Indian and Ramona Warehouse

MOBILE SOURCE HEALTH RISK ASSESSMENT

CITY OF PERRIS

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November 1, 2018

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LIST OF ABBREVIATED TERMS

(1)	Reference
µg	Microgram
AERMOD	Atmospheric Dispersion Modeling System
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
MEISC	Maximally Exposed Individual School Child
MEIW	Maximally Exposed Individual Worker
MHD	Medium Heavy-Duty
NAD	North American Datum
OEHHA	Office of Environmental Health Hazard
PCE	Passenger Car Equivalent
PM10	Particulate Matter 10 microns in diameter or less
Project	Indian and Ramona Warehouse
REL	Reference Exposure Level
RM	Recommended Measures
SCAQMD	South Coast Air Quality Management District
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
TIA	Traffic Impact Analysis
URF	Unit Risk Factor
UTM	Universal Transverse Mercator
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

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

The results of the health risk assessment of lifetime cancer risk from Project-generated DPM emissions are provided in Table ES-1 below for the Project.

Residential Exposure Scenario:

The residential land use with the greatest potential exposure to Project DPM source emissions is located approximately 187 feet east of the Project site. At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project DPM source emissions is estimated at 0.60 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.0003, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent residences.

Worker Exposure Scenario:

The worker receptor land use with the greatest potential exposure to Project DPM source emissions is located immediately adjacent to the west of the Project site. At the maximally exposed individual worker (MEIW), the maximum incremental cancer risk impact at this location is 0.17 in one million which is less than the threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be 0.0005, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent workers. All other modeled worker locations in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein.

School Child Exposure Scenario:

The school site land use with the greatest potential exposure to Project DPM source emissions is located at the Val Verde Regional Learning Center/Val Verde High School located more than 1,000 feet southwest of the Project site. At the maximally exposed individual school child (MEISC), the maximum incremental cancer risk impact at this location is 0.04 in one million which is less than the threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be 0.00006 which would not exceed the applicable threshold of 1.0. Any other schools in the vicinity of the Project would be exposed to less emissions and consequently less impacts than what is disclosed for the MEISC. As such, the Project will not cause a significant human health or cancer risk to school children.

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 Sensitive Receptor	0.60	10	NO
25 Year Exposure	Maximum Exposed Worker Receptor	0.17	10	NO
9 Year Exposure	Maximum Exposed School Child	0.04	10	NO
Time Period	Location	Maximum Hazard Index	Significance Threshold	Exceeds Significance Threshold
30 Year Exposure	Maximum Exposed Sensitive Receptor	0.0003	1.0	NO
25 Year Exposure	Maximum Exposed Worker Receptor	0.0005	1.0	NO
9 Year Exposure	Maximum Exposed School Child	0.00006	1.0	NO

1 INTRODUCTION

The purpose of this Health Risk Assessment (HRA) is to evaluate Project-related impacts to sensitive receptors (residential, schools) and adjacent workers as a result of heavy-duty diesel trucks accessing the site.

The South Coast Air Quality Management District (SCAQMD) reviewed the conceptual site plan for the proposed project and provided input to the City on the scope of the air quality analysis. SCAQMD identifies that if a proposed Project is expected to generate/attract heavy-duty diesel trucks, which emit diesel particulate matter (DPM), preparation of a mobile source HRA is recommended. This document serves to meet the SCAQMD's request for preparation of a HRA. The mobile source 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 (1) and is comprised of all relevant and appropriate procedures presented by the U.S. EPA, California Environmental Protection Agency 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 DPM exposure. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulative 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* (2). In this report the AQMD clearly 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 of than one (1.0) means that adverse health effects are not expected. Within this analysis, non-carcinogenic exposures of less than 1.0 are considered less-than-significant.

1.1 SITE LOCATION

The proposed Indian and Ramona Warehouse site is located in the City of Perris on the northwest corner of Indian Avenue and Ramona Expressway within the *Perris Valley Commerce Center Specific Plan* (PVCC SP), as shown on Exhibit 1-A.

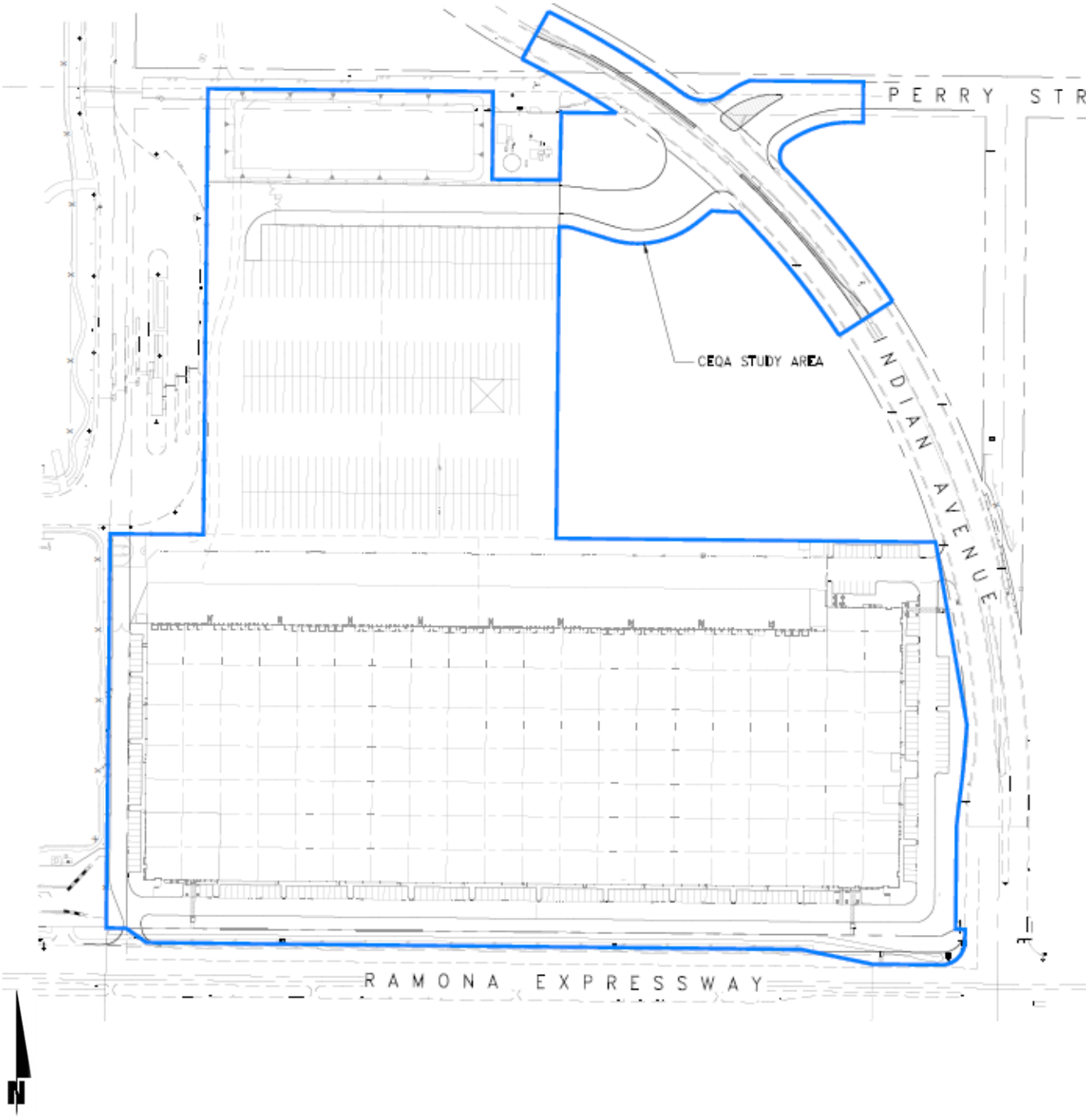
1.2 PROJECT DESCRIPTION

The Project is proposed to consist of a single high-cube transload and short-term storage warehouse building at approximately 428,730 square feet, as shown on Exhibit 1-B. Due to the location of the Project site in relation to APZ I and APZ II of the MARB/JPA, the Project has significant restrictions on its occupancy. At the time this analysis was prepared, the future tenants of the proposed Project were unknown. To present the potential worst-case conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. It is expected that the Project business operations would primarily be conducted within the enclosed buildings, except for traffic movement, parking, as well as loading and unloading of trucks at designated loading bays. This analysis is intended to describe impacts associated with the expected typical industrial warehouse activities at the Project site. At the time of this analysis, no cold storage was planned at the Project site, and therefore is not analyzed in this report.

According to the *Indian and Ramona Warehouse Traffic Impact Analysis* prepared by Urban Crossroads, Inc., the Project is expected to generate a total of approximately 600 trip-ends per day (actual vehicles). (2) The Project trip generation includes 407 passenger cars and 193 truck trip-ends per day from Project operations within the Project site. This study relies on the Project trips to accurately account for the effect of individual passenger car and truck trips on the study area roadway network.

EXHIBIT 1-A: LOCATION MAP

EXHIBIT 1-B: SITE PLAN



2 BACKGROUND

2.1 BACKGROUND ON RECOMMENDED METHODOLOGY

ARB estimates that the average Californian is exposed to 1.2-1.8 µg/m^3 of DPM annually, this exposure results in an average cancer risk of 360-540 in one million for the average Californian exposed to DPM (4).

As noted above, this HRA is based on SCAQMD guidelines to produce conservative estimates of 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 µg/m3 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.
- The risk estimates assume sensitive receptors will be subject to DPM for 24 hours a day, 350 days a year.
- The emissions derived assume that every truck accessing the project site will idle for 15 minutes under the unmitigated scenario, this is an overestimation of actual idling times and thus conservative.[1] It should be noted that ARB'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 estimated using emission factors for particulate matter less than 10µm in diameter (PM_{10}) generated with the 2014 version of the Emission FACtor model (EMFAC) developed by the ARB. EMFAC 2014 is a mathematical model that was 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 (5). The most recent version of this model, EMFAC 2014, 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 2014. Emission factors calculated using EMFAC 2014 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.

[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.

For this Project, annual average PM_{10} emission factors were generated by running EMFAC 2014 in EMFAC Mode for vehicles in the SCAQMD 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. 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 2020 EMFAC 2014 run was conducted and a static 2020 emissions factor data set was used for the entire duration of analysis herein (e.g., 30 years). Use of 2020 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 incorporated after 2020. Additionally, based on EMFAC2014, Light-Heavy-Duty Trucks comprise of 43.15% diesel, Medium-Heavy-Duty Trucks comprise of 87.2% diesel, and Heavy-Heavy-Duty Trucks comprise of 99.15% diesel trucks and have been accounted for accordingly in the emissions factor generation.

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 (5):

$Emissions_{speedA}$ (g/s) = $EF_{RunExhaust}$ (g/VMT) * Distance (VMT/trip) * Number of Trips (trips/day) / seconds per day

Where:

$Emissions_{speedA}$ (g/s): Vehicle emissions at a given speed A;

$EF_{RunExhaust}$ (g/VMT): EMFAC running exhaust PM_{10} 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 PM_{10} 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 PM_{10} emission factor (g/idle-hr) from EMFAC and the total truck trip over the total idle time (15 minutes). The following equation was used to estimate the on-site vehicle idling emissions for each of the different vehicle classes (5):

$Emissions_{idle}$ (g/s) = EF_{idle} (g/hr) * Number of Trips (trips/day) * Idling Time (min/trip) *

60 minutes per hour / seconds per day

Where:

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

EF_{idle}(g/s): EMFAC idle exhaust PM_{10} emission factor.

TABLE 2-1: 2020 WEIGHTED AVERAGE DPM EMISSIONS FACTORS

Speed	Weighted Average
0 (idling)	0.09594 (g/idle-hr)
5	0.04568 (g/s)
25	0.02569 (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 "2.1". 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 modeled truck travel routes included in the HRA are based on the truck trip distributions (inbound and outbound) available from the Project's Traffic Impact Analysis (TIA) (3). The modeled truck route is consistent with the trip distribution patterns identified in the Project's traffic study, is supported by substantial evidence, and was modeled to determine the potential impacts to sensitive receptors along the primary truck routes. The modeling domain is limited to the Project's primary truck route and includes off-site sources in the study area for approximately 2 miles. This modeling domain is more conservative than using only a ¼ mile modeling domain which is supported by substantial evidence since several studies have shown that the greatest potential risks occur within a ¼ mile of the primary source of emissions (6) (in the case of the Project this is the on-site idling, travel, and on-site equipment).

On-site truck idling was estimated to occur as trucks enter and travel through the facility. Although the Project is required to comply with CARB'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 (7), 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 estimated truck idling at 15 minutes, consistent with SCAQMD's recommendation.

EXHIBIT 2-A: MODELED EMISSION SOURCES

Per the *Indian and Ramona Warehouse Traffic Impact Analysis* prepared by Urban Crossroads, Inc. the Project is expected to generate a net total of approximately 600 trip-ends per day (actual vehicles). (3) The net Project trip generation includes 407 passenger car and 193 truck trip-ends per day.

The vehicle fleet mix, in terms of actual trucks, as derived from the traffic study for the Project is comprised of the following: 16.7% Light-Heavy-Duty (LHD)/2-axle, 20.7% Medium-Heavy-Duty (MHD)/3-axle, 62.6% Heavy-Heavy-Duty (HHD)/4+-axle trucks.

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 (1). SCAQMD recommends using the Environmental Protection Agency's (U.S. EPA's) AERMOD model. For purposes of this analysis, the model was used to calculate annual average particulate concentrations associated with site operations.

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 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.

TABLE 2-2: DPM EMISSIONS FROM PROJECT TRUCKS (2020 ANALYSIS YEAR)

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	97			0.0959	2.31	2.679E-05
On-Site Travel	193	78.81	0.0457		3.60	4.167E-05
Off-Site Travel 100% Inbound/Outbound	193	436.48	0.0257		11.21	1.298E-04

[a] Vehicle miles traveled are for modeled truck route only.

[b] Emission rates determined using EMFAC 2014. 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.

SCAQMD required model parameters are presented in Table 2-3 (8). 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 (9).

TABLE 2-3: AERMOD MODEL PARAMETERS

Dispersion Coefficient (Urban/Rural)	Urban
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 boundaries, each volume source location, and receptor locations in the project vicinity. The AERMOD dispersion model summary output files for the proposed facility are presented in Appendix "2.1".

Modeled sensitive receptors were placed at residential and non-residential locations. Based on recommendations from SCAQMD staff, a receptor grids with a maximum of 100 meters spacing were placed at residential, worker, and school locations to ensure that the maximum impacts are properly analyzed.

Receptors may be placed at applicable structure locations for residential and worker property and not necessarily the boundaries of these uses. 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 residential and worker over a period of 30 or 25 years of exposure respectively. As such, even though it is unlikely to occur in practical terms (because the amount of time spent indoors), this study assumes that a resident or worker would be exposed over a long-period of time for 12 or 24-hours per day at the structure they reside or work.

Furthermore, worker receptors immediately adjacent to the Project site have been evaluated in the HRA. Any impacts to workers located at schools, or non-school workers located further away from the Project site than the modeled worker receptors would have a lesser impact than what has already been disclosed in the HRA at the MEIW.

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, 2-5, and 2-6 summarize the Exposure Parameters for Residents, School, and Offsite Worker scenarios based on 2015 OEHHA Guidelines. Appendix 2.2 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	273	10	0.25	0.85	350	24
0 to 2	758	10	2	0.85	350	24
2 to 16	572	3	14	0.72	365	24
16 to 30	261	1	14	0.73	365	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

TABLE 2-6: EXPOSURE ASSUMPTIONS FOR INDIVIDUAL CANCER RISK (9 YEAR SCHOOL CHILD)

Age	Daily Breathing Rate (L/kg-day)	Age Specific Factor	Exposure Duration (years)	Exposure Frequency (days/year) [a]	Exposure Time (hours/day)
4 to 13	572	3	9	180	12

[a] To represent the unique characteristics of the school-based population, the assessment employed the U.S. Environmental Protection Agency's guidance to develop viable dose estimates based on reasonable maximum exposures (RME). RME's are defined as the "highest exposure that is reasonably expected to occur" for a given receptor population. As a result, lifetime risk values for the student population were adjusted to account for an exposure duration of 180 days per year for nine (9) years. The 9 year exposure duration is also consistent with OEHHA Recommendations and consistent with the exposure duration utilized in school-based risk assessments for various schools within the Los Angeles County Unified School District (LAUSD) that have been accepted by the SCAQMD.

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 (1), 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. As an example, the risk of dying from accidental drowning is 1,000 in a million which is 100 times more than the SCAQMD's threshold of 10 in one million, the nearest comparison to 10 in one million is the 7 in one million lifetime chance that an individual would be struck by lightning.

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.

$$DOSEair = (Cair \times [BR/BW] \times A \times EF) \times (1 \times 10^{-6})$$

Where:

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

Cair = concentration of contaminant in air (ug/m3)

[BR/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)

$$RISKair = DOSEair \times CPF \times ED/AT$$

Where:

DOSEair = 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 $\mu g/m^3$ (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:

$$HI_{DPM} = C_{DPM}/REL_{DPM}$$

Where:

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

C_{DPM} = Annual average DPM concentration ($\mu g/m^3$).

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 DPM SOURCE CANCER AND NON-CANCER RISKS[2]

Residential Exposure Scenario:

The residential land use with the greatest potential exposure to Project DPM source emissions is located approximately 187 feet east of the Project site. At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project DPM source emissions is estimated at 0.60 in one million, which is less than the threshold of 10 in one million. At this same location, non-cancer risks were estimated to be 0.0003, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent residences. The nearest modeled receptors are illustrated on Exhibit 2-B.

Worker Exposure Scenario:

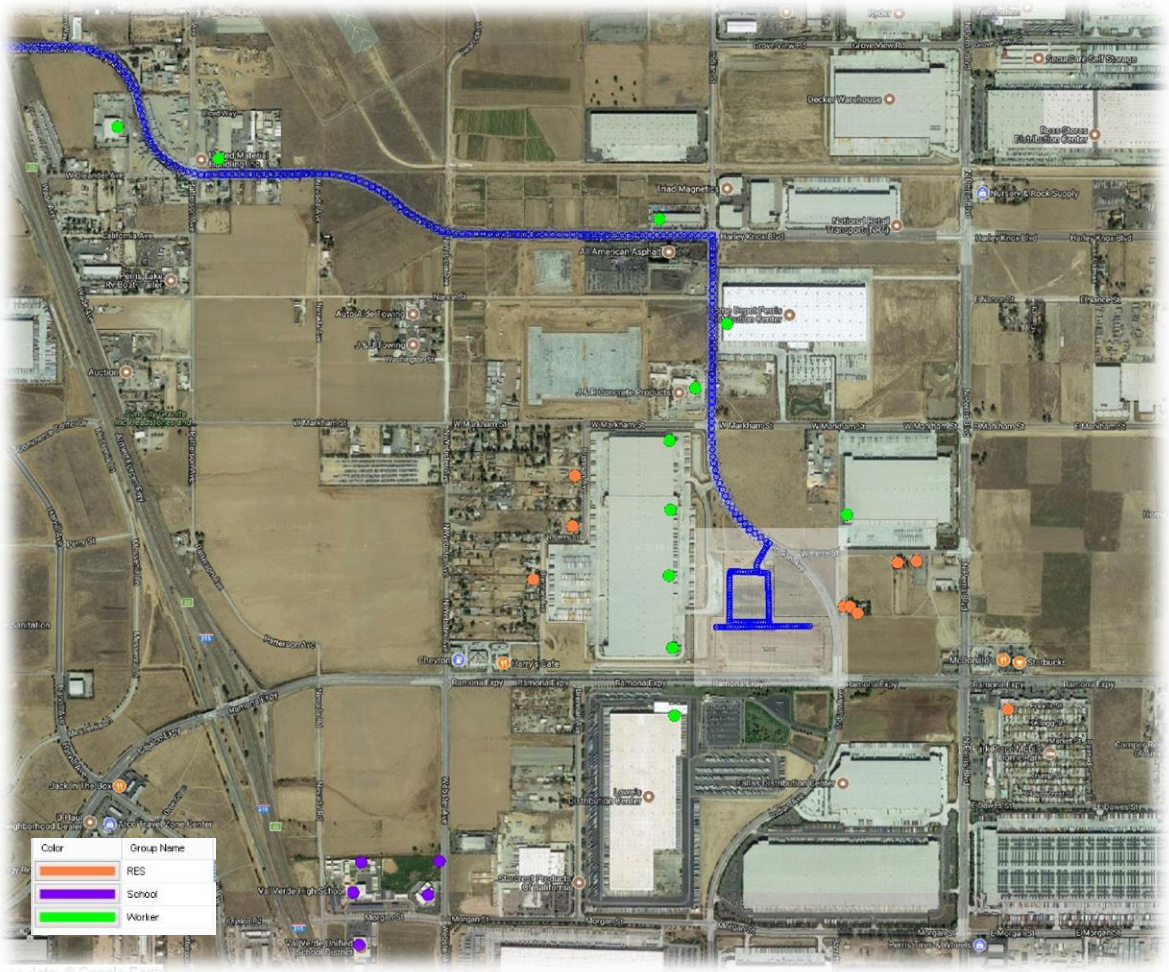
The worker receptor land use with the greatest potential exposure to Project DPM source emissions is located immediately adjacent to the west of the Project site. At the maximally exposed individual worker (MEIW), the maximum incremental cancer risk impact at this location is 0.17 in one million which is less than the threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be 0.0005, which would not exceed the applicable threshold of 1.0. As such, the Project will not cause a significant human health or cancer risk to adjacent workers. All other modeled worker locations in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. The nearest modeled receptors are illustrated on Exhibit 2-B.

School Child Exposure Scenario:

The school site land use with the greatest potential exposure to Project DPM source emissions is located at the Val Verde Regional Learning Center/Val Verde High School located more than 1,000 feet southwest of the Project site. At the maximally exposed individual school child (MEISC), the maximum incremental cancer risk impact at this location is 0.04 in one million which is less than the threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be 0.00006 which would not exceed the applicable threshold of 1.0. Any other schools in the vicinity of the Project would be exposed to less emissions and consequently less impacts than what is disclosed for the MEISC. As such, the Project will not cause a significant human health or cancer risk to school children. The nearest modeled receptors are illustrated on Exhibit 2-B.

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.

EXHIBIT 2-B: MODELED RECEPTORS



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9. **South Coast Air Quality Management District.** *Air Quality Reporting.* [pdf] Diamond Bar : Sierra Wade Associates, 1999.

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4 CERTIFICATION

The contents of this health risk assessment represent an accurate depiction of the impacts to sensitive receptors associated with the proposed Indian and Ramona Warehouse 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 directly at (949) 336-5987.

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Senior Associate
URBAN CROSSROADS, INC.
260 E. Baker, Suite 200
Costa Mesa, CA 92626
(949) 336-5987
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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:

AERMOD MODEL INPUT/OUTPUT

```
**
**************************************
**
** AERMOD Input Produced by:
** AERMOD View Ver. 9.6.1
** Lakes Environmental Software Inc.
** Date: 8/13/2018
** File: C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian.ADI
**
**************************************
**
**
**************************************
** AERMOD Control Pathway
**************************************
**
**
CO STARTING
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   MODELOPT DFAULT CONC
   AVERTIME ANNUAL
   URBANOPT 2189641
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "11705 Ramona and Indian.err"
CO FINISHED
**
**************************************
** AERMOD Source Pathway
**************************************
**
**
SO STARTING
** Source Location **
** Source ID - Type - X Coord. - Y Coord. **
** ----------------------------------------------------------------------
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** PREFIX
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** Configuration = Adjacent
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** 478596.501, 3745117.310, 445.00, 3.49, 4.00
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   LOCATION L0000480     VOLUME   478316.726 3745114.369 446.00
   LOCATION L0000481     VOLUME   478325.316 3745114.459 446.00
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   LOCATION L0000487     VOLUME   478376.853 3745115.001 445.43
   LOCATION L0000488     VOLUME   478385.442 3745115.091 445.15
   LOCATION L0000489     VOLUME   478394.032 3745115.181 445.00
   LOCATION L0000490     VOLUME   478402.622 3745115.272 445.00
   LOCATION L0000491     VOLUME   478411.211 3745115.362 445.00
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   LOCATION L0000493     VOLUME   478428.390 3745115.543 445.00
   LOCATION L0000494     VOLUME   478436.980 3745115.633 445.00
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** PREFIX
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** Configuration = Adjacent
** Emission Rate = 0.00004167
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** Nodes = 8
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** 478463.363, 3745129.717, 445.00, 3.49, 4.00
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   LOCATION L0000519     VOLUME   478429.098 3745323.971 445.69
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   LOCATION L0000524     VOLUME   478418.878 3745289.004 445.45
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   LOCATION L0000526     VOLUME   478401.700 3745289.272 445.78
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LOCATION	L0000681	VOLUME	477329.264	3746422.491 450.00
LOCATION	L0000682	VOLUME	477311.069	3746434.675 450.00
LOCATION	L0000683	VOLUME	477294.281	3746448.893 450.00
LOCATION	L0000684	VOLUME	477277.493	3746463.111 450.00
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LOCATION	L0000687	VOLUME	477224.867	3746502.299 450.11
LOCATION	L0000688	VOLUME	477205.089	3746511.934 450.49
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LOCATION	L0000690	VOLUME	477164.998	3746529.943 451.00
LOCATION	L0000691	VOLUME	477144.332	3746537.488 451.00
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LOCATION	L0000693	VOLUME	477101.634	3746546.894 451.00
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   LOCATION L0000702     VOLUME   476903.994 3746550.978 452.27
   LOCATION L0000703     VOLUME   476881.994 3746550.978 452.64
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   LOCATION L0000708     VOLUME   476771.994 3746550.978 454.00
   LOCATION L0000709     VOLUME   476749.994 3746550.978 454.00
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   LOCATION L0000711     VOLUME   476706.024 3746550.230 455.00
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   LOCATION L0000714     VOLUME   476640.961 3746553.350 455.13
   LOCATION L0000715     VOLUME   476619.654 3746558.829 455.25
   LOCATION L0000716     VOLUME   476599.592 3746567.330 455.67
   LOCATION L0000717     VOLUME   476580.609 3746578.449 456.00
   LOCATION L0000718     VOLUME   476561.625 3746589.568 456.00
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   LOCATION L0000720     VOLUME   476527.217 3746616.813 456.03
   LOCATION L0000721     VOLUME   476514.374 3746634.371 456.00
   LOCATION L0000722     VOLUME   476503.142 3746653.288 456.00
   LOCATION L0000723     VOLUME   476492.855 3746672.603 456.23
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   LOCATION L0000725     VOLUME   476481.437 3746715.096 456.61
   LOCATION L0000726     VOLUME   476475.728 3746736.342 456.26
   LOCATION L0000727     VOLUME   476470.019 3746757.588 456.00
   LOCATION L0000728     VOLUME   476464.310 3746778.835 456.18
   LOCATION L0000729     VOLUME   476458.601 3746800.081 456.37
   LOCATION L0000730     VOLUME   476451.562 3746820.779 456.31
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   LOCATION L0000743     VOLUME   476223.235 3746956.690 457.00
   LOCATION L0000744     VOLUME   476201.239 3746956.281 457.00
   LOCATION L0000745     VOLUME   476179.242 3746955.871 457.69
   LOCATION L0000746     VOLUME   476157.246 3746955.462 458.00
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   LOCATION L0000748     VOLUME   476113.254 3746954.644 458.89
   LOCATION L0000749     VOLUME   476091.258 3746954.234 459.00
   LOCATION L0000750     VOLUME   476069.261 3746953.825 459.35
   LOCATION L0000751     VOLUME   476047.265 3746953.416 460.00
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   LOCATION L0000753     VOLUME   476003.273 3746952.598 460.55
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** Source Parameters **
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   SRCPARAM L0000481     0.0000007654      3.49      4.00      3.25
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   SRCPARAM L0000483     0.0000007654      3.49      4.00      3.25
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SRCPARAM	L0000711	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000712	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000713	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000714	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000715	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000716	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000717	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000718	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000719	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000720	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000721	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000722	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000723	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000724	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000725	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000726	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000727	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000728	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000729	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000730	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000731	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000732	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000733	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000734	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000735	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000736	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000737	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000738	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000739	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000740	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000741	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000742	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000743	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000744	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000745	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000746	0.0000007867	3.49	10.23	3.25
SRCPARAM	L0000747	0.0000007867	3.49	10.23	3.25

```
   SRCPARAM L0000748     0.0000007867      3.49     10.23      3.25
   SRCPARAM L0000749     0.0000007867      3.49     10.23      3.25
   SRCPARAM L0000750     0.0000007867      3.49     10.23      3.25
   SRCPARAM L0000751     0.0000007867      3.49     10.23      3.25
   SRCPARAM L0000752     0.0000007867      3.49     10.23      3.25
   SRCPARAM L0000753     0.0000007867      3.49     10.23      3.25
   SRCPARAM L0000754     0.0000007867      3.49     10.23      3.25
** ----------------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD Receptor Pathway
**************************************
**
**
RE STARTING
   INCLUDED "11705 Ramona and Indian.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 "11705 Ramona and Indian.AD\AN00GALL.PLT" 31
   SUMMFILE "11705 Ramona and Indian.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     704       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used          0.50
 ME W187     704       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

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

```
♀ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***
    08/13/18
 *** AERMET - VERSION  16216 ***   ***                                                                        ***
   14:16:29

   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   277 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:    277 Source(s);       1 Source Group(s); and      25 Receptor(s)

               with:      0 POINT(s), including
                          0 POINTCAP(s) and      0 POINTHOR(s)
                and:    277 VOLUME source(s)
                and:      0 AREA type source(s)
                and:      0 LINE 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: 11705 Ramona and Indian.err

 **File for Summary of Results: 11705 Ramona and Indian.sum

♀ *** AERMOD - VERSION 18081 ***   *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***   08/13/18
 *** AERMET - VERSION 16216 ***   ***   ***   14:16:29

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000478	0	0.76540E-06	478299.5	3745114.2	446.0	3.49	4.00	3.25	YES	
L0000479	0	0.76540E-06	478308.1	3745114.3	446.0	3.49	4.00	3.25	YES	
L0000480	0	0.76540E-06	478316.7	3745114.4	446.0	3.49	4.00	3.25	YES	
L0000481	0	0.76540E-06	478325.3	3745114.5	446.0	3.49	4.00	3.25	YES	
L0000482	0	0.76540E-06	478333.9	3745114.5	446.0	3.49	4.00	3.25	YES	
L0000483	0	0.76540E-06	478342.5	3745114.6	446.0	3.49	4.00	3.25	YES	
L0000484	0	0.76540E-06	478351.1	3745114.7	446.0	3.49	4.00	3.25	YES	
L0000485	0	0.76540E-06	478359.7	3745114.8	446.0	3.49	4.00	3.25	YES	
L0000486	0	0.76540E-06	478368.3	3745114.9	445.7	3.49	4.00	3.25	YES	
L0000487	0	0.76540E-06	478376.9	3745115.0	445.4	3.49	4.00	3.25	YES	
L0000488	0	0.76540E-06	478385.4	3745115.1	445.2	3.49	4.00	3.25	YES	
L0000489	0	0.76540E-06	478394.0	3745115.2	445.0	3.49	4.00	3.25	YES	
L0000490	0	0.76540E-06	478402.6	3745115.3	445.0	3.49	4.00	3.25	YES	
L0000491	0	0.76540E-06	478411.2	3745115.4	445.0	3.49	4.00	3.25	YES	
L0000492	0	0.76540E-06	478419.8	3745115.5	445.0	3.49	4.00	3.25	YES	
L0000493	0	0.76540E-06	478428.4	3745115.5	445.0	3.49	4.00	3.25	YES	
L0000494	0	0.76540E-06	478437.0	3745115.6	445.0	3.49	4.00	3.25	YES	
L0000495	0	0.76540E-06	478445.6	3745115.7	445.0	3.49	4.00	3.25	YES	
L0000496	0	0.76540E-06	478454.2	3745115.8	445.0	3.49	4.00	3.25	YES	
L0000497	0	0.76540E-06	478462.7	3745115.9	445.0	3.49	4.00	3.25	YES	
L0000498	0	0.76540E-06	478471.3	3745116.0	445.0	3.49	4.00	3.25	YES	
L0000499	0	0.76540E-06	478479.9	3745116.1	445.0	3.49	4.00	3.25	YES	
L0000500	0	0.76540E-06	478488.5	3745116.2	445.0	3.49	4.00	3.25	YES	
L0000501	0	0.76540E-06	478497.1	3745116.3	445.0	3.49	4.00	3.25	YES	
L0000502	0	0.76540E-06	478505.7	3745116.4	445.0	3.49	4.00	3.25	YES	
L0000503	0	0.76540E-06	478514.3	3745116.4	445.0	3.49	4.00	3.25	YES	
L0000504	0	0.76540E-06	478522.9	3745116.5	445.0	3.49	4.00	3.25	YES	
L0000505	0	0.76540E-06	478531.5	3745116.6	445.0	3.49	4.00	3.25	YES	
L0000506	0	0.76540E-06	478540.1	3745116.7	445.0	3.49	4.00	3.25	YES	
L0000507	0	0.76540E-06	478548.6	3745116.8	445.0	3.49	4.00	3.25	YES	
L0000508	0	0.76540E-06	478557.2	3745116.9	445.0	3.49	4.00	3.25	YES	
L0000509	0	0.76540E-06	478565.8	3745117.0	445.0	3.49	4.00	3.25	YES	

L0000510	0	0.76540E-06	478574.4	3745117.1	445.0	3.49	4.00	3.25	YES
L0000511	0	0.76540E-06	478583.0	3745117.2	445.0	3.49	4.00	3.25	YES
L0000512	0	0.76540E-06	478591.6	3745117.3	445.0	3.49	4.00	3.25	YES
L0000513	0	0.54120E-06	478454.8	3745368.6	445.0	3.49	4.00	3.25	YES
L0000514	0	0.54120E-06	478450.5	3745361.2	445.0	3.49	4.00	3.25	YES
L0000515	0	0.54120E-06	478446.3	3745353.7	445.1	3.49	4.00	3.25	YES
L0000516	0	0.54120E-06	478442.0	3745346.3	445.3	3.49	4.00	3.25	YES
L0000517	0	0.54120E-06	478437.7	3745338.9	445.4	3.49	4.00	3.25	YES

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000518	0	0.54120E-06	478433.4	3745331.4	445.6	3.49	4.00	3.25	YES	
L0000519	0	0.54120E-06	478429.1	3745324.0	445.7	3.49	4.00	3.25	YES	
L0000520	0	0.54120E-06	478424.8	3745316.5	445.8	3.49	4.00	3.25	YES	
L0000521	0	0.54120E-06	478424.3	3745308.2	445.9	3.49	4.00	3.25	YES	
L0000522	0	0.54120E-06	478424.7	3745299.6	445.7	3.49	4.00	3.25	YES	
L0000523	0	0.54120E-06	478425.2	3745291.0	445.4	3.49	4.00	3.25	YES	
L0000524	0	0.54120E-06	478418.9	3745289.0	445.4	3.49	4.00	3.25	YES	
L0000525	0	0.54120E-06	478410.3	3745289.1	445.6	3.49	4.00	3.25	YES	
L0000526	0	0.54120E-06	478401.7	3745289.3	445.8	3.49	4.00	3.25	YES	
L0000527	0	0.54120E-06	478393.1	3745289.4	445.9	3.49	4.00	3.25	YES	
L0000528	0	0.54120E-06	478384.5	3745289.5	446.0	3.49	4.00	3.25	YES	
L0000529	0	0.54120E-06	478375.9	3745289.7	446.0	3.49	4.00	3.25	YES	
L0000530	0	0.54120E-06	478367.3	3745289.8	446.0	3.49	4.00	3.25	YES	
L0000531	0	0.54120E-06	478358.8	3745289.9	446.0	3.49	4.00	3.25	YES	
L0000532	0	0.54120E-06	478350.2	3745290.1	446.0	3.49	4.00	3.25	YES	
L0000533	0	0.54120E-06	478341.6	3745290.2	446.0	3.49	4.00	3.25	YES	
L0000534	0	0.54120E-06	478338.8	3745284.4	446.0	3.49	4.00	3.25	YES	
L0000535	0	0.54120E-06	478338.6	3745275.8	446.0	3.49	4.00	3.25	YES	
L0000536	0	0.54120E-06	478338.5	3745267.2	446.0	3.49	4.00	3.25	YES	
L0000537	0	0.54120E-06	478338.4	3745258.6	446.0	3.49	4.00	3.25	YES	
L0000538	0	0.54120E-06	478338.2	3745250.0	446.0	3.49	4.00	3.25	YES	
L0000539	0	0.54120E-06	478338.1	3745241.5	446.0	3.49	4.00	3.25	YES	
L0000540	0	0.54120E-06	478338.0	3745232.9	446.0	3.49	4.00	3.25	YES	
L0000541	0	0.54120E-06	478337.9	3745224.3	446.0	3.49	4.00	3.25	YES	
L0000542	0	0.54120E-06	478337.7	3745215.7	446.0	3.49	4.00	3.25	YES	
L0000543	0	0.54120E-06	478337.6	3745207.1	446.0	3.49	4.00	3.25	YES	
L0000544	0	0.54120E-06	478337.5	3745198.5	446.0	3.49	4.00	3.25	YES	
L0000545	0	0.54120E-06	478337.4	3745189.9	446.0	3.49	4.00	3.25	YES	
L0000546	0	0.54120E-06	478337.2	3745181.3	446.0	3.49	4.00	3.25	YES	
L0000547	0	0.54120E-06	478337.1	3745172.7	446.0	3.49	4.00	3.25	YES	
L0000548	0	0.54120E-06	478337.0	3745164.2	446.0	3.49	4.00	3.25	YES	
L0000549	0	0.54120E-06	478336.9	3745155.6	446.0	3.49	4.00	3.25	YES	
L0000550	0	0.54120E-06	478336.7	3745147.0	446.0	3.49	4.00	3.25	YES	
L0000551	0	0.54120E-06	478336.6	3745138.4	446.0	3.49	4.00	3.25	YES	
L0000552	0	0.54120E-06	478336.7	3745130.1	446.0	3.49	4.00	3.25	YES	
L0000553	0	0.54120E-06	478345.3	3745130.0	446.0	3.49	4.00	3.25	YES	
L0000554	0	0.54120E-06	478353.9	3745130.0	446.0	3.49	4.00	3.25	YES	
L0000555	0	0.54120E-06	478362.5	3745130.0	445.9	3.49	4.00	3.25	YES	
L0000556	0	0.54120E-06	478371.1	3745130.0	445.6	3.49	4.00	3.25	YES	
L0000557	0	0.54120E-06	478379.7	3745129.9	445.3	3.49	4.00	3.25	YES	

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000558	0	0.54120E-06	478388.3	3745129.9	445.1	3.49	4.00	3.25	YES	
L0000559	0	0.54120E-06	478396.9	3745129.9	445.0	3.49	4.00	3.25	YES	
L0000560	0	0.54120E-06	478405.5	3745129.9	445.0	3.49	4.00	3.25	YES	
L0000561	0	0.54120E-06	478414.1	3745129.8	445.0	3.49	4.00	3.25	YES	
L0000562	0	0.54120E-06	478422.6	3745129.8	445.0	3.49	4.00	3.25	YES	
L0000563	0	0.54120E-06	478431.2	3745129.8	445.0	3.49	4.00	3.25	YES	
L0000564	0	0.54120E-06	478439.8	3745129.8	445.0	3.49	4.00	3.25	YES	
L0000565	0	0.54120E-06	478448.4	3745129.8	445.0	3.49	4.00	3.25	YES	
L0000566	0	0.54120E-06	478457.0	3745129.7	445.0	3.49	4.00	3.25	YES	
L0000567	0	0.54120E-06	478463.3	3745131.9	445.0	3.49	4.00	3.25	YES	
L0000568	0	0.54120E-06	478463.1	3745140.5	445.0	3.49	4.00	3.25	YES	
L0000569	0	0.54120E-06	478462.9	3745149.1	445.0	3.49	4.00	3.25	YES	
L0000570	0	0.54120E-06	478462.6	3745157.7	445.0	3.49	4.00	3.25	YES	
L0000571	0	0.54120E-06	478462.4	3745166.3	445.0	3.49	4.00	3.25	YES	
L0000572	0	0.54120E-06	478462.2	3745174.9	445.0	3.49	4.00	3.25	YES	
L0000573	0	0.54120E-06	478462.0	3745183.5	445.0	3.49	4.00	3.25	YES	
L0000574	0	0.54120E-06	478461.7	3745192.1	445.0	3.49	4.00	3.25	YES	
L0000575	0	0.54120E-06	478461.5	3745200.6	445.0	3.49	4.00	3.25	YES	
L0000576	0	0.54120E-06	478461.3	3745209.2	445.0	3.49	4.00	3.25	YES	
L0000577	0	0.54120E-06	478461.1	3745217.8	445.0	3.49	4.00	3.25	YES	
L0000578	0	0.54120E-06	478460.9	3745226.4	445.0	3.49	4.00	3.25	YES	
L0000579	0	0.54120E-06	478460.6	3745235.0	445.0	3.49	4.00	3.25	YES	
L0000580	0	0.54120E-06	478460.4	3745243.6	445.0	3.49	4.00	3.25	YES	
L0000581	0	0.54120E-06	478460.2	3745252.2	445.0	3.49	4.00	3.25	YES	
L0000582	0	0.54120E-06	478460.0	3745260.8	445.0	3.49	4.00	3.25	YES	
L0000583	0	0.54120E-06	478459.7	3745269.3	445.0	3.49	4.00	3.25	YES	
L0000584	0	0.54120E-06	478459.5	3745277.9	445.0	3.49	4.00	3.25	YES	
L0000585	0	0.54120E-06	478458.4	3745285.6	445.0	3.49	4.00	3.25	YES	
L0000586	0	0.54120E-06	478449.8	3745286.2	445.0	3.49	4.00	3.25	YES	
L0000587	0	0.54120E-06	478441.2	3745286.7	445.1	3.49	4.00	3.25	YES	
L0000588	0	0.54120E-06	478432.6	3745287.3	445.2	3.49	4.00	3.25	YES	
L0000589	0	0.54120E-06	478424.1	3745287.9	445.3	3.49	4.00	3.25	YES	
L0000590	0	0.78670E-06	478454.7	3745386.3	445.0	3.49	10.23	3.25	YES	
L0000591	0	0.78670E-06	478436.5	3745398.7	445.4	3.49	10.23	3.25	YES	
L0000592	0	0.78670E-06	478418.3	3745411.0	445.5	3.49	10.23	3.25	YES	
L0000593	0	0.78670E-06	478401.0	3745424.5	445.7	3.49	10.23	3.25	YES	
L0000594	0	0.78670E-06	478386.4	3745440.9	446.0	3.49	10.23	3.25	YES	
L0000595	0	0.78670E-06	478371.8	3745457.3	446.0	3.49	10.23	3.25	YES	
L0000596	0	0.78670E-06	478357.1	3745473.8	446.0	3.49	10.23	3.25	YES	
L0000597	0	0.78670E-06	478344.6	3745491.8	446.0	3.49	10.23	3.25	YES	

*** VOLUME SOURCE DATA ***

NUMBER	EMISSION RATE	BASE	RELEASE	INIT.	INIT.	URBAN	EMISSION RATE

SOURCE ID	PART. CATS.	(GRAMS/SEC)	X (METERS)	Y (METERS)	ELEV. (METERS)	HEIGHT (METERS)	SY (METERS)	SZ (METERS)	SOURCE	SCALAR VARY BY
L0000598	0	0.78670E-06	478332.7	3745510.3	446.0	3.49	10.23	3.25	YES	
L0000599	0	0.78670E-06	478323.8	3745530.4	446.0	3.49	10.23	3.25	YES	
L0000600	0	0.78670E-06	478314.9	3745550.5	446.0	3.49	10.23	3.25	YES	
L0000601	0	0.78670E-06	478306.0	3745570.6	446.0	3.49	10.23	3.25	YES	
L0000602	0	0.78670E-06	478297.1	3745590.8	446.0	3.49	10.23	3.25	YES	
L0000603	0	0.78670E-06	478292.1	3745612.2	446.0	3.49	10.23	3.25	YES	
L0000604	0	0.78670E-06	478287.4	3745633.7	446.0	3.49	10.23	3.25	YES	
L0000605	0	0.78670E-06	478284.3	3745655.3	446.0	3.49	10.23	3.25	YES	
L0000606	0	0.78670E-06	478283.3	3745677.3	446.0	3.49	10.23	3.25	YES	
L0000607	0	0.78670E-06	478282.4	3745699.3	446.0	3.49	10.23	3.25	YES	
L0000608	0	0.78670E-06	478281.5	3745721.3	446.0	3.49	10.23	3.25	YES	
L0000609	0	0.78670E-06	478281.5	3745743.3	446.0	3.49	10.23	3.25	YES	
L0000610	0	0.78670E-06	478281.5	3745765.3	446.0	3.49	10.23	3.25	YES	
L0000611	0	0.78670E-06	478281.5	3745787.3	446.0	3.49	10.23	3.25	YES	
L0000612	0	0.78670E-06	478281.6	3745809.3	446.0	3.49	10.23	3.25	YES	
L0000613	0	0.78670E-06	478281.7	3745831.3	446.0	3.49	10.23	3.25	YES	
L0000614	0	0.78670E-06	478281.8	3745853.3	446.0	3.49	10.23	3.25	YES	
L0000615	0	0.78670E-06	478282.0	3745875.3	446.0	3.49	10.23	3.25	YES	
L0000616	0	0.78670E-06	478282.1	3745897.3	446.0	3.49	10.23	3.25	YES	
L0000617	0	0.78670E-06	478282.2	3745919.3	446.0	3.49	10.23	3.25	YES	
L0000618	0	0.78670E-06	478282.4	3745941.3	446.0	3.49	10.23	3.25	YES	
L0000619	0	0.78670E-06	478282.5	3745963.3	446.0	3.49	10.23	3.25	YES	
L0000620	0	0.78670E-06	478282.6	3745985.3	446.0	3.49	10.23	3.25	YES	
L0000621	0	0.78670E-06	478282.8	3746007.3	446.0	3.49	10.23	3.25	YES	
L0000622	0	0.78670E-06	478282.9	3746029.3	446.1	3.49	10.23	3.25	YES	
L0000623	0	0.78670E-06	478283.0	3746051.3	446.5	3.49	10.23	3.25	YES	
L0000624	0	0.78670E-06	478283.2	3746073.3	446.6	3.49	10.23	3.25	YES	
L0000625	0	0.78670E-06	478283.3	3746095.3	446.6	3.49	10.23	3.25	YES	
L0000626	0	0.78670E-06	478283.4	3746117.3	446.6	3.49	10.23	3.25	YES	
L0000627	0	0.78670E-06	478283.6	3746139.3	446.5	3.49	10.23	3.25	YES	
L0000628	0	0.78670E-06	478283.7	3746161.3	446.5	3.49	10.23	3.25	YES	
L0000629	0	0.78670E-06	478283.8	3746183.3	446.5	3.49	10.23	3.25	YES	
L0000630	0	0.78670E-06	478284.0	3746205.3	446.5	3.49	10.23	3.25	YES	
L0000631	0	0.78670E-06	478284.1	3746227.3	446.5	3.49	10.23	3.25	YES	
L0000632	0	0.78670E-06	478284.2	3746249.3	446.5	3.49	10.23	3.25	YES	
L0000633	0	0.78670E-06	478284.4	3746271.3	446.5	3.49	10.23	3.25	YES	
L0000634	0	0.78670E-06	478284.5	3746293.3	446.5	3.49	10.23	3.25	YES	
L0000635	0	0.78670E-06	478284.6	3746315.3	446.5	3.49	10.23	3.25	YES	
L0000636	0	0.78670E-06	478284.8	3746337.3	446.5	3.49	10.23	3.25	YES	
L0000637	0	0.78670E-06	478282.3	3746356.7	446.6	3.49	10.23	3.25	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000638	0	0.78670E-06	478260.3	3746356.8	447.0	3.49	10.23	3.25	YES	
L0000639	0	0.78670E-06	478238.3	3746356.9	447.0	3.49	10.23	3.25	YES	
L0000640	0	0.78670E-06	478216.3	3746356.9	447.0	3.49	10.23	3.25	YES	
L0000641	0	0.78670E-06	478194.3	3746357.0	447.0	3.49	10.23	3.25	YES	
L0000642	0	0.78670E-06	478172.3	3746357.1	447.0	3.49	10.23	3.25	YES	

L0000643	0	0.78670E-06	478150.3	3746357.2	447.0	3.49	10.23	3.25	YES
L0000644	0	0.78670E-06	478128.3	3746357.3	447.0	3.49	10.23	3.25	YES
L0000645	0	0.78670E-06	478106.3	3746357.3	447.0	3.49	10.23	3.25	YES
L0000646	0	0.78670E-06	478084.3	3746357.4	447.0	3.49	10.23	3.25	YES
L0000647	0	0.78670E-06	478062.3	3746357.3	447.0	3.49	10.23	3.25	YES
L0000648	0	0.78670E-06	478040.3	3746356.7	447.0	3.49	10.23	3.25	YES
L0000649	0	0.78670E-06	478018.3	3746356.2	447.0	3.49	10.23	3.25	YES
L0000650	0	0.78670E-06	477996.3	3746356.0	447.0	3.49	10.23	3.25	YES
L0000651	0	0.78670E-06	477974.3	3746356.3	447.0	3.49	10.23	3.25	YES
L0000652	0	0.78670E-06	477952.3	3746356.6	447.0	3.49	10.23	3.25	YES
L0000653	0	0.78670E-06	477930.3	3746356.9	447.3	3.49	10.23	3.25	YES
L0000654	0	0.78670E-06	477908.3	3746357.2	448.0	3.49	10.23	3.25	YES
L0000655	0	0.78670E-06	477886.3	3746357.5	448.0	3.49	10.23	3.25	YES
L0000656	0	0.78670E-06	477864.3	3746357.8	448.0	3.49	10.23	3.25	YES
L0000657	0	0.78670E-06	477842.3	3746358.1	448.0	3.49	10.23	3.25	YES
L0000658	0	0.78670E-06	477820.3	3746358.4	448.0	3.49	10.23	3.25	YES
L0000659	0	0.78670E-06	477798.3	3746358.7	448.0	3.49	10.23	3.25	YES
L0000660	0	0.78670E-06	477776.3	3746359.0	448.0	3.49	10.23	3.25	YES
L0000661	0	0.78670E-06	477754.3	3746359.3	448.0	3.49	10.23	3.25	YES
L0000662	0	0.78670E-06	477732.3	3746359.5	448.0	3.49	10.23	3.25	YES
L0000663	0	0.78670E-06	477710.3	3746359.7	448.0	3.49	10.23	3.25	YES
L0000664	0	0.78670E-06	477688.3	3746359.9	448.0	3.49	10.23	3.25	YES
L0000665	0	0.78670E-06	477666.3	3746360.2	448.0	3.49	10.23	3.25	YES
L0000666	0	0.78670E-06	477644.3	3746360.4	448.0	3.49	10.23	3.25	YES
L0000667	0	0.78670E-06	477622.3	3746360.6	448.6	3.49	10.23	3.25	YES
L0000668	0	0.78670E-06	477600.3	3746360.8	449.0	3.49	10.23	3.25	YES
L0000669	0	0.78670E-06	477578.3	3746361.0	449.0	3.49	10.23	3.25	YES
L0000670	0	0.78670E-06	477556.3	3746361.3	449.0	3.49	10.23	3.25	YES
L0000671	0	0.78670E-06	477534.3	3746361.5	449.0	3.49	10.23	3.25	YES
L0000672	0	0.78670E-06	477512.4	3746360.4	449.0	3.49	10.23	3.25	YES
L0000673	0	0.78670E-06	477490.4	3746359.2	449.0	3.49	10.23	3.25	YES
L0000674	0	0.78670E-06	477468.5	3746359.1	449.7	3.49	10.23	3.25	YES
L0000675	0	0.78670E-06	477447.3	3746364.9	450.0	3.49	10.23	3.25	YES
L0000676	0	0.78670E-06	477426.1	3746370.7	450.0	3.49	10.23	3.25	YES
L0000677	0	0.78670E-06	477406.2	3746379.8	450.0	3.49	10.23	3.25	YES

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000678	0	0.78670E-06	477387.0	3746390.4	450.0	3.49	10.23	3.25	YES	
L0000679	0	0.78670E-06	477367.7	3746401.1	450.0	3.49	10.23	3.25	YES	
L0000680	0	0.78670E-06	477348.5	3746411.8	450.0	3.49	10.23	3.25	YES	
L0000681	0	0.78670E-06	477329.3	3746422.5	450.0	3.49	10.23	3.25	YES	
L0000682	0	0.78670E-06	477311.1	3746434.7	450.0	3.49	10.23	3.25	YES	
L0000683	0	0.78670E-06	477294.3	3746448.9	450.0	3.49	10.23	3.25	YES	
L0000684	0	0.78670E-06	477277.5	3746463.1	450.0	3.49	10.23	3.25	YES	
L0000685	0	0.78670E-06	477260.7	3746477.3	450.0	3.49	10.23	3.25	YES	
L0000686	0	0.78670E-06	477243.9	3746491.5	450.1	3.49	10.23	3.25	YES	
L0000687	0	0.78670E-06	477224.9	3746502.3	450.1	3.49	10.23	3.25	YES	
L0000688	0	0.78670E-06	477205.1	3746511.9	450.5	3.49	10.23	3.25	YES	
L0000689	0	0.78670E-06	477185.3	3746521.6	451.0	3.49	10.23	3.25	YES	
L0000690	0	0.78670E-06	477165.0	3746529.9	451.0	3.49	10.23	3.25	YES	
L0000691	0	0.78670E-06	477144.3	3746537.5	451.0	3.49	10.23	3.25	YES	
L0000692	0	0.78670E-06	477123.5	3746544.2	451.0	3.49	10.23	3.25	YES	

L0000693	0	0.78670E-06	477101.6	3746546.9	451.0	3.49	10.23	3.25	YES
L0000694	0	0.78670E-06	477079.8	3746549.6	451.0	3.49	10.23	3.25	YES
L0000695	0	0.78670E-06	477058.0	3746552.2	451.2	3.49	10.23	3.25	YES
L0000696	0	0.78670E-06	477036.0	3746552.2	451.5	3.49	10.23	3.25	YES
L0000697	0	0.78670E-06	477014.0	3746551.9	451.9	3.49	10.23	3.25	YES
L0000698	0	0.78670E-06	476992.0	3746551.5	452.0	3.49	10.23	3.25	YES
L0000699	0	0.78670E-06	476970.0	3746551.1	452.0	3.49	10.23	3.25	YES
L0000700	0	0.78670E-06	476948.0	3746551.0	452.0	3.49	10.23	3.25	YES
L0000701	0	0.78670E-06	476926.0	3746551.0	452.0	3.49	10.23	3.25	YES
L0000702	0	0.78670E-06	476904.0	3746551.0	452.3	3.49	10.23	3.25	YES
L0000703	0	0.78670E-06	476882.0	3746551.0	452.6	3.49	10.23	3.25	YES
L0000704	0	0.78670E-06	476860.0	3746551.0	453.0	3.49	10.23	3.25	YES
L0000705	0	0.78670E-06	476838.0	3746551.0	453.0	3.49	10.23	3.25	YES
L0000706	0	0.78670E-06	476816.0	3746551.0	453.0	3.49	10.23	3.25	YES
L0000707	0	0.78670E-06	476794.0	3746551.0	454.0	3.49	10.23	3.25	YES
L0000708	0	0.78670E-06	476772.0	3746551.0	454.0	3.49	10.23	3.25	YES
L0000709	0	0.78670E-06	476750.0	3746551.0	454.0	3.49	10.23	3.25	YES
L0000710	0	0.78670E-06	476728.0	3746551.0	454.4	3.49	10.23	3.25	YES
L0000711	0	0.78670E-06	476706.0	3746550.2	455.0	3.49	10.23	3.25	YES
L0000712	0	0.78670E-06	476684.1	3746548.5	455.0	3.49	10.23	3.25	YES
L0000713	0	0.78670E-06	476662.3	3746547.9	455.0	3.49	10.23	3.25	YES
L0000714	0	0.78670E-06	476641.0	3746553.3	455.1	3.49	10.23	3.25	YES
L0000715	0	0.78670E-06	476619.7	3746558.8	455.2	3.49	10.23	3.25	YES
L0000716	0	0.78670E-06	476599.6	3746567.3	455.7	3.49	10.23	3.25	YES
L0000717	0	0.78670E-06	476580.6	3746578.4	456.0	3.49	10.23	3.25	YES

♀ *** AERMOD - VERSION 18081 *** *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***
08/13/18
*** AERMET - VERSION 16216 *** *** ***
14:16:29

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
L0000718	0	0.78670E-06	476561.6	3746589.6	456.0	3.49	10.23	3.25	YES	
L0000719	0	0.78670E-06	476544.0	3746602.5	456.0	3.49	10.23	3.25	YES	
L0000720	0	0.78670E-06	476527.2	3746616.8	456.0	3.49	10.23	3.25	YES	
L0000721	0	0.78670E-06	476514.4	3746634.4	456.0	3.49	10.23	3.25	YES	
L0000722	0	0.78670E-06	476503.1	3746653.3	456.0	3.49	10.23	3.25	YES	
L0000723	0	0.78670E-06	476492.9	3746672.6	456.2	3.49	10.23	3.25	YES	
L0000724	0	0.78670E-06	476487.1	3746693.8	456.4	3.49	10.23	3.25	YES	
L0000725	0	0.78670E-06	476481.4	3746715.1	456.6	3.49	10.23	3.25	YES	
L0000726	0	0.78670E-06	476475.7	3746736.3	456.3	3.49	10.23	3.25	YES	
L0000727	0	0.78670E-06	476470.0	3746757.6	456.0	3.49	10.23	3.25	YES	
L0000728	0	0.78670E-06	476464.3	3746778.8	456.2	3.49	10.23	3.25	YES	
L0000729	0	0.78670E-06	476458.6	3746800.1	456.4	3.49	10.23	3.25	YES	
L0000730	0	0.78670E-06	476451.6	3746820.8	456.3	3.49	10.23	3.25	YES	
L0000731	0	0.78670E-06	476440.6	3746839.9	456.0	3.49	10.23	3.25	YES	
L0000732	0	0.78670E-06	476429.7	3746859.0	456.3	3.49	10.23	3.25	YES	
L0000733	0	0.78670E-06	476418.2	3746877.6	456.4	3.49	10.23	3.25	YES	
L0000734	0	0.78670E-06	476403.3	3746893.9	456.3	3.49	10.23	3.25	YES	
L0000735	0	0.78670E-06	476388.5	3746910.1	456.4	3.49	10.23	3.25	YES	
L0000736	0	0.78670E-06	476371.8	3746923.8	456.3	3.49	10.23	3.25	YES	
L0000737	0	0.78670E-06	476351.6	3746932.4	456.8	3.49	10.23	3.25	YES	
L0000738	0	0.78670E-06	476331.4	3746941.1	456.8	3.49	10.23	3.25	YES	
L0000739	0	0.78670E-06	476310.4	3746947.1	457.0	3.49	10.23	3.25	YES	
L0000740	0	0.78670E-06	476288.7	3746950.7	457.0	3.49	10.23	3.25	YES	
L0000741	0	0.78670E-06	476267.0	3746954.4	457.0	3.49	10.23	3.25	YES	
L0000742	0	0.78670E-06	476245.2	3746957.1	457.0	3.49	10.23	3.25	YES	

L0000743	0	0.78670E-06	476223.2	3746956.7	457.0	3.49	10.23	3.25	YES
L0000744	0	0.78670E-06	476201.2	3746956.3	457.0	3.49	10.23	3.25	YES
L0000745	0	0.78670E-06	476179.2	3746955.9	457.7	3.49	10.23	3.25	YES
L0000746	0	0.78670E-06	476157.2	3746955.5	458.0	3.49	10.23	3.25	YES
L0000747	0	0.78670E-06	476135.2	3746955.1	458.2	3.49	10.23	3.25	YES
L0000748	0	0.78670E-06	476113.3	3746954.6	458.9	3.49	10.23	3.25	YES
L0000749	0	0.78670E-06	476091.3	3746954.2	459.0	3.49	10.23	3.25	YES
L0000750	0	0.78670E-06	476069.3	3746953.8	459.4	3.49	10.23	3.25	YES
L0000751	0	0.78670E-06	476047.3	3746953.4	460.0	3.49	10.23	3.25	YES
L0000752	0	0.78670E-06	476025.3	3746953.0	460.0	3.49	10.23	3.25	YES
L0000753	0	0.78670E-06	476003.3	3746952.6	460.6	3.49	10.23	3.25	YES
L0000754	0	0.78670E-06	475981.3	3746952.2	461.0	3.49	10.23	3.25	YES

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** SOURCE IDs DEFINING SOURCE GROUPS ***

SRCGROUP ID	SOURCE IDs
ALL	L0000478 , L0000479 , L0000480 , L0000481 , L0000482 , L0000483 , L0000484 , 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   ,
L0000621   ,

             L0000622   , L0000623   , L0000624   , L0000625   , L0000626   , L0000627   , L0000628   ,
L0000629   ,

             L0000630   , L0000631   , L0000632   , L0000633   , L0000634   , L0000635   , L0000636   ,
L0000637   ,
♀ *** AERMOD - VERSION 18081 ***   *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***
    08/13/18
 *** AERMET - VERSION 16216 ***   ***   ***
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   PAGE 10
 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                        *** SOURCE IDs DEFINING SOURCE GROUPS ***

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

             L0000638   , L0000639   , L0000640   , L0000641   , L0000642   , L0000643   , L0000644   ,
L0000645   ,

             L0000646   , L0000647   , L0000648   , L0000649   , L0000650   , L0000651   , L0000652   ,
L0000653   ,

             L0000654   , L0000655   , L0000656   , L0000657   , L0000658   , L0000659   , L0000660   ,
L0000661   ,

             L0000662   , L0000663   , L0000664   , L0000665   , L0000666   , L0000667   , L0000668   ,
L0000669   ,

             L0000670   , L0000671   , L0000672   , L0000673   , L0000674   , L0000675   , L0000676   ,
L0000677   ,

             L0000678   , L0000679   , L0000680   , L0000681   , L0000682   , L0000683   , L0000684   ,
L0000685   ,

             L0000686   , L0000687   , L0000688   , L0000689   , L0000690   , L0000691   , L0000692   ,
L0000693   ,

             L0000694   , L0000695   , L0000696   , L0000697   , L0000698   , L0000699   , L0000700   ,
L0000701   ,

             L0000702   , L0000703   , L0000704   , L0000705   , L0000706   , L0000707   , L0000708   ,
L0000709   ,

             L0000710   , L0000711   , L0000712   , L0000713   , L0000714   , L0000715   , L0000716   ,
L0000717   ,

             L0000718   , L0000719   , L0000720   , L0000721   , L0000722   , L0000723   , L0000724   ,
L0000725   ,

L0000726 , L0000727 , L0000728 , L0000729 , L0000730 , L0000731 , L0000732 ,
L0000733 ,

L0000734 , L0000735 , L0000736 , L0000737 , L0000738 , L0000739 , L0000740 ,
L0000741 ,

L0000742 , L0000743 , L0000744 , L0000745 , L0000746 , L0000747 , L0000748 ,
L0000749 ,

L0000750 , L0000751 , L0000752 , L0000753 , L0000754 ,
♀ *** AERMOD - VERSION 18081 *** *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***
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*** 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

2189641. L0000478 , L0000479 , L0000480 , L0000481 , L0000482 , L0000483 ,
L0000484 ,
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 , L0000621 ,

L0000622 , L0000623 , L0000624 , L0000625 , L0000626 , L0000627 , L0000628 , L0000629 ,

L0000630 , L0000631 , L0000632 , L0000633 , L0000634 , L0000635 , L0000636 , L0000637 ,

♀ *** AERMOD - VERSION 18081 *** *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***
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*** 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

L0000638 , L0000639 , L0000640 , L0000641 , L0000642 , L0000643 , L0000644 , L0000645 ,

L0000646 , L0000647 , L0000648 , L0000649 , L0000650 , L0000651 , L0000652 , L0000653 ,

L0000654 , L0000655 , L0000656 , L0000657 , L0000658 , L0000659 , L0000660 , L0000661 ,

L0000662 , L0000663 , L0000664 , L0000665 , L0000666 , L0000667 , L0000668 , L0000669 ,

L0000670 , L0000671 , L0000672 , L0000673 , L0000674 , L0000675 , L0000676 , L0000677 ,

L0000678 , L0000679 , L0000680 , L0000681 , L0000682 , L0000683 , L0000684 , L0000685 ,

L0000686 , L0000687 , L0000688 , L0000689 , L0000690 , L0000691 , L0000692 , L0000693 ,

L0000694 , L0000695 , L0000696 , L0000697 , L0000698 , L0000699 , L0000700 , L0000701 ,

L0000702 , L0000703 , L0000704 , L0000705 , L0000706 , L0000707 , L0000708 , L0000709 ,

L0000710 , L0000711 , L0000712 , L0000713 , L0000714 , L0000715 , L0000716 , L0000717 ,

L0000718 , L0000719 , L0000720 , L0000721 , L0000722 , L0000723 , L0000724 , L0000725 ,

L0000726 , L0000727 , L0000728 , L0000729 , L0000730 , L0000731 , L0000732 ,

```
L0000733    ,

            L0000734    , L0000735    , L0000736    , L0000737    , L0000738    , L0000739    , L0000740    ,
L0000741    ,

            L0000742    , L0000743    , L0000744    , L0000745    , L0000746    , L0000747    , L0000748    ,
L0000749    ,

            L0000750    , L0000751    , L0000752    , L0000753    , L0000754    ,
♀ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***
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 *** AERMET - VERSION  16216 ***   ***                                                                     ***
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   PAGE  13
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

     ( 478700.3, 3745178.8,     444.7,     444.7,       0.0);        ( 478719.5, 3745179.2,     444.0,     444.0,
     0.0);
     ( 478743.8, 3745158.6,     444.0,     444.0,       0.0);        ( 478870.1, 3745318.8,     444.0,     444.0,
     0.0);
     ( 478930.8, 3745323.2,     444.0,     444.0,       0.0);        ( 479220.8, 3744853.3,     443.0,     443.0,
     0.0);
     ( 477847.6, 3745595.0,     448.1,     448.1,       0.0);        ( 477839.8, 3745434.8,     448.0,     448.0,
     0.0);
     ( 477716.0, 3745265.4,     449.0,     449.0,       0.0);        ( 478147.2, 3745706.0,     447.0,     447.0,
     0.0);
     ( 478150.3, 3745485.8,     447.0,     447.0,       0.0);        ( 478156.3, 3745048.5,     447.0,     447.0,
     0.0);
     ( 478145.7, 3745277.8,     447.0,     447.0,       0.0);        ( 478709.6, 3745470.8,     445.0,     445.0,
     0.0);
     ( 478163.0, 3744833.0,     447.0,     447.0,       0.0);        ( 478228.8, 3745872.4,     447.0,     447.0,
     0.0);
     ( 478329.8, 3746076.5,     446.0,     446.0,       0.0);        ( 478115.4, 3746408.6,     447.0,     447.0,
     0.0);
     ( 476718.3, 3746600.5,     454.6,     454.6,       0.0);        ( 476396.8, 3746701.2,     457.0,     457.0,
     0.0);
     ( 477381.4, 3744264.6,     453.9,     453.9,       0.0);        ( 477144.9, 3744271.6,     455.0,     455.0,
     0.0);
     ( 477418.1, 3744372.0,     453.0,     453.0,       0.0);        ( 477170.4, 3744367.8,     454.0,     454.0,
     0.0);
     ( 477163.4, 3744105.8,     456.0,     456.0,       0.0);

♀ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***
    08/13/18
 *** AERMET - VERSION  16216 ***   ***                                                                     ***
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   PAGE  14
 *** MODELOPTs:    RegDFAULT  CONC  ELEV  URBAN  ADJ_U*

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

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

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

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

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

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

Surface file: 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 Upper air station no.: 3190
Name: UNKNOWN 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)
♀ *** AERMOD - VERSION  18081 ***   *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***
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 *** 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):     L0000478    , L0000479    , L0000480    , L0000481    ,
L0000482    ,
                L0000483    , L0000484    , L0000485    , L0000486    , L0000487    , L0000488    , L0000489    ,
L0000490    ,
                L0000491    , L0000492    , L0000493    , L0000494    , L0000495    , L0000496    , L0000497    ,
L0000498    ,
                L0000499    , L0000500    , L0000501    , L0000502    , L0000503    , L0000504    , L0000505    ,
. . .       ,
```

*** DISCRETE CARTESIAN RECEPTOR POINTS ***

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

X-COORD (M)	Y-COORD (M)	CONC	X-COORD (M)	Y-COORD (M)	CONC
478700.26	3745178.79	0.00125	478719.45	3745179.17	0.00111
478743.76	3745158.58	0.00098	478870.08	3745318.76	0.00056
478930.81	3745323.25	0.00047	479220.76	3744853.35	0.00022
477847.62	3745595.00	0.00050	477839.84	3745434.75	0.00048
477715.99	3745265.41	0.00037	478147.22	3745705.97	0.00108

478150.26	3745485.81	0.00108	478156.33	3745048.52	0.00113
478145.70	3745277.79	0.00123	478709.59	3745470.77	0.00078
478162.96	3744833.04	0.00061	478228.82	3745872.45	0.00202
478329.75	3746076.50	0.00227	478115.38	3746408.61	0.00194
476718.35	3746600.47	0.00194	476396.78	3746701.23	0.00126
477381.38	3744264.63	0.00012	477144.91	3744271.63	0.00011
477418.12	3744371.97	0.00014	477170.36	3744367.85	0.00012
477163.37	3744105.76	0.00010			

♀ *** AERMOD - VERSION 18081 *** *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***
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*** AERMET - VERSION 16216 *** *** ***
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*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

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

NETWORK GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZHILL, ZFLAG)					OF TYPE GRID-ID
ALL	1ST HIGHEST VALUE IS	0.00227 AT	478329.75,	3746076.50,	446.00,	446.00,	0.00)	DC
	2ND HIGHEST VALUE IS	0.00202 AT	478228.82,	3745872.45,	447.00,	447.00,	0.00)	DC
	3RD HIGHEST VALUE IS	0.00194 AT	476718.35,	3746600.47,	454.61,	454.61,	0.00)	DC
	4TH HIGHEST VALUE IS	0.00194 AT	478115.38,	3746408.61,	447.00,	447.00,	0.00)	DC
	5TH HIGHEST VALUE IS	0.00126 AT	476396.78,	3746701.23,	457.00,	457.00,	0.00)	DC
	6TH HIGHEST VALUE IS	0.00125 AT	478700.26,	3745178.79,	444.65,	444.65,	0.00)	DC
	7TH HIGHEST VALUE IS	0.00123 AT	478145.70,	3745277.79,	447.00,	447.00,	0.00)	DC
	8TH HIGHEST VALUE IS	0.00113 AT	478156.33,	3745048.52,	447.00,	447.00,	0.00)	DC
	9TH HIGHEST VALUE IS	0.00111 AT	478719.45,	3745179.17,	444.02,	444.02,	0.00)	DC
	10TH HIGHEST VALUE IS	0.00108 AT	478147.22,	3745705.97,	447.00,	447.00,	0.00)	DC

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
♀ *** AERMOD - VERSION 18081 *** *** C:\Lakes\AERMOD View\11705 Ramona and Indian\11705 Ramona and Indian ***
08/13/18
*** AERMET - VERSION 16216 *** *** ***
14:16:29

*** 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	704	MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used		0.50
ME W187	704	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 ***
****

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APPENDIX 2.2:

RISK CALCULATIONS

AVERAGE EMISSION FACTOR
SCAQMD 2020

Speed	LHD1	MHD	HHD
0	0.335222	0.132926	0.01988
5	0.046804	0.059025	0.04096
25	0.01570	0.041045	0.02327

Speed	**Weighted Average Emissions**
0	**0.09594**
5	**0.04568**
25	**0.02569**

Emission Rates - 2020 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	97			0.0959	2.31	2.679E-05
On-Site Travel	193	78.81	0.0457		3.60	4.167E-05
Off-Site Travel 100% Inbound/Outbound	193	436.48	0.0257		11.21	1.298E-04

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

Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**								
					URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00125	1.25E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.3E-07	1.0E-08	5.0E+00	1.4E-03	2.5E-04							
TOTAL								1.0E-08			2.5E-04	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)	0.25
inhalation rate (L/kg-day))	273
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	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**								
					URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00125	1.25E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	9.1E-07	2.3E-07	5.0E+00	1.4E-03	2.5E-04							
TOTAL								2.3E-07			2.5E-04	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))	758
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	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**								
					URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00125	1.25E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	6.9E-07	3.1E-07	5.0E+00	1.4E-03	2.5E-04							
TOTAL								3.1E-07			2.5E-04	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**								
					URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
	(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
	0.00125	1.25E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.1E-07	4.8E-08	5.0E+00	1.4E-03	2.5E-04							
TOTAL								4.8E-08			2.5E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
								0.05										

** 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) 0.60

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**									
						URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
		(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	($mg/kg/day$)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
1	Diesel Particulates	2.27E-03	2.27E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	4.2E-07	1.6E-07	5.0E+00	1.4E-03	4.5E-04							
	TOTAL								1.7E-07			4.9E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
									0.17										

** 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)	250
exposure duration (years)	25
inhalation rate (L/kg-day))	271
inhalation absorption factor	1
averaging time (years)	70

Table 6
Quantification of Carcinogenic Risks and Noncarcinogenic Risks
9-Year School Child Exposure Scenario

	Source	Mass GLC		Weight Fraction	Contaminant	Carcinogenic Risk				Noncarcinogenic Hazards/ Toxicological Endpoints**									
						URF	CPF	DOSE	RISK	REL	RfD	RESP	CNS/PNS	CV/BL	IMMUN	KIDN	GI/LV	REPRO	EYES
		(ug/m^3)	(mg/m^3)			(ug/m^3)$^{-1}$	(mg/kg/day)$^{-1}$	(mg/kg-day)		(ug/m^3)	(mg/kg/day)								
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)
1	Diesel Particulates	1.40E-04	1.40E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.9E-08	1.6E-08	5.0E+00	1.4E-03	2.8E-05							
	TOTAL								3.7E-08			6.4E-05	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
									0.04										

** 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)	180
exposure duration (years)	9
inhalation rate (L/kg-day))	572
inhalation absorption factor	1
averaging time (years)	70
age sensitivity factor (ages 4-13)	3