Birtcher Logistics Center Rialto (MC2020-0031)

MOBILE SOURCE HEALTH RISK ASSESSMENT

CITY OF RIALTO

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LIST OF ABBREVIATED TERMS

(1)	Reference
µg	Microgram
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
APS	Auxiliary Power System
AQMD	Air Quality Management District
ARB	Air Resources Board
CEQA	California Environmental Quality Act
CPF	Cancer Potency Factor
DPM	Diesel Particulate Matter
EMFAC	Emission Factor Model
EPA	Environmental Protection Agency
HHD	Heavy Heavy-Duty
HI	Hazard Index
HRA	Health Risk Assessment
LHD	Light Heavy-Duty
MATES	Multiple Air Toxics Exposure Study
MEIR	Maximally Exposed Individual Receptor
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 Assessment
PCE	Passenger Car Equivalent
PM10	Particulate Matter 10 microns in diameter or less
Project	Birtcher Logistics Center Rialto
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 the nearest sensitive receptors (which are residents) and nearest workers to the proposed Project, more specifically, health risk impacts as a result of exposure to diesel particulate matter (DPM) emitted from 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, *Summary of Cancer and Non-Cancer Risks*, below for the Project.

Individual Exposure Scenario:

The residential land use with the greatest potential exposure to Project DPM source emissions is Location R6, which represents the existing residence at 1639 South Lilac Avenue, approximately 536 feet west of the Project site. R6 as identified in Exhibit 2-C, *Modeled Receptors*, is placed at the building façade where a resident has the potential to be exposed over a long-term duration. At the maximally exposed individual receptor (MEIR), the maximum incremental cancer risk attributable to Project DPM source emissions is estimated at 0.06 in one million, which is less than the South Coast Air Quality Management District's (SCAQMD's) significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled residential receptors are exposed to lesser concentrations and are located at a greater distance from the Project site and primary truck route than the MEIR analyzed herein, and DPM generally dissipates with distance from the source, all other residential receptors in the vicinity of the Project site would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby residences.

Worker Exposure Scenario:

The worker receptor land use with the greatest potential exposure to Project DPM source emissions is Location R7 in Exhibit 2-C, which represents the Steel Unlimited, Inc. facility located at 452 West Valley Boulevard #7718, approximately 10 feet west of the Project site. At the maximally exposed individual worker (MEIW), the maximum incremental cancer risk impact is 0.47 in one million which is less than the SCAQMD's threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyze herein, and DPM dissipates with distance from the source, all other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent workers.

School Child Exposure Scenario:

The school site land use with the greatest potential exposure to Project DPM source emissions is at the Joe Baca Middle School located at 1640 South Lilac Avenue approximately 846 feet west of the Project site. At the maximally exposed individual school child (MEISC), the maximum incremental cancer risk impact attributable to the Project at this location is calculated to be an estimated 0.12 in one million which is less than the significance threshold of 10 in one million. At this same location, non-cancer risks attributable to the Project were calculated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Any other schools near the Project site 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 nearby 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 Individual Receptor	0.06	10	NO
25 Year Exposure	Maximum Exposed Worker Receptor	0.47	10	NO
9 Year Exposure	Maximum Exposed School Child Receptor	0.12	10	NO
Time Period	**Location**	**Maximum Hazard Index**	**Significance Threshold**	**Exceeds Significance Threshold**
Annual Average	Maximum Exposed Sensitive Receptor	<0.01	1.0	NO
Annual Average	Maximum Exposed Worker Receptor	<0.01	1.0	NO
Annual Average	Maximum Exposed School Child Receptor	<0.01	1.0	NO

1 INTRODUCTION

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

The SCAQMD identifies that if a proposed Project is expected to generate/attract heavy-duty diesel trucks, which emit DPM, preparation of a mobile source HRA is recommended. This document serves to meet the SCAQMD's recommendation 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 United States Environmental Protection Agency (U.S. EPA), California EPA and SCAQMD. Cancer risk is expressed in terms of expected incremental incidence per million population. The SCAQMD has established an incidence rate of ten (10) persons per million as the maximum acceptable incremental cancer risk due to DPM exposure from a project such as the proposed Project. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulatively considerable impact.

The AQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (2). In this report the AQMD states (Page D-3):

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

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

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

1.1 SITE LOCATION

The Birtcher Logistics Center Rialto Project is located at the northwest corner of Valley Boulevard and Willow Avenue in the City of Rialto, as shown on Exhibit 1-A, *Location Map*. The nearest sensitive residential land use is located west of the project site.

1.2 PROJECT DESCRIPTION

The Project is proposed to consist of a single 492,410 square foot warehouse building. For analytical purposes it is assumed that up to 20% of the Project (98,482 sf) could include a cold-storage component. It is anticipated that the Project would be developed in a single phase with an anticipated Opening Year of 2023.

At the time this HRA was prepared, the future tenants of the proposed Project are unknown. Because the operating hours of perspective building tenants is not known at this time, this HRA is intended to describe potential toxic emission impacts associated with the expected typical 24-hour, seven day per week operational activities at the Project site, which provides a conservative analysis of impacts.

As summarized in *Birtcher Logistics Center Traffic Analysis* (*TA*), the Project is expected to generate a total of approximately 1,752 two-way vehicular trips per day (876 inbound and 876 outbound) which includes 700 two-way truck trips per day (350 inbound and 350 outbound) (3) which also includes 140 two-way truck trips with Transportation Refrigeration Units (TRUs) per day. This health risk assessment study evaluates the potential impacts resulting from diesel exhaust from the 700 two-way truck trips including 140 two-way truck trips with TRUs, generated by the Project.

EXHIBIT 1-A: LOCATION MAP

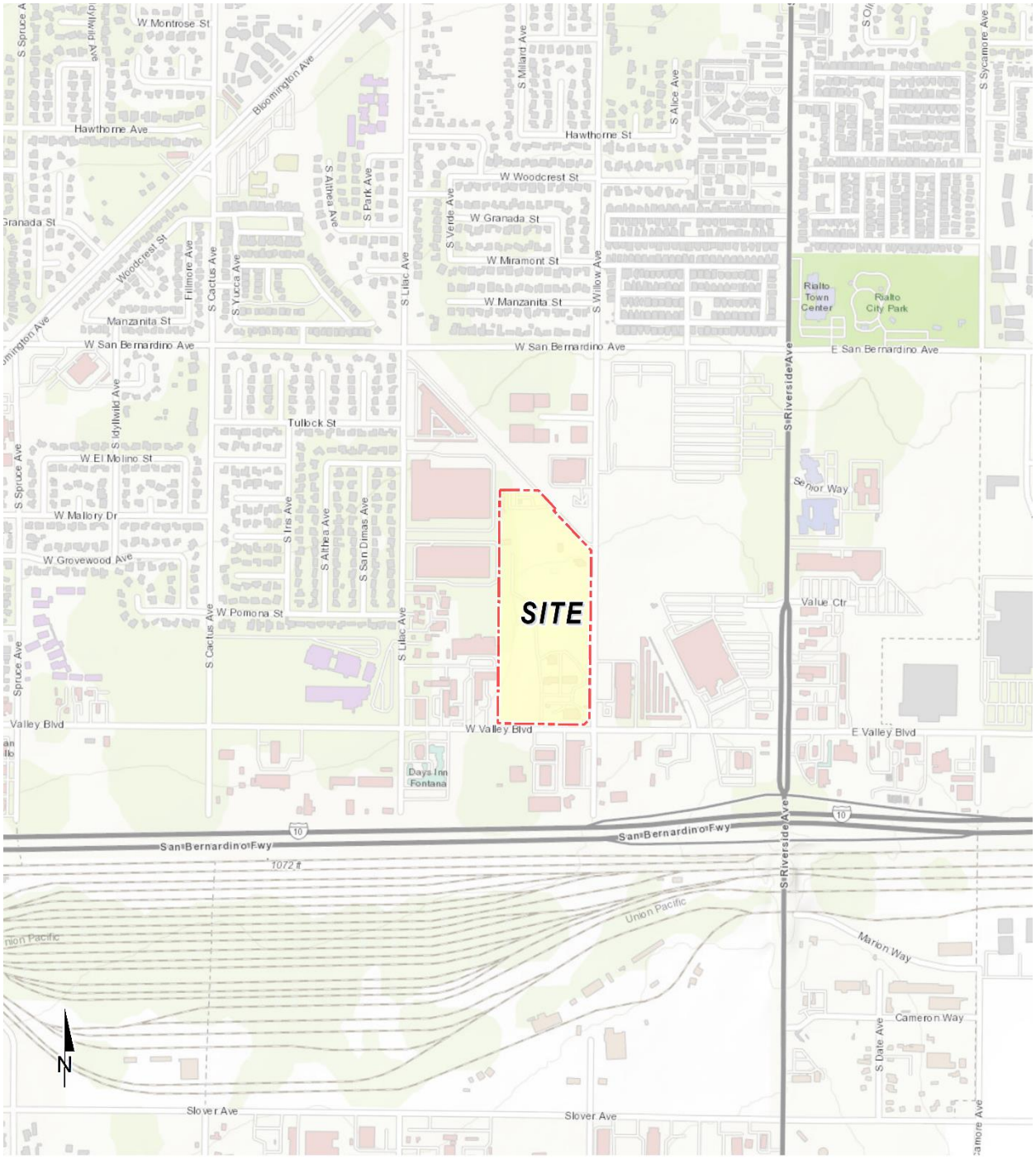
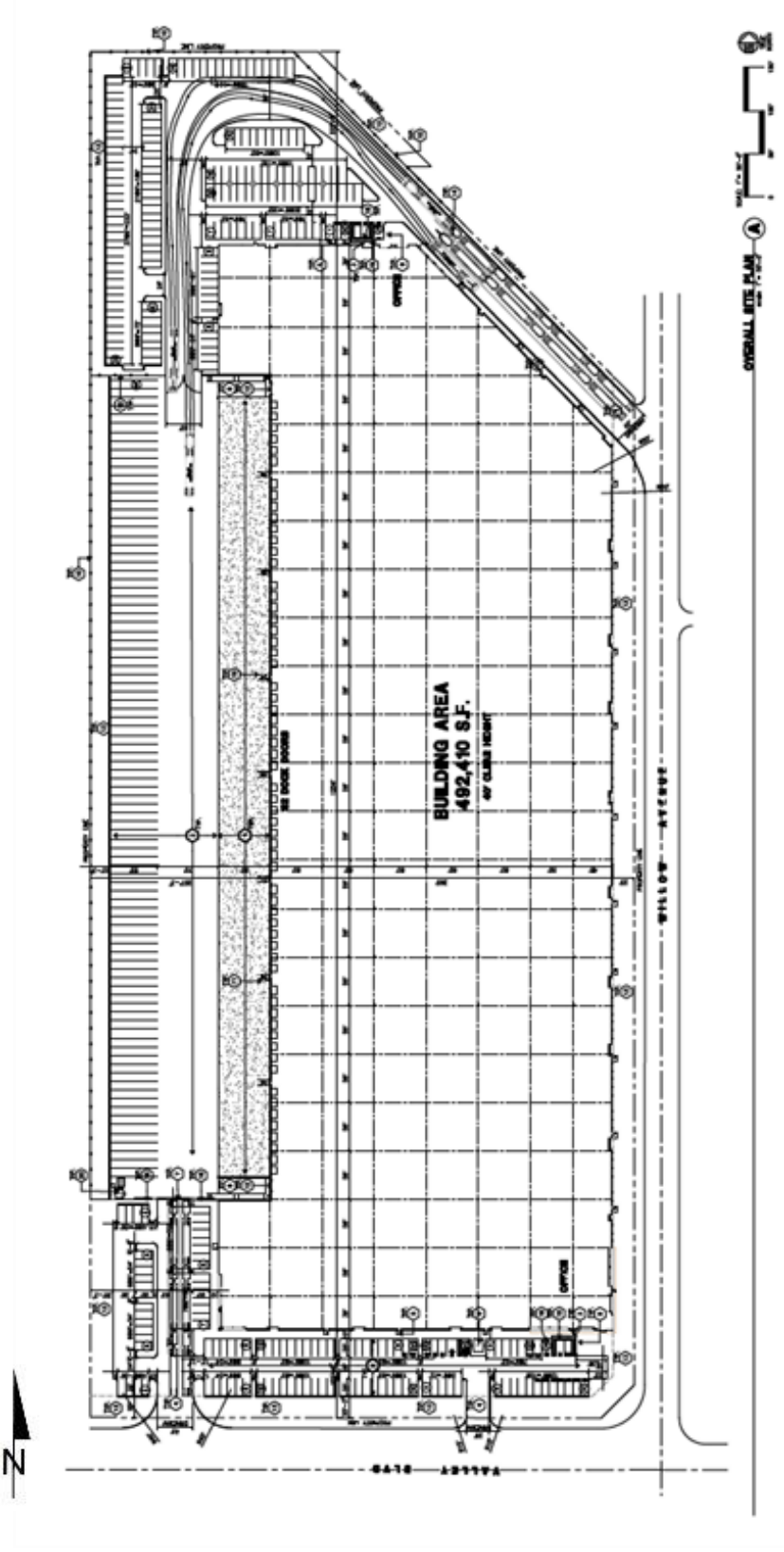


EXHIBIT 1-B: SITE PLAN



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2 BACKGROUND

2.1 BACKGROUND ON RECOMMENDED METHODOLOGY

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

- The ARB-adopted diesel exhaust Unit Risk Factor (URF) of 300 in one million per 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 because it represents breathing rates that are high for the human body (95% higher than the average population).
- The emissions derived assume that every truck accessing the Project site will idle for 15 minutes under the unmitigated scenario, and this is an overestimation of actual idling times and thus conservative.[1] The California Air Resources Board (CARB's) anti-idling requirements impose a 5-minute maximum idling time and therefore the analysis conservatively overestimates DPM emissions from idling by a factor of 3.

2.2 EMISSIONS ESTIMATION

2.2.1 ON-SITE AND OFF-SITE TRUCK ACTIVITY

Vehicle DPM emissions were calculated using emission factors for particulate matter less than 10µm in diameter (PM_{10}) generated with the 2017 version of the EMission FACtor model (EMFAC) developed by the CARB. EMFAC 2017 is a mathematical model that CARB developed to calculate emission rates from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the ARB to project changes in future emissions from on-road mobile sources (4). The most recent version of this model, EMFAC 2017, incorporates regional motor vehicle data, information and estimates regarding the distribution of vehicle miles traveled (VMT) by speed, and number of starts per day.

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

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

[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.

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, *2023 Weighted Average DPM Emissions Factors*. As a conservative measure, a 2023 EMFAC 2017 run was conducted and a static 2023 emissions factor data set was used for the entire duration of analysis herein (e.g., 30 years). Use of 2023 emission factors would overstate potential impacts since this approach assumes that emission factors remain "static" and do not change over time due to fleet turnover or cleaner technology with lower emissions that would be incorporated into vehicles after 2023. Additionally, based on EMFAC 2017, Light-Heavy-Duty Trucks are comprised of 48.33% diesel, Medium-Heavy-Duty Trucks are comprised of 88.11% diesel, and Heavy-Heavy-Duty Trucks are comprised of 96.13% diesel. Trucks fueled by diesel are accounted for by these percentages 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 assumed idle time (15 minutes). The following equation was used to estimate the on-site vehicle idling emissions for each of the different vehicle classes (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: 2023 WEIGHTED AVERAGE DPM EMISSIONS FACTORS

Speed	Weighted Average
0 (idling)	0.02595 (g/idle-hr)
5	0.01115 (g/s)
25	0.00575 (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, *AERMOD Model Input/Output*". 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, *DPM EMissions from Project Trucks (2023 Analysis Year)*. The modeled emission sources are illustrated on Exhibit 2-A, *Modeled Emissions Sources*. The modeling domain is limited to the Project's primary truck route and includes off-site sources in the study area for more than 0.6 mile. This modeling domain is more inclusive and conservative than using only a ¼ mile modeling domain which is the distance supported by several reputable studies which conclude that the greatest potential risks occur within a ¼ mile of the primary source of emissions (6) (in the case of the Project, the primary source of emissions is the on-site idling and on-site travel).

On-site truck idling was estimated to occur as trucks enter and travel through the Project site. Although the Project's diesel-fueled truck and equipment operators will be required by State law to comply with CARB's idling limit of 5 minutes, staff at SCAQMD recommends that the on-site idling emissions be calculated assuming 15 minutes of truck idling (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 calculates truck idling at 15 minutes, consistent with SCAQMD's recommendation.

As summarized in *Birtcher Logistics Center Traffic Analysis* (*TA*), the Project is expected to generate a total of approximately 1,752 two-way vehicular trips per day (876 inbound and 876 outbound) which includes 700 two-way truck trips per day (350 inbound and 350 outbound) (3) which also includes 140 two-way truck trips with TRUs per day. This health risk assessment study evaluates the potential impacts resulting from diesel exhaust from the 700 two-way truck trips including 140 two-way truck trips with TRUs, generated by the Project.

EXHIBIT 2-A: MODELED EMISSION SOURCES

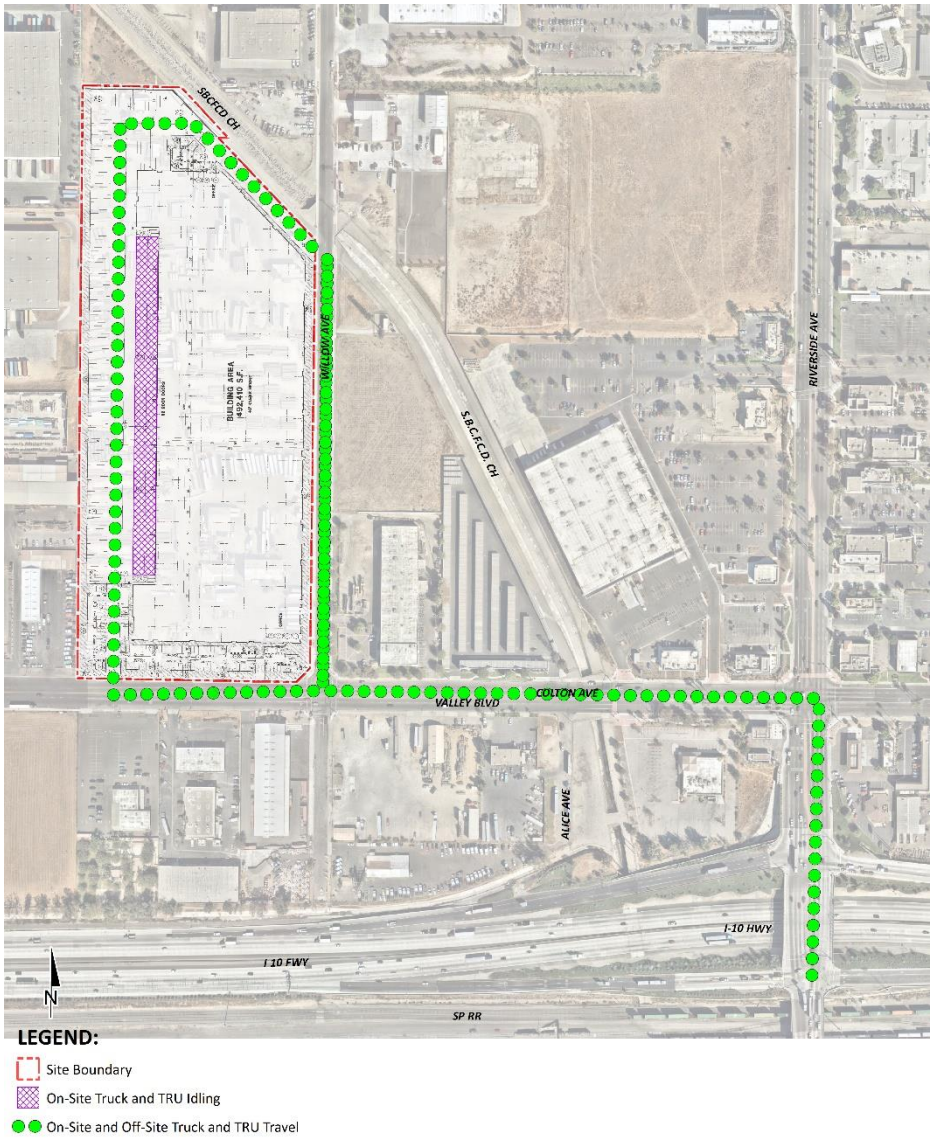

TABLE 2-2: DPM EMISSIONS FROM PROJECT TRUCKS (2023 ANALYSIS YEAR)

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	350			0.0259	4.72	5.463E-05
On-Site Travel	700	286.81	0.0112		4.00	4.631E-05
Off-Site Travel 25%	175	109.61	0.0057		0.69	8.003E-06
Off-Site Travel 75%	525	263.13	0.0057		1.66	1.921E-05

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

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

[c] This column includes the total truck travel and truck idle emissions. For idle emissions this column includes emissions based on the assumption that each truck idles for 15 minutes. Additionally, this colum includes idling from TRUs accessing the Project, it is assumed that TRUs would idle for up to 30 minutes.

2.2.2 TRANSPORT REFRIGERATION UNITS (TRUS)

In order to account for the possibility of refrigerated uses, trucks associated with the cold-storage land use are assumed to also have TRUs. Therefore, for modeling purposes 140 two-way truck trips have the potential to include TRUs (approximately 20% of all trucks accessing the site). TRUs are accounted for during on-site and off-site travel. The TRU calculations are based on the 2017 Off-road Emissions model, version 1.0.1 (Orion), developed by the CARB. Orion does not provide emission rates per hour or mile as with the on-road emission model and only provides emission inventories. Emission results are produced in tons per day while all activity, fuel consumption and horsepower hours are reported at annual levels. The emission inventory is based on specific assumptions including the average horsepower rating of specific types of equipment and the hours of operation annually. These assumptions are not always consistent with assumptions used in the modeling of project level emissions. Therefore, the emissions inventory was converted into emission rates to accurately calculate emissions from TRU operation associated with project level details. This was accomplished by converting the annual horsepower hours to daily operational characteristics and converting the daily emission levels into hourly emission rates based on the total emission of each criteria pollutant by equipment type and the average daily hours of operation. As such, DPM TRU emissions are calculated at 0.07 grams per hour for on-site idling and off-site travel (see Appendix 2.2, *Risk Calculations*, for additional calculation details).

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 Lakes AERMOD View (Version 9.9.0) was used to calculate annual average particulate concentrations associated with site operations. Lakes AERMOD View was utilized to incorporate the U.S. EPA's latest AERMOD Version 19191 (8).

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

SCAQMD-recommended model parameters are presented in Table 2-3, *AERMOD Model Parameters* (9). The model requires additional input parameters including emission data and local meteorology. Meteorological data from the SCAQMD's Fontana (FONT) monitoring station (SRA 34) was used to represent local weather conditions and prevailing winds (10). A wind rose exhibit of the FONT monitoring station is provided in Exhibit 2-B, *Wind Rose (SRA 34)*.

EXHIBIT 2-B: WIND ROSE (SRA 34)

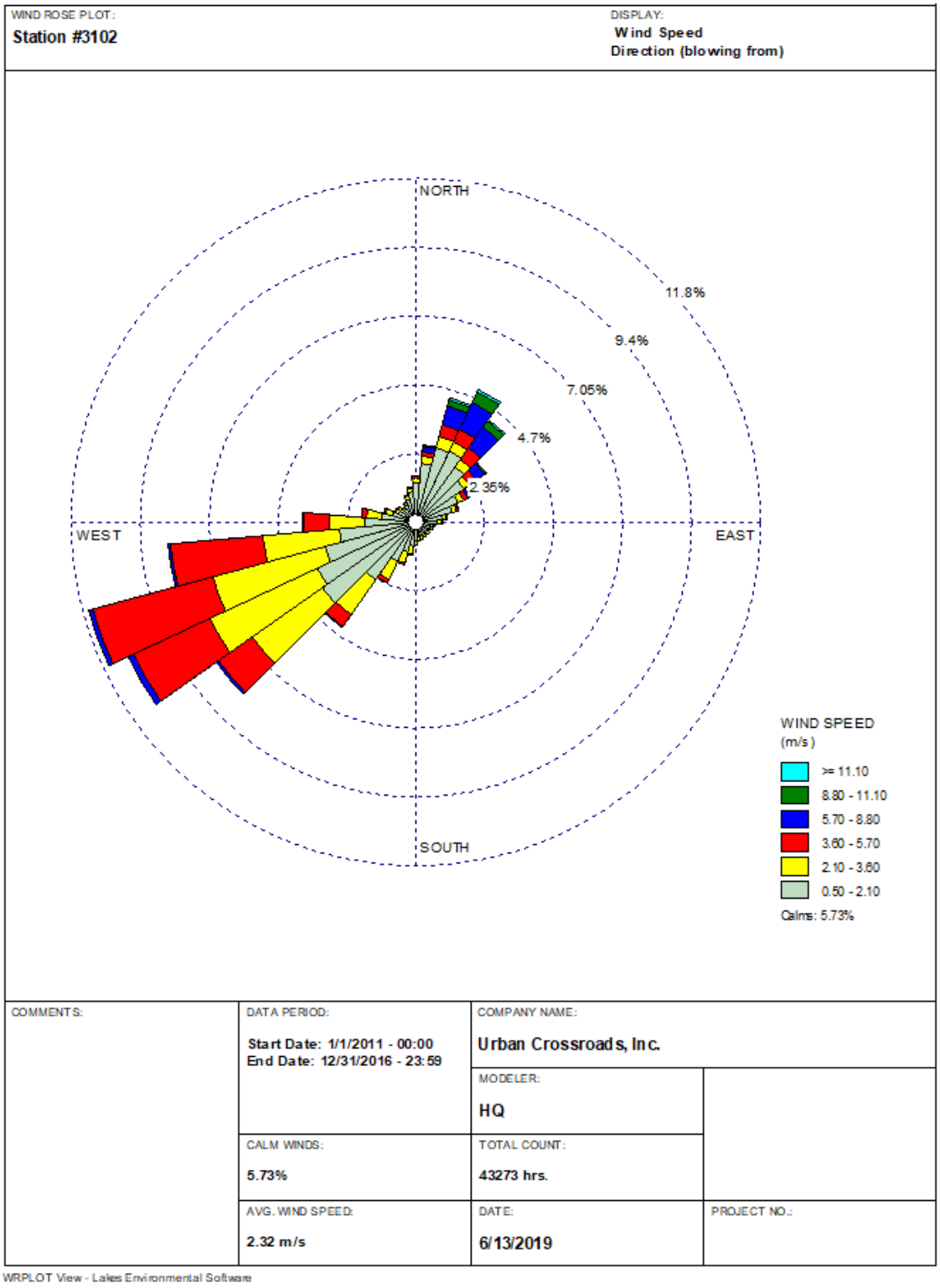

TABLE 2-3: AERMOD MODEL PARAMETERS

Dispersion Coefficient (Urban/Rural)	Urban (Population 2,035,210)
Terrain (Flat/Elevated)	Elevated (Regulatory Default)
Averaging Time	1 year (5-year Meteorological Data Set)
Receptor Height	0 meters (Regulatory Default)

Universal Transverse Mercator (UTM) coordinates for World Geodetic System (WGS) 84 were used to locate the Project site boundaries, each volume source location, and receptor locations in the Project site's vicinity. The AERMOD dispersion model summary output files for the proposed Project are presented in Appendix "2.1". Modeled sensitive receptors were placed at residential and non-residential locations.

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

For purposes of this HRA, receptors include both residential and non-residential (worker and school) land uses in the vicinity of the Project. These receptors are included in the HRA since residents, workers, and school children may be exposed at these locations over a long-term duration of 30, 25, and 9 years, respectively. This methodology is consistent with SCAQMD and OEHHA recommended guidance.

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

Consistent with SCAQMD modeling guidance, all receptors were set to existing elevation height so that only ground-level concentrations are analyzed (11). United States Geological Survey (USGS) Digital Elevation Model (DEM) terrain data based on a 7.5-minute topographic quadrangle map series using AERMAP was utilized in the HRA modeling to set elevations.

Discrete variants for daily breathing rates, exposure frequency, and exposure duration were obtained from relevant distribution profiles presented in the 2015 OEHHA Guidelines. Table 2-4, *Exposure Assumptions for Individual Cancer Risk (30 Year Residential)*, Table 2-5, *Exposure Assumptions for Individual Cancer Risk (25 Year Worker)* and Table 2-6, *Exposure Assumptions for Individual Cancer Risk (9 Year School Child)*, summarize the Exposure Parameters for Residents, Workers, and School Children 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	361	10	0.25	0.85	350	24
0 to 2	1090	10	2	0.85	350	24
2 to 16	572	3	14	0.72	350	24
16 to 30	261	1	14	0.73	350	24

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

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

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)
9 year duration	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.

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

Individual Exposure Scenario:

The residential land use with the greatest potential exposure to Project DPM source emissions is Location R6, which represents the existing residence at 1639 South Lilac Avenue, approximately 536 feet west of the Project site. R6 is placed at the building façade where a resident has the potential to be exposed over a long-term duration. At the MEIR, the maximum incremental cancer risk attributable to Project DPM source emissions is estimated at 0.06 in one million, which is less than the SCAQMD's significance threshold of 10 in one million. At this same location, non-cancer risks were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled residential receptors are exposed to lesser concentrations and are located at a greater distance from the Project site and primary truck route than the MEIR analyzed herein, and DPM generally dissipates with distance from the source, all other residential receptors in the vicinity of the Project site would be exposed to less emissions and therefore less risk than the MEIR identified herein. As such, the Project will not cause a significant human health or cancer risk to nearby residences. The nearest modeled receptors are illustrated on Exhibit 2-C.

Worker Exposure Scenario[2]*:*

The worker receptor land use with the greatest potential exposure to Project DPM source emissions is Location R7, which represents the Steel Unlimited, Inc. facility located at 452 West Valley Boulevard #7718, approximately 10 feet west of the Project site. At the MEIW, the maximum incremental cancer risk impact is 0.47 in one million which is less than the SCAQMD's threshold of 10 in one million. Maximum non-cancer risks at this same location were estimated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Because all other modeled worker receptors are located at a greater distance than the MEIW analyze herein, and DPM dissipates with distance from the source, all other worker receptors in the vicinity of the Project would be exposed to less emissions and therefore less risk than the MEIW identified herein. As such, the Project will not cause a significant human health or cancer risk to adjacent workers. The nearest modeled receptors are illustrated on Exhibit 2-C.

School Child Exposure Scenario:

The school site land use with the greatest potential exposure to Project DPM source emissions is at the Joe Baca Middle School located at 1640 South Lilac Avenue approximately 846 feet west of the Project site. At the MEISC, the maximum incremental cancer risk impact attributable to the Project at this location is calculated to be an estimated 0.12 in one million which is less than the significance threshold of 10 in one million. At this same location, non-cancer risks attributable to the Project were calculated to be <0.01, which would not exceed the applicable significance threshold of 1.0. Any other schools near the Project site 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 nearby school children. The nearest modeled receptors are illustrated on Exhibit 2-C.

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

EXHIBIT 2-C: MODELED RECEPTORS

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3 REFERENCES

1. **South Coast Air Quality Managment District.** Mobile Source Toxics Analysis. [Online] 2003. http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html.
2. **Goss, Tracy A and Kroeger, Amy.** White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution. [Online] South Coast Air Quality Management District, 2003. [Cited: June 6, 2019.] http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf?sfvrsn=2.
3. **Urban Crossroads, Inc.** *Birtcher Logistics Center Rialto Traffic Analysis.* 2021.
4. **California Air Resources Board.** EMFAC 2017. [Online] https://www.arb.ca.gov/emfac/2017/.
5. **California Department of Transportation.** EMFAC Software. [Online] http://www.dot.ca.gov/hq/env/air/pages/emfac.htm.
6. **Air Resources Board.** *Air Quality and Land Use Handbook: A Community Health Perspective.* 2005.
7. **Wong, Jillian.** *Planning, Rule Development & Area Sources.* December 22, 2016.
8. **Environmental Protection Agency.** User's Guide for the AMS/EPA Regulatory Model (AERMOD). [Online] 2019. https://www3.epa.gov/ttn/scram/models/aermod/aermod_userguide.pdf.
9. —. User's Guide for the AMS/EPA Regulatory Model (AERMOD). [Online] April 2018. https://www3.epa.gov/ttn/scram/models/aermod/aermod_userguide.pdf.
10. **South Coast Air Quality Management District.** Data for AERMOD. [Online] [Cited: June 10, 2019.] https://www.aqmd.gov/home/air-quality/air-quality-data-studies/meteorological-data/data-for-aermod.
11. —. South Coast AQMD Modeling Guidance for AERMOD. [Online] [Cited: September 18, 2019.] http://www.aqmd.gov/home/air-quality/meteorological-data/modeling-guidance.

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4 CERTIFICATIONS

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

Haseeb Qureshi
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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

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```
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** LAKES ENVIRONMENTAL SOFTWARE INC.
** DATE: 7/13/2021
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**
**
**************************************
** AERMOD CONTROL PATHWAY
**************************************
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   AVERTIME ANNUAL
   URBANOPT 2035210
   POLLUTID DPM
   RUNORNOT RUN
   ERRORFIL "13681 OPS HRA.ERR"
CO FINISHED
**
**************************************
** AERMOD SOURCE PATHWAY
**************************************
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** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 2
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** 465280.654, 3770133.837, 328.00, 3.49, 4.00
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** SZINIT = 3.25
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LOCATION L0000884 VOLUME 465832.884 3769901.639 323.00

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   LOCATION L0000885     VOLUME   465833.023 3769893.050 323.00
   LOCATION L0000886     VOLUME   465833.162 3769884.461 323.00
   LOCATION L0000887     VOLUME   465833.302 3769875.872 323.00
   LOCATION L0000888     VOLUME   465833.441 3769867.283 323.00
   LOCATION L0000889     VOLUME   465833.580 3769858.694 323.00
   LOCATION L0000890     VOLUME   465833.720 3769850.106 323.00
   LOCATION L0000891     VOLUME   465833.859 3769841.517 324.39
   LOCATION L0000892     VOLUME   465833.998 3769832.928 326.81
   LOCATION L0000893     VOLUME   465834.137 3769824.339 329.24
   LOCATION L0000894     VOLUME   465834.277 3769815.750 331.36
   LOCATION L0000895     VOLUME   465834.416 3769807.161 330.09
** END OF LINE VOLUME SOURCE ID = SLINE3
** ----------------------------------------------------------------
** LINE SOURCE REPRESENTED BY ADJACENT VOLUME SOURCES
** LINE VOLUME SOURCE ID = SLINE4
** DESCRSRC OFF-SITE TRAVEL 75%
** PREFIX
** LENGTH OF SIDE = 8.59
** CONFIGURATION = ADJACENT
** EMISSION RATE = 0.00001921
** VERTICAL DIMENSION = 6.99
** SZINIT = 3.25
** NODES = 3
** 465253.684, 3770035.173, 327.88, 3.49, 4.00
** 465831.889, 3770035.173, 323.29, 3.49, 4.00
** 465836.079, 3769806.825, 330.67, 3.49, 4.00
** ----------------------------------------------------------------
   LOCATION L0000896     VOLUME   465257.979 3770035.173 327.72
   LOCATION L0000897     VOLUME   465266.569 3770035.173 327.44
   LOCATION L0000898     VOLUME   465275.159 3770035.173 327.15
   LOCATION L0000899     VOLUME   465283.749 3770035.173 326.86
   LOCATION L0000900     VOLUME   465292.339 3770035.173 326.58
   LOCATION L0000901     VOLUME   465300.929 3770035.173 326.29
   LOCATION L0000902     VOLUME   465309.519 3770035.173 326.01
   LOCATION L0000903     VOLUME   465318.109 3770035.173 325.29
   LOCATION L0000904     VOLUME   465326.699 3770035.173 325.29
   LOCATION L0000905     VOLUME   465335.289 3770035.173 325.29
   LOCATION L0000906     VOLUME   465343.879 3770035.173 325.25
   LOCATION L0000907     VOLUME   465352.469 3770035.173 325.17
   LOCATION L0000908     VOLUME   465361.059 3770035.173 325.08
   LOCATION L0000909     VOLUME   465369.649 3770035.173 325.00
   LOCATION L0000910     VOLUME   465378.239 3770035.173 324.71
   LOCATION L0000911     VOLUME   465386.829 3770035.173 324.42
   LOCATION L0000912     VOLUME   465395.419 3770035.173 324.14
   LOCATION L0000913     VOLUME   465404.009 3770035.173 323.89
   LOCATION L0000914     VOLUME   465412.599 3770035.173 323.69
   LOCATION L0000915     VOLUME   465421.189 3770035.173 323.49
   LOCATION L0000916     VOLUME   465429.779 3770035.173 323.29
   LOCATION L0000917     VOLUME   465438.369 3770035.173 323.29
   LOCATION L0000918     VOLUME   465446.959 3770035.173 323.29
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LOCATION L0000919 VOLUME 465455.549 3770035.173 323.29
LOCATION L0000920 VOLUME 465464.139 3770035.173 323.25
LOCATION L0000921 VOLUME 465472.729 3770035.173 323.16
LOCATION L0000922 VOLUME 465481.319 3770035.173 323.08
LOCATION L0000923 VOLUME 465489.909 3770035.173 322.99
LOCATION L0000924 VOLUME 465498.499 3770035.173 322.79
LOCATION L0000925 VOLUME 465507.089 3770035.173 322.59
LOCATION L0000926 VOLUME 465515.679 3770035.173 322.38
LOCATION L0000927 VOLUME 465524.269 3770035.173 322.29
LOCATION L0000928 VOLUME 465532.859 3770035.173 322.29
LOCATION L0000929 VOLUME 465541.449 3770035.173 322.29
LOCATION L0000930 VOLUME 465550.039 3770035.173 322.29
LOCATION L0000931 VOLUME 465558.629 3770035.173 322.29
LOCATION L0000932 VOLUME 465567.219 3770035.173 322.29
LOCATION L0000933 VOLUME 465575.809 3770035.173 322.29
LOCATION L0000934 VOLUME 465584.399 3770035.173 322.24
LOCATION L0000935 VOLUME 465592.989 3770035.173 322.16
LOCATION L0000936 VOLUME 465601.579 3770035.173 322.08
LOCATION L0000937 VOLUME 465610.169 3770035.173 322.00
LOCATION L0000938 VOLUME 465618.759 3770035.173 322.00
LOCATION L0000939 VOLUME 465627.349 3770035.173 322.00
LOCATION L0000940 VOLUME 465635.939 3770035.173 322.00
LOCATION L0000941 VOLUME 465644.529 3770035.173 322.00
LOCATION L0000942 VOLUME 465653.119 3770035.173 322.00
LOCATION L0000943 VOLUME 465661.709 3770035.173 322.00
LOCATION L0000944 VOLUME 465670.299 3770035.173 322.00
LOCATION L0000945 VOLUME 465678.889 3770035.173 322.00
LOCATION L0000946 VOLUME 465687.479 3770035.173 322.00
LOCATION L0000947 VOLUME 465696.069 3770035.173 322.00
LOCATION L0000948 VOLUME 465704.659 3770035.173 322.05
LOCATION L0000949 VOLUME 465713.249 3770035.173 322.13
LOCATION L0000950 VOLUME 465721.839 3770035.173 322.22
LOCATION L0000951 VOLUME 465730.429 3770035.173 322.31
LOCATION L0000952 VOLUME 465739.019 3770035.173 322.51
LOCATION L0000953 VOLUME 465747.609 3770035.173 322.72
LOCATION L0000954 VOLUME 465756.199 3770035.173 322.92
LOCATION L0000955 VOLUME 465764.789 3770035.173 323.00
LOCATION L0000956 VOLUME 465773.379 3770035.173 323.00
LOCATION L0000957 VOLUME 465781.969 3770035.173 323.00
LOCATION L0000958 VOLUME 465790.559 3770035.173 323.01
LOCATION L0000959 VOLUME 465799.149 3770035.173 323.09
LOCATION L0000960 VOLUME 465807.739 3770035.173 323.18
LOCATION L0000961 VOLUME 465816.329 3770035.173 323.26
LOCATION L0000962 VOLUME 465824.919 3770035.173 323.42
LOCATION L0000963 VOLUME 465831.919 3770033.553 323.55
LOCATION L0000964 VOLUME 465832.076 3770024.965 323.42
LOCATION L0000965 VOLUME 465832.234 3770016.376 323.42
LOCATION L0000966 VOLUME 465832.391 3770007.788 323.43
LOCATION L0000967 VOLUME 465832.549 3769999.199 323.43
LOCATION L0000968 VOLUME 465832.707 3769990.610 323.44

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   LOCATION L0000969     VOLUME   465832.864 3769982.022 323.44
   LOCATION L0000970     VOLUME   465833.022 3769973.433 323.45
   LOCATION L0000971     VOLUME   465833.179 3769964.845 323.45
   LOCATION L0000972     VOLUME   465833.337 3769956.256 323.46
   LOCATION L0000973     VOLUME   465833.495 3769947.668 323.46
   LOCATION L0000974     VOLUME   465833.652 3769939.079 323.47
   LOCATION L0000975     VOLUME   465833.810 3769930.491 323.38
   LOCATION L0000976     VOLUME   465833.967 3769921.902 323.25
   LOCATION L0000977     VOLUME   465834.125 3769913.314 323.11
   LOCATION L0000978     VOLUME   465834.283 3769904.725 323.00
   LOCATION L0000979     VOLUME   465834.440 3769896.136 323.00
   LOCATION L0000980     VOLUME   465834.598 3769887.548 323.00
   LOCATION L0000981     VOLUME   465834.755 3769878.959 323.00
   LOCATION L0000982     VOLUME   465834.913 3769870.371 323.00
   LOCATION L0000983     VOLUME   465835.070 3769861.782 323.00
   LOCATION L0000984     VOLUME   465835.228 3769853.194 323.00
   LOCATION L0000985     VOLUME   465835.386 3769844.605 323.54
   LOCATION L0000986     VOLUME   465835.543 3769836.017 326.00
   LOCATION L0000987     VOLUME   465835.701 3769827.428 328.47
   LOCATION L0000988     VOLUME   465835.858 3769818.839 330.95
   LOCATION L0000989     VOLUME   465836.016 3769810.251 330.66
** END OF LINE VOLUME SOURCE ID = SLINE4
** SOURCE PARAMETERS **
** LINE VOLUME SOURCE ID = SLINE1
   SRCPARAM L0000670     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000671     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000672     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000673     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000674     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000675     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000676     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000677     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000678     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000679     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000680     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000681     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000682     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000683     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000684     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000685     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000686     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000687     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000688     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000689     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000690     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000691     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000692     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000693     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000694     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000695     0.000001707      3.49      4.00      3.25
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   SRCPARAM L0000696     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000697     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000698     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000699     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000700     0.000001707      3.49      4.00      3.25
   SRCPARAM L0000701     0.000001707      3.49      4.00      3.25
** ----------------------------------------------------------------------
** LINE VOLUME SOURCE ID = SLINE2
   SRCPARAM L0000702     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000703     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000704     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000705     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000706     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000707     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000708     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000709     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000710     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000711     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000712     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000713     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000714     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000715     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000716     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000717     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000718     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000719     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000720     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000721     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000722     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000723     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000724     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000725     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000726     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000727     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000728     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000729     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000730     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000731     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000732     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000733     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000734     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000735     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000736     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000737     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000738     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000739     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000740     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000741     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000742     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000743     0.0000006014      0.00      4.00      3.25
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   SRCPARAM L0000744     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000745     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000746     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000747     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000748     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000749     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000750     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000751     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000752     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000753     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000754     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000755     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000756     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000757     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000758     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000759     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000760     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000761     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000762     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000763     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000764     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000765     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000766     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000767     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000768     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000769     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000770     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000771     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000772     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000773     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000774     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000775     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000776     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000777     0.0000006014      0.00      4.00      3.25
   SRCPARAM L0000778     0.0000006014      0.00      4.00      3.25
** ----------------------------------------------------------------------
** LINE VOLUME SOURCE ID = SLINE3
   SRCPARAM L0000779     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000780     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000781     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000782     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000783     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000784     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000785     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000786     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000787     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000788     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000789     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000790     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000791     0.0000000684      3.49      4.00      3.25
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SRCPARAM L0000792     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000793     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000794     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000795     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000796     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000797     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000798     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000799     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000800     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000801     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000802     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000803     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000804     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000805     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000806     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000807     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000808     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000809     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000810     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000811     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000812     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000813     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000814     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000815     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000816     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000817     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000818     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000819     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000820     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000821     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000822     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000823     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000824     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000825     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000826     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000827     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000828     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000829     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000830     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000831     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000832     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000833     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000834     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000835     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000836     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000837     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000838     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000839     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000840     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000841     0.0000000684      3.49      4.00      3.25
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SRCPARAM L0000842     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000843     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000844     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000845     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000846     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000847     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000848     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000849     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000850     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000851     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000852     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000853     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000854     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000855     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000856     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000857     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000858     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000859     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000860     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000861     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000862     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000863     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000864     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000865     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000866     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000867     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000868     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000869     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000870     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000871     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000872     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000873     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000874     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000875     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000876     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000877     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000878     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000879     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000880     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000881     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000882     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000883     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000884     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000885     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000886     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000887     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000888     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000889     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000890     0.0000000684      3.49      4.00      3.25
SRCPARAM L0000891     0.0000000684      3.49      4.00      3.25
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   SRCPARAM L0000892     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000893     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000894     0.0000000684      3.49      4.00      3.25
   SRCPARAM L0000895     0.0000000684      3.49      4.00      3.25
** ------------------------------------------------------------------
** LINE VOLUME SOURCE ID = SLINE4
   SRCPARAM L0000896     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000897     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000898     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000899     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000900     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000901     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000902     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000903     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000904     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000905     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000906     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000907     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000908     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000909     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000910     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000911     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000912     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000913     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000914     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000915     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000916     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000917     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000918     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000919     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000920     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000921     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000922     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000923     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000924     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000925     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000926     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000927     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000928     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000929     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000930     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000931     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000932     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000933     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000934     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000935     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000936     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000937     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000938     0.0000002044      3.49      4.00      3.25
   SRCPARAM L0000939     0.0000002044      3.49      4.00      3.25
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SRCPARAM L0000940     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000941     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000942     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000943     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000944     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000945     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000946     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000947     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000948     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000949     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000950     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000951     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000952     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000953     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000954     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000955     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000956     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000957     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000958     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000959     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000960     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000961     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000962     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000963     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000964     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000965     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000966     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000967     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000968     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000969     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000970     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000971     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000972     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000973     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000974     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000975     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000976     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000977     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000978     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000979     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000980     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000981     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000982     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000983     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000984     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000985     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000986     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000987     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000988     0.0000002044      3.49      4.00      3.25
SRCPARAM L0000989     0.0000002044      3.49      4.00      3.25
```

```
** ----------------------------------------------------------------
   URBANSRC ALL
   SRCGROUP ALL
SO FINISHED
**
**************************************
** AERMOD RECEPTOR PATHWAY
**************************************
**
**
RE STARTING
   INCLUDED "13681 OPS HRA.ROU"
RE FINISHED
**
**************************************
** AERMOD METEOROLOGY PATHWAY
**************************************
**
**
ME STARTING
   SURFFILE "..\13783 HRA\FONTANAADJU\FONT_V9_ADJU\FONT_V9.SFC"
   PROFFILE "..\13783 HRA\FONTANAADJU\FONT_V9_ADJU\FONT_V9.PFL"
   SURFDATA 3102 2011
   UAIRDATA 3190 2011
   SITEDATA 99999 2011
   PROFBASE 367.0 METERS
ME FINISHED
**
**************************************
** AERMOD OUTPUT PATHWAY
**************************************
**
**
OU STARTING
** AUTO-GENERATED PLOTFILES
   PLOTFILE   ANNUAL ALL "13681 OPS HRA.AD\AN00GALL.PLT" 31
   SUMMFILE "13681 OPS HRA.SUM"
OU FINISHED


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

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

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


    ******** FATAL ERROR MESSAGES ********
```

```
              ***  NONE  ***


   ********   WARNING MESSAGES   ********
 ME W186     776       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
     0.50
 ME W187     776       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET


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

 *** AERMOD - VERSION  19191 ***   *** C:\LAKES\AERMOD VIEW\13681 OPS HRA\13681
OPS HRA.ISC                 ***        07/13/21
 *** AERMET - VERSION  16216 ***   ***
                         ***        19:04:33

                                    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   320 Source(s),
   for Total of    1 Urban Area(s):
   Urban Population =   2035210.0 ;  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
         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:    320 Source(s);       1 Source Group(s); and       7
Receptor(s)

                with:      0 POINT(s), including
                           0 POINTCAP(s) and      0 POINTHOR(s)
                 and:    320 VOLUME source(s)
                 and:      0 AREA type source(s)
                 and:      0 LINE source(s)
                 and:      0 RLINE/RLINEXT source(s)
                 and:      0 OPENPIT source(s)
                 and:      0 BUOYANT LINE source(s) with      0 line(s)


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

 **The AERMET Input Meteorological Data Version Date:  16216

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

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

 **Misc. Inputs:  Base Elev. for Pot. Temp. Profile (m MSL) =   367.00 ;  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:   13681 OPS HRA.ERR
```

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER EMISSION RATE PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE BY
L0000670	0	0.17070E-05	465279.8	3770407.4	329.0	3.49	4.00	3.25	YES
L0000671	0	0.17070E-05	465279.9	3770398.8	329.0	3.49	4.00	3.25	YES
L0000672	0	0.17070E-05	465279.9	3770390.2	329.0	3.49	4.00	3.25	YES
L0000673	0	0.17070E-05	465279.9	3770381.6	328.8	3.49	4.00	3.25	YES
L0000674	0	0.17070E-05	465279.9	3770373.0	328.6	3.49	4.00	3.25	YES
L0000675	0	0.17070E-05	465280.0	3770364.4	328.3	3.49	4.00	3.25	YES
L0000676	0	0.17070E-05	465280.0	3770355.8	328.0	3.49	4.00	3.25	YES
L0000677	0	0.17070E-05	465280.0	3770347.2	328.0	3.49	4.00	3.25	YES
L0000678	0	0.17070E-05	465280.0	3770338.7	328.0	3.49	4.00	3.25	YES
L0000679	0	0.17070E-05	465280.1	3770330.1	328.0	3.49	4.00	3.25	YES
L0000680	0	0.17070E-05	465280.1	3770321.5	328.2	3.49	4.00	3.25	YES
L0000681	0	0.17070E-05	465280.1	3770312.9	328.4	3.49	4.00	3.25	YES
L0000682	0	0.17070E-05	465280.1	3770304.3	328.7	3.49	4.00	3.25	YES
L0000683	0	0.17070E-05	465280.2	3770295.7	329.0	3.49	4.00		

```
3.25     YES
 L0000684         0   0.17070E-05  465280.2 3770287.1   329.0     3.49     4.00
3.25     YES
 L0000685         0   0.17070E-05  465280.2 3770278.5   329.0     3.49     4.00
3.25     YES
 L0000686         0   0.17070E-05  465280.2 3770269.9   329.0     3.49     4.00
3.25     YES
 L0000687         0   0.17070E-05  465280.3 3770261.3   328.8     3.49     4.00
3.25     YES
 L0000688         0   0.17070E-05  465280.3 3770252.8   328.5     3.49     4.00
3.25     YES
 L0000689         0   0.17070E-05  465280.3 3770244.2   328.3     3.49     4.00
3.25     YES
 L0000690         0   0.17070E-05  465280.3 3770235.6   328.0     3.49     4.00
3.25     YES
 L0000691         0   0.17070E-05  465280.4 3770227.0   328.0     3.49     4.00
3.25     YES
 L0000692         0   0.17070E-05  465280.4 3770218.4   328.0     3.49     4.00
3.25     YES
 L0000693         0   0.17070E-05  465280.4 3770209.8   328.0     3.49     4.00
3.25     YES
 L0000694         0   0.17070E-05  465280.5 3770201.2   328.0     3.49     4.00
3.25     YES
 L0000695         0   0.17070E-05  465280.5 3770192.6   328.0     3.49     4.00
3.25     YES
 L0000696         0   0.17070E-05  465280.5 3770184.0   328.0     3.49     4.00
3.25     YES
 L0000697         0   0.17070E-05  465280.5 3770175.4   328.0     3.49     4.00
3.25     YES
 L0000698         0   0.17070E-05  465280.6 3770166.9   328.0     3.49     4.00
3.25     YES
 L0000699         0   0.17070E-05  465280.6 3770158.3   328.0     3.49     4.00
3.25     YES
 L0000700         0   0.17070E-05  465280.6 3770149.7   328.0     3.49     4.00
3.25     YES
 L0000701         0   0.17070E-05  465280.6 3770141.1   328.0     3.49     4.00
3.25     YES
 L0000702         0   0.60140E-06  465419.1 3770406.6   328.0     0.00     4.00
3.25     YES
 L0000703         0   0.60140E-06  465412.8 3770412.4   328.0     0.00     4.00
3.25     YES
 L0000704         0   0.60140E-06  465406.5 3770418.2   328.1     0.00     4.00
3.25     YES
 L0000705         0   0.60140E-06  465400.1 3770424.0   328.2     0.00     4.00
3.25     YES
 L0000706         0   0.60140E-06  465393.8 3770429.8   328.4     0.00     4.00
3.25     YES
 L0000707         0   0.60140E-06  465387.5 3770435.7   328.6     0.00     4.00
3.25     YES
 L0000708         0   0.60140E-06  465381.2 3770441.5   328.8     0.00     4.00
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*** 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
L0000710	0	0.60140E-06	465368.6	3770453.1	329.0	0.00	4.00	3.25	YES	
L0000711	0	0.60140E-06	465362.2	3770459.0	329.0	0.00	4.00	3.25	YES	
L0000712	0	0.60140E-06	465355.9	3770464.8	329.0	0.00	4.00	3.25	YES	
L0000713	0	0.60140E-06	465349.6	3770470.6	329.0	0.00	4.00	3.25	YES	
L0000714	0	0.60140E-06	465343.3	3770476.4	329.0	0.00	4.00	3.25	YES	
L0000715	0	0.60140E-06	465337.0	3770482.2	329.2	0.00	4.00	3.25	YES	
L0000716	0	0.60140E-06	465330.7	3770488.1	329.4	0.00	4.00	3.25	YES	
L0000717	0	0.60140E-06	465323.4	3770492.7	329.5	0.00	4.00	3.25	YES	
L0000718	0	0.60140E-06	465316.1	3770497.2	329.7	0.00	4.00	3.25	YES	
L0000719	0	0.60140E-06	465308.8	3770501.7	329.9	0.00	4.00	3.25	YES	
L0000720	0	0.60140E-06	465301.5	3770506.1	330.0	0.00	4.00	3.25	YES	
L0000721	0	0.60140E-06	465293.5	3770508.2	330.0	0.00	4.00	3.25	YES	
L0000722	0	0.60140E-06	465284.9	3770508.1	330.0	0.00	4.00	3.25	YES	
L0000723	0	0.60140E-06	465276.3	3770507.9	330.0	0.00	4.00			

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3.25     YES
 L0000724         0   0.60140E-06  465267.7 3770507.8   330.0     0.00     4.00
3.25     YES
 L0000725         0   0.60140E-06  465259.1 3770507.7   330.0     0.00     4.00
3.25     YES
 L0000726         0   0.60140E-06  465257.9 3770500.3   330.0     0.00     4.00
3.25     YES
 L0000727         0   0.60140E-06  465257.9 3770491.7   330.0     0.00     4.00
3.25     YES
 L0000728         0   0.60140E-06  465257.8 3770483.1   330.0     0.00     4.00
3.25     YES
 L0000729         0   0.60140E-06  465257.8 3770474.5   330.0     0.00     4.00
3.25     YES
 L0000730         0   0.60140E-06  465257.8 3770465.9   329.9     0.00     4.00
3.25     YES
 L0000731         0   0.60140E-06  465257.7 3770457.3   329.8     0.00     4.00
3.25     YES
 L0000732         0   0.60140E-06  465257.7 3770448.7   329.8     0.00     4.00
3.25     YES
 L0000733         0   0.60140E-06  465257.7 3770440.1   329.7     0.00     4.00
3.25     YES
 L0000734         0   0.60140E-06  465257.6 3770431.5   329.7     0.00     4.00
3.25     YES
 L0000735         0   0.60140E-06  465257.6 3770422.9   329.7     0.00     4.00
3.25     YES
 L0000736         0   0.60140E-06  465257.6 3770414.4   329.7     0.00     4.00
3.25     YES
 L0000737         0   0.60140E-06  465257.5 3770405.8   329.5     0.00     4.00
3.25     YES
 L0000738         0   0.60140E-06  465257.5 3770397.2   329.3     0.00     4.00
3.25     YES
 L0000739         0   0.60140E-06  465257.5 3770388.6   329.1     0.00     4.00
3.25     YES
 L0000740         0   0.60140E-06  465257.5 3770380.0   328.9     0.00     4.00
3.25     YES
 L0000741         0   0.60140E-06  465257.4 3770371.4   328.9     0.00     4.00
3.25     YES
 L0000742         0   0.60140E-06  465257.4 3770362.8   328.8     0.00     4.00
3.25     YES
 L0000743         0   0.60140E-06  465257.4 3770354.2   328.7     0.00     4.00
3.25     YES
 L0000744         0   0.60140E-06  465257.3 3770345.6   328.8     0.00     4.00
3.25     YES
 L0000745         0   0.60140E-06  465257.3 3770337.0   328.8     0.00     4.00
3.25     YES
 L0000746         0   0.60140E-06  465257.3 3770328.5   328.8     0.00     4.00
3.25     YES
 L0000747         0   0.60140E-06  465257.2 3770319.9   328.8     0.00     4.00
3.25     YES
 L0000748         0   0.60140E-06  465257.2 3770311.3   328.9     0.00     4.00
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*** 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
L0000750	0	0.60140E-06	465257.1	3770294.1	329.0	0.00	4.00	3.25	YES	
L0000751	0	0.60140E-06	465257.1	3770285.5	329.0	0.00	4.00	3.25	YES	
L0000752	0	0.60140E-06	465257.1	3770276.9	329.0	0.00	4.00	3.25	YES	
L0000753	0	0.60140E-06	465257.0	3770268.3	329.0	0.00	4.00	3.25	YES	
L0000754	0	0.60140E-06	465257.0	3770259.7	328.9	0.00	4.00	3.25	YES	
L0000755	0	0.60140E-06	465257.0	3770251.1	328.9	0.00	4.00	3.25	YES	
L0000756	0	0.60140E-06	465256.9	3770242.6	328.8	0.00	4.00	3.25	YES	
L0000757	0	0.60140E-06	465256.9	3770234.0	328.8	0.00	4.00	3.25	YES	
L0000758	0	0.60140E-06	465256.9	3770225.4	328.8	0.00	4.00	3.25	YES	
L0000759	0	0.60140E-06	465256.8	3770216.8	328.8	0.00	4.00	3.25	YES	
L0000760	0	0.60140E-06	465256.8	3770208.2	328.8	0.00	4.00	3.25	YES	
L0000761	0	0.60140E-06	465256.8	3770199.6	328.8	0.00	4.00	3.25	YES	
L0000762	0	0.60140E-06	465256.8	3770191.0	328.8	0.00	4.00	3.25	YES	
L0000763	0	0.60140E-06	465256.7	3770182.4	328.8	0.00	4.00			

3.25 YES
L0000764 0 0.60140E-06 465256.7 3770173.8 328.8 0.00 4.00
3.25 YES
L0000765 0 0.60140E-06 465256.7 3770165.2 328.8 0.00 4.00
3.25 YES
L0000766 0 0.60140E-06 465256.6 3770156.7 328.8 0.00 4.00
3.25 YES
L0000767 0 0.60140E-06 465256.6 3770148.1 328.8 0.00 4.00
3.25 YES
L0000768 0 0.60140E-06 465256.6 3770139.5 328.6 0.00 4.00
3.25 YES
L0000769 0 0.60140E-06 465256.5 3770130.9 328.4 0.00 4.00
3.25 YES
L0000770 0 0.60140E-06 465256.5 3770122.3 328.2 0.00 4.00
3.25 YES
L0000771 0 0.60140E-06 465256.5 3770113.7 328.0 0.00 4.00
3.25 YES
L0000772 0 0.60140E-06 465256.4 3770105.1 327.9 0.00 4.00
3.25 YES
L0000773 0 0.60140E-06 465256.4 3770096.5 327.9 0.00 4.00
3.25 YES
L0000774 0 0.60140E-06 465256.4 3770087.9 327.8 0.00 4.00
3.25 YES
L0000775 0 0.60140E-06 465256.3 3770079.3 327.8 0.00 4.00
3.25 YES
L0000776 0 0.60140E-06 465256.3 3770070.8 327.8 0.00 4.00
3.25 YES
L0000777 0 0.60140E-06 465256.3 3770062.2 327.8 0.00 4.00
3.25 YES
L0000778 0 0.60140E-06 465256.2 3770053.6 327.8 0.00 4.00
3.25 YES
L0000779 0 0.68400E-07 465428.6 3770400.2 328.0 3.49 4.00
3.25 YES
L0000780 0 0.68400E-07 465428.7 3770391.6 328.0 3.49 4.00
3.25 YES
L0000781 0 0.68400E-07 465428.7 3770383.0 327.9 3.49 4.00
3.25 YES
L0000782 0 0.68400E-07 465428.7 3770374.5 327.6 3.49 4.00
3.25 YES
L0000783 0 0.68400E-07 465428.8 3770365.9 327.3 3.49 4.00
3.25 YES
L0000784 0 0.68400E-07 465428.8 3770357.3 327.1 3.49 4.00
3.25 YES
L0000785 0 0.68400E-07 465428.8 3770348.7 327.0 3.49 4.00
3.25 YES
L0000786 0 0.68400E-07 465428.9 3770340.1 327.0 3.49 4.00
3.25 YES
L0000787 0 0.68400E-07 465428.9 3770331.5 327.0 3.49 4.00
3.25 YES
L0000788 0 0.68400E-07 465428.9 3770322.9 327.0 3.49 4.00

*** 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
L0000790	0	0.68400E-07	465429.0	3770305.7	327.0	3.49	4.00	3.25	YES	
L0000791	0	0.68400E-07	465429.0	3770297.1	327.0	3.49	4.00	3.25	YES	
L0000792	0	0.68400E-07	465429.0	3770288.6	326.7	3.49	4.00	3.25	YES	
L0000793	0	0.68400E-07	465429.1	3770280.0	326.4	3.49	4.00	3.25	YES	
L0000794	0	0.68400E-07	465429.1	3770271.4	326.2	3.49	4.00	3.25	YES	
L0000795	0	0.68400E-07	465429.1	3770262.8	326.0	3.49	4.00	3.25	YES	
L0000796	0	0.68400E-07	465429.2	3770254.2	326.0	3.49	4.00	3.25	YES	
L0000797	0	0.68400E-07	465429.2	3770245.6	326.0	3.49	4.00	3.25	YES	
L0000798	0	0.68400E-07	465429.2	3770237.0	326.0	3.49	4.00	3.25	YES	
L0000799	0	0.68400E-07	465429.2	3770228.4	326.0	3.49	4.00	3.25	YES	
L0000800	0	0.68400E-07	465429.3	3770219.8	326.0	3.49	4.00	3.25	YES	
L0000801	0	0.68400E-07	465429.3	3770211.2	326.0	3.49	4.00	3.25	YES	
L0000802	0	0.68400E-07	465429.3	3770202.7	325.9	3.49	4.00	3.25	YES	
L0000803	0	0.68400E-07	465429.4	3770194.1	325.6	3.49	4.00			

3.25 YES
L0000804 0 0.68400E-07 465429.4 3770185.5 325.3 3.49 4.00
3.25 YES
L0000805 0 0.68400E-07 465429.4 3770176.9 325.0 3.49 4.00
3.25 YES
L0000806 0 0.68400E-07 465429.5 3770168.3 325.0 3.49 4.00
3.25 YES
L0000807 0 0.68400E-07 465429.5 3770159.7 325.0 3.49 4.00
3.25 YES
L0000808 0 0.68400E-07 465429.5 3770151.1 325.0 3.49 4.00
3.25 YES
L0000809 0 0.68400E-07 465429.5 3770142.5 325.0 3.49 4.00
3.25 YES
L0000810 0 0.68400E-07 465429.6 3770133.9 325.0 3.49 4.00
3.25 YES
L0000811 0 0.68400E-07 465429.6 3770125.4 325.0 3.49 4.00
3.25 YES
L0000812 0 0.68400E-07 465429.6 3770116.8 325.0 3.49 4.00
3.25 YES
L0000813 0 0.68400E-07 465429.7 3770108.2 324.7 3.49 4.00
3.25 YES
L0000814 0 0.68400E-07 465429.7 3770099.6 324.4 3.49 4.00
3.25 YES
L0000815 0 0.68400E-07 465429.7 3770091.0 324.2 3.49 4.00
3.25 YES
L0000816 0 0.68400E-07 465429.8 3770082.4 324.0 3.49 4.00
3.25 YES
L0000817 0 0.68400E-07 465429.8 3770073.8 324.0 3.49 4.00
3.25 YES
L0000818 0 0.68400E-07 465429.8 3770065.2 324.0 3.49 4.00
3.25 YES
L0000819 0 0.68400E-07 465429.8 3770056.6 324.0 3.49 4.00
3.25 YES
L0000820 0 0.68400E-07 465429.9 3770048.0 323.7 3.49 4.00
3.25 YES
L0000821 0 0.68400E-07 465429.9 3770039.5 323.4 3.49 4.00
3.25 YES
L0000822 0 0.68400E-07 465434.3 3770035.3 323.3 3.49 4.00
3.25 YES
L0000823 0 0.68400E-07 465442.9 3770035.4 323.3 3.49 4.00
3.25 YES
L0000824 0 0.68400E-07 465451.5 3770035.4 323.3 3.49 4.00
3.25 YES
L0000825 0 0.68400E-07 465460.1 3770035.5 323.3 3.49 4.00
3.25 YES
L0000826 0 0.68400E-07 465468.7 3770035.5 323.2 3.49 4.00
3.25 YES
L0000827 0 0.68400E-07 465477.3 3770035.6 323.1 3.49 4.00
3.25 YES
L0000828 0 0.68400E-07 465485.9 3770035.6 323.0 3.49 4.00

*** 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
L0000830	0	0.68400E-07	465503.1	3770035.8	322.7	3.49	4.00	3.25	YES	
L0000831	0	0.68400E-07	465511.6	3770035.8	322.5	3.49	4.00	3.25	YES	
L0000832	0	0.68400E-07	465520.2	3770035.9	322.3	3.49	4.00	3.25	YES	
L0000833	0	0.68400E-07	465528.8	3770035.9	322.3	3.49	4.00	3.25	YES	
L0000834	0	0.68400E-07	465537.4	3770036.0	322.3	3.49	4.00	3.25	YES	
L0000835	0	0.68400E-07	465546.0	3770036.0	322.3	3.49	4.00	3.25	YES	
L0000836	0	0.68400E-07	465554.6	3770036.1	322.3	3.49	4.00	3.25	YES	
L0000837	0	0.68400E-07	465563.2	3770036.1	322.3	3.49	4.00	3.25	YES	
L0000838	0	0.68400E-07	465571.8	3770036.2	322.3	3.49	4.00	3.25	YES	
L0000839	0	0.68400E-07	465580.4	3770036.3	322.3	3.49	4.00	3.25	YES	
L0000840	0	0.68400E-07	465589.0	3770036.3	322.2	3.49	4.00	3.25	YES	
L0000841	0	0.68400E-07	465597.5	3770036.4	322.1	3.49	4.00	3.25	YES	
L0000842	0	0.68400E-07	465606.1	3770036.4	322.0	3.49	4.00	3.25	YES	
L0000843	0	0.68400E-07	465614.7	3770036.5	322.0	3.49	4.00			

3.25 YES
L0000844 0 0.68400E-07 465623.3 3770036.5 322.0 3.49 4.00
3.25 YES
L0000845 0 0.68400E-07 465631.9 3770036.6 322.0 3.49 4.00
3.25 YES
L0000846 0 0.68400E-07 465640.5 3770036.6 322.0 3.49 4.00
3.25 YES
L0000847 0 0.68400E-07 465649.1 3770036.7 322.0 3.49 4.00
3.25 YES
L0000848 0 0.68400E-07 465657.7 3770036.7 322.0 3.49 4.00
3.25 YES
L0000849 0 0.68400E-07 465666.3 3770036.8 322.0 3.49 4.00
3.25 YES
L0000850 0 0.68400E-07 465674.9 3770036.9 322.0 3.49 4.00
3.25 YES
L0000851 0 0.68400E-07 465683.4 3770036.9 322.0 3.49 4.00
3.25 YES
L0000852 0 0.68400E-07 465692.0 3770037.0 322.0 3.49 4.00
3.25 YES
L0000853 0 0.68400E-07 465700.6 3770037.0 322.0 3.49 4.00
3.25 YES
L0000854 0 0.68400E-07 465709.2 3770037.1 322.1 3.49 4.00
3.25 YES
L0000855 0 0.68400E-07 465717.8 3770037.1 322.2 3.49 4.00
3.25 YES
L0000856 0 0.68400E-07 465726.4 3770037.2 322.3 3.49 4.00
3.25 YES
L0000857 0 0.68400E-07 465735.0 3770037.2 322.5 3.49 4.00
3.25 YES
L0000858 0 0.68400E-07 465743.6 3770037.3 322.7 3.49 4.00
3.25 YES
L0000859 0 0.68400E-07 465752.2 3770037.4 322.8 3.49 4.00
3.25 YES
L0000860 0 0.68400E-07 465760.8 3770037.4 323.0 3.49 4.00
3.25 YES
L0000861 0 0.68400E-07 465769.3 3770037.5 323.0 3.49 4.00
3.25 YES
L0000862 0 0.68400E-07 465777.9 3770037.5 323.0 3.49 4.00
3.25 YES
L0000863 0 0.68400E-07 465786.5 3770037.6 323.0 3.49 4.00
3.25 YES
L0000864 0 0.68400E-07 465795.1 3770037.6 323.1 3.49 4.00
3.25 YES
L0000865 0 0.68400E-07 465803.7 3770037.7 323.2 3.49 4.00
3.25 YES
L0000866 0 0.68400E-07 465812.3 3770037.7 323.3 3.49 4.00
3.25 YES
L0000867 0 0.68400E-07 465820.9 3770037.8 323.4 3.49 4.00
3.25 YES
L0000868 0 0.68400E-07 465829.5 3770037.9 323.6 3.49 4.00

*** 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
L0000870	0	0.68400E-07	465830.9	3770021.9	323.4	3.49	4.00	3.25	YES	
L0000871	0	0.68400E-07	465831.1	3770013.3	323.4	3.49	4.00	3.25	YES	
L0000872	0	0.68400E-07	465831.2	3770004.7	323.4	3.49	4.00	3.25	YES	
L0000873	0	0.68400E-07	465831.4	3769996.1	323.4	3.49	4.00	3.25	YES	
L0000874	0	0.68400E-07	465831.5	3769987.5	323.4	3.49	4.00	3.25	YES	
L0000875	0	0.68400E-07	465831.6	3769978.9	323.4	3.49	4.00	3.25	YES	
L0000876	0	0.68400E-07	465831.8	3769970.3	323.4	3.49	4.00	3.25	YES	
L0000877	0	0.68400E-07	465831.9	3769961.8	323.4	3.49	4.00	3.25	YES	
L0000878	0	0.68400E-07	465832.0	3769953.2	323.4	3.49	4.00	3.25	YES	
L0000879	0	0.68400E-07	465832.2	3769944.6	323.4	3.49	4.00	3.25	YES	
L0000880	0	0.68400E-07	465832.3	3769936.0	323.4	3.49	4.00	3.25	YES	
L0000881	0	0.68400E-07	465832.5	3769927.4	323.3	3.49	4.00	3.25	YES	
L0000882	0	0.68400E-07	465832.6	3769918.8	323.2	3.49	4.00	3.25	YES	
L0000883	0	0.68400E-07	465832.7	3769910.2	323.1	3.49	4.00			

3.25 YES
L0000884 0 0.68400E-07 465832.9 3769901.6 323.0 3.49 4.00
3.25 YES
L0000885 0 0.68400E-07 465833.0 3769893.0 323.0 3.49 4.00
3.25 YES
L0000886 0 0.68400E-07 465833.2 3769884.5 323.0 3.49 4.00
3.25 YES
L0000887 0 0.68400E-07 465833.3 3769875.9 323.0 3.49 4.00
3.25 YES
L0000888 0 0.68400E-07 465833.4 3769867.3 323.0 3.49 4.00
3.25 YES
L0000889 0 0.68400E-07 465833.6 3769858.7 323.0 3.49 4.00
3.25 YES
L0000890 0 0.68400E-07 465833.7 3769850.1 323.0 3.49 4.00
3.25 YES
L0000891 0 0.68400E-07 465833.9 3769841.5 324.4 3.49 4.00
3.25 YES
L0000892 0 0.68400E-07 465834.0 3769832.9 326.8 3.49 4.00
3.25 YES
L0000893 0 0.68400E-07 465834.1 3769824.3 329.2 3.49 4.00
3.25 YES
L0000894 0 0.68400E-07 465834.3 3769815.8 331.4 3.49 4.00
3.25 YES
L0000895 0 0.68400E-07 465834.4 3769807.2 330.1 3.49 4.00
3.25 YES
L0000896 0 0.20440E-06 465258.0 3770035.2 327.7 3.49 4.00
3.25 YES
L0000897 0 0.20440E-06 465266.6 3770035.2 327.4 3.49 4.00
3.25 YES
L0000898 0 0.20440E-06 465275.2 3770035.2 327.2 3.49 4.00
3.25 YES
L0000899 0 0.20440E-06 465283.7 3770035.2 326.9 3.49 4.00
3.25 YES
L0000900 0 0.20440E-06 465292.3 3770035.2 326.6 3.49 4.00
3.25 YES
L0000901 0 0.20440E-06 465300.9 3770035.2 326.3 3.49 4.00
3.25 YES
L0000902 0 0.20440E-06 465309.5 3770035.2 326.0 3.49 4.00
3.25 YES
L0000903 0 0.20440E-06 465318.1 3770035.2 325.3 3.49 4.00
3.25 YES
L0000904 0 0.20440E-06 465326.7 3770035.2 325.3 3.49 4.00
3.25 YES
L0000905 0 0.20440E-06 465335.3 3770035.2 325.3 3.49 4.00
3.25 YES
L0000906 0 0.20440E-06 465343.9 3770035.2 325.2 3.49 4.00
3.25 YES
L0000907 0 0.20440E-06 465352.5 3770035.2 325.2 3.49 4.00
3.25 YES
L0000908 0 0.20440E-06 465361.1 3770035.2 325.1 3.49 4.00

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE BY	EMISSION RATE SCALAR VARY
L0000910	0	0.20440E-06	465378.2	3770035.2	324.7	3.49	4.00	3.25	YES	
L0000911	0	0.20440E-06	465386.8	3770035.2	324.4	3.49	4.00	3.25	YES	
L0000912	0	0.20440E-06	465395.4	3770035.2	324.1	3.49	4.00	3.25	YES	
L0000913	0	0.20440E-06	465404.0	3770035.2	323.9	3.49	4.00	3.25	YES	
L0000914	0	0.20440E-06	465412.6	3770035.2	323.7	3.49	4.00	3.25	YES	
L0000915	0	0.20440E-06	465421.2	3770035.2	323.5	3.49	4.00	3.25	YES	
L0000916	0	0.20440E-06	465429.8	3770035.2	323.3	3.49	4.00	3.25	YES	
L0000917	0	0.20440E-06	465438.4	3770035.2	323.3	3.49	4.00	3.25	YES	
L0000918	0	0.20440E-06	465447.0	3770035.2	323.3	3.49	4.00	3.25	YES	
L0000919	0	0.20440E-06	465455.5	3770035.2	323.3	3.49	4.00	3.25	YES	
L0000920	0	0.20440E-06	465464.1	3770035.2	323.2	3.49	4.00	3.25	YES	
L0000921	0	0.20440E-06	465472.7	3770035.2	323.2	3.49	4.00	3.25	YES	
L0000922	0	0.20440E-06	465481.3	3770035.2	323.1	3.49	4.00	3.25	YES	
L0000923	0	0.20440E-06	465489.9	3770035.2	323.0	3.49	4.00			

3.25 YES
L0000924 0 0.20440E-06 465498.5 3770035.2 322.8 3.49 4.00
3.25 YES
L0000925 0 0.20440E-06 465507.1 3770035.2 322.6 3.49 4.00
3.25 YES
L0000926 0 0.20440E-06 465515.7 3770035.2 322.4 3.49 4.00
3.25 YES
L0000927 0 0.20440E-06 465524.3 3770035.2 322.3 3.49 4.00
3.25 YES
L0000928 0 0.20440E-06 465532.9 3770035.2 322.3 3.49 4.00
3.25 YES
L0000929 0 0.20440E-06 465541.4 3770035.2 322.3 3.49 4.00
3.25 YES
L0000930 0 0.20440E-06 465550.0 3770035.2 322.3 3.49 4.00
3.25 YES
L0000931 0 0.20440E-06 465558.6 3770035.2 322.3 3.49 4.00
3.25 YES
L0000932 0 0.20440E-06 465567.2 3770035.2 322.3 3.49 4.00
3.25 YES
L0000933 0 0.20440E-06 465575.8 3770035.2 322.3 3.49 4.00
3.25 YES
L0000934 0 0.20440E-06 465584.4 3770035.2 322.2 3.49 4.00
3.25 YES
L0000935 0 0.20440E-06 465593.0 3770035.2 322.2 3.49 4.00
3.25 YES
L0000936 0 0.20440E-06 465601.6 3770035.2 322.1 3.49 4.00
3.25 YES
L0000937 0 0.20440E-06 465610.2 3770035.2 322.0 3.49 4.00
3.25 YES
L0000938 0 0.20440E-06 465618.8 3770035.2 322.0 3.49 4.00
3.25 YES
L0000939 0 0.20440E-06 465627.3 3770035.2 322.0 3.49 4.00
3.25 YES
L0000940 0 0.20440E-06 465635.9 3770035.2 322.0 3.49 4.00
3.25 YES
L0000941 0 0.20440E-06 465644.5 3770035.2 322.0 3.49 4.00
3.25 YES
L0000942 0 0.20440E-06 465653.1 3770035.2 322.0 3.49 4.00
3.25 YES
L0000943 0 0.20440E-06 465661.7 3770035.2 322.0 3.49 4.00
3.25 YES
L0000944 0 0.20440E-06 465670.3 3770035.2 322.0 3.49 4.00
3.25 YES
L0000945 0 0.20440E-06 465678.9 3770035.2 322.0 3.49 4.00
3.25 YES
L0000946 0 0.20440E-06 465687.5 3770035.2 322.0 3.49 4.00
3.25 YES
L0000947 0 0.20440E-06 465696.1 3770035.2 322.0 3.49 4.00
3.25 YES
L0000948 0 0.20440E-06 465704.7 3770035.2 322.1 3.49 4.00

*** 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
L0000950	0	0.20440E-06	465721.8	3770035.2	322.2	3.49	4.00	3.25	YES	
L0000951	0	0.20440E-06	465730.4	3770035.2	322.3	3.49	4.00	3.25	YES	
L0000952	0	0.20440E-06	465739.0	3770035.2	322.5	3.49	4.00	3.25	YES	
L0000953	0	0.20440E-06	465747.6	3770035.2	322.7	3.49	4.00	3.25	YES	
L0000954	0	0.20440E-06	465756.2	3770035.2	322.9	3.49	4.00	3.25	YES	
L0000955	0	0.20440E-06	465764.8	3770035.2	323.0	3.49	4.00	3.25	YES	
L0000956	0	0.20440E-06	465773.4	3770035.2	323.0	3.49	4.00	3.25	YES	
L0000957	0	0.20440E-06	465782.0	3770035.2	323.0	3.49	4.00	3.25	YES	
L0000958	0	0.20440E-06	465790.6	3770035.2	323.0	3.49	4.00	3.25	YES	
L0000959	0	0.20440E-06	465799.1	3770035.2	323.1	3.49	4.00	3.25	YES	
L0000960	0	0.20440E-06	465807.7	3770035.2	323.2	3.49	4.00	3.25	YES	
L0000961	0	0.20440E-06	465816.3	3770035.2	323.3	3.49	4.00	3.25	YES	
L0000962	0	0.20440E-06	465824.9	3770035.2	323.4	3.49	4.00	3.25	YES	
L0000963	0	0.20440E-06	465831.9	3770033.6	323.6	3.49	4.00			

3.25 YES
L0000964 0 0.20440E-06 465832.1 3770025.0 323.4 3.49 4.00
3.25 YES
L0000965 0 0.20440E-06 465832.2 3770016.4 323.4 3.49 4.00
3.25 YES
L0000966 0 0.20440E-06 465832.4 3770007.8 323.4 3.49 4.00
3.25 YES
L0000967 0 0.20440E-06 465832.5 3769999.2 323.4 3.49 4.00
3.25 YES
L0000968 0 0.20440E-06 465832.7 3769990.6 323.4 3.49 4.00
3.25 YES
L0000969 0 0.20440E-06 465832.9 3769982.0 323.4 3.49 4.00
3.25 YES
L0000970 0 0.20440E-06 465833.0 3769973.4 323.4 3.49 4.00
3.25 YES
L0000971 0 0.20440E-06 465833.2 3769964.8 323.4 3.49 4.00
3.25 YES
L0000972 0 0.20440E-06 465833.3 3769956.3 323.5 3.49 4.00
3.25 YES
L0000973 0 0.20440E-06 465833.5 3769947.7 323.5 3.49 4.00
3.25 YES
L0000974 0 0.20440E-06 465833.7 3769939.1 323.5 3.49 4.00
3.25 YES
L0000975 0 0.20440E-06 465833.8 3769930.5 323.4 3.49 4.00
3.25 YES
L0000976 0 0.20440E-06 465834.0 3769921.9 323.2 3.49 4.00
3.25 YES
L0000977 0 0.20440E-06 465834.1 3769913.3 323.1 3.49 4.00
3.25 YES
L0000978 0 0.20440E-06 465834.3 3769904.7 323.0 3.49 4.00
3.25 YES
L0000979 0 0.20440E-06 465834.4 3769896.1 323.0 3.49 4.00
3.25 YES
L0000980 0 0.20440E-06 465834.6 3769887.5 323.0 3.49 4.00
3.25 YES
L0000981 0 0.20440E-06 465834.8 3769879.0 323.0 3.49 4.00
3.25 YES
L0000982 0 0.20440E-06 465834.9 3769870.4 323.0 3.49 4.00
3.25 YES
L0000983 0 0.20440E-06 465835.1 3769861.8 323.0 3.49 4.00
3.25 YES
L0000984 0 0.20440E-06 465835.2 3769853.2 323.0 3.49 4.00
3.25 YES
L0000985 0 0.20440E-06 465835.4 3769844.6 323.5 3.49 4.00
3.25 YES
L0000986 0 0.20440E-06 465835.5 3769836.0 326.0 3.49 4.00
3.25 YES
L0000987 0 0.20440E-06 465835.7 3769827.4 328.5 3.49 4.00
3.25 YES
L0000988 0 0.20440E-06 465835.9 3769818.8 330.9 3.49 4.00

*** SOURCE IDs DEFINING SOURCE GROUPS
***

SRCGROUP ID	SOURCE IDs
ALL	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 ,

L0000755   , L0000756   , L0000757   ,

             L0000758   , L0000759   , L0000760   , L0000761   , L0000762   ,
L0000763   , L0000764   , L0000765   ,

             L0000766   , L0000767   , L0000768   , L0000769   , L0000770   ,
L0000771   , L0000772   , L0000773   ,

             L0000774   , L0000775   , L0000776   , L0000777   , L0000778   ,
L0000779   , L0000780   , L0000781   ,

             L0000782   , L0000783   , L0000784   , L0000785   , L0000786   ,
L0000787   , L0000788   , L0000789   ,

             L0000790   , L0000791   , L0000792   , L0000793   , L0000794   ,
L0000795   , L0000796   , L0000797   ,

             L0000798   , L0000799   , L0000800   , L0000801   , L0000802   ,
L0000803   , L0000804   , L0000805   ,

             L0000806   , L0000807   , L0000808   , L0000809   , L0000810   ,
L0000811   , L0000812   , L0000813   ,

             L0000814   , L0000815   , L0000816   , L0000817   , L0000818   ,
L0000819   , L0000820   , L0000821   ,

             L0000822   , L0000823   , L0000824   , L0000825   , L0000826   ,
L0000827   , L0000828   , L0000829   ,

 *** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

                                          *** SOURCE IDs DEFINING SOURCE GROUPS
***

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

             L0000830   , L0000831   , L0000832   , L0000833   , L0000834   ,
L0000835   , L0000836   , L0000837   ,

             L0000838   , L0000839   , L0000840   , L0000841   , L0000842   ,
L0000843   , L0000844   , L0000845   ,

L0000846 , L0000847 , L0000848 , L0000849 , L0000850 , L0000851 , L0000852 , L0000853 ,

L0000854 , L0000855 , L0000856 , L0000857 , L0000858 , L0000859 , L0000860 , L0000861 ,

L0000862 , L0000863 , L0000864 , L0000865 , L0000866 , L0000867 , L0000868 , L0000869 ,

L0000870 , L0000871 , L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 ,

L0000878 , L0000879 , L0000880 , L0000881 , L0000882 , L0000883 , L0000884 , L0000885 ,

L0000886 , L0000887 , L0000888 , L0000889 , L0000890 , L0000891 , L0000892 , L0000893 ,

L0000894 , L0000895 , L0000896 , L0000897 , L0000898 , L0000899 , L0000900 , L0000901 ,

L0000902 , L0000903 , L0000904 , L0000905 , L0000906 , L0000907 , L0000908 , L0000909 ,

L0000910 , L0000911 , L0000912 , L0000913 , L0000914 , L0000915 , L0000916 , L0000917 ,

L0000918 , L0000919 , L0000920 , L0000921 , L0000922 , L0000923 , L0000924 , L0000925 ,

L0000926 , L0000927 , L0000928 , L0000929 , L0000930 , L0000931 , L0000932 , L0000933 ,

L0000934 , L0000935 , L0000936 , L0000937 , L0000938 , L0000939 , L0000940 , L0000941 ,

L0000942 , L0000943 , L0000944 , L0000945 , L0000946 , L0000947 , L0000948 , L0000949 ,

L0000950 , L0000951 , L0000952 , L0000953 , L0000954 , L0000955 , L0000956 , L0000957 ,

L0000958 , L0000959 , L0000960 , L0000961 , L0000962 , L0000963 , L0000964 , L0000965 ,

L0000966 , L0000967 , L0000968 , L0000969 , L0000970 , L0000971 , L0000972 , L0000973 ,

L0000974 , L0000975 , L0000976 , L0000977 , L0000978 , L0000979 , L0000980 , L0000981 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

URBAN ID	URBAN POP	SOURCE IDs
	2035210.	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 ,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

URBAN ID	URBAN POP	SOURCE IDs

L0000830 , L0000831 , L0000832 , L0000833 , L0000834 ,
L0000835 , L0000836 , L0000837 ,

L0000838 , L0000839 , L0000840 , L0000841 , L0000842 ,
L0000843 , L0000844 , L0000845 ,

L0000846 , L0000847 , L0000848 , L0000849 , L0000850 , L0000851 , L0000852 , L0000853 ,

L0000854 , L0000855 , L0000856 , L0000857 , L0000858 , L0000859 , L0000860 , L0000861 ,

L0000862 , L0000863 , L0000864 , L0000865 , L0000866 , L0000867 , L0000868 , L0000869 ,

L0000870 , L0000871 , L0000872 , L0000873 , L0000874 , L0000875 , L0000876 , L0000877 ,

L0000878 , L0000879 , L0000880 , L0000881 , L0000882 , L0000883 , L0000884 , L0000885 ,

L0000886 , L0000887 , L0000888 , L0000889 , L0000890 , L0000891 , L0000892 , L0000893 ,

L0000894 , L0000895 , L0000896 , L0000897 , L0000898 , L0000899 , L0000900 , L0000901 ,

L0000902 , L0000903 , L0000904 , L0000905 , L0000906 , L0000907 , L0000908 , L0000909 ,

L0000910 , L0000911 , L0000912 , L0000913 , L0000914 , L0000915 , L0000916 , L0000917 ,

L0000918 , L0000919 , L0000920 , L0000921 , L0000922 , L0000923 , L0000924 , L0000925 ,

L0000926 , L0000927 , L0000928 , L0000929 , L0000930 , L0000931 , L0000932 , L0000933 ,

L0000934 , L0000935 , L0000936 , L0000937 , L0000938 , L0000939 , L0000940 , L0000941 ,

L0000942 , L0000943 , L0000944 , L0000945 , L0000946 , L0000947 , L0000948 , L0000949 ,

L0000950 , L0000951 , L0000952 , L0000953 , L0000954 , L0000955 , L0000956 , L0000957 ,

L0000958 , L0000959 , L0000960 , L0000961 , L0000962 , L0000963 , L0000964 , L0000965 ,

L0000966 , L0000967 , L0000968 , L0000969 , L0000970 , L0000971 , L0000972 , L0000973 ,

L0000974 , L0000975 , L0000976 , L0000977 , L0000978 ,

L0000979 , L0000980 , L0000981 ,

L0000982 , L0000983 , L0000984 , L0000985 , L0000986 ,
L0000987 , L0000988 , L0000989 ,

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

(465218.9, 3770205.1, 330.0, 330.0, 0.0); (465060.7, 3770194.8, 330.6, 330.6, 0.0);
(465269.1, 3770709.4, 333.3, 333.3, 0.0); (465007.9, 3770450.7, 333.2, 333.2, 0.0);
(465876.7, 3770562.7, 331.8, 331.8, 0.0); (465112.3, 3769989.1, 327.8, 327.8, 0.0);
(464967.0, 3770173.7, 330.9, 330.9, 0.0);

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

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

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

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

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

(METERS/SEC)

1.54, 3.09, 5.14, 8.23, 10.80,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

Surface file: ..\13783 HRA\FONTANAADJU\FONT_V9_ADJU\FONT_V9.SFC
Met Version: 16216
Profile file: ..\13783 HRA\FONTANAADJU\FONT_V9_ADJU\FONT_V9.PFL

Surface format: FREE

Profile format: FREE

Surface station no.: 3102 Upper air station no.: 3190
Name: UNKNOWN Name: UNKNOWN

Year: 2011 Year: 2011

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
11	01	01	1	01	-18.5	0.194	-9.000	-9.000	-999.	204.	41.2	0.25	2.82	1.00	1.80	69.	9.1	276.4	5.5
11	01	01	1	02	-23.8	0.239	-9.000	-9.000	-999.	281.	63.0	0.25	2.82	1.00	2.20	52.	9.1	275.4	5.5
11	01	01	1	03	-18.5	0.194	-9.000	-9.000	-999.	205.	41.2	0.25	2.82	1.00	1.80	32.	9.1	275.4	5.5
11	01	01	1	04	-1.4	0.067	-9.000	-9.000	-999.	57.	18.3	0.25	2.82	1.00	0.40	27.	9.1	274.2	5.5

```
 11 01 01   1 05  -18.6  0.194 -9.000 -9.000 -999.  204.     41.2  0.25   2.82
1.00    1.80   51.    9.1  274.2    5.5
 11 01 01   1 06  -29.7  0.296 -9.000 -9.000 -999.  387.     96.6  0.25   2.82
1.00    2.70   53.    9.1  274.2    5.5
 11 01 01   1 07  -24.0  0.239 -9.000 -9.000 -999.  282.     63.0  0.25   2.82
1.00    2.20   70.    9.1  274.2    5.5
 11 01 01   1 08   -8.4  0.138 -9.000 -9.000 -999.  127.     27.3  0.25   2.82
0.54    1.30   72.    9.1  275.4    5.5
 11 01 01   1 09   44.3  0.280  0.571  0.005  147.  356.    -43.5  0.25   2.82
0.32    2.20   67.    9.1  277.5    5.5
 11 01 01   1 10  122.7  0.264  0.952  0.005  247.  326.    -13.2  0.25   2.82
0.25    1.80   83.    9.1  279.9    5.5
 11 01 01   1 11  179.8  0.316  1.733  0.005 1017.  426.    -15.4  0.25   2.82
0.22    2.20   58.    9.1  282.0    5.5
 11 01 01   1 12  206.0  0.320  1.940  0.008 1244.  435.    -14.0  0.25   2.82
0.21    2.20  115.    9.1  283.1    5.5
 11 01 01   1 13  132.6  0.214  1.733  0.009 1377.  243.     -6.5  0.25   2.82
0.21    1.30  147.    9.1  284.2    5.5
 11 01 01   1 14  147.0  0.216  1.818  0.009 1431.  242.     -6.0  0.25   2.82
0.23    1.30  219.    9.1  284.9    5.5
 11 01 01   1 15  104.0  0.208  1.633  0.009 1468.  228.     -7.6  0.25   2.82
0.26    1.30  126.    9.1  285.4    5.5
 11 01 01   1 16   26.4  0.140  1.037  0.009 1477.  127.     -9.1  0.25   2.82
0.35    0.90  151.    9.1  284.9    5.5
 11 01 01   1 17   -9.0  0.137 -9.000 -9.000 -999.  121.     24.9  0.25   2.82
0.63    1.30   69.    9.1  283.1    5.5
 11 01 01   1 18  -33.4  0.342 -9.000 -9.000 -999.  481.    129.0  0.25   2.82
1.00    3.10   81.    9.1  281.4    5.5
 11 01 01   1 19  -33.6  0.342 -9.000 -9.000 -999.  481.    128.9  0.25   2.82
1.00    3.10   51.    9.1  279.9    5.5
 11 01 01   1 20  -23.6  0.239 -9.000 -9.000 -999.  287.     63.1  0.25   2.82
1.00    2.20   77.    9.1  278.8    5.5
 11 01 01   1 21  -18.5  0.194 -9.000 -9.000 -999.  205.     41.2  0.25   2.82
1.00    1.80   53.    9.1  277.5    5.5
 11 01 01   1 22  -23.7  0.239 -9.000 -9.000 -999.  281.     63.0  0.25   2.82
1.00    2.20   58.    9.1  277.5    5.5
 11 01 01   1 23  -18.5  0.194 -9.000 -9.000 -999.  205.     41.2  0.25   2.82
1.00    1.80   64.    9.1  277.5    5.5
 11 01 01   1 24   -4.5  0.094 -9.000 -9.000 -999.   74.     16.3  0.25   2.82
1.00    0.90   52.    9.1  277.0    5.5


 First hour of profile data
 YR MO DY HR HEIGHT F  WDIR    WSPD AMB_TMP sigmaA  sigmaW  sigmaV
 11 01 01 01    5.5 0 -999.  -99.00   276.5   99.0  -99.00  -99.00
 11 01 01 01    9.1 1   69.    1.80  -999.0   99.0  -99.00  -99.00

 F indicates top of profile (=1) or below (=0)
 *** AERMOD - VERSION  19191 ***   *** C:\LAKES\AERMOD VIEW\13681 OPS HRA\13681
OPS HRA.ISC                 ***        07/13/21
```

*** AERMET - VERSION 16216 ***   ***
*** 19:04:33

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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):   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   , . . .   ,

*** 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
465218.92	3770205.11	0.00785	465060.68	3770194.82	0.00147
465269.10	3770709.43	0.00074	465007.89	3770450.73	0.00089
465876.69	3770562.73	0.00047	465112.33	3769989.08	0.00115
464967.02	3770173.74	0.00086			

*** 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       0.00785 AT (  465218.92,  3770205.11,
330.00,   330.00,    0.00)  DC
          2ND HIGHEST VALUE IS       0.00147 AT (  465060.68,  3770194.82,
330.62,   330.62,    0.00)  DC
          3RD HIGHEST VALUE IS       0.00115 AT (  465112.33,  3769989.08,
327.76,   327.76,    0.00)  DC
          4TH HIGHEST VALUE IS       0.00089 AT (  465007.89,  3770450.73,
333.15,   333.15,    0.00)  DC
          5TH HIGHEST VALUE IS       0.00086 AT (  464967.02,  3770173.74,
330.91,   330.91,    0.00)  DC
          6TH HIGHEST VALUE IS       0.00074 AT (  465269.10,  3770709.43,
333.27,   333.27,    0.00)  DC
          7TH HIGHEST VALUE IS       0.00047 AT (  465876.69,  3770562.73,
331.79,   331.79,    0.00)  DC
          8TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,
0.00,     0.00,    0.00)
          9TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,
0.00,     0.00,    0.00)
         10TH HIGHEST VALUE IS       0.00000 AT (       0.00,        0.00,
0.00,     0.00,    0.00)


 *** RECEPTOR TYPES:  GC = GRIDCART
                      GP = GRIDPOLR
                      DC = DISCCART
                      DP = DISCPOLR
↟ *** AERMOD - VERSION  19191 ***   *** C:\LAKES\AERMOD VIEW\13681 OPS HRA\13681
OPS HRA.ISC                ***        07/13/21
 *** AERMET - VERSION  16216 ***   ***
                       ***        19:04:33

                                   PAGE  19
 *** 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            7 Warning Message(s)
 A Total of          838 Informational Message(s)

 A Total of        43848 Hours Were Processed
```

```
 A Total of           40 Calm Hours Identified

 A Total of          798 Missing Hours Identified (  1.82 Percent)


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


    ********   WARNING MESSAGES   ********
 ME W186     776       MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used
      0.50
 ME W187     776       MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET

 MX W438    8800        METQA: Convective Velocity Data Out-of-Range.  KURDAT =
  12010216
 MX W438   11536        METQA: Convective Velocity Data Out-of-Range.  KURDAT =
  12042516
 MX W420   16779        METQA: Wind Speed Out-of-Range.   KURDAT =
  12113003
 MX W450   26305       CHKDAT: Record Out of Sequence in Meteorological File at:
  15010101
 MX W450   26305       CHKDAT: Record Out of Sequence in Meteorological File at:
1 year gap

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

AVERAGE EMISSION FACTOR
SAN BERNARDINO COUNTY 2023

Speed	LHD1	MHD	HHD
0	0.381163	0.030805	0.01386
5	0.031447	0.005169	0.01297
25	0.01161	0.002637	0.00682

Speed	Weighted Average Emissions
0	**0.02595**
5	**0.01115**
25	**0.00575**

Emission Rates - 2023 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	350			0.0259	4.72	5.463E-05
On-Site Travel	700	286.81	0.0112		4.00	4.631E-05
Off-Site Travel 25%	175	109.61	0.0057		0.69	8.003E-06
Off-Site Travel 75%	525	263.13	0.0057		1.66	1.921E-05

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

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

[c] This column includes the total truck travel and truck idle emissions. For idle emissions this column includes emissions based on the assumption that each truck idles for 15 minutes. Additionally, this colum includes idling from TRUs accessing the Project, it is assumed that TRUs would idle for up to 30 minutes.

calendar_y	season_m	sub_area	vehicle_class	fuel	temperatu	relative_h	process	speed_tim	pollutant	emission_rate
2023	Annual	San Bernar	HHDT	Dsl	60	70	RUNEX	5	PM10	0.013487
2023	Annual	San Bernar	HHDT	Dsl	60	70	RUNEX	25	PM10	0.0071
2023	Annual	San Bernar	LHDT1	Dsl	60	70	RUNEX	5	PM10	0.065062
2023	Annual	San Bernar	LHDT1	Dsl	60	70	RUNEX	25	PM10	0.024021
2023	Annual	San Bernar	MHDT	Dsl	60	70	RUNEX	5	PM10	0.005867
2023	Annual	San Bernar	MHDT	Dsl	60	70	RUNEX	25	PM10	0.002993
2023	Annual	San Bernar	HHDT	Dsl			IDLEX		PM10	0.014413
2023	Annual	San Bernar	LHDT1	Dsl			IDLEX		PM10	0.788606
2023	Annual	San Bernar	MHDT	Dsl			IDLEX		PM10	0.03496

EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: County
Region: SAN BERNARDINO COUNTY
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Population
San Berna	2023	HHDT	Aggregate	Aggregate	Gasoline	7.80192
San Berna	2023	HHDT	Aggregate	Aggregate	Diesel	29526.79
San Berna	2023	HHDT	Aggregate	Aggregate	Natural Ga	1180.525
San Berna	2023	LHDT1	Aggregate	Aggregate	Gasoline	24792.49
San Berna	2023	LHDT1	Aggregate	Aggregate	Diesel	23193.37
San Berna	2023	MHDT	Aggregate	Aggregate	Gasoline	2406.141
San Berna	2023	MHDT	Aggregate	Aggregate	Diesel	17836.7

HHDT% GAS/NG	0.03869
HHDT% DSL	0.96131
LHDT1% GAS	0.51666
LHDT1% DSL	0.48334
MHDT% GAS	0.11886
MHDT% DSL	0.88114

APPENDIX 2.2:

RISK CALCULATIONS

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)
	0.00147	1.47E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	5.1E-07	1.6E-08	5.0E+00	1.4E-03	2.9E-04							
TOTAL								1.6E-08			2.9E-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))	361
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85
age sensitivity factor (age third trimester	10

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

Source	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)
	0.00147	1.47E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.5E-06	3.9E-07	5.0E+00	1.4E-03	2.9E-04							
TOTAL								3.9E-07			2.9E-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))	1090
inhalation absorption factor	1
averaging time (years)	70
fraction of time at home	0.85
age sensitivity factor (0 to 2 years old)	10

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

Source	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)
	0.00147	1.47E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	8.1E-07	3.7E-07	5.0E+00	1.4E-03	2.9E-04							
TOTAL								3.7E-07			2.9E-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)
	0.00147	1.47E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	3.7E-07	5.6E-08	5.0E+00	1.4E-03	2.9E-04							
TOTAL								5.6E-08			2.9E-04	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
								0.06										

** 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) 0.83

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	7.85E-03	7.85E-06	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	1.2E-06	4.6E-07	5.0E+00	1.4E-03	1.6E-03							
	TOTAL								4.7E-07			1.6E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00
									0.47										

** 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))	230
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	8.60E-04	8.60E-07	1.00E+00	Diesel Particulate	3.0E-04	1.1E+00	2.4E-07	9.8E-08	5.0E+00	1.4E-03	1.7E-04							
	TOTAL								1.2E-07 0.12			2.1E-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)	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