundaries, each volume source location, and receptor locations in the Project site's vicinity. The AERMOD dispersion model summary output files for the proposed Project are presented in Appendix 2.2. Modeled sensitive receptors were placed at residential and non-residential locations.

EXHIBIT 2-B: WIND ROSE (SRA 24)



Receptors may be placed at applicable structure locations for residential and worker property and not necessarily the boundaries of the properties containing these uses because the human receptors (residents and workers) spend a majority of their time at the residence or in the workplace's building, and not on the property line. It should be noted that the primary purpose of receptor placement is focused on long-term exposure. For example, the HRA evaluates the potential health risks to residents and workers over a period of 30 or 25 years of exposure, respectively. Notwithstanding, as a conservative measure, receptors were placed at either the outdoor living area or the building façade, whichever is closer to the Project site.

For purposes of this HRA, receptors include both residential and non-residential (worker) land uses in the vicinity of the Project. These receptors are included in the HRA since residents and workers may be exposed at these locations over a long-term duration of 30 and 25 years, respectively. This methodology is consistent with SCAQMD and OEHHA recommended guidance.

Any impacts to residents or workers located further away from the Project site than the modeled residential and workers would have a lesser impact than what has already been disclosed in the HRA at the MEIR and MEIW because concentrations dissipate with distance.

Consistent with SCAQMD modeling guidance, all receptors were set to existing elevation height so that only ground-level concentrations are analyzed (12). United States Geological Survey (USGS) Digital Elevation Model (DEM) terrain data based on a 7.5-minute topographic quadrangle map series using AERMAP was utilized in the HRA modeling to set elevations.

Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the 2015 OEHHA Guidelines. Tables 2-4 and 2-5 summarize the Exposure Parameters for Residents and Workers based on 2015 OEHHA Guidelines. Appendix 2.3 includes the detailed risk calculation.

TABLE 2-4: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (30 YEAR RESIDENTIAL)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Fraction of Time at Home	Exposure Frequency (days/year)	Exposure Time (hours/day)
-0.25 to 0	361	10	0.25	0.85	350	24
0 to 2	1090	10	2	0.85	350	24
2 to 16	572	3	14	0.72	350	24
16 to 30	261	1	14	0.73	350	24

TABLE 2-5: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (25 YEAR WORKER)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Exposure Frequency (days/year)	Exposure Time (hours/day)
16 to 41	230	1	25	250	12

2.4 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 10 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 (2), for purposes of this analysis, 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 10 in one million implies a likelihood that up to 10 people, 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.

Guidance from CARB and the California Environmental Protection Agency, Office of Environmental Health Hazard Assessment (OEHHA) recommends a refinement to the standard point estimate approach when alternate human body weights and breathing rates are utilized to assess risk for susceptible subpopulations such as children. For the inhalation pathway, the procedure requires the incorporation of several discrete variates to effectively quantify dose. 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, the following dose algorithm was utilized.

$$\text{DOSE}_{\text{air}} = (\text{C}_{\text{air}} \times [\text{BR}/\text{BW}] \times A \times \text{EF}) \times (1 \times 10^{-6})$$

Where:

DOSE_{air} = chronic daily intake (mg/kg/day)

C_{air} = concentration of contaminant in air (ug/m³)

$[\text{BR}/\text{BW}]$ = daily breathing rate normalized to body weight (L/kg BW-day)

A = inhalation absorption factor

EF = exposure frequency (days/365 days)

BW = body weight (kg)

1×10^{-6} = conversion factors (ug to mg, L to m³)

$$\text{RISK}_{\text{air}} = \text{DOSE}_{\text{air}} \times \text{CPF} \times \text{ED}/\text{AT}$$

Where:

DOSE_{air} = chronic daily intake (mg/kg/day)

CPF = cancer potency factor

ED = number of years within particular age group

AT = averaging time

2.5 NON-CARCINOGENIC EXPOSURES

An evaluation of the potential noncarcinogenic effects of chronic exposures was also conducted. Adverse health effects are evaluated by comparing a compound's annual concentration with its toxicity factor or Reference Exposure Level (REL). The REL for diesel particulates was obtained from OEHHA for this analysis. The chronic reference exposure level (REL) for DPM was established by OEHHA as 5 µg/m³ (OEHHA Toxicity Criteria Database, <http://www.oehha.org/risk/chemicaldb/index.asp>).

The non-cancer hazard index was calculated (consistent with SCAQMD methodology) as follows:

The relationship for the non-cancer health effects of DPM is given by the following equation:

$$\text{HI}_{\text{DPM}} = \text{C}_{\text{DPM}}/\text{REL}_{\text{DPM}}$$

Where:

HI_{DPM} = Hazard Index; an expression of the potential for non-cancer health effects.

C_{DPM} = Annual average DPM concentration (µg/m³).

REL_{DPM} = Reference exposure level (REL) for DPM; the DPM concentration at which no adverse health effects are anticipated.

For purposes of this analysis the hazard index for the respiratory endpoint totaled less than one for all receptors in the project vicinity, and thus is less than significant.

2.6 POTENTIAL PROJECT-RELATED TAC SOURCE CANCER AND NON-CANCER RISKS

Individual Exposure Scenario:

The residential land use with the greatest potential exposure to Project TAC source emissions is Location R4, which represents the existing residence, approximately 376 feet northwest of the Project site. Receptor R4 is placed at the private outdoor living areas (backyards) facing the Project site. At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project TAC source emissions is estimated at 3.14 in one million, which is less than the South Coast Air Quality Management District's (SCAQMD's) significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled residential receptors are exposed to lesser concentrations and are located at a greater distance from the Project site and primary truck route than the MEIR analyzed herein, and TACs generally dissipates with distance from the source, all other residential receptors in the vicinity of the Project site would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby residences. The nearest modeled receptors are illustrated on Exhibit 2-C.

Worker Exposure Scenario²:

The worker receptor land use with the greatest potential exposure to Project TAC source emissions is Location R2, which represents the Penske Logistics Building, approximately 70 feet east of the Project site. R2 is placed at the building façade where a worker could remain for a typical workday. At the maximally exposed individual worker (MEIW), the maximum incremental cancer risk impact is 0.84 in one million which is less than the SCAQMD's threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyze herein, and DPM dissipates with distance from the source, all other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent workers. The nearest modeled receptors are illustrated on Exhibit 2-C.

2 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.

School Child Exposure Scenario:

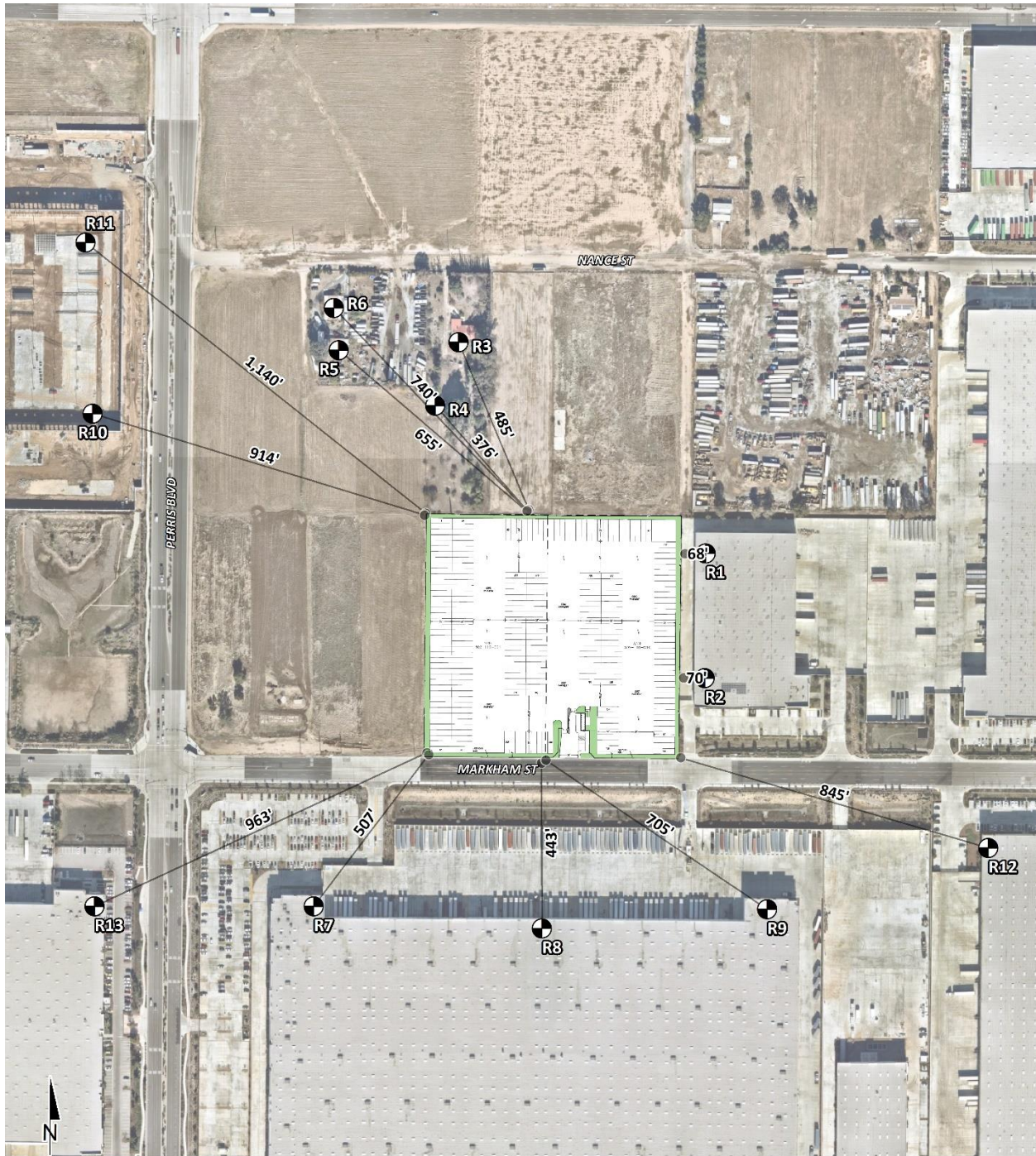
There are no schools located within a ¼ mile of the Project site. As such, there would be no significant impacts that would occur to any schools in the vicinity of the Project.

Proximity to sources of toxics is critical to determining the impact. In traffic-related studies, the additional non-cancer health risk attributable to proximity was seen within 1,000 feet and was strongest within 300 feet. California freeway studies show about a 70-percent drop-off in particulate pollution levels at 500 feet. Based on California Air Resources Board (CARB) and SCAQMD emissions and modeling analyses, an 80-percent drop-off in pollutant concentrations is expected at approximately 1,000 feet from a distribution center (1).

The 1,000-foot evaluation distance is supported by research-based findings concerning Toxic Air Contaminant (TAC) emission dispersion rates from roadways and large sources showing that emissions diminish substantially between 500 and 1,000 feet from emission sources.

For purposes of this assessment, a one-quarter mile radius or 1,320 feet geographic scope is utilized for determining potential impacts to nearby schools. This radius is more robust than, and therefore provides a more health protective scenario for evaluation than the 1,000-foot impact radius identified above.

EXHIBIT 2-C: MODELED RECEPTORS



LEGEND:

● Receptor Locations

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3 REFERENCES

1. **Air Resources Board.** *Air Quality and Land Use Handbook: A Community Health Perspective.* 2005.
2. **South Coast Air Quality Management District.** Mobile Source Toxics Analysis. [Online] 2003.
http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html.
3. **Goss, Tracy A and Kroeger, Amy.** White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. [Online] South Coast Air Quality Management District, 2003. [Cited: June 6, 2019.] <http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf?sfvrsn=2>.
4. **City of Perris.** Perris Valley Commerce Center Amendment No. 9. [Online] 2018.
<https://www.cityofperris.org/Home/ShowDocument?id=2647>.
5. **Urban Crossroads, Inc.** *Perris Truck Yard Traffic Analysis.* 2021.
6. **California Air Resources Board.** EMFAC 2017. [Online] <https://www.arb.ca.gov/emfac/2017/>.
7. **California Department of Transportation.** EMFAC Software. [Online]
<http://www.dot.ca.gov/hq/env/air/pages/emfac.htm>.
8. **Wong, Jillian.** *Planning, Rule Development & Area Sources.* December 22, 2016.
9. **Environmental Protection Agency.** User's Guide for the AMS/EPA Regulatory Model (AERMOD). [Online] 2019. https://www3.epa.gov/ttn/scram/models/aermod/aermod_userguide.pdf.
10. —. User's Guide for the AMS/EPA Regulatory Model (AERMOD). [Online] April 2018.
https://www3.epa.gov/ttn/scram/models/aermod/aermod_userguide.pdf.
11. **South Coast Air Quality Management District.** Data for AERMOD. [Online] [Cited: June 10, 2019.]
<https://www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data/data-for-aermod>.
12. —. South Coast AQMD Modeling Guidance for AERMOD. [Online] [Cited: September 18, 2019.]
<http://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance>.

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4 CERTIFICATIONS

The contents of this health risk assessment represent an accurate depiction of the impacts to sensitive receptors associated with the proposed Perris Truck Yard Project. The information contained in this health risk assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me at (949) 660-1994.

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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
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 2.1:

EMFAC EMISSIONS SUMMARY

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**AVERAGE EMISSION FACTOR
RIVERSIDE 2021**

Speed	LHD1	MHD	HHD
0	0.376403	0.215051	0.02138
5	0.03923	0.180749	0.08736
25	0.013853	0.069122	0.03792

Speed	Weighted Average Emissions
0	0.22484
5	0.08552
25	0.03367

Emission Rates - 2021 Emission Factors

Truck Emission Rates						
Source	Trucks Per Day	VMT ^a (miles/day)	Truck Emission Rate ^b (grams/mile)	Truck Emission Rate ^b (grams/idle-hour)	Daily Truck Emissions ^c (grams/day)	Modeled Emission Rates (g/second)
On-Site Idling	158			0.2248	8.88	1.028E-04
On-Site Travel West Side	158	37.22	0.0855		3.18	3.684E-05
On-Site Travel East Side	158	35.63	0.0855		3.05	3.527E-05
Off-Site Travel	316	184.63	0.0337		6.22	7.195E-05

^a Vehicle miles traveled are for modeled truck route only.

^b Emission rates determined using EMFAC 2017. Idle emission rates are expressed in grams per idle hour rather than grams per mile.

^c This column includes the total truck travel and truck idle emissions. For idle emissions this column includes emissions based on the assumption that each truck idles for 15 minutes.

calendar_y	season_m	sub_area	vehicle_class	fuel	temperatu	relative_h	process	speed_tim	pollutant	emission_rate
2021	Annual	Riverside (	HHDT	Dsl	60	70	RUNEX	5	PM10	0.090872
2021	Annual	Riverside (	HHDT	Dsl	60	70	RUNEX	25	PM10	0.039446
2021	Annual	Riverside (	LHDT1	Dsl	60	70	RUNEX	5	PM10	0.082192
2021	Annual	Riverside (	LHDT1	Dsl	60	70	RUNEX	25	PM10	0.029025
2021	Annual	Riverside (	MHDT	Dsl	60	70	RUNEX	5	PM10	0.204727
2021	Annual	Riverside (	MHDT	Dsl	60	70	RUNEX	25	PM10	0.078292
2021	Annual	Riverside (	HHDT	Dsl			IDLEX		PM10	0.022237
2021	Annual	Riverside (	LHDT1	Dsl			IDLEX		PM10	0.788627
2021	Annual	Riverside (	MHDT	Dsl			IDLEX		PM10	0.243579

EMFAC2017 (v1.0.2) Emissions Inventory

Region Type: County

Region: RIVERSIDE

Calendar Year: 2021

Season: Annual

Vehicle Classification: EMFAC2007 Categories

Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar	Vehicle Class	Model Year	Speed	Fuel	Population
RIVERSID	2021	HHDT	Aggregate	Aggregate	GAS	8.256088
RIVERSID	2021	HHDT	Aggregate	Aggregate	DSL	27250.49
RIVERSID	2021	HHDT	Aggregate	Aggregate	NG	278.9619
RIVERSID	2021	LHDT1	Aggregate	Aggregate	GAS	20885.97
RIVERSID	2021	LHDT1	Aggregate	Aggregate	DSL	19999.78
RIVERSID	2021	MHDT	Aggregate	Aggregate	GAS	1963.204
RIVERSID	2021	MHDT	Aggregate	Aggregate	DSL	15756.36

HHDT% GAS/NG	0.01043
HHDT% DSL	0.98957
LHDT1% GAS	0.51084
LHDT1% DSL	0.48916
MHDT% GAS	0.11079
MHDT% DSL	0.88921

APPENDIX 2.2:

AERMOD MODEL INPUT/OUTPUT

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```

** Lakes Environmental AERMOD MPI
**
*****
**
** AERMOD INPUT PRODUCED BY:
** AERMOD VIEW VER. 9.9.0
** LAKES ENVIRONMENTAL SOFTWARE INC.
** DATE: 4/28/2021
** FILE: C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02 HRA.ADI
**
*****
**
**
*****
** AERMOD CONTROL PATHWAY
*****
**
**
CO STARTING
  TITLEONE C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02 HRA.ISC
  MODELOPT DFAULT CONC
  AVERTIME ANNUAL
  URBANOPT 2189641
  POLLUTID DPM
  RUNORNOT RUN
  ERRORFIL "12913-02 HRA.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 IDLING 1
** PREFIX
** LENGTH OF SIDE = 8.59
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.00001028
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 479295.557, 3745946.206, 444.00, 3.49, 4.00
** 479295.557, 3745761.496, 444.00, 3.49, 4.00
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LOCATION	L0000325	VOLUME	479295.557	3745941.911	444.00
LOCATION	L0000326	VOLUME	479295.557	3745933.321	444.00
LOCATION	L0000327	VOLUME	479295.557	3745924.731	444.00
LOCATION	L0000328	VOLUME	479295.557	3745916.141	444.00
LOCATION	L0000329	VOLUME	479295.557	3745907.551	444.00
LOCATION	L0000330	VOLUME	479295.557	3745898.961	444.00
LOCATION	L0000331	VOLUME	479295.557	3745890.371	444.00
LOCATION	L0000332	VOLUME	479295.557	3745881.781	444.00
LOCATION	L0000333	VOLUME	479295.557	3745873.191	444.00
LOCATION	L0000334	VOLUME	479295.557	3745864.601	444.00
LOCATION	L0000335	VOLUME	479295.557	3745856.011	444.00
LOCATION	L0000336	VOLUME	479295.557	3745847.421	444.00
LOCATION	L0000337	VOLUME	479295.557	3745838.831	444.00
LOCATION	L0000338	VOLUME	479295.557	3745830.241	444.00
LOCATION	L0000339	VOLUME	479295.557	3745821.651	444.00
LOCATION	L0000340	VOLUME	479295.557	3745813.061	444.00
LOCATION	L0000341	VOLUME	479295.557	3745804.471	444.00
LOCATION	L0000342	VOLUME	479295.557	3745795.881	444.00
LOCATION	L0000343	VOLUME	479295.557	3745787.291	444.00
LOCATION	L0000344	VOLUME	479295.557	3745778.701	444.00
LOCATION	L0000345	VOLUME	479295.557	3745770.111	444.00
LOCATION	L0000346	VOLUME	479295.557	3745761.521	444.00

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** DESCRSRC IDLING 8

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** SZINIT = 3.25

** NODES = 2

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** 479313.917, 3745761.496, 443.97, 3.49, 4.00

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LOCATION	L0000347	VOLUME	479313.917	3745941.911	444.00
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LOCATION	L0000349	VOLUME	479313.917	3745924.731	444.00
LOCATION	L0000350	VOLUME	479313.917	3745916.141	444.00
LOCATION	L0000351	VOLUME	479313.917	3745907.551	444.00
LOCATION	L0000352	VOLUME	479313.917	3745898.961	444.00
LOCATION	L0000353	VOLUME	479313.917	3745890.371	444.00
LOCATION	L0000354	VOLUME	479313.917	3745881.781	444.00
LOCATION	L0000355	VOLUME	479313.917	3745873.191	444.00
LOCATION	L0000356	VOLUME	479313.917	3745864.601	444.00
LOCATION	L0000357	VOLUME	479313.917	3745856.011	444.00
LOCATION	L0000358	VOLUME	479313.917	3745847.421	444.00
LOCATION	L0000359	VOLUME	479313.917	3745838.831	444.00

LOCATION L0000360	VOLUME	479313.917	3745830.241	444.00
LOCATION L0000361	VOLUME	479313.917	3745821.651	444.00
LOCATION L0000362	VOLUME	479313.917	3745813.061	444.00
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LOCATION L0000366	VOLUME	479313.917	3745778.701	444.00
LOCATION L0000367	VOLUME	479313.917	3745770.111	444.00
LOCATION L0000368	VOLUME	479313.917	3745761.521	444.00

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** NODES = 2

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** 479460.237, 3745940.086, 443.00, 3.49, 4.00

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LOCATION L0000370	VOLUME	479363.520	3745939.104	444.00
LOCATION L0000371	VOLUME	479372.110	3745939.191	444.00
LOCATION L0000372	VOLUME	479380.699	3745939.278	443.97
LOCATION L0000373	VOLUME	479389.289	3745939.366	443.69
LOCATION L0000374	VOLUME	479397.878	3745939.453	443.40
LOCATION L0000375	VOLUME	479406.468	3745939.540	443.12
LOCATION L0000376	VOLUME	479415.058	3745939.627	443.00
LOCATION L0000377	VOLUME	479423.647	3745939.714	443.00
LOCATION L0000378	VOLUME	479432.237	3745939.802	443.00
LOCATION L0000379	VOLUME	479440.826	3745939.889	443.00
LOCATION L0000380	VOLUME	479449.416	3745939.976	443.00
LOCATION L0000381	VOLUME	479458.005	3745940.063	443.00

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LOCATION L0000383 VOLUME 479473.120 3745916.630 443.00
LOCATION L0000384 VOLUME 479473.178 3745908.041 443.00
LOCATION L0000385 VOLUME 479473.236 3745899.451 443.00
LOCATION L0000386 VOLUME 479473.294 3745890.861 443.00
LOCATION L0000387 VOLUME 479473.352 3745882.271 443.00
LOCATION L0000388 VOLUME 479473.410 3745873.681 443.00
LOCATION L0000389 VOLUME 479473.467 3745865.092 443.00
LOCATION L0000390 VOLUME 479473.525 3745856.502 443.00
LOCATION L0000391 VOLUME 479473.583 3745847.912 443.00
LOCATION L0000392 VOLUME 479473.641 3745839.322 443.00
LOCATION L0000393 VOLUME 479473.699 3745830.732 443.00
LOCATION L0000394 VOLUME 479473.757 3745822.143 443.00
LOCATION L0000395 VOLUME 479473.815 3745813.553 443.00
LOCATION L0000396 VOLUME 479473.872 3745804.963 443.00
LOCATION L0000397 VOLUME 479473.930 3745796.373 443.00
LOCATION L0000398 VOLUME 479473.988 3745787.783 443.00
LOCATION L0000399 VOLUME 479474.046 3745779.194 443.00
LOCATION L0000400 VOLUME 479474.104 3745770.604 443.00

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** -----

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LOCATION L0000402 VOLUME 479355.087 3745891.038 444.00
LOCATION L0000403 VOLUME 479355.087 3745882.448 444.00
LOCATION L0000404 VOLUME 479355.087 3745873.858 444.00
LOCATION L0000405 VOLUME 479355.087 3745865.268 444.00
LOCATION L0000406 VOLUME 479355.087 3745856.678 444.00
LOCATION L0000407 VOLUME 479355.087 3745848.088 444.00
LOCATION L0000408 VOLUME 479355.087 3745839.498 443.96
LOCATION L0000409 VOLUME 479355.087 3745830.908 443.91
LOCATION L0000410 VOLUME 479355.087 3745822.318 443.86
LOCATION L0000411 VOLUME 479355.087 3745813.728 443.83

** END OF LINE VOLUME SOURCE ID = SLINE4

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** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES

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** LINE VOLUME SOURCE ID = SLINE6
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** PREFIX
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** VERTICAL DIMENSION = 6.99
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** 479412.947, 3745813.794, 443.00, 3.49, 4.00
** -----
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LOCATION L0000413    VOLUME    479412.947 3745894.932 443.00
LOCATION L0000414    VOLUME    479412.947 3745886.342 443.00
LOCATION L0000415    VOLUME    479412.947 3745877.752 443.00
LOCATION L0000416    VOLUME    479412.947 3745869.162 443.00
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LOCATION L0000418    VOLUME    479412.947 3745851.982 443.00
LOCATION L0000419    VOLUME    479412.947 3745843.392 443.00
LOCATION L0000420    VOLUME    479412.947 3745834.802 443.00
LOCATION L0000421    VOLUME    479412.947 3745826.212 443.00
LOCATION L0000422    VOLUME    479412.947 3745817.622 443.00
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LOCATION L0000424    VOLUME    479431.863 3745893.820 443.00
LOCATION L0000425    VOLUME    479431.863 3745885.230 443.00
LOCATION L0000426    VOLUME    479431.863 3745876.640 443.00
LOCATION L0000427    VOLUME    479431.863 3745868.050 443.00
LOCATION L0000428    VOLUME    479431.863 3745859.460 443.00
LOCATION L0000429    VOLUME    479431.863 3745850.870 443.00
LOCATION L0000430    VOLUME    479431.863 3745842.280 443.00
LOCATION L0000431    VOLUME    479431.863 3745833.690 443.00
LOCATION L0000432    VOLUME    479431.863 3745825.100 443.00
LOCATION L0000433    VOLUME    479431.863 3745816.510 443.00
** END OF LINE VOLUME SOURCE ID = SLINE7

```

```

** -----
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** LINE VOLUME SOURCE ID = SLINE5
** DESCRSRC IDLING 5
** PREFIX
** LENGTH OF SIDE = 8.59
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.00001028
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 479372.890, 3745905.036, 443.97, 3.49, 4.00
** 479373.446, 3745808.230, 443.13, 3.49, 4.00
** -----
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LOCATION L0000435      VOLUME  479372.964 3745892.151 444.00
LOCATION L0000436      VOLUME  479373.013 3745883.561 444.00
LOCATION L0000437      VOLUME  479373.063 3745874.971 444.00
LOCATION L0000438      VOLUME  479373.112 3745866.381 444.00
LOCATION L0000439      VOLUME  479373.162 3745857.791 444.00
LOCATION L0000440      VOLUME  479373.211 3745849.201 444.00
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LOCATION L0000442      VOLUME  479373.310 3745832.022 443.63
LOCATION L0000443      VOLUME  479373.359 3745823.432 443.41
LOCATION L0000444      VOLUME  479373.408 3745814.842 443.22
** END OF LINE VOLUME SOURCE ID = SLINE5
** -----
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE9
** DESCRSRC IDLING 9
** PREFIX
** LENGTH OF SIDE = 8.59
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.00001028
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 479347.298, 3745771.511, 443.45, 3.49, 4.00
** 479380.123, 3745772.067, 443.08, 3.49, 4.00
** -----
LOCATION L0000445      VOLUME  479351.592 3745771.583 443.48
LOCATION L0000446      VOLUME  479360.181 3745771.729 443.34
LOCATION L0000447      VOLUME  479368.770 3745771.875 443.19
LOCATION L0000448      VOLUME  479377.358 3745772.020 443.05
** END OF LINE VOLUME SOURCE ID = SLINE9
** -----
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE10
** DESCRSRC IDLING 10
** PREFIX

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** LENGTH OF SIDE = 8.59
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.00001028
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
** 479430.194, 3745799.328, 443.00, 3.49, 4.00
** 479429.638, 3745765.391, 443.00, 3.49, 4.00
** -----
LOCATION L0000449    VOLUME    479430.124 3745795.034 443.00
LOCATION L0000450    VOLUME    479429.983 3745786.445 443.00
LOCATION L0000451    VOLUME    479429.842 3745777.856 443.00
LOCATION L0000452    VOLUME    479429.702 3745769.267 443.00
** END OF LINE VOLUME SOURCE ID = SLINE10
** -----
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE11
** DESCRSRC ON-SITE TRAVEL WEST SIDE
** PREFIX
** LENGTH OF SIDE = 8.59
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.00003684
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 4
** 479328.938, 3745766.504, 443.80, 3.49, 4.00
** 479330.607, 3745925.621, 444.00, 3.49, 4.00
** 479389.581, 3745923.952, 443.81, 3.49, 4.00
** 479396.813, 3745763.165, 443.00, 3.49, 4.00
** -----
LOCATION L0000453    VOLUME    479328.983 3745770.798 443.85
LOCATION L0000454    VOLUME    479329.073 3745779.388 443.93
LOCATION L0000455    VOLUME    479329.163 3745787.977 444.00
LOCATION L0000456    VOLUME    479329.253 3745796.567 444.00
LOCATION L0000457    VOLUME    479329.344 3745805.156 444.00
LOCATION L0000458    VOLUME    479329.434 3745813.746 444.00
LOCATION L0000459    VOLUME    479329.524 3745822.335 444.00
LOCATION L0000460    VOLUME    479329.614 3745830.925 444.00
LOCATION L0000461    VOLUME    479329.704 3745839.514 444.00
LOCATION L0000462    VOLUME    479329.794 3745848.104 444.00
LOCATION L0000463    VOLUME    479329.884 3745856.694 444.00
LOCATION L0000464    VOLUME    479329.974 3745865.283 444.00
LOCATION L0000465    VOLUME    479330.064 3745873.873 444.00
LOCATION L0000466    VOLUME    479330.154 3745882.462 444.00
LOCATION L0000467    VOLUME    479330.245 3745891.052 444.00
LOCATION L0000468    VOLUME    479330.335 3745899.641 444.00
LOCATION L0000469    VOLUME    479330.425 3745908.231 444.00
LOCATION L0000470    VOLUME    479330.515 3745916.820 444.00
LOCATION L0000471    VOLUME    479330.605 3745925.410 444.00
LOCATION L0000472    VOLUME    479338.983 3745925.384 444.00

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LOCATION	L0000473	VOLUME	479347.569	3745925.141	444.00
LOCATION	L0000474	VOLUME	479356.156	3745924.898	444.00
LOCATION	L0000475	VOLUME	479364.743	3745924.655	444.00
LOCATION	L0000476	VOLUME	479373.329	3745924.412	444.00
LOCATION	L0000477	VOLUME	479381.916	3745924.168	443.93
LOCATION	L0000478	VOLUME	479389.622	3745923.030	443.68
LOCATION	L0000479	VOLUME	479390.008	3745914.449	443.66
LOCATION	L0000480	VOLUME	479390.394	3745905.868	443.65
LOCATION	L0000481	VOLUME	479390.780	3745897.286	443.64
LOCATION	L0000482	VOLUME	479391.166	3745888.705	443.63
LOCATION	L0000483	VOLUME	479391.552	3745880.124	443.61
LOCATION	L0000484	VOLUME	479391.938	3745871.543	443.60
LOCATION	L0000485	VOLUME	479392.324	3745862.961	443.59
LOCATION	L0000486	VOLUME	479392.710	3745854.380	443.57
LOCATION	L0000487	VOLUME	479393.096	3745845.799	443.55
LOCATION	L0000488	VOLUME	479393.482	3745837.217	443.38
LOCATION	L0000489	VOLUME	479393.868	3745828.636	443.22
LOCATION	L0000490	VOLUME	479394.254	3745820.055	443.07
LOCATION	L0000491	VOLUME	479394.640	3745811.473	443.00
LOCATION	L0000492	VOLUME	479395.026	3745802.892	443.00
LOCATION	L0000493	VOLUME	479395.412	3745794.311	443.00
LOCATION	L0000494	VOLUME	479395.798	3745785.729	443.00
LOCATION	L0000495	VOLUME	479396.184	3745777.148	443.00
LOCATION	L0000496	VOLUME	479396.570	3745768.567	443.00

** END OF LINE VOLUME SOURCE ID = SLINE11

** -----

** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES

** LINE VOLUME SOURCE ID = SLINE12

** DESCRSRC ON-SITE TRAVELING EAST SIDE

** PREFIX

** LENGTH OF SIDE = 8.59

** CONFIGURATION = ADJACENT

** EMISSION RATE = 0.00003527

** VERTICAL DIMENSION = 6.99

** SZINIT = 3.25

** NODES = 4

** 479455.230, 3745764.834, 443.00, 3.49, 4.00

** 479449.110, 3745922.839, 443.00, 3.49, 4.00

** 479402.377, 3745922.839, 443.15, 3.49, 4.00

** 479401.264, 3745764.834, 443.00, 3.49, 4.00

** -----

LOCATION	L0000497	VOLUME	479455.064	3745769.126	443.00
LOCATION	L0000498	VOLUME	479454.732	3745777.710	443.00
LOCATION	L0000499	VOLUME	479454.399	3745786.293	443.00
LOCATION	L0000500	VOLUME	479454.067	3745794.877	443.00
LOCATION	L0000501	VOLUME	479453.734	3745803.460	443.00
LOCATION	L0000502	VOLUME	479453.402	3745812.044	443.00
LOCATION	L0000503	VOLUME	479453.069	3745820.628	443.00
LOCATION	L0000504	VOLUME	479452.737	3745829.211	443.00
LOCATION	L0000505	VOLUME	479452.404	3745837.795	443.00

LOCATION	L0000506	VOLUME	479452.072	3745846.378	443.00
LOCATION	L0000507	VOLUME	479451.739	3745854.962	443.00
LOCATION	L0000508	VOLUME	479451.407	3745863.545	443.00
LOCATION	L0000509	VOLUME	479451.075	3745872.129	443.00
LOCATION	L0000510	VOLUME	479450.742	3745880.713	443.00
LOCATION	L0000511	VOLUME	479450.410	3745889.296	443.00
LOCATION	L0000512	VOLUME	479450.077	3745897.880	443.00
LOCATION	L0000513	VOLUME	479449.745	3745906.463	443.00
LOCATION	L0000514	VOLUME	479449.412	3745915.047	443.00
LOCATION	L0000515	VOLUME	479448.318	3745922.839	443.00
LOCATION	L0000516	VOLUME	479439.728	3745922.839	443.00
LOCATION	L0000517	VOLUME	479431.138	3745922.839	443.00
LOCATION	L0000518	VOLUME	479422.548	3745922.839	443.00
LOCATION	L0000519	VOLUME	479413.958	3745922.839	443.00
LOCATION	L0000520	VOLUME	479405.368	3745922.839	443.15
LOCATION	L0000521	VOLUME	479402.337	3745917.241	443.25
LOCATION	L0000522	VOLUME	479402.277	3745908.651	443.25
LOCATION	L0000523	VOLUME	479402.216	3745900.061	443.26
LOCATION	L0000524	VOLUME	479402.156	3745891.471	443.26
LOCATION	L0000525	VOLUME	479402.095	3745882.881	443.26
LOCATION	L0000526	VOLUME	479402.035	3745874.292	443.26
LOCATION	L0000527	VOLUME	479401.974	3745865.702	443.26
LOCATION	L0000528	VOLUME	479401.914	3745857.112	443.27
LOCATION	L0000529	VOLUME	479401.853	3745848.522	443.27
LOCATION	L0000530	VOLUME	479401.793	3745839.932	443.21
LOCATION	L0000531	VOLUME	479401.732	3745831.343	443.14
LOCATION	L0000532	VOLUME	479401.672	3745822.753	443.06
LOCATION	L0000533	VOLUME	479401.611	3745814.163	443.00
LOCATION	L0000534	VOLUME	479401.551	3745805.573	443.00
LOCATION	L0000535	VOLUME	479401.490	3745796.984	443.00
LOCATION	L0000536	VOLUME	479401.430	3745788.394	443.00
LOCATION	L0000537	VOLUME	479401.369	3745779.804	443.00
LOCATION	L0000538	VOLUME	479401.309	3745771.214	443.00

** END OF LINE VOLUME SOURCE ID = SLINE12

** -----

** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES

** LINE VOLUME SOURCE ID = SLINE13

** DESCRSRC OFF-SITE TRAVEL

** PREFIX

** LENGTH OF SIDE = 8.59

** CONFIGURATION = ADJACENT

** EMISSION RATE = 0.00007195

** VERTICAL DIMENSION = 6.99

** SZINIT = 3.25

** NODES = 5

** 479405.158, 3745751.482, 443.00, 3.49, 4.00

** 479084.699, 3745749.813, 444.00, 3.49, 4.00

** 479084.143, 3745991.270, 444.00, 3.49, 4.00

** 479088.593, 3746277.236, 445.00, 3.49, 4.00

** 479090.137, 3746369.569, 445.00, 3.49, 4.00

**

LOCATION	L0000539	VOLUME	479400.864	3745751.460	443.00
LOCATION	L0000540	VOLUME	479392.274	3745751.415	443.00
LOCATION	L0000541	VOLUME	479383.684	3745751.370	443.00
LOCATION	L0000542	VOLUME	479375.094	3745751.325	443.00
LOCATION	L0000543	VOLUME	479366.504	3745751.281	443.00
LOCATION	L0000544	VOLUME	479357.914	3745751.236	443.00
LOCATION	L0000545	VOLUME	479349.324	3745751.191	443.02
LOCATION	L0000546	VOLUME	479340.734	3745751.146	443.31
LOCATION	L0000547	VOLUME	479332.144	3745751.102	443.59
LOCATION	L0000548	VOLUME	479323.555	3745751.057	443.88
LOCATION	L0000549	VOLUME	479314.965	3745751.012	444.00
LOCATION	L0000550	VOLUME	479306.375	3745750.967	444.00
LOCATION	L0000551	VOLUME	479297.785	3745750.923	444.00
LOCATION	L0000552	VOLUME	479289.195	3745750.878	444.00
LOCATION	L0000553	VOLUME	479280.605	3745750.833	444.00
LOCATION	L0000554	VOLUME	479272.015	3745750.789	444.00
LOCATION	L0000555	VOLUME	479263.425	3745750.744	444.00
LOCATION	L0000556	VOLUME	479254.836	3745750.699	444.00
LOCATION	L0000557	VOLUME	479246.246	3745750.654	444.00
LOCATION	L0000558	VOLUME	479237.656	3745750.610	444.00
LOCATION	L0000559	VOLUME	479229.066	3745750.565	444.00
LOCATION	L0000560	VOLUME	479220.476	3745750.520	444.00
LOCATION	L0000561	VOLUME	479211.886	3745750.475	444.00
LOCATION	L0000562	VOLUME	479203.296	3745750.431	444.00
LOCATION	L0000563	VOLUME	479194.706	3745750.386	444.00
LOCATION	L0000564	VOLUME	479186.116	3745750.341	444.00
LOCATION	L0000565	VOLUME	479177.527	3745750.296	444.00
LOCATION	L0000566	VOLUME	479168.937	3745750.252	444.00
LOCATION	L0000567	VOLUME	479160.347	3745750.207	444.00
LOCATION	L0000568	VOLUME	479151.757	3745750.162	444.00
LOCATION	L0000569	VOLUME	479143.167	3745750.117	444.00
LOCATION	L0000570	VOLUME	479134.577	3745750.073	444.00
LOCATION	L0000571	VOLUME	479125.987	3745750.028	444.00
LOCATION	L0000572	VOLUME	479117.397	3745749.983	444.00
LOCATION	L0000573	VOLUME	479108.808	3745749.938	444.00
LOCATION	L0000574	VOLUME	479100.218	3745749.894	444.00
LOCATION	L0000575	VOLUME	479091.628	3745749.849	444.00
LOCATION	L0000576	VOLUME	479084.695	3745751.474	444.00
LOCATION	L0000577	VOLUME	479084.675	3745760.064	444.00
LOCATION	L0000578	VOLUME	479084.655	3745768.654	444.00
LOCATION	L0000579	VOLUME	479084.636	3745777.244	444.00
LOCATION	L0000580	VOLUME	479084.616	3745785.834	444.00
LOCATION	L0000581	VOLUME	479084.596	3745794.424	444.00
LOCATION	L0000582	VOLUME	479084.576	3745803.014	444.00
LOCATION	L0000583	VOLUME	479084.556	3745811.604	444.00
LOCATION	L0000584	VOLUME	479084.537	3745820.194	444.00
LOCATION	L0000585	VOLUME	479084.517	3745828.784	444.00
LOCATION	L0000586	VOLUME	479084.497	3745837.374	444.00
LOCATION	L0000587	VOLUME	479084.477	3745845.964	444.00

LOCATION	L0000588	VOLUME	479084.458	3745854.554	444.00
LOCATION	L0000589	VOLUME	479084.438	3745863.144	444.00
LOCATION	L0000590	VOLUME	479084.418	3745871.734	444.00
LOCATION	L0000591	VOLUME	479084.398	3745880.324	444.00
LOCATION	L0000592	VOLUME	479084.378	3745888.914	444.00
LOCATION	L0000593	VOLUME	479084.359	3745897.504	444.00
LOCATION	L0000594	VOLUME	479084.339	3745906.094	444.00
LOCATION	L0000595	VOLUME	479084.319	3745914.683	444.00
LOCATION	L0000596	VOLUME	479084.299	3745923.273	444.00
LOCATION	L0000597	VOLUME	479084.279	3745931.863	444.00
LOCATION	L0000598	VOLUME	479084.260	3745940.453	444.00
LOCATION	L0000599	VOLUME	479084.240	3745949.043	444.00
LOCATION	L0000600	VOLUME	479084.220	3745957.633	444.00
LOCATION	L0000601	VOLUME	479084.200	3745966.223	444.00
LOCATION	L0000602	VOLUME	479084.180	3745974.813	444.00
LOCATION	L0000603	VOLUME	479084.161	3745983.403	444.00
LOCATION	L0000604	VOLUME	479084.154	3745991.993	444.00
LOCATION	L0000605	VOLUME	479084.287	3746000.582	444.00
LOCATION	L0000606	VOLUME	479084.421	3746009.171	444.00
LOCATION	L0000607	VOLUME	479084.555	3746017.760	444.00
LOCATION	L0000608	VOLUME	479084.688	3746026.349	444.00
LOCATION	L0000609	VOLUME	479084.822	3746034.938	444.00
LOCATION	L0000610	VOLUME	479084.956	3746043.527	444.00
LOCATION	L0000611	VOLUME	479085.090	3746052.116	444.00
LOCATION	L0000612	VOLUME	479085.223	3746060.705	444.00
LOCATION	L0000613	VOLUME	479085.357	3746069.294	444.00
LOCATION	L0000614	VOLUME	479085.491	3746077.883	444.00
LOCATION	L0000615	VOLUME	479085.624	3746086.472	444.00
LOCATION	L0000616	VOLUME	479085.758	3746095.061	444.00
LOCATION	L0000617	VOLUME	479085.892	3746103.650	444.00
LOCATION	L0000618	VOLUME	479086.025	3746112.239	444.00
LOCATION	L0000619	VOLUME	479086.159	3746120.828	444.00
LOCATION	L0000620	VOLUME	479086.293	3746129.417	444.00
LOCATION	L0000621	VOLUME	479086.426	3746138.006	444.00
LOCATION	L0000622	VOLUME	479086.560	3746146.594	444.01
LOCATION	L0000623	VOLUME	479086.694	3746155.183	444.30
LOCATION	L0000624	VOLUME	479086.827	3746163.772	444.59
LOCATION	L0000625	VOLUME	479086.961	3746172.361	444.87
LOCATION	L0000626	VOLUME	479087.095	3746180.950	445.00
LOCATION	L0000627	VOLUME	479087.228	3746189.539	445.00
LOCATION	L0000628	VOLUME	479087.362	3746198.128	445.00
LOCATION	L0000629	VOLUME	479087.496	3746206.717	445.00
LOCATION	L0000630	VOLUME	479087.629	3746215.306	445.00
LOCATION	L0000631	VOLUME	479087.763	3746223.895	445.00
LOCATION	L0000632	VOLUME	479087.897	3746232.484	445.00
LOCATION	L0000633	VOLUME	479088.030	3746241.073	445.00
LOCATION	L0000634	VOLUME	479088.164	3746249.662	445.00
LOCATION	L0000635	VOLUME	479088.298	3746258.251	445.00
LOCATION	L0000636	VOLUME	479088.432	3746266.840	445.00
LOCATION	L0000637	VOLUME	479088.565	3746275.429	445.00

LOCATION	L0000638	VOLUME	479088.707	3746284.018	445.00
LOCATION	L0000639	VOLUME	479088.850	3746292.607	445.00
LOCATION	L0000640	VOLUME	479088.994	3746301.195	445.00
LOCATION	L0000641	VOLUME	479089.138	3746309.784	445.00
LOCATION	L0000642	VOLUME	479089.281	3746318.373	445.00
LOCATION	L0000643	VOLUME	479089.425	3746326.962	445.00
LOCATION	L0000644	VOLUME	479089.568	3746335.551	445.00
LOCATION	L0000645	VOLUME	479089.712	3746344.139	445.00
LOCATION	L0000646	VOLUME	479089.856	3746352.728	445.00
LOCATION	L0000647	VOLUME	479089.999	3746361.317	445.00

** END OF LINE VOLUME SOURCE ID = SLINE13

** SOURCE PARAMETERS **

** LINE VOLUME SOURCE ID = SLINE1

SRCPARAM	L0000325	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000326	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000327	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000328	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000329	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000330	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000331	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000332	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000333	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000334	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000335	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000336	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000337	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000338	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000339	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000340	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000341	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000342	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000343	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000344	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000345	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000346	0.0000004673	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE8

SRCPARAM	L0000347	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000348	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000349	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000350	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000351	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000352	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000353	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000354	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000355	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000356	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000357	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000358	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000359	0.0000004673	3.49	4.00	3.25

SRCPARAM	L0000360	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000361	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000362	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000363	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000364	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000365	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000366	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000367	0.0000004673	3.49	4.00	3.25
SRCPARAM	L0000368	0.0000004673	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE2

SRCPARAM	L0000369	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000370	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000371	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000372	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000373	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000374	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000375	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000376	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000377	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000378	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000379	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000380	0.0000007908	3.49	4.00	3.25
SRCPARAM	L0000381	0.0000007908	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE3

SRCPARAM	L0000382	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000383	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000384	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000385	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000386	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000387	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000388	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000389	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000390	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000391	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000392	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000393	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000394	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000395	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000396	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000397	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000398	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000399	0.0000005411	3.49	4.00	3.25
SRCPARAM	L0000400	0.0000005411	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE4

SRCPARAM	L0000401	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000402	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000403	0.0000009345	3.49	4.00	3.25

SRCPARAM	L0000404	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000405	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000406	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000407	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000408	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000409	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000410	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000411	0.0000009345	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE6

SRCPARAM	L0000412	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000413	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000414	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000415	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000416	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000417	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000418	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000419	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000420	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000421	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000422	0.0000009345	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE7

SRCPARAM	L0000423	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000424	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000425	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000426	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000427	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000428	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000429	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000430	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000431	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000432	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000433	0.0000009345	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE5

SRCPARAM	L0000434	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000435	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000436	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000437	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000438	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000439	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000440	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000441	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000442	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000443	0.0000009345	3.49	4.00	3.25
SRCPARAM	L0000444	0.0000009345	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE9

SRCPARAM	L0000445	0.00000257	3.49	4.00	3.25
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SRCPARAM L0000446	0.00000257	3.49	4.00	3.25
SRCPARAM L0000447	0.00000257	3.49	4.00	3.25
SRCPARAM L0000448	0.00000257	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE10

SRCPARAM L0000449	0.00000257	3.49	4.00	3.25
SRCPARAM L0000450	0.00000257	3.49	4.00	3.25
SRCPARAM L0000451	0.00000257	3.49	4.00	3.25
SRCPARAM L0000452	0.00000257	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE11

SRCPARAM L0000453	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000454	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000455	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000456	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000457	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000458	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000459	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000460	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000461	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000462	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000463	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000464	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000465	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000466	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000467	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000468	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000469	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000470	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000471	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000472	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000473	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000474	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000475	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000476	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000477	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000478	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000479	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000480	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000481	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000482	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000483	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000484	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000485	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000486	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000487	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000488	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000489	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000490	0.0000008373	3.49	4.00	3.25
SRCPARAM L0000491	0.0000008373	3.49	4.00	3.25

SRCPARAM	L0000492	0.0000008373	3.49	4.00	3.25
SRCPARAM	L0000493	0.0000008373	3.49	4.00	3.25
SRCPARAM	L0000494	0.0000008373	3.49	4.00	3.25
SRCPARAM	L0000495	0.0000008373	3.49	4.00	3.25
SRCPARAM	L0000496	0.0000008373	3.49	4.00	3.25

**

** LINE VOLUME SOURCE ID = SLINE12

SRCPARAM	L0000497	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000498	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000499	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000500	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000501	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000502	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000503	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000504	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000505	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000506	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000507	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000508	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000509	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000510	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000511	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000512	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000513	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000514	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000515	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000516	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000517	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000518	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000519	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000520	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000521	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000522	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000523	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000524	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000525	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000526	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000527	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000528	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000529	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000530	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000531	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000532	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000533	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000534	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000535	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000536	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000537	0.0000008398	3.49	4.00	3.25
SRCPARAM	L0000538	0.0000008398	3.49	4.00	3.25

**


```
** LINE VOLUME SOURCE ID = SLINE13
```

[illegible]

[illegible]

SRCPARAM L0000638	0.0000006601	3.49	4.00	3.25
SRCPARAM L0000639	0.0000006601	3.49	4.00	3.25
SRCPARAM L0000640	0.0000006601	3.49	4.00	3.25
SRCPARAM L0000641	0.0000006601	3.49	4.00	3.25
SRCPARAM L0000642	0.0000006601	3.49	4.00	3.25
SRCPARAM L0000643	0.0000006601	3.49	4.00	3.25
SRCPARAM L0000644	0.0000006601	3.49	4.00	3.25
SRCPARAM L0000645	0.0000006601	3.49	4.00	3.25
SRCPARAM L0000646	0.0000006601	3.49	4.00	3.25
SRCPARAM L0000647	0.0000006601	3.49	4.00	3.25

** -----

URBANSRC ALL

SRCGROUP ALL

SO FINISHED

**

** AERMOD RECEPTOR PATHWAY

**

**

RE STARTING

INCLUDED "12913-02 HRA.ROU"

RE FINISHED

**

** AERMOD METEOROLOGY PATHWAY

**

**

ME STARTING

SURFFILE PERRISADJU\PERI_V9_ADJU\PERI_V9.SFC

PROFFILE PERRISADJU\PERI_V9_ADJU\PERI_V9.PFL

SURFDATA 3171 2010

UAIRDATA 3190 2010

SITEDATA 99999 2010

PROFBASE 442.0 METERS

ME FINISHED

**

** AERMOD OUTPUT PATHWAY

**

**

OU STARTING

** AUTO-GENERATED PLOTFILES

PLOTFILE ANNUAL ALL "12913-02 HRA.AD\AN00GALL.PLT" 31

SUMMFILE "12913-02 HRA.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 936 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
 0.50
ME W187 936 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

*** SETUP Finishes Successfully ***

▲ *** AERMOD - VERSION 19191 *** *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
HRA.ISC *** 04/28/21
*** AERMET - VERSION 16216 *** ***
 *** 16:42:59

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

 *** MODEL SETUP OPTIONS SUMMARY

- - - - -
- - - - -

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

-- DEPOSITION LOGIC --
**NO GAS DEPOSITION Data Provided.
**NO PARTICLE DEPOSITION Data Provided.
**Model Uses NO DRY DEPLETION. DRYDPLT = F
**Model Uses NO WET DEPLETION. WETDPLT = F

**Model Uses URBAN Dispersion Algorithm for the SBL for 323 Source(s),
for Total of 1 Urban Area(s):
Urban Population = 2189641.0 ; Urban Roughness Length = 1.000 m

**Model Uses Regulatory DEFAULT Options:
1. Stack-tip Downwash.

2. Model Accounts for ELEVated Terrain Effects.
3. Use Calms Processing Routine.
4. Use Missing Data Processing Routine.
5. No Exponential Decay.
6. Urban Roughness Length of 1.0 Meter Assumed.

****Other Options Specified:**

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:** 323 Source(s); 1 Source Group(s); and 13 Receptor(s)

```
with:      0 POINT(s), including
           0 POINTCAP(s) and      0 POINTHOR(s)
and:      323 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      0 line(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) = 442.00 ; 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 = 3.6 MB of RAM.

**Input Runstream File: aermod.inp

**Output Print File: aermod.out

**Detailed Error/Message File: 12913-02 HRA.ERR

**File for Summary of Results: 12913-02 HRA.SUM

▲ *** AERMOD - VERSION 19191 *** *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
HRA.ISC *** 04/28/21
*** AERMET - VERSION 16216 *** ***
*** 16:42:59

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

*** VOLUME SOURCE DATA ***

INIT.	URBAN	NUMBER	EMISSION	RATE		BASE	RELEASE	INIT.
INIT.	SOURCE	EMISSION	RATE			ELEV.	HEIGHT	SY
SZ	SOURCE	SCALAR	VARY			(METERS)	(METERS)	(METERS)
ID		CATS.		(METERS)	(METERS)	(METERS)	(METERS)	(METERS)
(METERS)		BY						
L0000325		0	0.46730E-06	479295.6	3745941.9	444.0	3.49	4.00
3.25	YES							
L0000326		0	0.46730E-06	479295.6	3745933.3	444.0	3.49	4.00
3.25	YES							
L0000327		0	0.46730E-06	479295.6	3745924.7	444.0	3.49	4.00
3.25	YES							
L0000328		0	0.46730E-06	479295.6	3745916.1	444.0	3.49	4.00
3.25	YES							
L0000329		0	0.46730E-06	479295.6	3745907.6	444.0	3.49	4.00
3.25	YES							
L0000330		0	0.46730E-06	479295.6	3745899.0	444.0	3.49	4.00
3.25	YES							
L0000331		0	0.46730E-06	479295.6	3745890.4	444.0	3.49	4.00
3.25	YES							
L0000332		0	0.46730E-06	479295.6	3745881.8	444.0	3.49	4.00
3.25	YES							

L0000333	0	0.46730E-06	479295.6	3745873.2	444.0	3.49	4.00
3.25 YES							
L0000334	0	0.46730E-06	479295.6	3745864.6	444.0	3.49	4.00
3.25 YES							
L0000335	0	0.46730E-06	479295.6	3745856.0	444.0	3.49	4.00
3.25 YES							
L0000336	0	0.46730E-06	479295.6	3745847.4	444.0	3.49	4.00
3.25 YES							
L0000337	0	0.46730E-06	479295.6	3745838.8	444.0	3.49	4.00
3.25 YES							
L0000338	0	0.46730E-06	479295.6	3745830.2	444.0	3.49	4.00
3.25 YES							
L0000339	0	0.46730E-06	479295.6	3745821.7	444.0	3.49	4.00
3.25 YES							
L0000340	0	0.46730E-06	479295.6	3745813.1	444.0	3.49	4.00
3.25 YES							
L0000341	0	0.46730E-06	479295.6	3745804.5	444.0	3.49	4.00
3.25 YES							
L0000342	0	0.46730E-06	479295.6	3745795.9	444.0	3.49	4.00
3.25 YES							
L0000343	0	0.46730E-06	479295.6	3745787.3	444.0	3.49	4.00
3.25 YES							
L0000344	0	0.46730E-06	479295.6	3745778.7	444.0	3.49	4.00
3.25 YES							
L0000345	0	0.46730E-06	479295.6	3745770.1	444.0	3.49	4.00
3.25 YES							
L0000346	0	0.46730E-06	479295.6	3745761.5	444.0	3.49	4.00
3.25 YES							
L0000347	0	0.46730E-06	479313.9	3745941.9	444.0	3.49	4.00
3.25 YES							
L0000348	0	0.46730E-06	479313.9	3745933.3	444.0	3.49	4.00
3.25 YES							
L0000349	0	0.46730E-06	479313.9	3745924.7	444.0	3.49	4.00
3.25 YES							
L0000350	0	0.46730E-06	479313.9	3745916.1	444.0	3.49	4.00
3.25 YES							
L0000351	0	0.46730E-06	479313.9	3745907.6	444.0	3.49	4.00
3.25 YES							
L0000352	0	0.46730E-06	479313.9	3745899.0	444.0	3.49	4.00
3.25 YES							
L0000353	0	0.46730E-06	479313.9	3745890.4	444.0	3.49	4.00
3.25 YES							
L0000354	0	0.46730E-06	479313.9	3745881.8	444.0	3.49	4.00
3.25 YES							
L0000355	0	0.46730E-06	479313.9	3745873.2	444.0	3.49	4.00
3.25 YES							
L0000356	0	0.46730E-06	479313.9	3745864.6	444.0	3.49	4.00
3.25 YES							
L0000357	0	0.46730E-06	479313.9	3745856.0	444.0	3.49	4.00
3.25 YES							

L0000358	0	0.46730E-06	479313.9	3745847.4	444.0	3.49	4.00
3.25 YES							
L0000359	0	0.46730E-06	479313.9	3745838.8	444.0	3.49	4.00
3.25 YES							
L0000360	0	0.46730E-06	479313.9	3745830.2	444.0	3.49	4.00
3.25 YES							
L0000361	0	0.46730E-06	479313.9	3745821.7	444.0	3.49	4.00
3.25 YES							
L0000362	0	0.46730E-06	479313.9	3745813.1	444.0	3.49	4.00
3.25 YES							
L0000363	0	0.46730E-06	479313.9	3745804.5	444.0	3.49	4.00
3.25 YES							
L0000364	0	0.46730E-06	479313.9	3745795.9	444.0	3.49	4.00
3.25 YES							

*** AERMOD - VERSION 19191 ***
 HRA.ISC
 *** AERMET - VERSION 16216 ***

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

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

L0000365	0	0.46730E-06	479313.9	3745787.3	444.0	3.49	4.00
3.25 YES							
L0000366	0	0.46730E-06	479313.9	3745778.7	444.0	3.49	4.00
3.25 YES							
L0000367	0	0.46730E-06	479313.9	3745770.1	444.0	3.49	4.00
3.25 YES							
L0000368	0	0.46730E-06	479313.9	3745761.5	444.0	3.49	4.00
3.25 YES							
L0000369	0	0.79080E-06	479354.9	3745939.0	444.0	3.49	4.00
3.25 YES							
L0000370	0	0.79080E-06	479363.5	3745939.1	444.0	3.49	4.00
3.25 YES							
L0000371	0	0.79080E-06	479372.1	3745939.2	444.0	3.49	4.00
3.25 YES							
L0000372	0	0.79080E-06	479380.7	3745939.3	444.0	3.49	4.00
3.25 YES							

L0000373	0	0.79080E-06	479389.3	3745939.4	443.7	3.49	4.00
3.25 YES							
L0000374	0	0.79080E-06	479397.9	3745939.5	443.4	3.49	4.00
3.25 YES							
L0000375	0	0.79080E-06	479406.5	3745939.5	443.1	3.49	4.00
3.25 YES							
L0000376	0	0.79080E-06	479415.1	3745939.6	443.0	3.49	4.00
3.25 YES							
L0000377	0	0.79080E-06	479423.6	3745939.7	443.0	3.49	4.00
3.25 YES							
L0000378	0	0.79080E-06	479432.2	3745939.8	443.0	3.49	4.00
3.25 YES							
L0000379	0	0.79080E-06	479440.8	3745939.9	443.0	3.49	4.00
3.25 YES							
L0000380	0	0.79080E-06	479449.4	3745940.0	443.0	3.49	4.00
3.25 YES							
L0000381	0	0.79080E-06	479458.0	3745940.1	443.0	3.49	4.00
3.25 YES							
L0000382	0	0.54110E-06	479473.1	3745925.2	443.0	3.49	4.00
3.25 YES							
L0000383	0	0.54110E-06	479473.1	3745916.6	443.0	3.49	4.00
3.25 YES							
L0000384	0	0.54110E-06	479473.2	3745908.0	443.0	3.49	4.00
3.25 YES							
L0000385	0	0.54110E-06	479473.2	3745899.5	443.0	3.49	4.00
3.25 YES							
L0000386	0	0.54110E-06	479473.3	3745890.9	443.0	3.49	4.00
3.25 YES							
L0000387	0	0.54110E-06	479473.4	3745882.3	443.0	3.49	4.00
3.25 YES							
L0000388	0	0.54110E-06	479473.4	3745873.7	443.0	3.49	4.00
3.25 YES							
L0000389	0	0.54110E-06	479473.5	3745865.1	443.0	3.49	4.00
3.25 YES							
L0000390	0	0.54110E-06	479473.5	3745856.5	443.0	3.49	4.00
3.25 YES							
L0000391	0	0.54110E-06	479473.6	3745847.9	443.0	3.49	4.00
3.25 YES							
L0000392	0	0.54110E-06	479473.6	3745839.3	443.0	3.49	4.00
3.25 YES							
L0000393	0	0.54110E-06	479473.7	3745830.7	443.0	3.49	4.00
3.25 YES							
L0000394	0	0.54110E-06	479473.8	3745822.1	443.0	3.49	4.00
3.25 YES							
L0000395	0	0.54110E-06	479473.8	3745813.6	443.0	3.49	4.00
3.25 YES							
L0000396	0	0.54110E-06	479473.9	3745805.0	443.0	3.49	4.00
3.25 YES							
L0000397	0	0.54110E-06	479473.9	3745796.4	443.0	3.49	4.00
3.25 YES							

L0000398	0	0.54110E-06	479474.0	3745787.8	443.0	3.49	4.00
3.25 YES							
L0000399	0	0.54110E-06	479474.0	3745779.2	443.0	3.49	4.00
3.25 YES							
L0000400	0	0.54110E-06	479474.1	3745770.6	443.0	3.49	4.00
3.25 YES							
L0000401	0	0.93450E-06	479355.1	3745899.6	444.0	3.49	4.00
3.25 YES							
L0000402	0	0.93450E-06	479355.1	3745891.0	444.0	3.49	4.00
3.25 YES							
L0000403	0	0.93450E-06	479355.1	3745882.4	444.0	3.49	4.00
3.25 YES							
L0000404	0	0.93450E-06	479355.1	3745873.9	444.0	3.49	4.00
3.25 YES							

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*** MODELOPTs: RegDFault CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

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

L0000405	0	0.93450E-06	479355.1	3745865.3	444.0	3.49	4.00
3.25 YES							
L0000406	0	0.93450E-06	479355.1	3745856.7	444.0	3.49	4.00
3.25 YES							
L0000407	0	0.93450E-06	479355.1	3745848.1	444.0	3.49	4.00
3.25 YES							
L0000408	0	0.93450E-06	479355.1	3745839.5	444.0	3.49	4.00
3.25 YES							
L0000409	0	0.93450E-06	479355.1	3745830.9	443.9	3.49	4.00
3.25 YES							
L0000410	0	0.93450E-06	479355.1	3745822.3	443.9	3.49	4.00
3.25 YES							
L0000411	0	0.93450E-06	479355.1	3745813.7	443.8	3.49	4.00
3.25 YES							
L0000412	0	0.93450E-06	479412.9	3745903.5	443.0	3.49	4.00
3.25 YES							

L0000413	0	0.93450E-06	479412.9	3745894.9	443.0	3.49	4.00
3.25 YES							
L0000414	0	0.93450E-06	479412.9	3745886.3	443.0	3.49	4.00
3.25 YES							
L0000415	0	0.93450E-06	479412.9	3745877.8	443.0	3.49	4.00
3.25 YES							
L0000416	0	0.93450E-06	479412.9	3745869.2	443.0	3.49	4.00
3.25 YES							
L0000417	0	0.93450E-06	479412.9	3745860.6	443.0	3.49	4.00
3.25 YES							
L0000418	0	0.93450E-06	479412.9	3745852.0	443.0	3.49	4.00
3.25 YES							
L0000419	0	0.93450E-06	479412.9	3745843.4	443.0	3.49	4.00
3.25 YES							
L0000420	0	0.93450E-06	479412.9	3745834.8	443.0	3.49	4.00
3.25 YES							
L0000421	0	0.93450E-06	479412.9	3745826.2	443.0	3.49	4.00
3.25 YES							
L0000422	0	0.93450E-06	479412.9	3745817.6	443.0	3.49	4.00
3.25 YES							
L0000423	0	0.93450E-06	479431.9	3745902.4	443.0	3.49	4.00
3.25 YES							
L0000424	0	0.93450E-06	479431.9	3745893.8	443.0	3.49	4.00
3.25 YES							
L0000425	0	0.93450E-06	479431.9	3745885.2	443.0	3.49	4.00
3.25 YES							
L0000426	0	0.93450E-06	479431.9	3745876.6	443.0	3.49	4.00
3.25 YES							
L0000427	0	0.93450E-06	479431.9	3745868.0	443.0	3.49	4.00
3.25 YES							
L0000428	0	0.93450E-06	479431.9	3745859.5	443.0	3.49	4.00
3.25 YES							
L0000429	0	0.93450E-06	479431.9	3745850.9	443.0	3.49	4.00
3.25 YES							
L0000430	0	0.93450E-06	479431.9	3745842.3	443.0	3.49	4.00
3.25 YES							
L0000431	0	0.93450E-06	479431.9	3745833.7	443.0	3.49	4.00
3.25 YES							
L0000432	0	0.93450E-06	479431.9	3745825.1	443.0	3.49	4.00
3.25 YES							
L0000433	0	0.93450E-06	479431.9	3745816.5	443.0	3.49	4.00
3.25 YES							
L0000434	0	0.93450E-06	479372.9	3745900.7	444.0	3.49	4.00
3.25 YES							
L0000435	0	0.93450E-06	479373.0	3745892.2	444.0	3.49	4.00
3.25 YES							
L0000436	0	0.93450E-06	479373.0	3745883.6	444.0	3.49	4.00
3.25 YES							
L0000437	0	0.93450E-06	479373.1	3745875.0	444.0	3.49	4.00
3.25 YES							

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

[illegible]

L0000445	0	0.25700E-05	479351.6	3745771.6	443.5	3.49	4.00
3.25 YES							
L0000446	0	0.25700E-05	479360.2	3745771.7	443.3	3.49	4.00
3.25 YES							
L0000447	0	0.25700E-05	479368.8	3745771.9	443.2	3.49	4.00
3.25 YES							
L0000448	0	0.25700E-05	479377.4	3745772.0	443.1	3.49	4.00
3.25 YES							
L0000449	0	0.25700E-05	479430.1	3745795.0	443.0	3.49	4.00
3.25 YES							
L0000450	0	0.25700E-05	479430.0	3745786.4	443.0	3.49	4.00
3.25 YES							
L0000451	0	0.25700E-05	479429.8	3745777.9	443.0	3.49	4.00
3.25 YES							
L0000452	0	0.25700E-05	479429.7	3745769.3	443.0	3.49	4.00
3.25 YES							

L0000453	0	0.83730E-06	479329.0	3745770.8	443.9	3.49	4.00
3.25 YES							
L0000454	0	0.83730E-06	479329.1	3745779.4	443.9	3.49	4.00
3.25 YES							
L0000455	0	0.83730E-06	479329.2	3745788.0	444.0	3.49	4.00
3.25 YES							
L0000456	0	0.83730E-06	479329.3	3745796.6	444.0	3.49	4.00
3.25 YES							
L0000457	0	0.83730E-06	479329.3	3745805.2	444.0	3.49	4.00
3.25 YES							
L0000458	0	0.83730E-06	479329.4	3745813.7	444.0	3.49	4.00
3.25 YES							
L0000459	0	0.83730E-06	479329.5	3745822.3	444.0	3.49	4.00
3.25 YES							
L0000460	0	0.83730E-06	479329.6	3745830.9	444.0	3.49	4.00
3.25 YES							
L0000461	0	0.83730E-06	479329.7	3745839.5	444.0	3.49	4.00
3.25 YES							
L0000462	0	0.83730E-06	479329.8	3745848.1	444.0	3.49	4.00
3.25 YES							
L0000463	0	0.83730E-06	479329.9	3745856.7	444.0	3.49	4.00
3.25 YES							
L0000464	0	0.83730E-06	479330.0	3745865.3	444.0	3.49	4.00
3.25 YES							
L0000465	0	0.83730E-06	479330.1	3745873.9	444.0	3.49	4.00
3.25 YES							
L0000466	0	0.83730E-06	479330.2	3745882.5	444.0	3.49	4.00
3.25 YES							
L0000467	0	0.83730E-06	479330.2	3745891.1	444.0	3.49	4.00
3.25 YES							
L0000468	0	0.83730E-06	479330.3	3745899.6	444.0	3.49	4.00
3.25 YES							
L0000469	0	0.83730E-06	479330.4	3745908.2	444.0	3.49	4.00
3.25 YES							
L0000470	0	0.83730E-06	479330.5	3745916.8	444.0	3.49	4.00
3.25 YES							
L0000471	0	0.83730E-06	479330.6	3745925.4	444.0	3.49	4.00
3.25 YES							
L0000472	0	0.83730E-06	479339.0	3745925.4	444.0	3.49	4.00
3.25 YES							
L0000473	0	0.83730E-06	479347.6	3745925.1	444.0	3.49	4.00
3.25 YES							
L0000474	0	0.83730E-06	479356.2	3745924.9	444.0	3.49	4.00
3.25 YES							
L0000475	0	0.83730E-06	479364.7	3745924.7	444.0	3.49	4.00
3.25 YES							
L0000476	0	0.83730E-06	479373.3	3745924.4	444.0	3.49	4.00
3.25 YES							
L0000477	0	0.83730E-06	479381.9	3745924.2	443.9	3.49	4.00
3.25 YES							

L0000478	0	0.83730E-06	479389.6	3745923.0	443.7	3.49	4.00
3.25 YES							
L0000479	0	0.83730E-06	479390.0	3745914.4	443.7	3.49	4.00
3.25 YES							
L0000480	0	0.83730E-06	479390.4	3745905.9	443.7	3.49	4.00
3.25 YES							
L0000481	0	0.83730E-06	479390.8	3745897.3	443.6	3.49	4.00
3.25 YES							
L0000482	0	0.83730E-06	479391.2	3745888.7	443.6	3.49	4.00
3.25 YES							
L0000483	0	0.83730E-06	479391.6	3745880.1	443.6	3.49	4.00
3.25 YES							
L0000484	0	0.83730E-06	479391.9	3745871.5	443.6	3.49	4.00
3.25 YES							

*** AERMOD - VERSION 19191 ***
 HRA.ISC
 *** AERMET - VERSION 16216 ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

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

L0000485	0	0.83730E-06	479392.3	3745863.0	443.6	3.49	4.00
3.25 YES							
L0000486	0	0.83730E-06	479392.7	3745854.4	443.6	3.49	4.00
3.25 YES							
L0000487	0	0.83730E-06	479393.1	3745845.8	443.6	3.49	4.00
3.25 YES							
L0000488	0	0.83730E-06	479393.5	3745837.2	443.4	3.49	4.00
3.25 YES							
L0000489	0	0.83730E-06	479393.9	3745828.6	443.2	3.49	4.00
3.25 YES							
L0000490	0	0.83730E-06	479394.3	3745820.1	443.1	3.49	4.00
3.25 YES							
L0000491	0	0.83730E-06	479394.6	3745811.5	443.0	3.49	4.00
3.25 YES							
L0000492	0	0.83730E-06	479395.0	3745802.9	443.0	3.49	4.00
3.25 YES							

L0000493	0	0.83730E-06	479395.4	3745794.3	443.0	3.49	4.00
3.25 YES							
L0000494	0	0.83730E-06	479395.8	3745785.7	443.0	3.49	4.00
3.25 YES							
L0000495	0	0.83730E-06	479396.2	3745777.1	443.0	3.49	4.00
3.25 YES							
L0000496	0	0.83730E-06	479396.6	3745768.6	443.0	3.49	4.00
3.25 YES							
L0000497	0	0.83980E-06	479455.1	3745769.1	443.0	3.49	4.00
3.25 YES							
L0000498	0	0.83980E-06	479454.7	3745777.7	443.0	3.49	4.00
3.25 YES							
L0000499	0	0.83980E-06	479454.4	3745786.3	443.0	3.49	4.00
3.25 YES							
L0000500	0	0.83980E-06	479454.1	3745794.9	443.0	3.49	4.00
3.25 YES							
L0000501	0	0.83980E-06	479453.7	3745803.5	443.0	3.49	4.00
3.25 YES							
L0000502	0	0.83980E-06	479453.4	3745812.0	443.0	3.49	4.00
3.25 YES							
L0000503	0	0.83980E-06	479453.1	3745820.6	443.0	3.49	4.00
3.25 YES							
L0000504	0	0.83980E-06	479452.7	3745829.2	443.0	3.49	4.00
3.25 YES							
L0000505	0	0.83980E-06	479452.4	3745837.8	443.0	3.49	4.00
3.25 YES							
L0000506	0	0.83980E-06	479452.1	3745846.4	443.0	3.49	4.00
3.25 YES							
L0000507	0	0.83980E-06	479451.7	3745855.0	443.0	3.49	4.00
3.25 YES							
L0000508	0	0.83980E-06	479451.4	3745863.5	443.0	3.49	4.00
3.25 YES							
L0000509	0	0.83980E-06	479451.1	3745872.1	443.0	3.49	4.00
3.25 YES							
L0000510	0	0.83980E-06	479450.7	3745880.7	443.0	3.49	4.00
3.25 YES							
L0000511	0	0.83980E-06	479450.4	3745889.3	443.0	3.49	4.00
3.25 YES							
L0000512	0	0.83980E-06	479450.1	3745897.9	443.0	3.49	4.00
3.25 YES							
L0000513	0	0.83980E-06	479449.7	3745906.5	443.0	3.49	4.00
3.25 YES							
L0000514	0	0.83980E-06	479449.4	3745915.0	443.0	3.49	4.00
3.25 YES							
L0000515	0	0.83980E-06	479448.3	3745922.8	443.0	3.49	4.00
3.25 YES							
L0000516	0	0.83980E-06	479439.7	3745922.8	443.0	3.49	4.00
3.25 YES							
L0000517	0	0.83980E-06	479431.1	3745922.8	443.0	3.49	4.00
3.25 YES							

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*** AERMOD - VERSION 19191 ***      *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
HRA.ISC ***                        04/28/21
*** AERMET - VERSION 16216 ***      ***
***                                16:42:59

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*** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ U*

[illegible]

L0000525	0	0.83980E-06	479402.1	3745882.9	443.3	3.49	4.00
3.25 YES							
L0000526	0	0.83980E-06	479402.0	3745874.3	443.3	3.49	4.00
3.25 YES							
L0000527	0	0.83980E-06	479402.0	3745865.7	443.3	3.49	4.00
3.25 YES							
L0000528	0	0.83980E-06	479401.9	3745857.1	443.3	3.49	4.00
3.25 YES							
L0000529	0	0.83980E-06	479401.9	3745848.5	443.3	3.49	4.00
3.25 YES							
L0000530	0	0.83980E-06	479401.8	3745839.9	443.2	3.49	4.00
3.25 YES							
L0000531	0	0.83980E-06	479401.7	3745831.3	443.1	3.49	4.00
3.25 YES							
L0000532	0	0.83980E-06	479401.7	3745822.8	443.1	3.49	4.00
3.25 YES							

L0000533	0	0.83980E-06	479401.6	3745814.2	443.0	3.49	4.00
3.25 YES							
L0000534	0	0.83980E-06	479401.6	3745805.6	443.0	3.49	4.00
3.25 YES							
L0000535	0	0.83980E-06	479401.5	3745797.0	443.0	3.49	4.00
3.25 YES							
L0000536	0	0.83980E-06	479401.4	3745788.4	443.0	3.49	4.00
3.25 YES							
L0000537	0	0.83980E-06	479401.4	3745779.8	443.0	3.49	4.00
3.25 YES							
L0000538	0	0.83980E-06	479401.3	3745771.2	443.0	3.49	4.00
3.25 YES							
L0000539	0	0.66010E-06	479400.9	3745751.5	443.0	3.49	4.00
3.25 YES							
L0000540	0	0.66010E-06	479392.3	3745751.4	443.0	3.49	4.00
3.25 YES							
L0000541	0	0.66010E-06	479383.7	3745751.4	443.0	3.49	4.00
3.25 YES							
L0000542	0	0.66010E-06	479375.1	3745751.3	443.0	3.49	4.00
3.25 YES							
L0000543	0	0.66010E-06	479366.5	3745751.3	443.0	3.49	4.00
3.25 YES							
L0000544	0	0.66010E-06	479357.9	3745751.2	443.0	3.49	4.00
3.25 YES							
L0000545	0	0.66010E-06	479349.3	3745751.2	443.0	3.49	4.00
3.25 YES							
L0000546	0	0.66010E-06	479340.7	3745751.1	443.3	3.49	4.00
3.25 YES							
L0000547	0	0.66010E-06	479332.1	3745751.1	443.6	3.49	4.00
3.25 YES							
L0000548	0	0.66010E-06	479323.6	3745751.1	443.9	3.49	4.00
3.25 YES							
L0000549	0	0.66010E-06	479315.0	3745751.0	444.0	3.49	4.00
3.25 YES							
L0000550	0	0.66010E-06	479306.4	3745751.0	444.0	3.49	4.00
3.25 YES							
L0000551	0	0.66010E-06	479297.8	3745750.9	444.0	3.49	4.00
3.25 YES							
L0000552	0	0.66010E-06	479289.2	3745750.9	444.0	3.49	4.00
3.25 YES							
L0000553	0	0.66010E-06	479280.6	3745750.8	444.0	3.49	4.00
3.25 YES							
L0000554	0	0.66010E-06	479272.0	3745750.8	444.0	3.49	4.00
3.25 YES							
L0000555	0	0.66010E-06	479263.4	3745750.7	444.0	3.49	4.00
3.25 YES							
L0000556	0	0.66010E-06	479254.8	3745750.7	444.0	3.49	4.00
3.25 YES							
L0000557	0	0.66010E-06	479246.2	3745750.7	444.0	3.49	4.00
3.25 YES							

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*** AERMOD - VERSION 19191 ***      *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
HRA.ISC ***                        04/28/21
*** AERMET - VERSION 16216 ***      ***
***                                16:42:59

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

L0000565	0	0.66010E-06	479177.5	3745750.3	444.0	3.49	4.00
3.25 YES							
L0000566	0	0.66010E-06	479168.9	3745750.3	444.0	3.49	4.00
3.25 YES							
L0000567	0	0.66010E-06	479160.3	3745750.2	444.0	3.49	4.00
3.25 YES							
L0000568	0	0.66010E-06	479151.8	3745750.2	444.0	3.49	4.00
3.25 YES							
L0000569	0	0.66010E-06	479143.2	3745750.1	444.0	3.49	4.00
3.25 YES							
L0000570	0	0.66010E-06	479134.6	3745750.1	444.0	3.49	4.00
3.25 YES							
L0000571	0	0.66010E-06	479126.0	3745750.0	444.0	3.49	4.00
3.25 YES							
L0000572	0	0.66010E-06	479117.4	3745750.0	444.0	3.49	4.00
3.25 YES							

L0000573	0	0.66010E-06	479108.8	3745749.9	444.0	3.49	4.00
3.25 YES							
L0000574	0	0.66010E-06	479100.2	3745749.9	444.0	3.49	4.00
3.25 YES							
L0000575	0	0.66010E-06	479091.6	3745749.8	444.0	3.49	4.00
3.25 YES							
L0000576	0	0.66010E-06	479084.7	3745751.5	444.0	3.49	4.00
3.25 YES							
L0000577	0	0.66010E-06	479084.7	3745760.1	444.0	3.49	4.00
3.25 YES							
L0000578	0	0.66010E-06	479084.7	3745768.7	444.0	3.49	4.00
3.25 YES							
L0000579	0	0.66010E-06	479084.6	3745777.2	444.0	3.49	4.00
3.25 YES							
L0000580	0	0.66010E-06	479084.6	3745785.8	444.0	3.49	4.00
3.25 YES							
L0000581	0	0.66010E-06	479084.6	3745794.4	444.0	3.49	4.00
3.25 YES							
L0000582	0	0.66010E-06	479084.6	3745803.0	444.0	3.49	4.00
3.25 YES							
L0000583	0	0.66010E-06	479084.6	3745811.6	444.0	3.49	4.00
3.25 YES							
L0000584	0	0.66010E-06	479084.5	3745820.2	444.0	3.49	4.00
3.25 YES							
L0000585	0	0.66010E-06	479084.5	3745828.8	444.0	3.49	4.00
3.25 YES							
L0000586	0	0.66010E-06	479084.5	3745837.4	444.0	3.49	4.00
3.25 YES							
L0000587	0	0.66010E-06	479084.5	3745846.0	444.0	3.49	4.00
3.25 YES							
L0000588	0	0.66010E-06	479084.5	3745854.6	444.0	3.49	4.00
3.25 YES							
L0000589	0	0.66010E-06	479084.4	3745863.1	444.0	3.49	4.00
3.25 YES							
L0000590	0	0.66010E-06	479084.4	3745871.7	444.0	3.49	4.00
3.25 YES							
L0000591	0	0.66010E-06	479084.4	3745880.3	444.0	3.49	4.00
3.25 YES							
L0000592	0	0.66010E-06	479084.4	3745888.9	444.0	3.49	4.00
3.25 YES							
L0000593	0	0.66010E-06	479084.4	3745897.5	444.0	3.49	4.00
3.25 YES							
L0000594	0	0.66010E-06	479084.3	3745906.1	444.0	3.49	4.00
3.25 YES							
L0000595	0	0.66010E-06	479084.3	3745914.7	444.0	3.49	4.00
3.25 YES							
L0000596	0	0.66010E-06	479084.3	3745923.3	444.0	3.49	4.00
3.25 YES							
L0000597	0	0.66010E-06	479084.3	3745931.9	444.0	3.49	4.00
3.25 YES							

L0000598	0	0.66010E-06	479084.3	3745940.5	444.0	3.49	4.00
3.25 YES							
L0000599	0	0.66010E-06	479084.2	3745949.0	444.0	3.49	4.00
3.25 YES							
L0000600	0	0.66010E-06	479084.2	3745957.6	444.0	3.49	4.00
3.25 YES							
L0000601	0	0.66010E-06	479084.2	3745966.2	444.0	3.49	4.00
3.25 YES							
L0000602	0	0.66010E-06	479084.2	3745974.8	444.0	3.49	4.00
3.25 YES							
L0000603	0	0.66010E-06	479084.2	3745983.4	444.0	3.49	4.00
3.25 YES							
L0000604	0	0.66010E-06	479084.2	3745992.0	444.0	3.49	4.00
3.25 YES							

*** AERMOD - VERSION 19191 *** *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
 HRA.ISC *** 04/28/21
 *** AERMET - VERSION 16216 *** ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

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

L0000605	0	0.66010E-06	479084.3	3746000.6	444.0	3.49	4.00
3.25 YES							
L0000606	0	0.66010E-06	479084.4	3746009.2	444.0	3.49	4.00
3.25 YES							
L0000607	0	0.66010E-06	479084.6	3746017.8	444.0	3.49	4.00
3.25 YES							
L0000608	0	0.66010E-06	479084.7	3746026.3	444.0	3.49	4.00
3.25 YES							
L0000609	0	0.66010E-06	479084.8	3746034.9	444.0	3.49	4.00
3.25 YES							
L0000610	0	0.66010E-06	479085.0	3746043.5	444.0	3.49	4.00
3.25 YES							
L0000611	0	0.66010E-06	479085.1	3746052.1	444.0	3.49	4.00
3.25 YES							
L0000612	0	0.66010E-06	479085.2	3746060.7	444.0	3.49	4.00
3.25 YES							

L0000613	0	0.66010E-06	479085.4	3746069.3	444.0	3.49	4.00
3.25 YES							
L0000614	0	0.66010E-06	479085.5	3746077.9	444.0	3.49	4.00
3.25 YES							
L0000615	0	0.66010E-06	479085.6	3746086.5	444.0	3.49	4.00
3.25 YES							
L0000616	0	0.66010E-06	479085.8	3746095.1	444.0	3.49	4.00
3.25 YES							
L0000617	0	0.66010E-06	479085.9	3746103.6	444.0	3.49	4.00
3.25 YES							
L0000618	0	0.66010E-06	479086.0	3746112.2	444.0	3.49	4.00
3.25 YES							
L0000619	0	0.66010E-06	479086.2	3746120.8	444.0	3.49	4.00
3.25 YES							
L0000620	0	0.66010E-06	479086.3	3746129.4	444.0	3.49	4.00
3.25 YES							
L0000621	0	0.66010E-06	479086.4	3746138.0	444.0	3.49	4.00
3.25 YES							
L0000622	0	0.66010E-06	479086.6	3746146.6	444.0	3.49	4.00
3.25 YES							
L0000623	0	0.66010E-06	479086.7	3746155.2	444.3	3.49	4.00
3.25 YES							
L0000624	0	0.66010E-06	479086.8	3746163.8	444.6	3.49	4.00
3.25 YES							
L0000625	0	0.66010E-06	479087.0	3746172.4	444.9	3.49	4.00
3.25 YES							
L0000626	0	0.66010E-06	479087.1	3746180.9	445.0	3.49	4.00
3.25 YES							
L0000627	0	0.66010E-06	479087.2	3746189.5	445.0	3.49	4.00
3.25 YES							
L0000628	0	0.66010E-06	479087.4	3746198.1	445.0	3.49	4.00
3.25 YES							
L0000629	0	0.66010E-06	479087.5	3746206.7	445.0	3.49	4.00
3.25 YES							
L0000630	0	0.66010E-06	479087.6	3746215.3	445.0	3.49	4.00
3.25 YES							
L0000631	0	0.66010E-06	479087.8	3746223.9	445.0	3.49	4.00
3.25 YES							
L0000632	0	0.66010E-06	479087.9	3746232.5	445.0	3.49	4.00
3.25 YES							
L0000633	0	0.66010E-06	479088.0	3746241.1	445.0	3.49	4.00
3.25 YES							
L0000634	0	0.66010E-06	479088.2	3746249.7	445.0	3.49	4.00
3.25 YES							
L0000635	0	0.66010E-06	479088.3	3746258.3	445.0	3.49	4.00
3.25 YES							
L0000636	0	0.66010E-06	479088.4	3746266.8	445.0	3.49	4.00
3.25 YES							
L0000637	0	0.66010E-06	479088.6	3746275.4	445.0	3.49	4.00
3.25 YES							

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*** AERMOD - VERSION 19191 ***      *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
HRA.ISC ***                        04/28/21
*** AERMET - VERSION 16216 ***      ***
***                                16:42:59

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*** MODELOPTs: RegDEFAULT CONC ELEV URBAN ADJ U*

[illegible]

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^ *** AERMOD - VERSION 19191 ***      *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
HRA.ISC ***      04/28/21
*** AERMET - VERSION 16216 ***      ***
***      16:42:59

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ U*

*** SOURCE IDs DEFINING SOURCE GROUPS

SRCGROUP ID		SOURCE IDs								
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ALL	L0000325	,	L0000326	,	L0000327	,	L0000328	,	L0000329	,
L0000330	,	L0000331	,	L0000332	,					
	L0000333	,	L0000334	,	L0000335	,	L0000336	,	L0000337	,
L0000338	,	L0000339	,	L0000340	,					
	L0000341	,	L0000342	,	L0000343	,	L0000344	,	L0000345	,
L0000346	,	L0000347	,	L0000348	,					
	L0000349	,	L0000350	,	L0000351	,	L0000352	,	L0000353	,
L0000354	,	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	,	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	,					

L0000450	L0000445 , L0000451	L0000446 , L0000452	L0000447 ,	L0000448 ,	L0000449 ,
L0000458	L0000453 , L0000459	L0000454 , L0000460	L0000455 ,	L0000456 ,	L0000457 ,
L0000466	L0000461 , L0000467	L0000462 , L0000468	L0000463 ,	L0000464 ,	L0000465 ,
L0000474	L0000469 , L0000475	L0000470 , L0000476	L0000471 ,	L0000472 ,	L0000473 ,
L0000482	L0000477 , L0000483	L0000478 , L0000484	L0000479 ,	L0000480 ,	L0000481 ,

*** AERMOD - VERSION 19191 *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
 HRA.ISC *** 04/28/21
 *** AERMET - VERSION 16216 ***
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*** MODELOPTs: RegDFault CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS

SRCGROUP ID

SOURCE IDs

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

L0000538	, L0000539	, L0000540	,			
	L0000541	, L0000542	, L0000543	, L0000544	, L0000545	,
L0000546	, L0000547	, L0000548	,			
	L0000549	, 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	, L0000606	, L0000607	, L0000608	, L0000609	,
L0000610	, L0000611	, L0000612	,			
	L0000613	, L0000614	, L0000615	, L0000616	, L0000617	,
L0000618	, L0000619	, L0000620	,			
	L0000621	, L0000622	, L0000623	, L0000624	, L0000625	,
L0000626	, L0000627	, L0000628	,			
	L0000629	, L0000630	, L0000631	, L0000632	, L0000633	,
L0000634	, L0000635	, L0000636	,			
	L0000637	, L0000638	, L0000639	, L0000640	, L0000641	,
L0000642	, L0000643	, L0000644	,			
▲ *** AERMOD - VERSION 19191 *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02 HRA.ISC *** 04/28/21 *** AERMET - VERSION 16216 *** *** 16:42:59						

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS

SRCGROUP ID

SOURCE IDs

 L0000645 , L0000646 , L0000647 ,
▲ *** AERMOD - VERSION 19191 *** *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
HRA.ISC *** 04/28/21
*** AERMET - VERSION 16216 *** ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES

URBAN ID URBAN POP

SOURCE IDs

L0000329	2189641.	L0000325	, L0000326	, L0000327	, L0000328	,
L0000332	, L0000330	, L0000331	,			
	,					
L0000338	L0000333	, L0000334	, L0000335	, L0000336	, L0000337	,
	, L0000339	, L0000340	,			
L0000346	L0000341	, L0000342	, L0000343	, L0000344	, L0000345	,
	, L0000347	, L0000348	,			
L0000354	L0000349	, L0000350	, L0000351	, L0000352	, L0000353	,
	, L0000355	, L0000356	,			
L0000362	L0000357	, L0000358	, L0000359	, L0000360	, L0000361	,
	, L0000363	, L0000364	,			
L0000370	L0000365	, L0000366	, L0000367	, L0000368	, L0000369	,
	, L0000371	, L0000372	,			
L0000378	L0000373	, L0000374	, L0000375	, L0000376	, L0000377	,
	, L0000379	, L0000380	,			
L0000386	L0000381	, L0000382	, L0000383	, L0000384	, L0000385	,
	, L0000387	, L0000388	,			
L0000394	L0000389	, L0000390	, L0000391	, L0000392	, L0000393	,
	, L0000395	, L0000396	,			

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L0000402      L0000397      , L0000398      , L0000399      , L0000400      , L0000401      ,
, L0000403      , L0000404      ,

L0000410      L0000405      , L0000406      , L0000407      , L0000408      , L0000409      ,
, L0000411      , L0000412      ,

L0000418      L0000413      , L0000414      , L0000415      , L0000416      , L0000417      ,
, L0000419      , L0000420      ,

L0000426      L0000421      , L0000422      , L0000423      , L0000424      , L0000425      ,
, L0000427      , L0000428      ,

L0000434      L0000429      , L0000430      , L0000431      , L0000432      , L0000433      ,
, L0000435      , L0000436      ,

L0000442      L0000437      , L0000438      , L0000439      , L0000440      , L0000441      ,
, L0000443      , L0000444      ,

L0000450      L0000445      , L0000446      , L0000447      , L0000448      , L0000449      ,
, L0000451      , L0000452      ,

L0000458      L0000453      , L0000454      , L0000455      , L0000456      , L0000457      ,
, L0000459      , L0000460      ,

L0000466      L0000461      , L0000462      , L0000463      , L0000464      , L0000465      ,
, L0000467      , L0000468      ,

L0000474      L0000469      , L0000470      , L0000471      , L0000472      , L0000473      ,
, L0000475      , L0000476      ,

L0000482      L0000477      , L0000478      , L0000479      , L0000480      , L0000481      ,
, L0000483      , L0000484      ,
^ *** AERMOD - VERSION 19191 *** *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
HRA.ISC *** 04/28/21
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES

URBAN ID URBAN POP

SOURCE IDs

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	,				
	L0000541	, L0000542	, L0000543	, L0000544	, L0000545	,	
L0000546	, L0000547	, L0000548	,				
	L0000549	, 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	, L0000606	, L0000607	, L0000608	, L0000609	,	
L0000610	, L0000611	, L0000612	,				
	L0000613	, L0000614	, L0000615	, L0000616	, L0000617	,	
L0000618	, L0000619	, L0000620	,				

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        L0000621      , L0000622      , L0000623      , L0000624      , L0000625      ,
L0000626      , L0000627      , L0000628      ,

        L0000629      , L0000630      , L0000631      , L0000632      , L0000633      ,
L0000634      , L0000635      , L0000636      ,

        L0000637      , L0000638      , L0000639      , L0000640      , L0000641      ,
L0000642      , L0000643      , L0000644      ,
^ *** AERMOD - VERSION 19191 *** *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINED AS URBAN SOURCES

URBAN ID	URBAN POP	SOURCE IDs
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        L0000645      , L0000646      , L0000647      ,
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

```

( 479204.3, 3745653.0, 444.0, 444.0, 0.0); ( 479479.5,
3745658.3, 443.0, 443.0, 0.0);
( 479730.7, 3745679.7, 442.0, 442.0, 0.0); ( 479508.9,
3745844.0, 443.0, 443.0, 0.0);
( 479508.9, 3745922.8, 443.0, 443.0, 0.0); ( 479021.3,
3746174.0, 445.0, 445.0, 0.0);
( 479020.0, 3746041.7, 444.0, 444.0, 0.0); ( 479316.6,
3746093.8, 444.0, 444.0, 0.0);
( 479295.3, 3746040.9, 444.0, 444.0, 0.0); ( 479217.8,
3746081.0, 444.0, 444.0, 0.0);
( 479213.8, 3746114.6, 444.0, 444.0, 0.0); ( 479381.4,
3745627.2, 443.0, 443.0, 0.0);
( 479028.2, 3745643.1, 444.0, 444.0, 0.0);

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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ U*

*** METEOROLOGICAL DAYS SELECTED FOR

PROCESSING ***

(1=YES; 0=NO)

[illegible]

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 19191 ***      *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** UP TO THE FIRST 24 HOURS OF METEOROLOGICAL

DATA ***

Surface file: PERRISADJU\PERI_V9_ADJU\PERI_V9.SFC

Met Version: 16216

Profile file: PERRISADJU\PERI_V9_ADJU\PERI_V9.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3171

Name: UNKNOWN

Upper air station no.: 3190

Name: UNKNOWN

Year: 2010

Year: 2010

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							
10	01	01	1	01	-7.9	0.125	-9.000	-9.000	-999.	106.	21.2	0.19	0.61	
1.00	1.30	335.			9.1	282.5	5.5							
10	01	01	1	02	-3.9	0.088	-9.000	-9.000	-999.	62.	15.1	0.19	0.61	
1.00	0.90	142.			9.1	280.9	5.5							
10	01	01	1	03	-3.9	0.088	-9.000	-9.000	-999.	62.	15.1	0.19	0.61	
1.00	0.90	324.			9.1	280.4	5.5							
10	01	01	1	04	-1.3	0.064	-9.000	-9.000	-999.	39.	18.3	0.19	0.61	
1.00	0.40	294.			9.1	278.8	5.5							
10	01	01	1	05	-3.9	0.088	-9.000	-9.000	-999.	62.	15.0	0.19	0.61	
1.00	0.90	205.			9.1	278.1	5.5							
10	01	01	1	06	-1.3	0.065	-9.000	-9.000	-999.	39.	18.3	0.19	0.61	
1.00	0.40	3.			9.1	277.0	5.5							
10	01	01	1	07	-8.0	0.125	-9.000	-9.000	-999.	106.	21.0	0.19	0.61	
1.00	1.30	99.			9.1	277.0	5.5							
10	01	01	1	08	-3.3	0.086	-9.000	-9.000	-999.	61.	16.8	0.19	0.61	
0.54	0.90	319.			9.1	278.8	5.5							
10	01	01	1	09	20.1	0.128	0.307	0.010	49.	110.	-9.0	0.19	0.61	
0.33	0.90	239.			9.1	284.2	5.5							
10	01	01	1	10	56.7	0.087	0.560	0.010	107.	62.	-1.0	0.19	0.61	
0.26	0.40	188.			9.1	289.2	5.5							
10	01	01	1	11	81.5	0.323	0.867	0.008	277.	441.	-35.9	0.19	0.61	
0.23	2.70	310.			9.1	290.9	5.5							
10	01	01	1	12	97.1	0.281	1.058	0.008	421.	357.	-19.7	0.19	0.61	
0.22	2.20	357.			9.1	293.1	5.5							
10	01	01	1	13	92.2	0.279	1.117	0.008	523.	354.	-20.4	0.19	0.61	
0.22	2.20	356.			9.1	293.8	5.5							
10	01	01	1	14	77.6	0.275	1.102	0.008	595.	347.	-23.2	0.19	0.61	
0.23	2.20	50.			9.1	294.2	5.5							
10	01	01	1	15	54.9	0.230	1.006	0.008	640.	266.	-19.2	0.19	0.61	
0.27	1.80	53.			9.1	293.8	5.5							
10	01	01	1	16	12.3	0.206	0.613	0.008	648.	225.	-61.5	0.19	0.61	

0.36	1.80	11.	9.1	292.5	5.5								
10	01	01	1	17	-3.6	0.087	-9.000	-9.000	-999.	71.	15.6	0.19	0.61
0.64	0.90	351.	9.1	290.4	5.5								
10	01	01	1	18	-3.8	0.087	-9.000	-9.000	-999.	62.	15.2	0.19	0.61
1.00	0.90	186.	9.1	287.5	5.5								
10	01	01	1	19	-3.8	0.087	-9.000	-9.000	-999.	62.	15.2	0.19	0.61
1.00	0.90	275.	9.1	285.9	5.5								
10	01	01	1	20	-1.2	0.064	-9.000	-9.000	-999.	39.	18.1	0.19	0.61
1.00	0.40	181.	9.1	285.4	5.5								
10	01	01	1	21	-7.8	0.125	-9.000	-9.000	-999.	106.	21.3	0.19	0.61
1.00	1.30	318.	9.1	284.9	5.5								
10	01	01	1	22	-3.8	0.088	-9.000	-9.000	-999.	62.	15.1	0.19	0.61
1.00	0.90	196.	9.1	283.1	5.5								
10	01	01	1	23	-3.8	0.088	-9.000	-9.000	-999.	62.	15.1	0.19	0.61
1.00	0.90	330.	9.1	281.4	5.5								
10	01	01	1	24	-7.9	0.125	-9.000	-9.000	-999.	106.	21.2	0.19	0.61
1.00	1.30	332.	9.1	280.9	5.5								

First hour of profile data

YR	MO	DY	HR	HEIGHT	F	WDIR	WSPD	AMB_TMP	sigmaA	sigmaW	sigmaV
10	01	01	01	5.5	0	-999.	-99.00	282.6	99.0	-99.00	-99.00
10	01	01	01	9.1	1	335.	1.30	-999.0	99.0	-99.00	-99.00

F indicates top of profile (=1) or below (=0)

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 HRA.ISC *** 04/28/21
 *** 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): L0000325 , L0000326
 , L0000327 , L0000328 , L0000329 ,
 , L0000330 , L0000331 , L0000332 , L0000333 , L0000334
 , L0000335 , L0000336 , L0000337 ,
 , L0000338 , L0000339 , L0000340 , L0000341 , L0000342
 , L0000343 , L0000344 , L0000345 ,
 , L0000346 , L0000347 , L0000348 , L0000349 , L0000350
 , L0000351 , L0000352 , . . . ,

*** DISCRETE CARTESIAN RECEPTOR POINTS

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

**

ALL	1ST HIGHEST VALUE IS	0.01424	AT (	479508.94,	3745844.02,
443.00,	443.00, 0.00) DC				
	2ND HIGHEST VALUE IS	0.01100	AT (	479508.94,	3745922.83,
443.00,	443.00, 0.00) DC				
	3RD HIGHEST VALUE IS	0.00616	AT (	479479.55,	3745658.33,
443.00,	443.00, 0.00) DC				
	4TH HIGHEST VALUE IS	0.00569	AT (	479381.40,	3745627.25,
443.00,	443.00, 0.00) DC				
	5TH HIGHEST VALUE IS	0.00556	AT (	479295.28,	3746040.88,
444.00,	444.00, 0.00) DC				

444.00, 6TH HIGHEST VALUE IS 0.00494 AT (479204.35, 3745652.98,
 444.00, 444.00, 0.00) DC
 444.00, 7TH HIGHEST VALUE IS 0.00413 AT (479020.00, 3746041.73,
 444.00, 444.00, 0.00) DC
 444.00, 8TH HIGHEST VALUE IS 0.00411 AT (479316.57, 3746093.83,
 444.00, 444.00, 0.00) DC
 444.00, 9TH HIGHEST VALUE IS 0.00410 AT (479217.75, 3746080.98,
 444.00, 444.00, 0.00) DC
 444.00, 10TH HIGHEST VALUE IS 0.00370 AT (479213.76, 3746114.61,
 444.00, 444.00, 0.00) DC

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

^ *** AERMOD - VERSION 19191 *** *** C:\LAKES\AERMOD VIEW\12913-02 HRA\12913-02
 HRA.ISC *** 04/28/21
 *** AERMET - VERSION 16216 *** ***
 *** 16:42:59

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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 4 Warning Message(s)
 A Total of 2028 Informational Message(s)

 A Total of 43824 Hours Were Processed

 A Total of 978 Calm Hours Identified

 A Total of 1050 Missing Hours Identified (2.40 Percent)

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

***** WARNING MESSAGES *****
 ME W186 936 MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
 0.50
 ME W187 936 MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 MX W450 17521 CHKDAT: Record Out of Sequence in Meteorological File at:
 14010101

MX W450 17521 CHKDAT: Record Out of Sequence in Meteorological File at:
2 year gap

*** AERMOD Finishes Successfully ***

APPENDIX 2.3:

RISK CALCULATIONS

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Table 1
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
-0.25 to 0 Age Bin Exposure Scenario

Source (a)	Mass GLC		Weight Fraction (d)	Contaminant (e)	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
	(ug/m ³) (b)	(mg/m ³) (c)			URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
					(ug/m ³) ⁻¹ (f)	(mg/kg/day) ⁻¹ (g)	(mg/kg-day) (h)	(i)	(ug/m ³) (j)	(mg/kg/day) (k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00556	5.56E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.9E-06	6.1E-08	5.0E+00	1.4E-03	1.1E-03							
TOTAL					6.1E-08				1.1E-03			0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	

** Key to Toxicological 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)	0.25
inhalation rate (L/kg-day)	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85
age sensitivity factor (age third trimester)	10

Table 2
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
0-2 Age Bin Exposure Scenario

Source (a)	Mass GLC		Weight Fraction (d)	Contaminant (e)	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
	(ug/m ³)	(mg/m ³)			URF (ug/m ³) ⁻¹	CPF (mg/kg/day) ⁻¹	DOSE (mg/kg-day)	RISK	REL (ug/m ³)	RfD (mg/kg/day)	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(b)	(c)			(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00556	5.56E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	5.8E-06	1.5E-06	5.0E+00	1.4E-03	1.1E-03							
TOTAL								1.5E-06			1.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

** Key to Toxicological 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)	2
inhalation rate (L/kg-day)	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85
age sensitivity factor (0 to 2 years old)	10

Table 3
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
2-16 Age Bin Exposure Scenario

Source (a)	Mass GLC		Weight Fraction (d)	Contaminant (e)	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**										
	(ug/m ³) (b)	(mg/m ³) (c)			URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES	
					(ug/m ³) ⁻¹ (f)	(mg/kg/day) ⁻¹ (g)	(mg/kg-day) (h)	 (i)	(ug/m ³) (j)	(mg/kg/day) (k)	 (l)	 (m)	 (n)	 (o)	 (p)	 (q)	 (r)	 (s)	
	0.00556	5.56E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.0E-06	1.4E-06	5.0E+00	1.4E-03	1.1E-03								
TOTAL					1.4E-06				1.1E-03				0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

** Key to Toxicological 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)	14
inhalation rate (L/kg-day)	572
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.72
age sensitivity factor (ages 2 to 16 years)	3

Table 4
Quantification of Carcinogenic Risks and Noncarcinogenic Hazards
16-30 Age Bin Exposure Scenario

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**										
	(ug/m ³)	(mg/m ³)			URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES	
					(ug/m ³) ⁻¹	(mg/kg/day) ⁻¹	(mg/kg-day)		(ug/m ³)	(mg/kg/day)	(1)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	
	0.00556	5.56E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.4E-06	2.1E-07	5.0E+00	1.4E-03	1.1E-03								
TOTAL					2.1E-07				1.1E-03				0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

0.21

** Key to Toxicological 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)	14
inhalation rate (L/kg-day))	261
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.73
age sensitivity factor (ages 16 to 30 years old)	1

Total Risk for All Age Bins (per million) 3.14

Table 5
Quantification of Carcinogenic Risks and Noncarcinogenic Risks
25-Year Worker Exposure Scenario

	Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
		(ug/m ³)	(mg/m ³)			URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(a)	(b)	(c)	(d)	(e)	(ug/m ³) ⁻¹	(mg/kg/day) ⁻¹	(mg/kg-day)	(i)	(ug/m ³)	(mg/kg/day)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
1	Diesel Particulates	1.42E-02	1.42E-05	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	2.2E-06	8.4E-07	5.0E+00	1.4E-03	2.8E-03							
TOTAL									8.4E-07 0.84			2.8E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00

** Key to Toxicological Endpoints

Note:

Exposure factors used to calculate contaminant intake

RESP	Respiratory System	exposure frequency (days/year)	250
CNS/PNS	Central/Peripheral Nervous System	exposure duration (years)	25
CV/BL	Cardiovascular/Blood System	inhalation rate (L/kg-day))	230
IMMUN	Immune System	inhalation absorption factor	1
KIDN	Kidney	averaging time (years)	70
GI/LV	Gastrointestinal System/Liver		
REPRO	Reproductive System (e.g. teratogenic and developmental effects)		
EYES	Eye irritation and/or other effects		