HEALTH RISK ASSESSMENT

AGUA MANSA INDUSTRIAL PROJECT

CITY OF JURUPA VALLEY, CALIFORNIA

CASE NUMBER MA18008

LSA

March 2020

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Project No. CRN1801

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LIST OF ABBREVIATIONS AND ACRONYMS

AAQS	ambient air quality standards
AB	Assembly Bill
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AMIC	Agua Mansa Industrial Corridor
APU	auxiliary power unit
Basin	South Coast Air Basin
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CARB Handbook	California Air Resources Board *Air Quality and Land Use Handbook: A Community Health Perspective*
CEQA	California Environmental Quality Act
City	City of Jurupa Valley
DPM	diesel particulate matter
EMFAC2017	California Emissions Factor Model, Version 2017
EPA	United States Environmental Protection Agency
HARP2	Hotspots Analysis and Reporting Program, Version 2
HI	Hazard Index
HRA	health risk assessment
I-10	Interstate 10
MEI	maximum exposed individual
MICR	maximum individual cancer risk
mph	miles per hour
OEHHA	Office of Environmental Health Hazard Assessment
PM	particulate matter
PM_{10}	particulate matter less than 10 microns in size
$PM_{2.5}$	particulate matter less than 2.5 microns in size
project	Agua Mansa Industrial development
ROG	reactive organic gas

SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
sf	square foot/feet
SR-60	State Route 60
State	State of California
TAC	toxic air contaminant
T-BACT	toxics best available control technology
$\mu g/m^3$	millions per microgram per cubic meter
URF	unit risk factor
USC	United States Code

1.0 INTRODUCTION

LSA Associates, Inc. (LSA) has prepared a health risk assessment (HRA) for the proposed Agua Mansa Industrial development (project) located in Jurupa Valley, California. The project involves the development of two buildings on an undeveloped site for industrial uses. The project is planned to be constructed starting in 2019 and is planned to begin operations in 2020.

An HRA is a process used to estimate the increased health risk levels for people living and/or working near a project that emits toxic air contaminants (TACs). An HRA combines the results of studies on the health effects of various animal and human exposure to TACs with the results of studies that estimate exposure levels at different distances from pollutant sources. The purpose of this HRA is to determine the increased cancer and noncancer health risks from project-related emissions of TACs in the exhaust of diesel-powered trucks on existing nearby sensitive receptors, including residents and workers.

The City of Jurupa Valley (City) recommends the preparation of an HRA in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment (OEHHA) and the South Coast Air Quality Management District (SCAQMD). This HRA evaluates the project against the significance criteria established by the SCAQMD and is in compliance with all other applicable requirements.

1.1 BACKGROUND

This section provides a discussion of regulatory guidance from the California Air Resources Board (CARB), the California Air Pollution Control Officers Association (CAPCOA), and the SCAQMD.

1.1.1 California Air Resources Board Handbook and Technical Advisory

CARB has developed an *Air Quality and Land Use Handbook* (CARB Handbook; 2005) and a supplement, *Strategies to Reduce Air Pollution Exposure Near High-Volume Roadways: Technical Advisory* (CARB 2017), that are intended to serve as general reference guides for evaluating and reducing air pollution impacts associated with new projects that are part of the land use decision-making process. According to the CARB Handbook, recent air pollution studies have shown an association between both respiratory and other noncancer health effects and proximity to high-traffic roadways. Other studies have shown that diesel exhaust and other cancer-causing chemicals emitted from cars and trucks are responsible for much of the overall cancer risk from airborne toxics in California. The CARB Handbook recommends that planning agencies recognize that the configuration of warehouse and distribution centers can reduce population exposure and risk. For example, locating the main entry and exit points away from sensitive land uses helps to reduce cancer risks and other health impacts.

1.1.2 California Air Pollution Control Officers Association

In 2009, the CAPCOA published guidance (CAPCOA 2009) on assessing the health risk impacts from and to proposed land use projects, focusing on the acute, chronic, and cancer impacts of sources affected by the California Environmental Quality Act (CEQA) and recommending procedures to identify when a project should undergo further risk evaluation, how to conduct the HRA, how to

engage the public, what to do with the results from the HRA, and what mitigation measures may be appropriate for various land use projects.

1.1.3 South Coast Air Quality Management District

The SCAQMD has its own risk assessment guidelines and required assumptions, *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act* (2015). These guidelines incorporate the OEHHA guidance and the options to be used when using the CARB's Hotspots Analysis and Reporting Program Version 2 (HARP 2) program for risk assessment calculations.

1.2 PROJECT LOCATION

The project site is located at 12340 Agua Mansa Road in the Agua Mansa Industrial Corridor (AMIC) of Jurupa Valley, as shown on Figure 1, Project Location. The project site is located approximately 2 miles north of the State Route 60 (SR-60) freeway and 3.5 miles south of the Interstate 10 (I-10) freeway.

1.3 PROJECT DESCRIPTION

The project would develop two separate buildings on the project site for industrial uses. Building A would be 140,198 square feet (sf) on an 8.94-acre lot, and Building B would be 194,804 sf on a 14.49-acre lot. The project would also include 234 parking spaces. See Figure 2, Conceptual Site Plan. The main freight truck entrance/exits to the proposed warehouse buildings will be on Hall Avenue with separate passenger vehicle entrances also on Hall Avenue. The project trucks would travel south on Rubidoux Boulevard to the SR-60 freeway and north on Riverside Avenue to the I-10 freeway. The project includes loading bays along the west side of Building A and the south side of Building B, as shown in Figure 3, Sensitive Receptors. The project would generate a daily trip rate of 1,035 cars, 105 two-axle trucks, 51 three-axle trucks, and 125 four-plus-axle trucks.

This HRA focuses on the potential health risks to residents and workers near the site, following the CARB Handbook, CAPCOA, and SCAQMD guidance and recommendations. It examines the short-term and long-term potential health effects from emissions of TACs from project operations, primarily the exhaust from trucks hauling materials to and from the project site.

1.4 EXISTING SENSITIVE LAND USES IN THE PROJECT AREA

Sensitive receptors include residences, schools, hospitals, and similar uses sensitive to air quality. The project site is surrounded primarily by industrial and residential development, as shown on Figure 3, Sensitive Receptors. The areas adjacent to the project site include the following uses:

- **North:** Industrial and residential development in the AMIC in Jurupa Valley. The closest residential building is located approximately 550 feet north of the project's loading docks and the closest worker location is located approximately 450 feet north of the project's loading docks.
- **Northeast:** Residential development in the AMIC in unincorporated San Bernardino County.
- **East:** Industrial development in the AMIC in San Bernardino County.
- **South:** Industrial development in the AMIC in Jurupa Valley.
- **West:** Industrial development and undeveloped land in the AMIC in Jurupa Valley.

LSA

LEGEND

- Project Location
- Agua Mansa Industrial Corridor Specific Plan Area
- Riverside County/San Bernardino County Boundary

FIGURE 1

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SOURCE: Bing (2018); Agua Mansa (07/1986)

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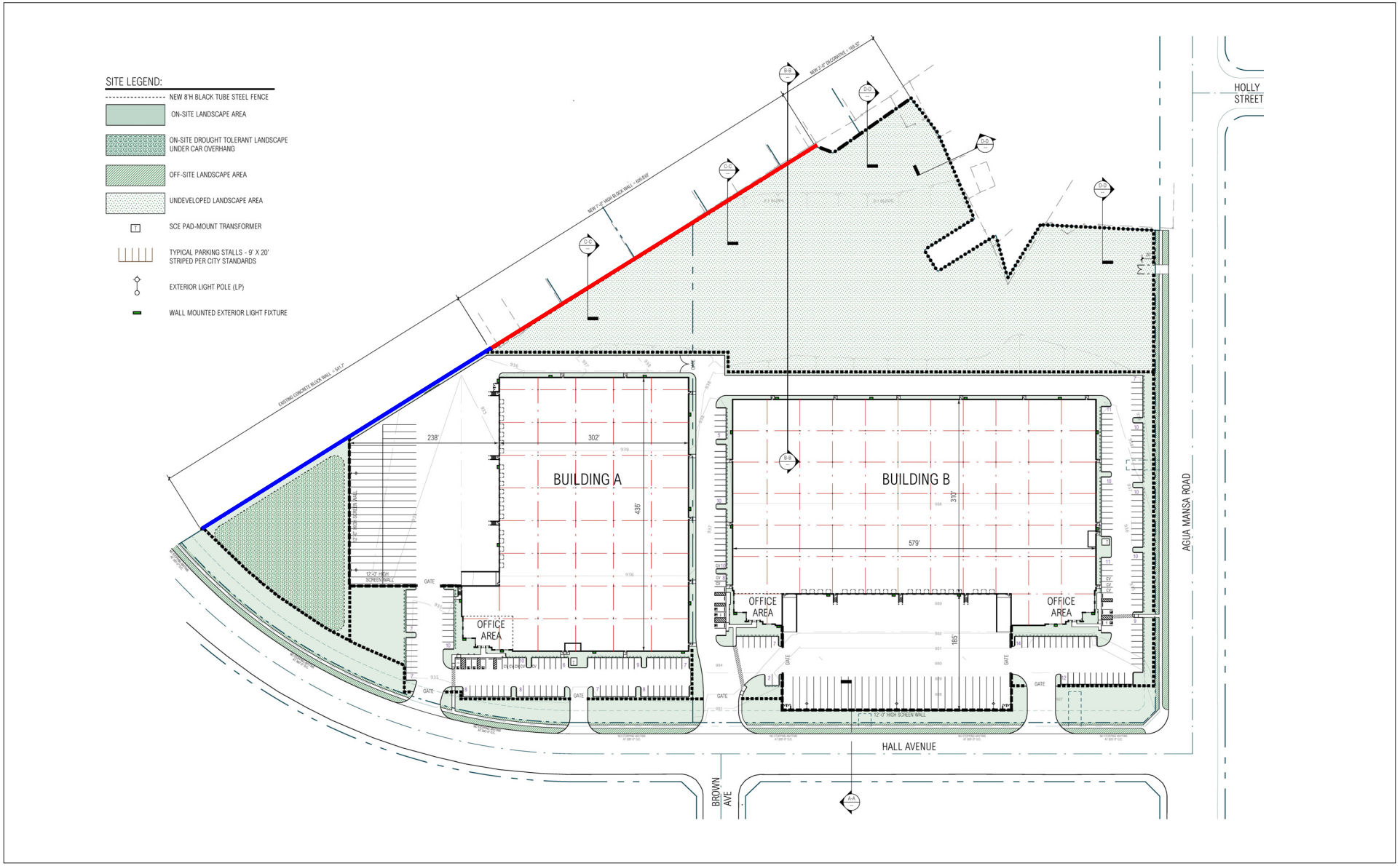
Agua Mansa Industrial Project

Project Location



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LEGEND

Proposed 7 ft Block Wall

Existing Block Wall

FIGURE 2

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SOURCE: RGA, 4/19

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Agua Mansa Industrial Project

Conceptual Site Plan

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LEGEND

- Nearest Residents
- Nearest Workers
- Loading Docks

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FIGURE 3

Agua Mansa Industrial Project

Sensitive Receptors

SOURCE: Google Earth (Aerial, 2018), Carson Companies (Site Plan)

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2.0 SETTING

2.1 REGIONAL AIR QUALITY

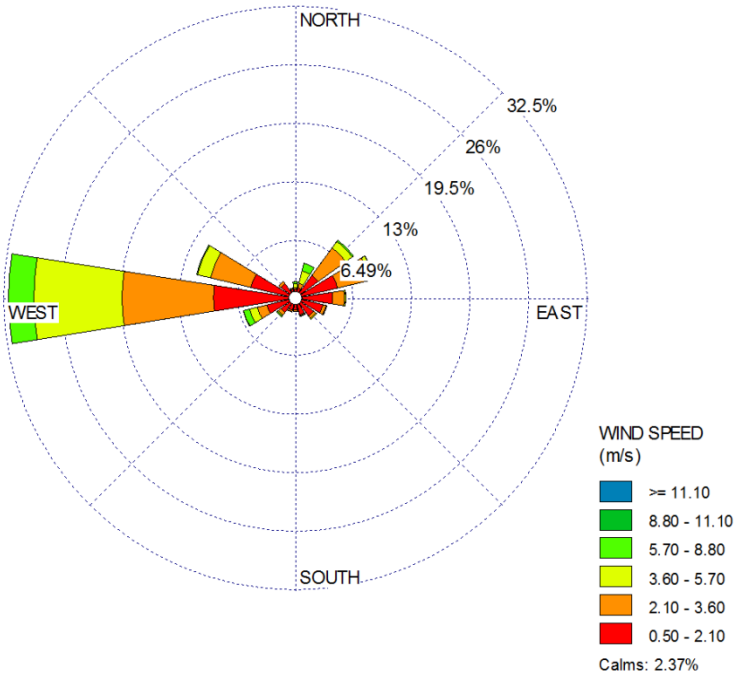
The project site is located in Jurupa Valley, California, which is part of the South Coast Air Basin (Basin) and is under the jurisdiction of the SCAQMD.

2.1.1 Climate/Meteorology

Air quality in the planning area is not only affected by various emission sources (e.g., mobile and industrial), but also by atmospheric conditions (e.g., wind speed, wind direction, temperature, and rainfall). The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States gives the Basin some of the worst air pollution problems in the nation.

The nearest representative meteorological station that provides the American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) ready meteorological data is the Riverside Airport Meteorological Station, about 6.4 miles from the project site. Figure 4, Project Area Wind Patterns, below, shows the windrose from data measured at this station and the wind patterns for the project area.

Figure 4: Project Area Wind Patterns



2.1.2 Toxic Air Contaminants

The public's exposure to TACs is a significant environmental health issue in the State of California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the Federal Act (42 United States Code [USC] Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act), AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987), and Senate Bill (SB) 25, the Children's Environmental Health Protection Act. The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once TACs are identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology (T-BACT) to minimize emissions.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987 (AB 2588). Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the designated air quality management district or air pollution control district. High priority facilities are required to perform an HRA and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

To date, CARB has designated nearly 200 compounds as TACs. Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel particulate matter [DPM]).

3.0 THRESHOLDS

3.1 HEALTH RISK ASSESSMENT THRESHOLDS OF SIGNIFICANCE

Both the State and federal governments have established health-based ambient air quality standards (AAQS) for seven air pollutants. For other air pollutants without defined significance standards, the definition of substantial pollutant concentrations varies. For TACs, "substantial" is taken to mean that the individual health risk exceeds a threshold considered to be a prudent risk management level.

The following limits for maximum individual cancer risk (MICR) and noncancer acute and chronic Hazard Index (HI) from project emissions of TACs are considered appropriate for use in determining the health risk for projects in the Basin:

- **MICR:** MICR is the estimated probability of a maximum exposed individual (MEI) contracting cancer as a result of exposure to TACs over a period of 30 years for adults and 9 years for children in residential locations and over a period of 25 years for workers. The MICR calculations include multi-pathway consideration, when applicable.

  The cumulative increase in MICR that is the sum of the calculated MICR values for all TACs would be considered significant if it would result in an increased MICR greater than 10 in 1 million (1.0×10^{-5}) at any receptor location.

- **Chronic HI:** Chronic HI is the ratio of the estimated long-term level of exposure to a TAC for a potential MEI to its chronic reference exposure level. The chronic HI calculations include multi-pathway consideration, when applicable.

  The project would be considered significant if the cumulative increase in total chronic HI for any target organ system would exceed 1.0 at any receptor location.

- **Acute HI:** Acute HI is the ratio of the estimated maximum 1-hour concentration of a TAC for a potential MEI to its acute reference exposure level.

  The project would be considered significant if the cumulative increase in total acute HI for any target organ system would exceed 1.0 at any receptor location.

The SCAQMD *CEQA Air Quality Handbook* (1993, currently under revision) states that emissions of TACs are considered significant if an HRA shows an increased risk of greater than 10 in 1 million. Based on guidance from SCAQMD in the document *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis* (2003), for the purposes of this analysis, the threshold of 10 in 1 million was used as the cancer risk threshold for the proposed project.

4.0 IMPACTS AND MITIGATION

4.1 HEALTH RISK ASSESSMENT

For the purposes of an HRA, short-term emissions are of concern for analyzing acute health impacts, and long-term emissions are of concern for analyzing chronic and carcinogenic health impacts. A screening-level multi-pathway assessment has been conducted. This technique was chosen as recommended in the OEHHA *Air Toxic Hot Spots Program Risk Assessment Guidelines* (March 2015).

This HRA has been conducted using three models: the CARB's California Emissions Factor Model, Version 2017 (EMFAC2017) for vehicle emissions factors and percentages of fuel type within the overall vehicle fleet, the United States Environmental Protection Agency's (EPA) AERMOD air dispersion model to determine how the TACs would move through the atmosphere after release from sources both on site and on surrounding roadways, and the CARB's Hotspots Analysis and Reporting Program (HARP2) model to translate the pollutant concentrations from AERMOD into individual health risks at any sensitive receptor locations surrounding the project site.

This HRA includes analyzing the inhalation, dermal soil, mother's milk, and homegrown produce pathways. This technique was chosen as prescribed in SCAQMD's *Supplemental Guidelines for Preparing Risk Assessments for the Air Toxics "Hot Spots" Information and Assessment Act* (June 2015).

The OEHHA has determined that long-term exposure to diesel exhaust particulates poses the highest cancer risk of any TAC it has evaluated. Exposure to diesel exhaust can also have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, DPM made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to DPM also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. For risk assessment procedures, the OEHHA specifies that the surrogate for whole diesel exhaust is DPM.

The conservative nature of this analysis is due primarily to the following three factors:

- The CARB-adopted diesel exhaust unit risk factor (URF) of 300 in 1 million per microgram per cubic meter ($\mu g/m^3$) is based on the upper 95th percentile of estimated risk for each of the epidemiological studies used to develop the URF. Therefore, the risk factor is already representative of the conservative risk posed by DPM.

- The risk estimates assume sensitive receptors will be subject to DPM for 24 hours per day, 350 days per year. As a conservative measure, SCAQMD does not recognize indoor adjustments for

residents. However, typical people spend the majority of their time indoors versus remaining outdoors for 24 hours per day, 350 days per year.[1]

- The exposure to DPM is assumed to be constant for the given period analyzed (i.e., 30 years). However, emissions from DPM are expected to substantially decrease in the future with the implementation of standard regulatory requirements and technological advancement to reduce DPM.

Improvements over the last 40 years to diesel fuel and diesel engines have resulted in lower emissions of some of these contaminants. These improvements have resulted in a 75 percent reduction in particle emissions from diesel-powered trucks and other equipment as compared to 2000 levels, and by 2020, when fully implemented, will result in an 85 percent reduction.[2] These improvements are anticipated to continue into the foreseeable future.

4.1.1 Emission Sources

The first step of an HRA is to characterize the project-related emissions of TACs. According to the *Agua Mansa Industrial Traffic Impact Analysis* (LSA 2020), the project would generate a daily trip rate of 1,035 cars, 105 two-axle trucks, 51 three-axle trucks, and 125 four-plus-axle trucks. The traffic study also characterized the routes and percentages of the car and truck traffic that would travel to and from the project site. While the TAC emissions from gasoline-powered vehicles have a small health effect compared to DPM, this HRA includes all the traffic information described and both gasoline- and diesel-powered vehicle emissions. For the diesel exhaust emissions, it is sufficient to only consider the DPM (particulate matter less than 10 microns in diameter [PM_{10}] and particulate matter less than 2.5 microns in size [$PM_{2.5}$]) portions of the exhaust; all the TACs for the gasoline exhaust emissions are contained in the reactive organic gas (ROG) emissions. Using speciation data from CARB, the emission rates of the TAC components are derived from the total ROG emissions.

The vehicles associated with the project were assumed to operate 24 hours per day, 7 days per week, and 52 weeks per year. The project trucks operate in two modes: stationary idling and moving on and off the site. The emissions from trucks while idling result in a much higher concentration of TACs at nearby sensitive receptors compared to the emissions from moving trucks. This is due to the dispersion of emissions that occurs with distance and with travel of the vehicle. For this HRA, the truck travel emissions were modeled as a series of volume sources along on-site buildings and driveways and along truck routes to the I-10 and SR-60 freeways. These sources cover the anticipated primary truck routes as shown on Figure 5, Overall Modeling Layout, with the dark blue

[1] In May 1991, the CARB Research Division, in association with the University of California, Berkeley, published research findings titled *Activity Patterns of California Residents*. The findings of that study indicate that on average, adults and adolescents in California spent almost 15 hours per day inside their homes and 6 hours in other indoor locations, for a total of 21 hours (87 percent of the day). About 2 hours per day were spent in transit, and just over 1 hour per day was spent in outdoor locations.

[2] California Environmental Protection Agency (CalEPA), Office of Environmental Health Hazard Assessment (OEHHA), and American Lung Association of California. 2001. *Health Effects of Diesel Exhaust*. May 21, 2001. Website: oehha.ca.gov/air/health-effects-diesel-exhaust, accessed May 2018.

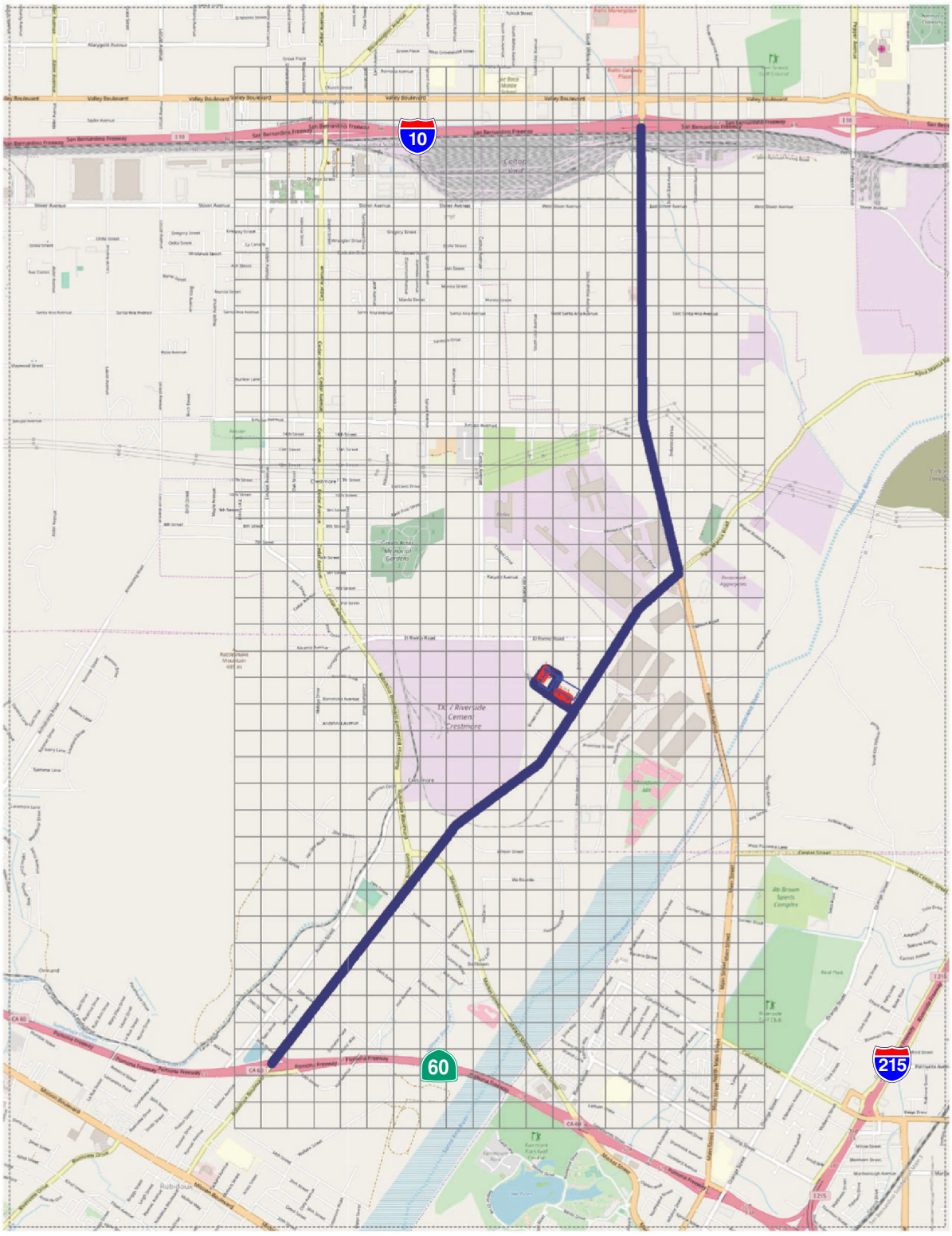


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FIGURE 5

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Agua Mansa Industrial Project

Overall Modeling Layout

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line. While it is possible that a few trucks could take other routes, the small number of trucks going on any routes other than those identified as the main routes would not add substantial amounts of TACs along those routes. LSA assumed vehicles traveling on site would maneuver slowly, averaging approximately 5 miles per hour (mph), and that vehicles traveling on roadways would average 35 mph.

The idling emissions of trucks operating on the project site were modeled as individual point sources at idling locations along the planned loading docks for both buildings, shown on Figure 5 as red dots. While the idling times of the trucks are regulated to be no more than 5 minutes, it is possible the trucks will stop at the loading dock and one or two other areas on site during a single delivery. For the purposes of this HRA, the idling times per delivery were conservatively assumed to be 15 minutes per delivery.

EMFAC2017 was used to determine the emissions factors of idling and operating diesel trucks to determine the total emissions of PM_{10}. While the TAC of concern from diesel trucks is DPM, EMFAC2017 does not include emissions factors for this TAC. DPM is a component of the overall exhaust from the project-related trucks. This HRA conservatively assumes the DPM emissions are equal to the PM_{10} emissions when actually the DPM is only a portion of the overall PM_{10} in the truck exhaust. While it is expected that the truck emissions rate will continue to reduce over time, an HRA only allows for a single emission rate to represent the entire 25- or 30-year exposure period. The use of emissions factors for the year 2025 was selected for this HRA to be conservative. For instance, based on operations starting in 2020, using emissions factors for a 2026 vehicle fleet (the midpoint of the 9-year exposure period) or using emissions for a 2036 vehicle fleet (the midpoint of the 30-year exposure period) could be used; however, either of these would be less conservative.

The tables in Appendix A show the development of the exhaust emission rates for the trucks while operating both on the project site and on the roadways as described in the project traffic study. The tables show the average daily traffic for the entire project on each stretch of road by vehicle category. The percentage within each vehicle category that is diesel powered (from EMFAC2017) and the PM_{10}, $PM_{2.5}$, and ROG emissions factors for each vehicle category at the average vehicle speed of 5 mph on site and 35 mph on roadways are also shown. Because the AERMOD dispersion model cannot use emissions in grams per mile, emissions are converted to grams per second. The same derivation is repeated for ROG emissions from gasoline-powered vehicles (all TAC emissions from gasoline exhaust are contained in the ROG emissions).

Table A shows the development of the exhaust emission rates for the trucks while idling on the project site. These emissions are equally divided among the 11 point sources located at all the loading dock areas for the two project buildings. These are depicted on Figures 5 and 6 as red circles next to the project buildings. Emissions data results are shown in Table A using the idling emissions factors from EMFAC2017 for these trucks, combined with the total truck count, and assuming 15 minutes of idling per trip.

Table A: Agua Mansa Industrial Truck Idling Emission Rates

Facility	Hours/ Day	Trucks/ Day[1]	Trucks/ Hour	Diesel Idle Exhaust per Vehicle (g/hr)[2]		Idle Time (min/trip)[3]	Idle Exhaust Diesel (g/hr)	
				PM_{10}	$PM_{2.5}$		PM_{10}	$PM_{2.5}$
Loading Dock	24	282	11.7	0.00010	0.00010	15	0.0003	0.0003

Source: LSA Associates, Inc. (March 2020).

[1] *Agua Mansa Industrial Traffic Impact* Analysis (LSA 2020). Note that each truck visit comprises two trips, one to arrive and one to depart.

[2] CARB EMFAC2017 idling emissions factors for 2020 MHDT & HHDT diesel trucks.

[3] This table assumes each truck idles for 15 minutes per trip to account for multiple stops (i.e., at an entry check-in, loading/unloading, and miscellaneous on-site activities).

CARB = California Air Resources Board
EMFAC2017 = California Emissions Factor Model, Version 2017
g/hr = grams per hour
HHDT = Heavy-Heavy-Duty Truck
min/trip = minutes per trip
MHDT = Medium heavy-duty truck
mph = miles per hour
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matter less than 2.5 microns in diameter

It was assumed the trucks would idle using their main engines rather than an auxiliary power unit (APU) or plugging in to shore power throughout their time at the project site. This is a very conservative assumption, as the loading docks are required to have electrical hookups and the trucks to have the ability to run their accessories from that electricity, so it is likely that the trucks would only be operating on their own power when arriving or departing. CARB has developed plans (CARB 2017) to transition to near-zero-emission technologies and ultimately zero-emission technologies. These will be phased in over time, possibly beginning in the 2020 decade and extending out to 2050.

4.1.2 American Meteorological Society/Environmental Protection Agency Regulatory Model Dispersion Modeling

In order to assess the dispersion of emissions associated with the project, air dispersion modeling was performed using AERMOD. The model is approved by the EPA when estimating the air quality impacts associated with point and fugitive sources in simple and complex terrain. The model was used to calculate the annual average and short duration (e.g., 1-hour) pollutant concentrations associated with each emitting source. Inputs for each emitting source were based on the characterizations described above. Details of these inputs are shown in Appendix B.

For the volume sources used to represent on-road mobile source activity, vertical (sigma z) dispersion parameters were developed as described in the EPA guidance for trucks. Horizontal (sigma y) dispersion parameters were generated by dividing the source separation distance by a standard deviation of 2.15, as described in the EPA guidance. For the truck idling locations, individual point sources represent the idling at all the loading docks by points spread along all loading dock locations and the total idling emissions spread equally. For all the idling sources, the release height was set to the approximate truck exhaust stack height of 12 feet, a temperature of 200°F, a flow rate of 50 meters per second, and an exhaust pipe diameter of 4 inches. Because building wake effects (building downwash) influences can significantly increase concentrations for receptors located downwind of the building close to the emissions source, the proposed new buildings were included with a building height of 45 feet for Building A and 44 feet for Building B.

The model requires additional input parameters, including local meteorology. Due to the model's sensitivity to individual parameters (e.g., wind speed, temperature, and direction), the EPA recommends meteorological data used as input into dispersion models be selected on the basis of relative spatial and temporal conditions that exist in the area of concern. As such, 5 years of meteorological data from SCAQMD's Riverside-Rubidoux Monitoring Station[1] (the nearest available) was used to represent local weather conditions and prevailing winds.

Receptors were placed in an approximately 2.5- by 5-mile grid, as shown on Figure 5, from west of Linden Avenue to east of Market Street, and from north of the I-10 to south of the SR-60 to characterize the regional risk levels. Additionally, discrete receptors were places at the location of all sensitive receptors surrounding the proposed project site.

4.1.3 Hotspots Analysis and Reporting Program Modeling

CARB's HARP2 model is a tool that assists with the programmatic requirements of the Air Toxics "Hot Spots" Program (AB 2588). HARP2 was used to translate the TAC concentrations from AERMOD into long-term carcinogenic and chronic, and short-term acute health risk levels following the guidance in the SCAQMD risk assessment guidelines (2015) for residents and workers. These guidelines specify a minimum set of TAC pathways and HARP2 modeling options for the carcinogenic assessment. To estimate chronic noncancer risks at residential receptors, the "OEHHA-Derived Method" risk-calculation option was used. Following the OEHHA guidance (2015), an 8-hour chronic noncancer risk was calculated for residential receptors because the project would operate more than 8 hours per day and 5 days per week.

The dose-response relationship for a specific pollutant describes the association between exposure and the observed response (health effect). In other words, the relationship estimates how different levels of exposure to a pollutant change the likelihood and severity of health effects. The dose-response relationship (the response occurring with increasing doses) varies with each pollutant, individual sensitivity, and type of health effect. Combining the results of the emission characterization and dispersion modeling described above with the dose-response assessment gives an estimate of the increased health risk for an individual exposed to the maximum predicted long-term concentrations of TACs.

4.1.4 Acute Project-Related Emission Impacts

Exposure to TACs from vehicle exhaust can result in immediate health effects. However, according to the rulemaking in CARB's *Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant* (1998), the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute noncancer health risk guidance value. Emissions from gasoline-powered vehicles do contain TACs with short-term acute health effects. The acute health risks from the project's on-site truck activity and roadway traffic are shown in Table B.

[1] South Coast Air Quality Management District (SCAQMD). Meteorological Data for AERMOD. Website: http://www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/data-for-aermod, accessed November 2017.

Table B: Health Risk Levels for Existing Residents Near the Project Site

Location	Maximum Cancer Risk (risk per million)	Maximum Noncancer Chronic Risk (Hazard Index)	Maximum Noncancer Acute Risk (Hazard Index)
Residential Risks	0.12 in 1 million	0.00011	0.0003
Worker Risks	0.03 in 1 million	0.0003	0.0004
SCAQMD Significance Threshold	**10**	**1.0**	**1.0**
Significant?	**No**	**No**	**No**

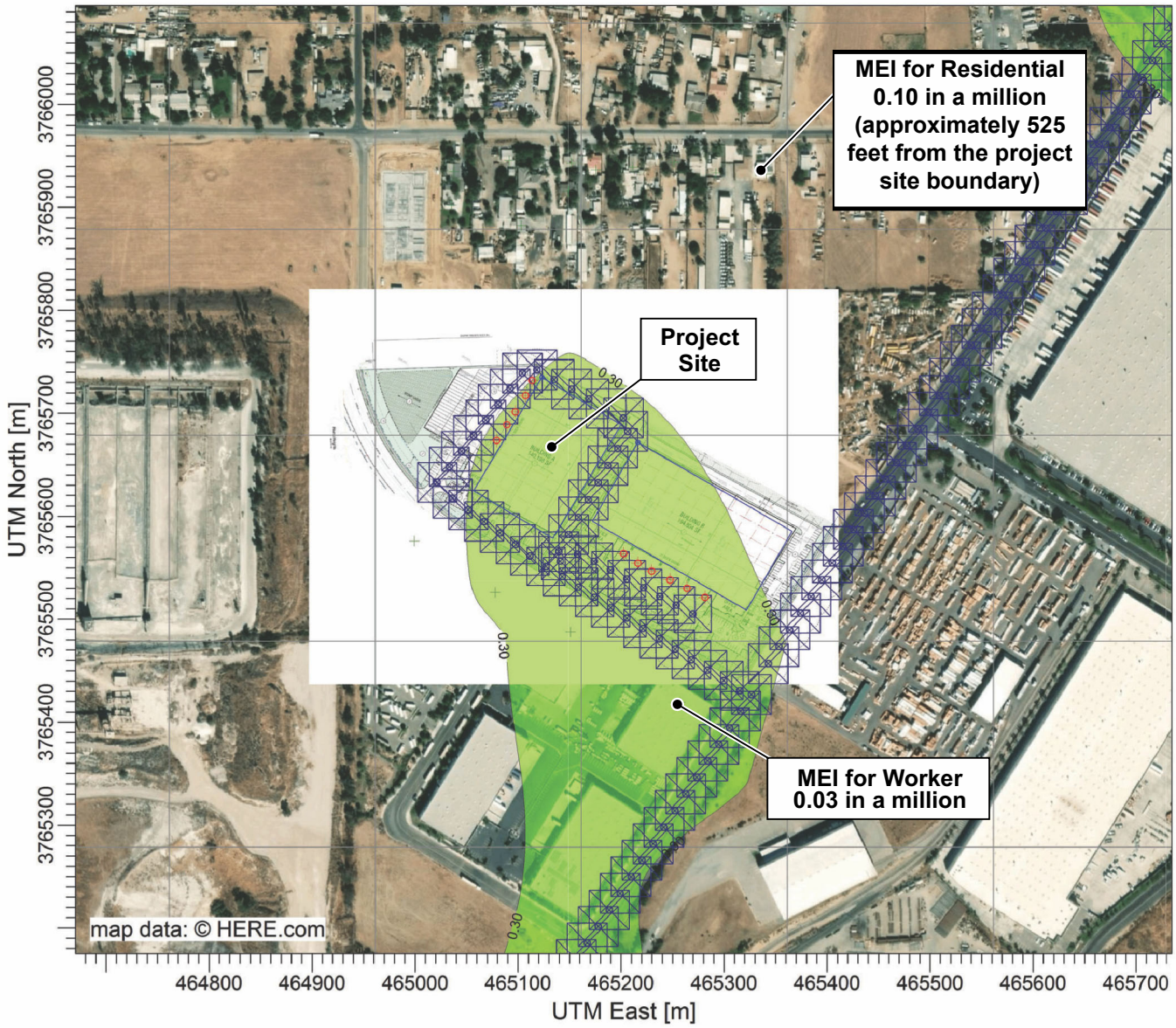
Source: Compiled by LSA Associates, Inc. (March 2020).
SCAQMD = South Coast Air Quality Management District

The Acute HI for the residential MEI would be 0.0003, and for the worker, the MEI would be 0.0004; both are less than the threshold of 1.0.

4.1.5 Carcinogenic and Chronic Project-Related Emission Impacts

The carcinogenic and chronic health risks from the proposed project are also shown in Table B. The residential risk incorporates both the risk for a child living in a nearby residence for 9 years (the standard period of time for child risk) and an adult living in a nearby residence for 30 years (considered a conservative period of time for an individual to live in any one residence). The maximum cancer risk for the residential MEI would be 0.12 in 1 million, less than the threshold of 10 in 1 million. Figure 6, 30 Year Cancer Risk Levels, shows the extent of the 0.3 in 1 million cancer risk level. The maximum cancer risk for the worker MEI would be 0.03 in 1 million, also less than the threshold of 10 in 1 million. The chronic health risks from the project's on-site and roadway traffic are shown in Table B.

As these results show, all health risk levels to nearby residents and workers from project-related emissions of TAC would be well below SCAQMD's HRA thresholds. No significant health risk would occur from project-related truck traffic, and no mitigation is necessary. Appendix B provides the HARP modeling reports and AERMOD information.



LSA

FIGURE 6

LEGEND

- Volume Sources Along Roads and Driveways
- Truck Idling Locations
- Receptors Around Project Site

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FEET

Agua Mansa Industrial Project

30-Year Cancer Risk Levels

I:\CRN1801\G\30-Year Cancer Risk Levels.cdr (11/15/2018)

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APPENDIX A

EMISSION FACTORS FOR VEHICLES AND HEALTH RISK ASSESSMENT EMISSION RATES

EMFAC2017 Emission Rates
Region Type: Air Basin
Region: South Coast
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2011 Categories

Region	CalYr	Season	Veh_Class	Fuel	Speed (miles/hr)	VMT (miles/day)	ROG (gms/mile)	PM10 (gms/mile)	PM2.5 (gms/mile)	
South Coast	2025	Annual	Aggreg Light Veh	GAS	5	609,734	0.0282453	0.003441528	0.003170399	These EFs are derived by factoring EFs for LDA, LDT1, LDT2, LHD1, LHD2, MDV, MH, Motorcoach, and SBUS by VMT for each to get a weighted aggregate set of EFs.
South Coast	2025	Annual	Aggreg Light Veh	GAS	10	2,354,892	0.0702159	0.00848296	0.00781666	
South Coast	2025	Annual	Aggreg Light Veh	GAS	15	6,138,317	0.1229777	0.014865289	0.013701105	
South Coast	2025	Annual	Aggreg Light Veh	GAS	20	17,975,593	0.2554581	0.030939222	0.028522789	
South Coast	2025	Annual	Aggreg Light Veh	GAS	25	37,943,884	0.40454	0.048874928	0.045067373	
South Coast	2025	Annual	Aggreg Light Veh	GAS	30	42,386,143	0.35588	0.042945839	0.039608695	
South Coast	2025	Annual	Aggreg Light Veh	GAS	35	24,294,293	0.1682376	0.020317148	0.018742252	
South Coast	2025	Annual	Aggreg Light Veh	GAS	40	17,638,182	0.1061959	0.012774432	0.011786486	
South Coast	2025	Annual	Aggreg Light Veh	GAS	45	14,559,106	0.080448	0.009657383	0.008911701	
South Coast	2025	Annual	Aggreg Light Veh	GAS	50	13,420,136	0.0713631	0.008583337	0.007921483	
South Coast	2025	Annual	Aggreg Light Veh	GAS	55	12,158,383	0.065127	0.00788884	0.007281377	
South Coast	2025	Annual	Aggreg Light Veh	GAS	60	16,430,118	0.0930489	0.011475649	0.010593579	
South Coast	2025	Annual	Aggreg Light Veh	GAS	65	7,870,401	0.049098	0.006129221	0.005661521	
South Coast	2025	Annual	Aggreg Light Veh	GAS	70	3,176	2.115E-05	2.71478E-06	2.51756E-06	
South Coast	2025	Annual	Aggreg Light Veh	DSL	5	11,228	0.0159524	0.001816548	0.001676366	These EFs are derived by factoring EFs for LDA, LDT1, LDT2, LHD1, LHD2, MDV, MH, Motorcoach, and SBUS by VMT for each to get a weighted aggregate set of EFs.
South Coast	2025	Annual	Aggreg Light Veh	DSL	10	41,160	0.0415848	0.004715827	0.004353099	
South Coast	2025	Annual	Aggreg Light Veh	DSL	15	105,827	0.0732741	0.008405098	0.00776133	
South Coast	2025	Annual	Aggreg Light Veh	DSL	20	291,214	0.1588381	0.018528452	0.017111023	
South Coast	2025	Annual	Aggreg Light Veh	DSL	25	589,945	0.2598252	0.030382967	0.028061769	
South Coast	2025	Annual	Aggreg Light Veh	DSL	30	706,340	0.2162245	0.02538164	0.02346202	
South Coast	2025	Annual	Aggreg Light Veh	DSL	35	470,404	0.0914935	0.010850687	0.010047225	
South Coast	2025	Annual	Aggreg Light Veh	DSL	40	392,308	0.0534989	0.006383952	0.005924427	
South Coast	2025	Annual	Aggreg Light Veh	DSL	45	337,107	0.0399876	0.004788173	0.004447886	
South Coast	2025	Annual	Aggreg Light Veh	DSL	50	352,016	0.0338104	0.004155	0.003870194	
South Coast	2025	Annual	Aggreg Light Veh	DSL	55	403,156	0.029006	0.00380194	0.003559836	
South Coast	2025	Annual	Aggreg Light Veh	DSL	60	772,849	0.0422317	0.00648029	0.006117955	
South Coast	2025	Annual	Aggreg Light Veh	DSL	65	559,769	0.0288086	0.004720715	0.004483835	
South Coast	2025	Annual	Aggreg Light Veh	DSL	70	435	0.0108844	0.001768174	0.001690621	
South Coast	2025	Annual	T6 instate heavy	DSL	5	1737.717415	0.0008786	4.48394E-05	4.28996E-05	
South Coast	2025	Annual	T6 instate heavy	DSL	10	5618.263428	0.0022859	0.000129686	0.000124075	
South Coast	2025	Annual	T6 instate heavy	DSL	15	15055.375	0.0042134	0.000292264	0.000279621	
South Coast	2025	Annual	T6 instate heavy	DSL	20	41478.83604	0.0082155	0.000702124	0.00067175	
South Coast	2025	Annual	T6 instate heavy	DSL	25	86368.19684	0.0125563	0.001322217	0.001265019	
South Coast	2025	Annual	T6 instate heavy	DSL	30	110863.9038	0.0119551	0.001566145	0.001498394	
South Coast	2025	Annual	T6 instate heavy	DSL	35	82998.737	0.0066467	0.001096945	0.001049492	
South Coast	2025	Annual	T6 instate heavy	DSL	40	87592.10819	0.0052193	0.001097332	0.001049861	
South Coast	2025	Annual	T6 instate heavy	DSL	45	87310.97611	0.0038836	0.001050297	0.001004862	
South Coast	2025	Annual	T6 instate heavy	DSL	50	90153.34364	0.00301	0.001054838	0.001009206	
South Coast	2025	Annual	T6 instate heavy	DSL	55	95700.46321	0.0024206	0.001103089	0.001055369	
South Coast	2025	Annual	T6 instate heavy	DSL	60	128037.0397	0.0028333	0.001471674	0.00140801	
South Coast	2025	Annual	T6 instate heavy	DSL	65	101270.2946	0.002241	0.001164013	0.001113659	
South Coast	2025	Annual	T6 instate heavy	DSL	70	72.0864118	1.595E-06	8.2857E-07	7.92727E-07	
South Coast	2025	Annual	T6 instate small	DSL	5	4432.107009	0.0045735	0.000354771	0.000339423	
South Coast	2025	Annual	T6 instate small	DSL	10	14329.57079	0.0113523	0.001086015	0.001039035	
South Coast	2025	Annual	T6 instate small	DSL	15	38399.24288	0.0172267	0.002629636	0.002515879	
South Coast	2025	Annual	T6 instate small	DSL	20	105793.1735	0.0270124	0.006557341	0.006273674	
South Coast	2025	Annual	T6 instate small	DSL	25	220285.0056	0.0427509	0.012821012	0.01226638	
South Coast	2025	Annual	T6 instate small	DSL	30	282762.1344	0.0445048	0.016160013	0.015460938	
South Coast	2025	Annual	T6 instate small	DSL	35	211691.0844	0.0272116	0.012325024	0.011791849	
South Coast	2025	Annual	T6 instate small	DSL	40	223406.6329	0.0236648	0.013712961	0.013119744	
South Coast	2025	Annual	T6 instate small	DSL	45	222689.596	0.0196782	0.014832792	0.014191132	
South Coast	2025	Annual	T6 instate small	DSL	50	229939.1505	0.0172443	0.016989389	0.016254436	
South Coast	2025	Annual	T6 instate small	DSL	55	244087.2665	0.0159082	0.020310059	0.019431455	
South Coast	2025	Annual	T6 instate small	DSL	60	326562.798	0.020065	0.028944159	0.027692047	
South Coast	2025	Annual	T6 instate small	DSL	65	258293.3098	0.0158703	0.022893246	0.021902894	
South Coast	2025	Annual	T6 instate small	DSL	70	183.8588301	1.13E-05	1.62959E-05	1.5591E-05	
South Coast	2025	Annual	T6TS	GAS	5	1489.485939	0.000857	1.0733E-05	9.8686E-06	
South Coast	2025	Annual	T6TS	GAS	10	5208.249519	0.0019017	2.37113E-05	2.18016E-05	
South Coast	2025	Annual	T6TS	GAS	15	13650.12523	0.00334	4.14218E-05	3.80858E-05	
South Coast	2025	Annual	T6TS	GAS	20	35294.34488	0.0061053	7.53097E-05	6.92445E-05	

South Coast	2025	Annual	T6TS	GAS	25	69211.70176	0.0089272	0.00010954	0.000100718
South Coast	2025	Annual	T6TS	GAS	30	82333.11034	0.0083441	0.000101947	9.37362E-05
South Coast	2025	Annual	T6TS	GAS	35	60150.22701	0.0050494	6.14572E-05	5.65076E-05
South Coast	2025	Annual	T6TS	GAS	40	62342.38084	0.004583	5.54312E-05	5.09669E-05
South Coast	2025	Annual	T6TS	GAS	45	60070.42004	0.0040718	4.90157E-05	4.50682E-05
South Coast	2025	Annual	T6TS	GAS	50	60151.79737	0.0039557	4.74975E-05	4.36722E-05
South Coast	2025	Annual	T6TS	GAS	55	60122.29822	0.004035	4.84421E-05	4.45407E-05
South Coast	2025	Annual	T6TS	GAS	60	65375.06349	0.0046923	5.66716E-05	5.21074E-05
South Coast	2025	Annual	T6TS	GAS	65	52861.89038	0.0043077	5.19814E-05	4.7795E-05
South Coast	2025	Annual	T6TS	GAS	70	44.84573404	3.97E-06	4.79092E-08	4.40508E-08
South Coast	2025	Annual	T7 Public	DSL	5	168.1561358	0.0001507	2.99088E-05	2.8615E-05
South Coast	2025	Annual	T7 Public	DSL	10	555.5933951	0.0003916	8.42319E-05	8.05881E-05
South Coast	2025	Annual	T7 Public	DSL	15	1499.417292	0.0006278	0.000163507	0.000156434
South Coast	2025	Annual	T7 Public	DSL	20	4225.223358	0.0009996	0.00033407	0.000319619
South Coast	2025	Annual	T7 Public	DSL	25	8890.206371	0.0015228	0.00059103	0.000565463
South Coast	2025	Annual	T7 Public	DSL	30	12047.08902	0.0016321	0.000709582	0.000678886
South Coast	2025	Annual	T7 Public	DSL	35	9335.875447	0.0010105	0.000496484	0.000475006
South Coast	2025	Annual	T7 Public	DSL	40	8993.022623	0.0007927	0.000443456	0.000424272
South Coast	2025	Annual	T7 Public	DSL	45	8594.868525	0.000637	0.000406545	0.000388958
South Coast	2025	Annual	T7 Public	DSL	50	9255.951429	0.0006047	0.000436614	0.000417726
South Coast	2025	Annual	T7 Public	DSL	55	11025.72615	0.000674	0.00053977	0.00051642
South Coast	2025	Annual	T7 Public	DSL	60	19325.8825	0.0011741	0.000975936	0.000933718
South Coast	2025	Annual	T7 Public	DSL	65	15317.28834	0.0009306	0.000773507	0.000740045
South Coast	2025	Annual	T7 Public	DSL	70	11.16065494	6.78E-07	5.63601E-07	5.3922E-07
South Coast	2025	Annual	T7IS	GAS	5	161.1567311	0.0004807	9.43486E-07	8.67894E-07
South Coast	2025	Annual	T7IS	GAS	10	563.5128504	0.00106	2.08427E-06	1.91736E-06
South Coast	2025	Annual	T7IS	GAS	15	1476.891794	0.0018501	3.64093E-06	3.34953E-06
South Coast	2025	Annual	T7IS	GAS	20	3818.714294	0.0033609	6.61939E-06	6.0899E-06
South Coast	2025	Annual	T7IS	GAS	25	7488.443709	0.0048848	9.62773E-06	8.85799E-06
South Coast	2025	Annual	T7IS	GAS	30	8908.130366	0.00454	8.96006E-06	8.24405E-06
South Coast	2025	Annual	T7IS	GAS	35	6508.026498	0.002733	5.40128E-06	4.96986E-06
South Coast	2025	Annual	T7IS	GAS	40	6745.209231	0.0024681	4.87154E-06	4.48259E-06
South Coast	2025	Annual	T7IS	GAS	45	6499.391687	0.0021833	4.30761E-06	3.96382E-06
South Coast	2025	Annual	T7IS	GAS	50	6508.196405	0.0021135	4.1741E-06	3.84106E-06
South Coast	2025	Annual	T7IS	GAS	55	6505.004709	0.0021503	4.25704E-06	3.91747E-06
South Coast	2025	Annual	T7IS	GAS	60	7073.333995	0.0024976	4.98018E-06	4.583E-06
South Coast	2025	Annual	T7IS	GAS	65	5719.456109	0.0022901	4.56798E-06	4.20371E-06
South Coast	2025	Annual	T7IS	GAS	70	4.852138387	2.11E-06	4.21012E-09	3.8744E-09

Idling Emissions Factors					PM10	PM2.5	These Efs are the IDLEX daily regional tons/day rates divided by the truck population and 24 hrs/day.
Region	CalYr	Season	Veh_Class	Fuel	(gms/hr)	(gms/hr)	
South Coast	2025	Annual	T6 Instate Small	DSL	5.61E-05	5.37E-05	
South Coast	2025	Annual	T7	DSL	1.47E-04	1.41E-04	

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Project Trip Generation

Land Uses	Units		Daily
Building A			
Manufacturing	140.2	TSF	
Trips/Unit (Cars)			3.089
Trips/Unit (2-Axle Trucks)			0.314
Trips/Unit (3-Axle Trucks)			0.153
Trips/Unit (4+ Axle Trucks)			0.374
Trips/Unit (Total)			3.930
Trip Generation (Cars)			433
Trip Generation (2-Axle Trucks)			44
Trip Generation (3-Axle Trucks)			21
Trip Generation (4+ Axle Trucks)			52
Trip Generation (Total)			551
Building B			
Manufacturing	194.8	TSF	
Trips/Unit (Cars)			3.089
Trips/Unit (2-Axle Trucks)			0.314
Trips/Unit (3-Axle Trucks)			0.153
Trips/Unit (4+ Axle Trucks)			0.374
Trips/Unit (Total)			3.930
Trip Generation (Cars)			602
Trip Generation (2-Axle Trucks)			61
Trip Generation (3-Axle Trucks)			30
Trip Generation (4+ Axle Trucks)			73
Trip Generation (Total)			766
Summary			
Trip Generation (Cars)			1,035
Trip Generation (2-Axle Trucks)			105
Trip Generation (3-Axle Trucks)			51
Trip Generation (4+ Axle Trucks)			125
Trip Generation (Total)			1,317

Note: From Traffic Study (November 2018)
TSF = Thousand Square-Feet
The trip generation was developed using rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual (10th Edition) for Land Use 140 – "Manufacturing." The resulting trips were converted to trucks and passenger vehicles based on the vehicle mix from the City of Fontana's Truck Trip Generation Study (August 2003). As such, 78.6% of project traffic will be passenger vehicles and 21.4% of project traffic will be trucks. All truck trips were converted to passenger car equivalents (PCEs) using a 1.5 PCE factor for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for 4- and more axle trucks.

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Onsite travel - along Bldg A		AADT by Truck Category[1]							
		LDV[2]	2-Axle[3]	3-Axle[4]	4+-Axle[5]				
		434	45	22	53				
		% of Vehicles That Are Diesel-Powered[6]							
Average Speed		2.6%	73%	73%	99%				
		Diesel Exhaust PM10 & PM2.5 Emissions at 5 mph (g/mi)[7]							
5 mph	PM_{10}	0.0018	3.55E-04	4.48E-05	2.99E-05				
	$PM_{2.5}$	0.0017	3.39E-04	4.29E-05	2.86E-05				
		% of Vehicles That Are Gasoline-Powered[6]							
Total distance covered by Onsite travel - driveway sources		97%	27%	27%	0.9%				
		Gasoline Exhaust ROG Emissions at 5 mph (g/mi)[7]				Number of Sources	Emission Rates per source		
	ROG	0.028	8.57E-04	8.57E-04	4.81E-04				
		PM_{10}, $PM_{2.5}$ & ROG Exhaust Emissions (g/s)					g/s	lb/hr	lb/yr
394 meters	PM_{10}	5.73E-08	3.32E-08	2.05E-09	4.45E-09	22	4.4E-09	3.5E-08	0.0003
	$PM_{2.5}$	5.29E-08	3.18E-08	1.96E-09	4.25E-09	22	4.1E-09	3.3E-08	0.0003
	ROG	3.38E-05	2.89E-08	1.41E-08	6.50E-10	22	1.5E-06	1.2E-05	0.1070

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

Speciated Emissions Rates

		lb/yr	lb/hr
diesel part.	--	3.07E-04	3.50E-08
PM2.5	--	2.87E-04	3.28E-08
1,3-butadiene	0.0055	5.89E-04	6.72E-08
benzene	0.02636	2.82E-03	3.22E-07
ethylbenzene	0.01072	1.15E-03	1.31E-07
MEK	0.00019	2.03E-05	2.32E-09
naphthalene	0.00048	5.14E-05	5.86E-09
propylene	0.03127998	3.35E-03	3.82E-07
styrene	0.00126	1.35E-04	1.54E-08
toluene	0.05879998	6.29E-03	7.18E-07
m & p-xylene	0.03639998	3.90E-03	4.44E-07

Agua Mansa Industrial

Onsite travel - along Bldg B		AADT by Truck Category[1]							
		LDV[2]	2-Axle[3]	3-Axle[4]	4+-Axle[5]				
		602	62	30	73				
		% of Vehicles That Are Diesel-Powered[6]							
Average Speed		2.6%	73%	73%	99%				
		Diesel Exhaust PM10 & PM2.5 Emissions at 5 mph (g/mi)[7]							
5 mph	PM_{10}	0.0018	3.55E-04	4.48E-05	2.99E-05				
	$PM_{2.5}$	0.0017	3.39E-04	4.29E-05	2.86E-05				
		% of Vehicles That Are Gasoline-Powered[6]							
Total distance covered by Onsite travel - driveway sources		97%	27%	27%	0.9%				
		Gasoline Exhaust ROG Emissions at 5 mph (g/mi)[7]				Number of Sources	Emission Rates per source		
	ROG	0.028	8.57E-04	8.57E-04	4.81E-04		g/s	lb/hr	lb/yr
		PM_{10}, $PM_{2.5}$ & ROG Exhaust Emissions (g/s)							
144 meters	PM_{10}	2.91E-08	1.68E-08	1.02E-09	2.24E-09	9	5.5E-09	4.3E-08	0.0004
	$PM_{2.5}$	2.69E-08	1.60E-08	9.80E-10	2.15E-09	9	5.1E-09	4.1E-08	0.0004
	ROG	1.72E-05	1.46E-08	7.07E-09	3.28E-10	9	1.9E-06	1.5E-05	0.1329

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

Speciated Emissions Rates

		lb/yr	lb/hr
diesel part.	--	3.80E-04	4.33E-08
PM2.5	--	3.56E-04	4.06E-08
1,3-butadiene	0.0055	7.31E-04	8.34E-08
benzene	0.02636	3.50E-03	4.00E-07
ethylbenzene	0.01072	1.42E-03	1.63E-07
MEK	0.00019	2.53E-05	2.88E-09
naphthalene	0.00048	6.38E-05	7.28E-09
propylene	0.03127998	4.16E-03	4.74E-07
styrene	0.00126	1.67E-04	1.91E-08
toluene	0.05879998	7.82E-03	8.92E-07
m & p-xylene	0.03639998	4.84E-03	5.52E-07

Vehicle Exhaust Worksheet

Agua Manza Industrial

Hall Ave. from Project Driveway 1 east to Proj. Drwy. 2		AADT by Truck Category[1]			
		LDV[2]	**2-Axle[3]**	**3-Axle[4]**	**4+-Axle[5]**
		217	23	11	27
		% of Vehicles That Are Diesel-Powered[6]			
Average Speed		2.6%	73%	73%	99%
		Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7			
35 mph	PM_{10}	0.0109	1.23E-02	1.10E-03	4.96E-04
	$PM_{2.5}$	0.0100	1.18E-02	1.05E-03	4.75E-04
		% of Vehicles That Are Gasoline-Powered[6]			
		97%	27%	27%	0.9%
Total distance covered by Hall Ave. from sources		**Gasoline Exhaust ROG Emissions at 35 mph (g/mi)7**			
	ROG	0.168	5.05E-03	5.05E-03	2.73E-03
		PM_{10}, $PM_{2.5}$ & ROG Exhaust Emissions (g/s)			
76 meters	PM_{10}	3.30E-08	1.14E-07	4.84E-09	7.24E-09
	$PM_{2.5}$	3.05E-08	1.09E-07	4.63E-09	6.93E-09
	ROG	1.94E-05	1.68E-08	8.03E-09	3.63E-10

Percent of truck traffic on this road

50%

Number of Sources	Emission Rates per source		
	g/s	**lb/hr**	**lb/yr**
5	3.2E-08	2.5E-07	0.0022
5	3.0E-08	2.4E-07	0.0021
5	3.9E-06	3.1E-05	0.2702

Speciated Emissions Rates

		lb/yr	lb/hr
diesel part.	--	2.21E-03	2.52E-07
PM2.5	--	2.10E-03	2.39E-07
1,3-butadiene	0.0055	1.49E-03	1.70E-07
benzene	0.02636	7.12E-03	8.13E-07
ethylbenzene	0.01072	2.90E-03	3.30E-07
MEK	0.00019	5.13E-05	5.86E-09
naphthalene	0.00048	1.30E-04	1.48E-08
propylene	0.03127998	8.45E-03	9.64E-07
styrene	0.00126	3.41E-04	3.88E-08
toluene	0.05879998	1.59E-02	1.81E-06
m & p-xylene	0.03639998	9.84E-03	1.12E-06

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

Vehicle Exhaust Worksheet

Agua Manza Industrial

Hall Ave. from Project Driveway 2 east to Agua Manza Rd		AADT by Truck Category[1]			
		LDV[2]	2-Axle[3]	3-Axle[4]	4+-Axle[5]
		156	16	8	19
		% of Vehicles That Are Diesel-Powered[6]			
Average Speed		2.6%	73%	73%	99%
		Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)[7]			
35 mph	PM_{10}	0.0109	1.23E-02	1.10E-03	4.96E-04
	$PM_{2.5}$	0.0100	1.18E-02	1.05E-03	4.75E-04
		% of Vehicles That Are Gasoline-Powered[6]			
		97%	27%	27%	0.9%
Total distance covered by Hall Ave. from sources		Gasoline Exhaust ROG Emissions at 35 mph (g/mi)[7]			
	ROG	0.168	5.05E-03	5.05E-03	2.73E-03
		PM_{10}, $PM_{2.5}$ & ROG Exhaust Emissions (g/s)			
242 meters	PM_{10}	7.57E-08	2.52E-07	1.12E-08	1.63E-08
	$PM_{2.5}$	7.01E-08	2.41E-07	1.07E-08	1.56E-08
	ROG	4.45E-05	3.73E-08	1.87E-08	8.15E-10

Percent of truck traffic on this road
15%

Number of Sources	Emission Rates per source		
	g/s	lb/hr	lb/yr
14	2.5E-08	2.0E-07	0.0018
14	2.4E-08	1.9E-07	0.0017
14	3.2E-06	2.5E-05	0.2216

Speciated Emissions Rates

		lb/yr	lb/hr
diesel part.	--	1.77E-03	2.02E-07
PM2.5	--	1.68E-03	1.92E-07
1,3-butadiene	0.0055	1.22E-03	1.39E-07
benzene	0.02636	5.84E-03	6.66E-07
ethylbenzene	0.01072	2.38E-03	2.71E-07
MEK	0.00019	4.21E-05	4.80E-09
naphthalene	0.00048	1.06E-04	1.21E-08
propylene	0.03127998	6.93E-03	7.91E-07
styrene	0.00126	2.79E-04	3.19E-08
toluene	0.05879998	1.30E-02	1.49E-06
m & p-xylene	0.03639998	8.07E-03	9.20E-07

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

Agua Manza Industrial

Brown Ave. from Hall Ave. to Agua Mansa Rd.		AADT by Truck Category[1]			
		LDV[2]	2-Axle[3]	3-Axle[4]	4+-Axle[5]
		880	90	44	107
		% of Vehicles That Are Diesel-Powered[6]			
Average Speed		2.6%	73%	73%	99%
		Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)[7]			
35 mph	PM_{10}	0.0109	1.23E-02	1.10E-03	4.96E-04
	$PM_{2.5}$	0.0100	1.18E-02	1.05E-03	4.75E-04
		% of Vehicles That Are Gasoline-Powered[6]			
		97%	27%	27%	0.9%
Total distance covered by Brown Ave. from sources		Gasoline Exhaust ROG Emissions at 35 mph (g/mi)[7]			
	ROG	0.168	5.05E-03	5.05E-03	2.73E-03
		PM_{10}, $PM_{2.5}$ & ROG Exhaust Emissions (g/s)			
481 meters	PM_{10}	8.48E-07	2.82E-06	1.23E-07	1.82E-07
	$PM_{2.5}$	7.85E-07	2.70E-06	1.17E-07	1.74E-07
	ROG	4.99E-04	4.17E-07	2.04E-07	9.12E-09

Percent of truck traffic on this road
85%

Number of Sources	Emission Rates per source		
	g/s	lb/hr	lb/yr
39	1.0E-07	8.1E-07	0.0071
39	9.7E-08	7.7E-07	0.0067
39	1.3E-05	1.0E-04	0.8910

Speciated Emissions Rates

		lb/yr	lb/hr
diesel part.	--	7.08E-03	8.08E-07
PM2.5	--	6.73E-03	7.68E-07
1,3-butadiene	0.0055	4.90E-03	5.59E-07
benzene	0.02636	2.35E-02	2.68E-06
ethylbenzene	0.01072	9.55E-03	1.09E-06
MEK	0.00019	1.69E-04	1.93E-08
naphthalene	0.00048	4.28E-04	4.88E-08
propylene	0.03127998	2.79E-02	3.18E-06
styrene	0.00126	1.12E-03	1.28E-07
toluene	0.05879998	5.24E-02	5.98E-06
m & p-xylene	0.03639998	3.24E-02	3.70E-06

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

Agua Manza Industrial

Agua Manza Rd. from Brown Ave. south to SR-60		AADT by Truck Category[1]			
		LDV[2]	2-Axle[3]	3-Axle[4]	4+-Axle[5]
		725	74	36	88
		% of Vehicles That Are Diesel-Powered[6]			
Average Speed		2.6%	73%	73%	99%
		Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)[7]			
35 mph	PM_{10}	0.0109	1.23E-02	1.10E-03	4.96E-04
	$PM_{2.5}$	0.0100	1.18E-02	1.05E-03	4.75E-04
		% of Vehicles That Are Gasoline-Powered[6]			
		97%	27%	27%	0.9%
Total distance covered by Agua Manza Rd. sources		Gasoline Exhaust ROG Emissions at 35 mph (g/mi)[7]			
	ROG	0.168	5.05E-03	5.05E-03	2.73E-03
		PM_{10}, $PM_{2.5}$ & ROG Exhaust Emissions (g/s)			
3,221 meters	PM_{10}	4.68E-06	1.55E-05	6.72E-07	1.00E-06
	$PM_{2.5}$	4.33E-06	1.49E-05	6.43E-07	9.60E-07
	ROG	2.75E-03	2.29E-06	1.12E-06	5.02E-08

Percent of truck traffic on this road
70%

Number of Sources	Emission Rates per source		
	g/s	lb/hr	lb/yr
168	1.3E-07	1.0E-06	0.0091
168	1.2E-07	9.8E-07	0.0086
168	1.6E-05	1.3E-04	1.1414

Speciated Emissions Rates

		lb/yr	lb/hr
diesel part.	--	9.06E-03	1.03E-06
PM2.5	--	8.61E-03	9.82E-07
1,3-butadiene	0.0055	6.28E-03	7.16E-07
benzene	0.02636	3.01E-02	3.43E-06
ethylbenzene	0.01072	1.22E-02	1.40E-06
MEK	0.00019	2.17E-04	2.47E-08
naphthalene	0.00048	5.48E-04	6.25E-08
propylene	0.03127998	3.57E-02	4.07E-06
styrene	0.00126	1.44E-03	1.64E-07
toluene	0.05879998	6.71E-02	7.66E-06
m & p-xylene	0.03639998	4.15E-02	4.74E-06

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

Agua Manza Industrial

Agua Manza Rd. from Brown Ave. north to Riverside Ave.		AADT by Truck Category[1]							
		LDV[2]	2-Axle[3]	3-Axle[4]	4+-Axle[5]				
		311	32	16	38				
		% of Vehicles That Are Diesel-Powered[6]							
Average Speed		2.6%	73%	73%	99%				
		Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)[7]							
35 mph	PM_{10}	0.0109	1.23E-02	1.10E-03	4.96E-04				
	$PM_{2.5}$	0.0100	1.18E-02	1.05E-03	4.75E-04				
		% of Vehicles That Are Gasoline-Powered[6]							
		97%	27%	27%	0.9%				
Total distance covered by Agua Manza Rd. sources		Gasoline Exhaust ROG Emissions at 35 mph (g/mi)[7]				Number of Sources	Emission Rates per source		
	ROG	0.168	5.05E-03	5.05E-03	2.73E-03		g/s	lb/hr	lb/yr
		PM_{10}, $PM_{2.5}$ & ROG Exhaust Emissions (g/s)							
1,597 meters	PM_{10}	9.95E-07	3.33E-06	1.48E-07	2.15E-07	84	5.6E-08	4.4E-07	0.0039
	$PM_{2.5}$	9.21E-07	3.18E-06	1.42E-07	2.05E-07	84	5.3E-08	4.2E-07	0.0037
	ROG	5.85E-04	4.92E-07	2.46E-07	1.08E-08	84	7.0E-06	5.5E-05	0.4855

Percent of truck traffic on this road

30%

Speciated Emissions Rates

		lb/yr	lb/hr
diesel part.	--	3.88E-03	4.43E-07
PM2.5	--	3.69E-03	4.21E-07
1,3-butadiene	0.0055	2.67E-03	3.05E-07
benzene	0.02636	1.28E-02	1.46E-06
ethylbenzene	0.01072	5.20E-03	5.94E-07
MEK	0.00019	9.22E-05	1.05E-08
naphthalene	0.00048	2.33E-04	2.66E-08
propylene	0.03127998	1.52E-02	1.73E-06
styrene	0.00126	6.12E-04	6.98E-08
toluene	0.05879998	2.85E-02	3.26E-06
m & p-xylene	0.03639998	1.77E-02	2.02E-06

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

Agua Manza Industrial

Riverside Ave. from Agua Manza Rd. to I-10		AADT by Truck Category[1]			
		LDV[2]	**2-Axle[3]**	**3-Axle[4]**	**4+-Axle[5]**
		311	32	16	38
		% of Vehicles That Are Diesel-Powered[6]			
Average Speed		2.6%	73%	73%	99%
		Diesel Exhaust PM10 & PM2.5 Emissions at 35 mph (g/mi)7			
35 mph	PM_{10}	0.0109	1.23E-02	1.10E-03	4.96E-04
	$PM_{2.5}$	0.0100	1.18E-02	1.05E-03	4.75E-04
		% of Vehicles That Are Gasoline-Powered[6]			
		97%	27%	27%	0.9%
Total distance covered by Riverside Ave. sources		**Gasoline Exhaust ROG Emissions at 35 mph (g/mi)7**			
	ROG	0.168	5.05E-03	5.05E-03	2.73E-03
		PM_{10}, $PM_{2.5}$ & ROG Exhaust Emissions (g/s)			
3,356 meters	PM_{10}	2.09E-06	7.00E-06	3.11E-07	4.51E-07
	$PM_{2.5}$	1.94E-06	6.69E-06	2.98E-07	4.32E-07
	ROG	1.23E-03	1.03E-06	5.17E-07	2.26E-08

Percent of truck traffic on this road
30%

Number of Sources	Emission Rates per source		
	g/s	**lb/hr**	**lb/yr**
175	5.6E-08	4.5E-07	0.0039
175	5.3E-08	4.2E-07	0.0037
175	7.0E-06	5.6E-05	0.4898

Speciated Emissions Rates

		lb/yr	lb/hr
diesel part.	--	3.92E-03	4.47E-07
PM2.5	--	3.72E-03	4.24E-07
1,3-butadiene	0.0055	2.69E-03	3.07E-07
benzene	0.02636	1.29E-02	1.47E-06
ethylbenzene	0.01072	5.25E-03	5.99E-07
MEK	0.00019	9.31E-05	1.06E-08
naphthalene	0.00048	2.35E-04	2.68E-08
propylene	0.03127998	1.53E-02	1.75E-06
styrene	0.00126	6.17E-04	7.04E-08
toluene	0.05879998	2.88E-02	3.29E-06
m & p-xylene	0.03639998	1.78E-02	2.03E-06

[1] AADT from project traffic study

[2] LDV assumed to LDA (Passenger Cars)

[3] 2 axle trucks are assumed to be MDV (Medium-Duty Truck GVW=5,574-8,500 lbs.)

[4] 3 axle trucks are assumed to be MHDT (Medium-Heavy Duty Truck GVW=14,001-33,000 lbs.)

[5] 4+ axle trucks are assumed to be HHDT (Heavy-Heavy Duty Truck GVW=33,001-60,000 lbs.)

[6] Source: EMFAC2017 fleet populations.

[7] Source: EMFAC2017 emission factors for 2025 (model year aggregate).

Idling Truck Exhaust Worksheet

Agua Mansa Industrial

Facility	Hour per day	Deliveries per day[1]	Trips per Hour	Diesel Idle Exhaust PM_{10} (gm/vh-hr)[2]	Diesel Idle Exhaust $PM_{2.5}$ (gm/vh-hr)[2]	Idle Time (min/trip)[3]	Idle Exhaust Diesel PM_{10} (gm/hr)	Idle Exhaust Diesel $PM_{2.5}$ (gm/hr)
Loading docks	24	282	11.7	0.00010	0.00010	15	0.0003	0.0003

Number of Sources	Diesel PM10 lb/hr	Diesel PM10 lb/yr	Diesel PM2.5 lb/hr	Diesel PM2.5 lb/yr
11	5.8E-08	0.0005	5.6E-08	0.0005

[1] AADT from project traffic study. Note that each truck visit comprises two trips, one to arrive and one to leave.

[2] Source: EMFAC2017 idling emission factors for 2025 MHDT & HHDT diesel trucks.

[3] It is assumed that each truck idles for 15 minute per trip to account for multiple stops, i.e. at an entry check-in, loading/unloading and miscellaneous tasks.

APPENDIX B

AERMOD OUTPUT AND HARP RESULTS

*** 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   527 Source(s),
  for Total of   1 Urban Area(s):
  Urban Population =   101315.0 ; Urban Roughness Length = 1.000 m

**Model Uses Regulatory DEFAULT Options:
        1. Stack-tip Downwash.
        2. Model Accounts for ELEVated Terrain Effects.
        3. Use Calms Processing Routine.
        4. Use Missing Data Processing Routine.
        5. No Exponential Decay.
        6. Urban Roughness Length of 1.0 Meter Assumed.

**Other Options Specified:
        ADJ_U*   - Use ADJ_U* option for SBL in AERMET
        CCVR_Sub - Meteorological data includes CCVR substitutions
        TEMP_Sub - Meteorological data includes TEMP substitutions

**Model Assumes No FLAGPOLE Receptor Heights.

**The User Specified a Pollutant Type of: TOXICS

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

**This Run Includes: 527 Source(s);   527 Source Group(s); and   876 Receptor(s)

               with: 11 POINT(s), including
                          0 POINTCAP(s) and   0 POINTHOR(s)
                and: 516 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 PERIOD Averages by Receptor
         Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
         Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)
         Model Outputs Separate Summary File of High Ranked Values (SUMMFILE Keyword)

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

**Misc. Inputs: Base Elev. for Pot. Temp. Profile (m MSL) =   397.00 ; 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 =   26.0 MB of RAM.

**Input Runstream File: aermod.inp
**Output Print File: aermod.out

**File for Summary of Results: P:\CFN1601\BACKGROUND\HRA\AERMOD\CFN1601.SUM

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** POINT SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	STACK HEIGHT (METERS)	STACK TEMP. (DEG.K)	STACK EXIT VEL. (M/SEC)	STACK DIAMETER (METERS)	BLDG EXISTS	URBAN SOURCE	CAP/ HOR	EMIS RATE SCALAR VARY BY
IDLE01	0	0.10000E+01	465113.5	3765732.1	286.1	3.80	366.00	50.00	0.10	YES	YES	NO	
IDLE02	0	0.10000E+01	465107.2	3765717.2	285.9	3.80	366.00	50.00	0.10	YES	YES	NO	
IDLE03	0	0.10000E+01	465097.4	3765701.4	285.8	3.80	366.00	50.00	0.10	YES	YES	NO	
IDLE04	0	0.10000E+01	465089.0	3765688.9	285.7	3.80	366.00	50.00	0.10	YES	YES	NO	
IDLE05	0	0.10000E+01	465079.3	3765673.7	285.7	3.80	366.00	50.00	0.10	YES	YES	NO	
IDLE06	0	0.10000E+01	465202.4	3765563.8	284.6	3.80	366.00	50.00	0.10	YES	YES	NO	
IDLE07	0	0.10000E+01	465216.2	3765554.5	284.2	3.80	366.00	50.00	0.10	YES	YES	NO	
IDLE08	0	0.10000E+01	465229.6	3765546.7	284.0	3.80	366.00	50.00	0.10	YES	YES	NO	
IDLE09	0	0.10000E+01	465247.4	3765538.3	283.7	3.80	366.00	50.00	0.10	YES	YES	NO	
IDLE10	0	0.10000E+01	465263.9	3765530.0	283.4	3.80	366.00	50.00	0.10	YES	YES	NO	
IDLE11	0	0.10000E+01	465281.4	3765521.3	287.1	3.80	366.00	50.00	0.10	YES	YES	NO	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
HALLA1	0	0.10000E+01	465036.4	3765617.3	285.0	3.11	8.82	2.89	YES	
HALLA2	0	0.10000E+01	465051.7	3765606.1	284.9	3.11	8.82	2.89	YES	
HALLA3	0	0.10000E+01	465067.0	3765595.0	284.7	3.11	8.82	2.89	YES	
HALLA4	0	0.10000E+01	465082.4	3765583.9	284.6	3.11	8.82	2.89	YES	
HALLA5	0	0.10000E+01	465097.7	3765572.7	284.4	3.11	8.82	2.89	YES	
HALLB01	0	0.10000E+01	465111.5	3765561.4	284.3	3.11	8.66	2.89	YES	
HALLB02	0	0.10000E+01	465127.2	3765551.4	284.1	3.11	8.66	2.89	YES	
HALLB03	0	0.10000E+01	465142.8	3765541.3	284.1	3.11	8.66	2.89	YES	
HALLB04	0	0.10000E+01	465158.5	3765531.2	283.9	3.11	8.66	2.89	YES	
HALLB05	0	0.10000E+01	465174.2	3765521.2	283.8	3.11	8.66	2.89	YES	
HALLB06	0	0.10000E+01	465189.9	3765511.1	283.6	3.11	8.66	2.89	YES	
HALLB07	0	0.10000E+01	465205.5	3765501.0	283.5	3.11	8.66	2.89	YES	
HALLB08	0	0.10000E+01	465221.2	3765491.0	283.3	3.11	8.66	2.89	YES	
HALLB09	0	0.10000E+01	465236.9	3765480.9	283.1	3.11	8.66	2.89	YES	
HALLB10	0	0.10000E+01	465252.5	3765470.8	282.9	3.11	8.66	2.89	YES	
HALLB11	0	0.10000E+01	465268.2	3765460.8	282.8	3.11	8.66	2.89	YES	
HALLB12	0	0.10000E+01	465283.9	3765450.7	282.9	3.11	8.66	2.89	YES	
HALLB13	0	0.10000E+01	465299.6	3765440.6	283.4	3.11	8.66	2.89	YES	
HALLB14	0	0.10000E+01	465315.2	3765430.5	284.1	3.11	8.66	2.89	YES	
AMS_001	0	0.10000E+01	465156.5	3765169.3	277.5	3.11	8.97	2.89	YES	
AMS_002	0	0.10000E+01	465145.9	3765153.2	277.4	3.11	8.97	2.89	YES	
AMS_003	0	0.10000E+01	465135.2	3765137.1	277.1	3.11	8.97	2.89	YES	
AMS_004	0	0.10000E+01	465124.6	3765121.0	276.9	3.11	8.97	2.89	YES	
AMS_005	0	0.10000E+01	465114.0	3765104.9	276.7	3.11	8.97	2.89	YES	
AMS_006	0	0.10000E+01	465103.4	3765088.8	276.4	3.11	8.97	2.89	YES	
AMS_007	0	0.10000E+01	465092.7	3765072.7	276.3	3.11	8.97	2.89	YES	
AMS_008	0	0.10000E+01	465082.1	3765056.6	276.1	3.11	8.97	2.89	YES	
AMS_009	0	0.10000E+01	465071.5	3765040.5	275.9	3.11	8.97	2.89	YES	
AMS_010	0	0.10000E+01	465059.4	3765025.8	275.6	3.11	8.97	2.89	YES	
AMS_011	0	0.10000E+01	465043.9	3765014.3	275.4	3.11	8.97	2.89	YES	
AMS_012	0	0.10000E+01	465028.4	3765002.9	275.3	3.11	8.97	2.89	YES	
AMS_013	0	0.10000E+01	465012.8	3764991.5	275.0	3.11	8.97	2.89	YES	
AMS_014	0	0.10000E+01	464997.3	3764980.0	274.7	3.11	8.97	2.89	YES	
AMS_015	0	0.10000E+01	464981.8	3764968.6	274.4	3.11	8.97	2.89	YES	
AMS_016	0	0.10000E+01	464966.3	3764957.1	274.3	3.11	8.97	2.89	YES	
AMS_017	0	0.10000E+01	464950.7	3764945.7	274.0	3.11	8.97	2.89	YES	
AMS_018	0	0.10000E+01	464935.2	3764934.3	272.8	3.11	8.97	2.89	YES	
AMS_019	0	0.10000E+01	464919.7	3764922.8	272.4	3.11	8.97	2.89	YES	
AMS_020	0	0.10000E+01	464904.1	3764911.4	272.4	3.11	8.97	2.89	YES	
AMS_021	0	0.10000E+01	464888.6	3764899.9	272.2	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
AMS_022	0	0.10000E+01	464873.1	3764888.5	272.5	3.11	8.97	2.89	YES	
AMS_023	0	0.10000E+01	464857.6	3764877.1	272.7	3.11	8.97	2.89	YES	
AMS_024	0	0.10000E+01	464842.0	3764865.6	272.7	3.11	8.97	2.89	YES	
AMS_025	0	0.10000E+01	464826.5	3764854.2	272.8	3.11	8.97	2.89	YES	
AMS_026	0	0.10000E+01	464811.0	3764842.7	272.8	3.11	8.97	2.89	YES	
AMS_027	0	0.10000E+01	464795.5	3764831.3	272.6	3.11	8.97	2.89	YES	
AMS_028	0	0.10000E+01	464779.9	3764819.8	272.7	3.11	8.97	2.89	YES	
AMS_029	0	0.10000E+01	464764.4	3764808.4	272.8	3.11	8.97	2.89	YES	
AMS_030	0	0.10000E+01	464748.9	3764797.0	272.7	3.11	8.97	2.89	YES	
AMS_031	0	0.10000E+01	464733.3	3764785.5	272.6	3.11	8.97	2.89	YES	
AMS_032	0	0.10000E+01	464717.8	3764774.1	272.6	3.11	8.97	2.89	YES	
AMS_033	0	0.10000E+01	464702.3	3764762.6	272.4	3.11	8.97	2.89	YES	
AMS_034	0	0.10000E+01	464686.8	3764751.2	272.5	3.11	8.97	2.89	YES	
AMS_035	0	0.10000E+01	464671.2	3764739.8	272.5	3.11	8.97	2.89	YES	
AMS_036	0	0.10000E+01	464655.7	3764728.3	272.4	3.11	8.97	2.89	YES	
AMS_037	0	0.10000E+01	464640.2	3764716.9	272.4	3.11	8.97	2.89	YES	
AMS_038	0	0.10000E+01	464624.7	3764705.4	272.4	3.11	8.97	2.89	YES	
AMS_039	0	0.10000E+01	464609.1	3764694.0	272.3	3.11	8.97	2.89	YES	
AMS_040	0	0.10000E+01	464593.6	3764682.5	272.3	3.11	8.97	2.89	YES	
AMS_041	0	0.10000E+01	464578.1	3764671.1	272.2	3.11	8.97	2.89	YES	
AMS_042	0	0.10000E+01	464562.5	3764659.7	272.2	3.11	8.97	2.89	YES	
AMS_043	0	0.10000E+01	464547.0	3764648.2	272.1	3.11	8.97	2.89	YES	
AMS_044	0	0.10000E+01	464531.5	3764636.8	272.1	3.11	8.97	2.89	YES	
AMS_045	0	0.10000E+01	464516.0	3764625.3	272.0	3.11	8.97	2.89	YES	
AMS_046	0	0.10000E+01	464500.4	3764613.9	272.0	3.11	8.97	2.89	YES	
AMS_047	0	0.10000E+01	464484.9	3764602.5	272.0	3.11	8.97	2.89	YES	
AMS_048	0	0.10000E+01	464469.4	3764591.0	272.0	3.11	8.97	2.89	YES	
AMS_049	0	0.10000E+01	464453.8	3764579.6	272.0	3.11	8.97	2.89	YES	
AMS_050	0	0.10000E+01	464438.3	3764568.1	271.7	3.11	8.97	2.89	YES	
AMS_051	0	0.10000E+01	464425.4	3764554.0	271.0	3.11	8.97	2.89	YES	
AMS_052	0	0.10000E+01	464413.6	3764538.8	270.5	3.11	8.97	2.89	YES	
AMS_053	0	0.10000E+01	464401.8	3764523.5	269.8	3.11	8.97	2.89	YES	
AMS_054	0	0.10000E+01	464390.0	3764508.3	268.8	3.11	8.97	2.89	YES	
AMS_055	0	0.10000E+01	464378.2	3764493.0	268.3	3.11	8.97	2.89	YES	
AMS_056	0	0.10000E+01	464366.3	3764477.8	267.8	3.11	8.97	2.89	YES	
AMS_057	0	0.10000E+01	464354.5	3764462.5	267.4	3.11	8.97	2.89	YES	
AMS_058	0	0.10000E+01	464342.7	3764447.3	266.8	3.11	8.97	2.89	YES	
AMS_059	0	0.10000E+01	464330.9	3764432.0	266.0	3.11	8.97	2.89	YES	
AMS_060	0	0.10000E+01	464319.1	3764416.8	265.0	3.11	8.97	2.89	YES	
AMS_061	0	0.10000E+01	464307.3	3764401.5	264.2	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
AMS_062	0	0.10000E+01	464295.5	3764386.3	263.6	3.11	8.97	2.89	YES	
AMS_063	0	0.10000E+01	464283.7	3764371.0	263.3	3.11	8.97	2.89	YES	
AMS_064	0	0.10000E+01	464271.9	3764355.8	263.0	3.11	8.97	2.89	YES	
AMS_065	0	0.10000E+01	464260.0	3764340.6	262.9	3.11	8.97	2.89	YES	
AMS_066	0	0.10000E+01	464248.2	3764325.3	262.8	3.11	8.97	2.89	YES	
AMS_067	0	0.10000E+01	464236.4	3764310.1	262.5	3.11	8.97	2.89	YES	
AMS_068	0	0.10000E+01	464224.6	3764294.8	262.4	3.11	8.97	2.89	YES	
AMS_069	0	0.10000E+01	464212.8	3764279.6	262.3	3.11	8.97	2.89	YES	
AMS_070	0	0.10000E+01	464201.0	3764264.3	262.9	3.11	8.97	2.89	YES	
AMS_071	0	0.10000E+01	464189.2	3764249.1	261.6	3.11	8.97	2.89	YES	
AMS_072	0	0.10000E+01	464177.4	3764233.8	260.0	3.11	8.97	2.89	YES	
AMS_073	0	0.10000E+01	464165.6	3764218.6	258.7	3.11	8.97	2.89	YES	
AMS_074	0	0.10000E+01	464153.8	3764203.3	258.1	3.11	8.97	2.89	YES	
AMS_075	0	0.10000E+01	464141.9	3764188.1	257.8	3.11	8.97	2.89	YES	
AMS_076	0	0.10000E+01	464130.1	3764172.8	257.7	3.11	8.97	2.89	YES	
AMS_077	0	0.10000E+01	464118.3	3764157.6	257.5	3.11	8.97	2.89	YES	
AMS_078	0	0.10000E+01	464106.5	3764142.3	257.5	3.11	8.97	2.89	YES	
AMS_079	0	0.10000E+01	464094.7	3764127.1	257.4	3.11	8.97	2.89	YES	
AMS_080	0	0.10000E+01	464082.9	3764111.8	257.4	3.11	8.97	2.89	YES	
AMS_081	0	0.10000E+01	464071.1	3764096.6	257.4	3.11	8.97	2.89	YES	
AMS_082	0	0.10000E+01	464059.3	3764081.3	257.3	3.11	8.97	2.89	YES	
AMS_083	0	0.10000E+01	464047.5	3764066.1	257.3	3.11	8.97	2.89	YES	
AMS_084	0	0.10000E+01	464035.6	3764050.8	257.3	3.11	8.97	2.89	YES	
AMS_085	0	0.10000E+01	464023.8	3764035.6	257.4	3.11	8.97	2.89	YES	
AMS_086	0	0.10000E+01	464012.0	3764020.3	257.7	3.11	8.97	2.89	YES	
AMS_087	0	0.10000E+01	464000.2	3764005.1	257.9	3.11	8.97	2.89	YES	
AMS_088	0	0.10000E+01	463988.4	3763989.8	257.9	3.11	8.97	2.89	YES	
AMS_089	0	0.10000E+01	463976.6	3763974.6	257.9	3.11	8.97	2.89	YES	
AMS_090	0	0.10000E+01	463964.8	3763959.3	257.8	3.11	8.97	2.89	YES	
AMS_091	0	0.10000E+01	463953.0	3763944.1	257.9	3.11	8.97	2.89	YES	
AMS_092	0	0.10000E+01	463941.1	3763928.8	257.9	3.11	8.97	2.89	YES	
AMS_093	0	0.10000E+01	463929.3	3763913.6	258.2	3.11	8.97	2.89	YES	
AMS_094	0	0.10000E+01	463917.5	3763898.4	258.4	3.11	8.97	2.89	YES	
AMS_095	0	0.10000E+01	463905.7	3763883.1	258.8	3.11	8.97	2.89	YES	
AMS_096	0	0.10000E+01	463893.9	3763867.9	259.0	3.11	8.97	2.89	YES	
AMS_097	0	0.10000E+01	463882.1	3763852.6	259.2	3.11	8.97	2.89	YES	
AMS_098	0	0.10000E+01	463870.3	3763837.4	259.5	3.11	8.97	2.89	YES	
AMS_099	0	0.10000E+01	463858.5	3763822.1	259.7	3.11	8.97	2.89	YES	
AMS_100	0	0.10000E+01	463846.7	3763806.9	259.9	3.11	8.97	2.89	YES	
AMS_101	0	0.10000E+01	463834.8	3763791.6	260.0	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
AMS_102	0	0.10000E+01	463823.0	3763776.4	260.2	3.11	8.97	2.89	YES	
AMS_103	0	0.10000E+01	463811.2	3763761.1	260.4	3.11	8.97	2.89	YES	
AMS_104	0	0.10000E+01	463799.4	3763745.9	260.5	3.11	8.97	2.89	YES	
AMS_105	0	0.10000E+01	463787.6	3763730.6	260.7	3.11	8.97	2.89	YES	
AMS_106	0	0.10000E+01	463775.8	3763715.4	260.9	3.11	8.97	2.89	YES	
AMS_107	0	0.10000E+01	463764.0	3763700.1	261.1	3.11	8.97	2.89	YES	
AMS_108	0	0.10000E+01	463752.2	3763684.9	261.2	3.11	8.97	2.89	YES	
AMS_109	0	0.10000E+01	463740.4	3763669.6	261.5	3.11	8.97	2.89	YES	
AMS_110	0	0.10000E+01	463728.5	3763654.4	261.8	3.11	8.97	2.89	YES	
AMS_111	0	0.10000E+01	463716.7	3763639.1	262.2	3.11	8.97	2.89	YES	
AMS_112	0	0.10000E+01	463704.9	3763623.9	262.6	3.11	8.97	2.89	YES	
AMS_113	0	0.10000E+01	463693.1	3763608.6	263.1	3.11	8.97	2.89	YES	
AMS_114	0	0.10000E+01	463681.3	3763593.4	263.9	3.11	8.97	2.89	YES	
AMS_115	0	0.10000E+01	463669.5	3763578.1	264.3	3.11	8.97	2.89	YES	
AMS_116	0	0.10000E+01	463657.7	3763562.9	264.7	3.11	8.97	2.89	YES	
AMS_117	0	0.10000E+01	463645.9	3763547.6	264.8	3.11	8.97	2.89	YES	
AMS_118	0	0.10000E+01	463634.1	3763532.4	264.7	3.11	8.97	2.89	YES	
AMS_119	0	0.10000E+01	463622.2	3763517.1	264.7	3.11	8.97	2.89	YES	
AMS_120	0	0.10000E+01	463610.4	3763501.9	264.5	3.11	8.97	2.89	YES	
AMS_121	0	0.10000E+01	463598.6	3763486.6	264.4	3.11	8.97	2.89	YES	
AMS_122	0	0.10000E+01	463586.8	3763471.4	264.2	3.11	8.97	2.89	YES	
AMS_123	0	0.10000E+01	463575.0	3763456.2	263.9	3.11	8.97	2.89	YES	
AMS_124	0	0.10000E+01	463563.2	3763440.9	263.8	3.11	8.97	2.89	YES	
AMS_125	0	0.10000E+01	463551.4	3763425.7	263.6	3.11	8.97	2.89	YES	
AMS_126	0	0.10000E+01	463539.6	3763410.4	263.3	3.11	8.97	2.89	YES	
AMS_127	0	0.10000E+01	463527.8	3763395.2	263.2	3.11	8.97	2.89	YES	
AMS_128	0	0.10000E+01	463515.9	3763379.9	262.9	3.11	8.97	2.89	YES	
AMS_129	0	0.10000E+01	463504.1	3763364.7	262.6	3.11	8.97	2.89	YES	
AMS_130	0	0.10000E+01	463492.3	3763349.4	262.4	3.11	8.97	2.89	YES	
AMS_131	0	0.10000E+01	463480.5	3763334.2	262.1	3.11	8.97	2.89	YES	
AMS_132	0	0.10000E+01	463468.7	3763318.9	261.8	3.11	8.97	2.89	YES	
AMS_133	0	0.10000E+01	463456.9	3763303.7	261.6	3.11	8.97	2.89	YES	
AMS_134	0	0.10000E+01	463445.1	3763288.4	261.4	3.11	8.97	2.89	YES	
AMS_135	0	0.10000E+01	463433.3	3763273.2	261.2	3.11	8.97	2.89	YES	
AMS_136	0	0.10000E+01	463421.5	3763257.9	261.1	3.11	8.97	2.89	YES	
AMS_137	0	0.10000E+01	463409.6	3763242.7	260.9	3.11	8.97	2.89	YES	
AMS_138	0	0.10000E+01	463397.8	3763227.4	260.8	3.11	8.97	2.89	YES	
AMS_139	0	0.10000E+01	463386.0	3763212.2	260.6	3.11	8.97	2.89	YES	
AMS_140	0	0.10000E+01	463374.2	3763196.9	260.5	3.11	8.97	2.89	YES	
AMS_141	0	0.10000E+01	463362.4	3763181.7	260.4	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
AMS_142	0	0.10000E+01	463350.6	3763166.4	260.2	3.11	8.97	2.89	YES	
AMS_143	0	0.10000E+01	463338.8	3763151.2	260.0	3.11	8.97	2.89	YES	
AMS_144	0	0.10000E+01	463327.0	3763135.9	259.9	3.11	8.97	2.89	YES	
AMS_145	0	0.10000E+01	463315.2	3763120.7	259.7	3.11	8.97	2.89	YES	
AMS_146	0	0.10000E+01	463303.3	3763105.4	259.5	3.11	8.97	2.89	YES	
AMS_147	0	0.10000E+01	463291.5	3763090.2	259.4	3.11	8.97	2.89	YES	
AMS_148	0	0.10000E+01	463279.7	3763074.9	259.2	3.11	8.97	2.89	YES	
AMS_149	0	0.10000E+01	463267.9	3763059.7	259.0	3.11	8.97	2.89	YES	
AMS_150	0	0.10000E+01	463256.1	3763044.5	258.8	3.11	8.97	2.89	YES	
AMS_151	0	0.10000E+01	463244.3	3763029.2	258.7	3.11	8.97	2.89	YES	
AMS_152	0	0.10000E+01	463232.5	3763014.0	258.6	3.11	8.97	2.89	YES	
AMS_153	0	0.10000E+01	463220.7	3762998.7	258.4	3.11	8.97	2.89	YES	
AMS_154	0	0.10000E+01	463208.8	3762983.5	258.2	3.11	8.97	2.89	YES	
AMS_155	0	0.10000E+01	463197.0	3762968.2	257.9	3.11	8.97	2.89	YES	
AMS_156	0	0.10000E+01	463185.2	3762953.0	257.6	3.11	8.97	2.89	YES	
AMS_157	0	0.10000E+01	463173.4	3762937.7	257.4	3.11	8.97	2.89	YES	
AMS_158	0	0.10000E+01	463161.6	3762922.5	257.2	3.11	8.97	2.89	YES	
AMS_159	0	0.10000E+01	463149.8	3762907.2	257.0	3.11	8.97	2.89	YES	
AMS_160	0	0.10000E+01	463138.0	3762892.0	256.8	3.11	8.97	2.89	YES	
AMS_161	0	0.10000E+01	463126.2	3762876.7	256.1	3.11	8.97	2.89	YES	
AMS_162	0	0.10000E+01	463114.4	3762861.5	255.4	3.11	8.97	2.89	YES	
AMS_163	0	0.10000E+01	463102.5	3762846.2	254.4	3.11	8.97	2.89	YES	
AMS_164	0	0.10000E+01	463090.7	3762831.0	253.5	3.11	8.97	2.89	YES	
AMS_165	0	0.10000E+01	463078.9	3762815.7	252.8	3.11	8.97	2.89	YES	
AMS_166	0	0.10000E+01	463067.1	3762800.5	252.3	3.11	8.97	2.89	YES	
AMS_167	0	0.10000E+01	463055.3	3762785.2	251.9	3.11	8.97	2.89	YES	
AMS_168	0	0.10000E+01	463043.5	3762770.0	251.4	3.11	8.97	2.89	YES	
AMN_001	0	0.10000E+01	465167.1	3765185.4	277.8	3.11	8.97	2.89	YES	
AMN_002	0	0.10000E+01	465177.8	3765201.5	278.1	3.11	8.97	2.89	YES	
AMN_003	0	0.10000E+01	465188.4	3765217.6	278.5	3.11	8.97	2.89	YES	
AMN_004	0	0.10000E+01	465199.0	3765233.7	279.1	3.11	8.97	2.89	YES	
AMN_005	0	0.10000E+01	465209.7	3765249.8	279.8	3.11	8.97	2.89	YES	
AMN_006	0	0.10000E+01	465220.3	3765265.9	280.6	3.11	8.97	2.89	YES	
AMN_007	0	0.10000E+01	465230.9	3765281.9	281.3	3.11	8.97	2.89	YES	
AMN_008	0	0.10000E+01	465241.6	3765298.0	281.9	3.11	8.97	2.89	YES	
AMN_009	0	0.10000E+01	465252.2	3765314.1	282.4	3.11	8.97	2.89	YES	
AMN_010	0	0.10000E+01	465262.8	3765330.2	282.8	3.11	8.97	2.89	YES	
AMN_011	0	0.10000E+01	465273.5	3765346.3	283.2	3.11	8.97	2.89	YES	
AMN_012	0	0.10000E+01	465284.1	3765362.4	283.4	3.11	8.97	2.89	YES	
AMN_013	0	0.10000E+01	465294.7	3765378.5	283.6	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
AMN_014	0	0.10000E+01	465305.3	3765394.6	283.9	3.11	8.97	2.89	YES	
AMN_015	0	0.10000E+01	465316.0	3765410.7	284.1	3.11	8.97	2.89	YES	
AMN_016	0	0.10000E+01	465326.6	3765426.8	284.4	3.11	8.97	2.89	YES	
AMN_017	0	0.10000E+01	465335.2	3765442.5	284.6	3.11	8.97	2.89	YES	
AMN_018	0	0.10000E+01	465342.9	3765457.0	284.8	3.11	8.97	2.89	YES	
AMN_019	0	0.10000E+01	465353.3	3765473.3	285.2	3.11	8.97	2.89	YES	
AMN_020	0	0.10000E+01	465363.6	3765489.5	285.7	3.11	8.97	2.89	YES	
AMN_021	0	0.10000E+01	465374.0	3765505.8	286.2	3.11	8.97	2.89	YES	
AMN_022	0	0.10000E+01	465384.4	3765522.1	286.6	3.11	8.97	2.89	YES	
AMN_023	0	0.10000E+01	465394.7	3765538.4	286.9	3.11	8.97	2.89	YES	
AMN_024	0	0.10000E+01	465405.1	3765554.6	287.2	3.11	8.97	2.89	YES	
AMN_025	0	0.10000E+01	465415.5	3765570.9	287.3	3.11	8.97	2.89	YES	
AMN_026	0	0.10000E+01	465425.8	3765587.2	287.4	3.11	8.97	2.89	YES	
AMN_027	0	0.10000E+01	465436.2	3765603.4	287.3	3.11	8.97	2.89	YES	
AMN_028	0	0.10000E+01	465446.5	3765619.7	287.2	3.11	8.97	2.89	YES	
AMN_029	0	0.10000E+01	465456.9	3765636.0	287.0	3.11	8.97	2.89	YES	
AMN_030	0	0.10000E+01	465467.3	3765652.3	286.8	3.11	8.97	2.89	YES	
AMN_031	0	0.10000E+01	465477.6	3765668.5	286.4	3.11	8.97	2.89	YES	
AMN_032	0	0.10000E+01	465488.0	3765684.8	286.3	3.11	8.97	2.89	YES	
AMN_033	0	0.10000E+01	465498.3	3765701.1	286.1	3.11	8.97	2.89	YES	
AMN_034	0	0.10000E+01	465508.7	3765717.4	286.0	3.11	8.97	2.89	YES	
AMN_035	0	0.10000E+01	465519.1	3765733.6	285.9	3.11	8.97	2.89	YES	
AMN_036	0	0.10000E+01	465529.4	3765749.9	285.9	3.11	8.97	2.89	YES	
AMN_037	0	0.10000E+01	465539.8	3765766.2	285.8	3.11	8.97	2.89	YES	
AMN_038	0	0.10000E+01	465550.2	3765782.4	285.7	3.11	8.97	2.89	YES	
AMN_039	0	0.10000E+01	465560.5	3765798.7	285.7	3.11	8.97	2.89	YES	
AMN_040	0	0.10000E+01	465570.9	3765815.0	285.6	3.11	8.97	2.89	YES	
AMN_041	0	0.10000E+01	465581.2	3765831.3	285.5	3.11	8.97	2.89	YES	
AMN_042	0	0.10000E+01	465591.6	3765847.5	285.4	3.11	8.97	2.89	YES	
AMN_043	0	0.10000E+01	465602.0	3765863.8	285.2	3.11	8.97	2.89	YES	
AMN_044	0	0.10000E+01	465612.3	3765880.1	285.0	3.11	8.97	2.89	YES	
AMN_045	0	0.10000E+01	465622.7	3765896.3	284.8	3.11	8.97	2.89	YES	
AMN_046	0	0.10000E+01	465633.1	3765912.6	284.5	3.11	8.97	2.89	YES	
AMN_047	0	0.10000E+01	465643.4	3765928.9	284.2	3.11	8.97	2.89	YES	
AMN_048	0	0.10000E+01	465653.8	3765945.2	284.0	3.11	8.97	2.89	YES	
AMN_049	0	0.10000E+01	465664.1	3765961.4	283.6	3.11	8.97	2.89	YES	
AMN_050	0	0.10000E+01	465674.5	3765977.7	283.2	3.11	8.97	2.89	YES	
AMN_051	0	0.10000E+01	465684.9	3765994.0	282.8	3.11	8.97	2.89	YES	
AMN_052	0	0.10000E+01	465695.2	3766010.2	282.0	3.11	8.97	2.89	YES	
AMN_053	0	0.10000E+01	465705.6	3766026.5	281.2	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
AMN_054	0	0.10000E+01	465716.0	3766042.8	280.3	3.11	8.97	2.89	YES	
AMN_055	0	0.10000E+01	465726.3	3766059.1	279.5	3.11	8.97	2.89	YES	
AMN_056	0	0.10000E+01	465736.7	3766075.3	278.6	3.11	8.97	2.89	YES	
AMN_057	0	0.10000E+01	465747.0	3766091.6	277.5	3.11	8.97	2.89	YES	
AMN_058	0	0.10000E+01	465757.4	3766107.9	276.2	3.11	8.97	2.89	YES	
AMN_059	0	0.10000E+01	465767.8	3766124.1	275.3	3.11	8.97	2.89	YES	
AMN_060	0	0.10000E+01	465778.1	3766140.4	274.4	3.11	8.97	2.89	YES	
AMN_061	0	0.10000E+01	465788.5	3766156.7	274.0	3.11	8.97	2.89	YES	
AMN_062	0	0.10000E+01	465798.8	3766173.0	273.2	3.11	8.97	2.89	YES	
AMN_063	0	0.10000E+01	465809.2	3766189.2	272.6	3.11	8.97	2.89	YES	
AMN_064	0	0.10000E+01	465822.5	3766203.0	272.1	3.11	8.97	2.89	YES	
AMN_065	0	0.10000E+01	465836.9	3766215.8	271.8	3.11	8.97	2.89	YES	
AMN_066	0	0.10000E+01	465851.3	3766228.7	271.7	3.11	8.97	2.89	YES	
AMN_067	0	0.10000E+01	465865.7	3766241.5	271.3	3.11	8.97	2.89	YES	
AMN_068	0	0.10000E+01	465880.1	3766254.3	271.1	3.11	8.97	2.89	YES	
AMN_069	0	0.10000E+01	465894.5	3766267.1	271.4	3.11	8.97	2.89	YES	
AMN_070	0	0.10000E+01	465909.0	3766280.0	271.7	3.11	8.97	2.89	YES	
AMN_071	0	0.10000E+01	465923.4	3766292.8	271.6	3.11	8.97	2.89	YES	
AMN_072	0	0.10000E+01	465937.8	3766305.6	271.5	3.11	8.97	2.89	YES	
AMN_073	0	0.10000E+01	465952.2	3766318.5	271.6	3.11	8.97	2.89	YES	
AMN_074	0	0.10000E+01	465966.6	3766331.3	271.6	3.11	8.97	2.89	YES	
AMN_075	0	0.10000E+01	465981.0	3766344.1	271.4	3.11	8.97	2.89	YES	
AMN_076	0	0.10000E+01	465995.4	3766356.9	271.4	3.11	8.97	2.89	YES	
AMN_077	0	0.10000E+01	466009.8	3766369.8	271.5	3.11	8.97	2.89	YES	
AMN_078	0	0.10000E+01	466024.2	3766382.6	271.7	3.11	8.97	2.89	YES	
AMN_079	0	0.10000E+01	466038.6	3766395.4	271.8	3.11	8.97	2.89	YES	
AMN_080	0	0.10000E+01	466053.0	3766408.2	271.9	3.11	8.97	2.89	YES	
AMN_081	0	0.10000E+01	466067.5	3766421.1	271.9	3.11	8.97	2.89	YES	
AMN_082	0	0.10000E+01	466081.9	3766433.9	272.1	3.11	8.97	2.89	YES	
AMN_083	0	0.10000E+01	466096.3	3766446.7	272.1	3.11	8.97	2.89	YES	
AMN_084	0	0.10000E+01	466110.7	3766459.6	272.4	3.11	8.97	2.89	YES	
RVSD001	0	0.10000E+01	466109.5	3766496.0	273.0	3.11	8.97	2.89	YES	
RVSD002	0	0.10000E+01	466105.0	3766514.8	273.3	3.11	8.97	2.89	YES	
RVSD003	0	0.10000E+01	466100.5	3766533.5	273.6	3.11	8.97	2.89	YES	
RVSD004	0	0.10000E+01	466096.0	3766552.3	273.8	3.11	8.97	2.89	YES	
RVSD005	0	0.10000E+01	466091.5	3766571.0	274.1	3.11	8.97	2.89	YES	
RVSD006	0	0.10000E+01	466087.0	3766589.8	274.3	3.11	8.97	2.89	YES	
RVSD007	0	0.10000E+01	466082.5	3766608.5	274.8	3.11	8.97	2.89	YES	
RVSD008	0	0.10000E+01	466077.9	3766627.3	274.9	3.11	8.97	2.89	YES	
RVSD009	0	0.10000E+01	466073.4	3766646.1	275.2	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
RVSD010	0	0.10000E+01	466068.9	3766664.8	275.4	3.11	8.97	2.89	YES	
RVSD011	0	0.10000E+01	466064.4	3766683.6	275.7	3.11	8.97	2.89	YES	
RVSD012	0	0.10000E+01	466059.9	3766702.3	276.1	3.11	8.97	2.89	YES	
RVSD013	0	0.10000E+01	466055.4	3766721.1	276.3	3.11	8.97	2.89	YES	
RVSD014	0	0.10000E+01	466050.9	3766739.8	276.9	3.11	8.97	2.89	YES	
RVSD015	0	0.10000E+01	466046.4	3766758.6	277.2	3.11	8.97	2.89	YES	
RVSD016	0	0.10000E+01	466041.9	3766777.3	278.0	3.11	8.97	2.89	YES	
RVSD017	0	0.10000E+01	466037.4	3766796.1	278.2	3.11	8.97	2.89	YES	
RVSD018	0	0.10000E+01	466032.9	3766814.8	278.9	3.11	8.97	2.89	YES	
RVSD019	0	0.10000E+01	466028.4	3766833.6	279.5	3.11	8.97	2.89	YES	
RVSD020	0	0.10000E+01	466023.9	3766852.4	280.4	3.11	8.97	2.89	YES	
RVSD021	0	0.10000E+01	466019.4	3766871.1	281.1	3.11	8.97	2.89	YES	
RVSD022	0	0.10000E+01	466014.9	3766889.9	282.0	3.11	8.97	2.89	YES	
RVSD023	0	0.10000E+01	466010.4	3766908.6	282.7	3.11	8.97	2.89	YES	
RVSD024	0	0.10000E+01	466005.9	3766927.4	283.6	3.11	8.97	2.89	YES	
RVSD025	0	0.10000E+01	466001.4	3766946.1	284.4	3.11	8.97	2.89	YES	
RVSD026	0	0.10000E+01	465996.9	3766964.9	285.2	3.11	8.97	2.89	YES	
RVSD027	0	0.10000E+01	465992.3	3766983.6	285.9	3.11	8.97	2.89	YES	
RVSD028	0	0.10000E+01	465987.8	3767002.4	286.7	3.11	8.97	2.89	YES	
RVSD029	0	0.10000E+01	465983.3	3767021.1	287.4	3.11	8.97	2.89	YES	
RVSD030	0	0.10000E+01	465978.8	3767039.9	288.0	3.11	8.97	2.89	YES	
RVSD031	0	0.10000E+01	465974.3	3767058.6	288.6	3.11	8.97	2.89	YES	
RVSD032	0	0.10000E+01	465969.8	3767077.4	289.2	3.11	8.97	2.89	YES	
RVSD033	0	0.10000E+01	465965.3	3767096.2	289.8	3.11	8.97	2.89	YES	
RVSD034	0	0.10000E+01	465960.8	3767114.9	290.3	3.11	8.97	2.89	YES	
RVSD035	0	0.10000E+01	465956.3	3767133.7	290.8	3.11	8.97	2.89	YES	
RVSD036	0	0.10000E+01	465951.8	3767152.4	291.3	3.11	8.97	2.89	YES	
RVSD037	0	0.10000E+01	465947.3	3767171.2	291.9	3.11	8.97	2.89	YES	
RVSD038	0	0.10000E+01	465942.8	3767189.9	292.2	3.11	8.97	2.89	YES	
RVSD039	0	0.10000E+01	465938.3	3767208.7	292.6	3.11	8.97	2.89	YES	
RVSD040	0	0.10000E+01	465933.8	3767227.4	292.9	3.11	8.97	2.89	YES	
RVSD041	0	0.10000E+01	465929.3	3767246.2	293.1	3.11	8.97	2.89	YES	
RVSD042	0	0.10000E+01	465924.8	3767264.9	293.4	3.11	8.97	2.89	YES	
RVSD043	0	0.10000E+01	465920.3	3767283.7	293.5	3.11	8.97	2.89	YES	
RVSD044	0	0.10000E+01	465915.8	3767302.5	293.7	3.11	8.97	2.89	YES	
RVSD045	0	0.10000E+01	465911.3	3767321.2	293.8	3.11	8.97	2.89	YES	
RVSD046	0	0.10000E+01	465906.8	3767340.0	294.0	3.11	8.97	2.89	YES	
RVSD047	0	0.10000E+01	465902.3	3767358.7	294.1	3.11	8.97	2.89	YES	
RVSD048	0	0.10000E+01	465897.8	3767377.5	294.2	3.11	8.97	2.89	YES	
RVSD049	0	0.10000E+01	465893.2	3767396.2	294.4	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
RVSD050	0	0.10000E+01	465888.8	3767415.0	294.5	3.11	8.97	2.89	YES	
RVSD051	0	0.10000E+01	465884.2	3767433.7	294.6	3.11	8.97	2.89	YES	
RVSD052	0	0.10000E+01	465879.7	3767452.5	294.8	3.11	8.97	2.89	YES	
RVSD053	0	0.10000E+01	465875.2	3767471.2	294.9	3.11	8.97	2.89	YES	
RVSD054	0	0.10000E+01	465870.7	3767490.0	295.1	3.11	8.97	2.89	YES	
RVSD055	0	0.10000E+01	465866.2	3767508.8	295.3	3.11	8.97	2.89	YES	
RVSD056	0	0.10000E+01	465861.7	3767527.5	295.5	3.11	8.97	2.89	YES	
RVSD057	0	0.10000E+01	465857.2	3767546.3	295.7	3.11	8.97	2.89	YES	
RVSD058	0	0.10000E+01	465852.7	3767565.0	295.9	3.11	8.97	2.89	YES	
RVSD059	0	0.10000E+01	465848.2	3767583.8	296.1	3.11	8.97	2.89	YES	
RVSD060	0	0.10000E+01	465843.7	3767602.5	296.2	3.11	8.97	2.89	YES	
RVSD061	0	0.10000E+01	465839.7	3767621.3	296.5	3.11	8.97	2.89	YES	
RVSD062	0	0.10000E+01	465839.6	3767640.6	296.6	3.11	8.97	2.89	YES	
RVSD063	0	0.10000E+01	465839.5	3767659.9	296.8	3.11	8.97	2.89	YES	
RVSD064	0	0.10000E+01	465839.4	3767679.2	296.9	3.11	8.97	2.89	YES	
RVSD065	0	0.10000E+01	465839.3	3767698.5	297.1	3.11	8.97	2.89	YES	
RVSD066	0	0.10000E+01	465839.2	3767717.8	297.2	3.11	8.97	2.89	YES	
RVSD067	0	0.10000E+01	465839.1	3767737.1	297.4	3.11	8.97	2.89	YES	
RVSD068	0	0.10000E+01	465839.0	3767756.3	297.5	3.11	8.97	2.89	YES	
RVSD069	0	0.10000E+01	465838.9	3767775.6	297.7	3.11	8.97	2.89	YES	
RVSD070	0	0.10000E+01	465838.8	3767794.9	297.9	3.11	8.97	2.89	YES	
RVSD071	0	0.10000E+01	465838.7	3767814.2	298.1	3.11	8.97	2.89	YES	
RVSD072	0	0.10000E+01	465838.6	3767833.5	298.3	3.11	8.97	2.89	YES	
RVSD073	0	0.10000E+01	465838.5	3767852.8	298.5	3.11	8.97	2.89	YES	
RVSD074	0	0.10000E+01	465838.5	3767872.1	298.8	3.11	8.97	2.89	YES	
RVSD075	0	0.10000E+01	465838.3	3767891.4	299.0	3.11	8.97	2.89	YES	
RVSD076	0	0.10000E+01	465838.2	3767910.6	299.2	3.11	8.97	2.89	YES	
RVSD077	0	0.10000E+01	465838.2	3767929.9	299.5	3.11	8.97	2.89	YES	
RVSD078	0	0.10000E+01	465838.1	3767949.2	299.7	3.11	8.97	2.89	YES	
RVSD079	0	0.10000E+01	465838.0	3767968.5	299.9	3.11	8.97	2.89	YES	
RVSD080	0	0.10000E+01	465837.9	3767987.8	300.1	3.11	8.97	2.89	YES	
RVSD081	0	0.10000E+01	465837.8	3768007.1	300.3	3.11	8.97	2.89	YES	
RVSD082	0	0.10000E+01	465837.7	3768026.4	300.6	3.11	8.97	2.89	YES	
RVSD083	0	0.10000E+01	465837.6	3768045.7	300.8	3.11	8.97	2.89	YES	
RVSD084	0	0.10000E+01	465837.5	3768064.9	301.2	3.11	8.97	2.89	YES	
RVSD085	0	0.10000E+01	465837.4	3768084.2	301.6	3.11	8.97	2.89	YES	
RVSD086	0	0.10000E+01	465837.3	3768103.5	302.1	3.11	8.97	2.89	YES	
RVSD087	0	0.10000E+01	465837.2	3768122.8	302.6	3.11	8.97	2.89	YES	
RVSD088	0	0.10000E+01	465837.1	3768142.1	303.2	3.11	8.97	2.89	YES	
RVSD089	0	0.10000E+01	465837.0	3768161.4	303.8	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

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RVSD090	0	0.10000E+01	465836.9	3768180.7	304.4	3.11	8.97	2.89	YES	
RVSD091	0	0.10000E+01	465836.8	3768200.0	304.8	3.11	8.97	2.89	YES	
RVSD092	0	0.10000E+01	465836.7	3768219.2	305.3	3.11	8.97	2.89	YES	
RVSD093	0	0.10000E+01	465836.6	3768238.5	305.6	3.11	8.97	2.89	YES	
RVSD094	0	0.10000E+01	465836.5	3768257.8	305.9	3.11	8.97	2.89	YES	
RVSD095	0	0.10000E+01	465836.4	3768277.1	306.1	3.11	8.97	2.89	YES	
RVSD096	0	0.10000E+01	465836.3	3768296.4	306.2	3.11	8.97	2.89	YES	
RVSD097	0	0.10000E+01	465836.2	3768315.7	306.3	3.11	8.97	2.89	YES	
RVSD098	0	0.10000E+01	465836.1	3768335.0	306.2	3.11	8.97	2.89	YES	
RVSD099	0	0.10000E+01	465836.0	3768354.2	306.2	3.11	8.97	2.89	YES	
RVSD100	0	0.10000E+01	465835.9	3768373.5	306.0	3.11	8.97	2.89	YES	
RVSD101	0	0.10000E+01	465835.8	3768392.8	305.9	3.11	8.97	2.89	YES	
RVSD102	0	0.10000E+01	465835.7	3768412.1	305.7	3.11	8.97	2.89	YES	
RVSD103	0	0.10000E+01	465835.6	3768431.4	305.3	3.11	8.97	2.89	YES	
RVSD104	0	0.10000E+01	465835.5	3768450.7	304.9	3.11	8.97	2.89	YES	
RVSD105	0	0.10000E+01	465835.5	3768470.0	304.4	3.11	8.97	2.89	YES	
RVSD106	0	0.10000E+01	465835.3	3768489.3	303.9	3.11	8.97	2.89	YES	
RVSD107	0	0.10000E+01	465835.3	3768508.5	303.4	3.11	8.97	2.89	YES	
RVSD108	0	0.10000E+01	465835.2	3768527.8	302.9	3.11	8.97	2.89	YES	
RVSD109	0	0.10000E+01	465835.1	3768547.1	302.5	3.11	8.97	2.89	YES	
RVSD110	0	0.10000E+01	465835.0	3768566.4	302.2	3.11	8.97	2.89	YES	
RVSD111	0	0.10000E+01	465834.9	3768585.7	302.0	3.11	8.97	2.89	YES	
RVSD112	0	0.10000E+01	465834.8	3768605.0	301.9	3.11	8.97	2.89	YES	
RVSD113	0	0.10000E+01	465834.7	3768624.3	301.9	3.11	8.97	2.89	YES	
RVSD114	0	0.10000E+01	465834.6	3768643.6	301.9	3.11	8.97	2.89	YES	
RVSD115	0	0.10000E+01	465834.5	3768662.8	302.1	3.11	8.97	2.89	YES	
RVSD116	0	0.10000E+01	465834.4	3768682.1	302.3	3.11	8.97	2.89	YES	
RVSD117	0	0.10000E+01	465834.3	3768701.4	302.6	3.11	8.97	2.89	YES	
RVSD118	0	0.10000E+01	465834.2	3768720.7	302.9	3.11	8.97	2.89	YES	
RVSD119	0	0.10000E+01	465834.1	3768740.0	303.1	3.11	8.97	2.89	YES	
RVSD120	0	0.10000E+01	465834.0	3768759.3	303.4	3.11	8.97	2.89	YES	
RVSD121	0	0.10000E+01	465833.9	3768778.6	303.7	3.11	8.97	2.89	YES	
RVSD122	0	0.10000E+01	465833.8	3768797.9	304.0	3.11	8.97	2.89	YES	
RVSD123	0	0.10000E+01	465833.7	3768817.1	304.3	3.11	8.97	2.89	YES	
RVSD124	0	0.10000E+01	465833.6	3768836.4	304.6	3.11	8.97	2.89	YES	
RVSD125	0	0.10000E+01	465833.5	3768855.7	304.9	3.11	8.97	2.89	YES	
RVSD126	0	0.10000E+01	465833.4	3768875.0	305.2	3.11	8.97	2.89	YES	
RVSD127	0	0.10000E+01	465833.3	3768894.3	305.5	3.11	8.97	2.89	YES	
RVSD128	0	0.10000E+01	465833.2	3768913.6	305.8	3.11	8.97	2.89	YES	
RVSD129	0	0.10000E+01	465833.1	3768932.9	306.1	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

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RVSD130	0	0.10000E+01	465833.0	3768952.2	306.4	3.11	8.97	2.89	YES	
RVSD131	0	0.10000E+01	465832.9	3768971.4	306.7	3.11	8.97	2.89	YES	
RVSD132	0	0.10000E+01	465832.8	3768990.7	306.9	3.11	8.97	2.89	YES	
RVSD133	0	0.10000E+01	465832.7	3769010.0	307.2	3.11	8.97	2.89	YES	
RVSD134	0	0.10000E+01	465832.6	3769029.3	307.5	3.11	8.97	2.89	YES	
RVSD135	0	0.10000E+01	465832.5	3769048.6	307.7	3.11	8.97	2.89	YES	
RVSD136	0	0.10000E+01	465832.5	3769067.9	307.9	3.11	8.97	2.89	YES	
RVSD137	0	0.10000E+01	465832.4	3769087.2	308.2	3.11	8.97	2.89	YES	
RVSD138	0	0.10000E+01	465832.3	3769106.5	308.5	3.11	8.97	2.89	YES	
RVSD139	0	0.10000E+01	465832.2	3769125.8	308.7	3.11	8.97	2.89	YES	
RVSD140	0	0.10000E+01	465832.1	3769145.0	309.0	3.11	8.97	2.89	YES	
RVSD141	0	0.10000E+01	465832.0	3769164.3	309.3	3.11	8.97	2.89	YES	
RVSD142	0	0.10000E+01	465831.9	3769183.6	309.6	3.11	8.97	2.89	YES	
RVSD143	0	0.10000E+01	465831.8	3769202.9	309.8	3.11	8.97	2.89	YES	
RVSD144	0	0.10000E+01	465831.7	3769222.2	310.0	3.11	8.97	2.89	YES	
RVSD145	0	0.10000E+01	465831.6	3769241.5	310.3	3.11	8.97	2.89	YES	
RVSD146	0	0.10000E+01	465831.5	3769260.8	310.6	3.11	8.97	2.89	YES	
RVSD147	0	0.10000E+01	465831.4	3769280.0	310.8	3.11	8.97	2.89	YES	
RVSD148	0	0.10000E+01	465831.3	3769299.3	311.1	3.11	8.97	2.89	YES	
RVSD149	0	0.10000E+01	465831.2	3769318.6	311.4	3.11	8.97	2.89	YES	
RVSD150	0	0.10000E+01	465831.1	3769337.9	311.6	3.11	8.97	2.89	YES	
RVSD151	0	0.10000E+01	465831.0	3769357.2	311.9	3.11	8.97	2.89	YES	
RVSD152	0	0.10000E+01	465830.9	3769376.5	312.5	3.11	8.97	2.89	YES	
RVSD153	0	0.10000E+01	465830.8	3769395.8	313.2	3.11	8.97	2.89	YES	
RVSD154	0	0.10000E+01	465830.7	3769415.1	314.2	3.11	8.97	2.89	YES	
RVSD155	0	0.10000E+01	465830.6	3769434.3	315.5	3.11	8.97	2.89	YES	
RVSD156	0	0.10000E+01	465830.5	3769453.6	316.9	3.11	8.97	2.89	YES	
RVSD157	0	0.10000E+01	465830.4	3769472.9	318.3	3.11	8.97	2.89	YES	
RVSD158	0	0.10000E+01	465830.3	3769492.2	319.8	3.11	8.97	2.89	YES	
RVSD159	0	0.10000E+01	465830.2	3769511.5	321.2	3.11	8.97	2.89	YES	
RVSD160	0	0.10000E+01	465830.1	3769530.8	322.5	3.11	8.97	2.89	YES	
RVSD161	0	0.10000E+01	465830.0	3769550.1	323.7	3.11	8.97	2.89	YES	
RVSD162	0	0.10000E+01	465829.9	3769569.3	324.9	3.11	8.97	2.89	YES	
RVSD163	0	0.10000E+01	465829.8	3769588.6	325.8	3.11	8.97	2.89	YES	
RVSD164	0	0.10000E+01	465829.8	3769607.9	326.7	3.11	8.97	2.89	YES	
RVSD165	0	0.10000E+01	465829.6	3769627.2	327.5	3.11	8.97	2.89	YES	
RVSD166	0	0.10000E+01	465829.5	3769646.5	321.3	3.11	8.97	2.89	YES	
RVSD167	0	0.10000E+01	465829.5	3769665.8	319.7	3.11	8.97	2.89	YES	
RVSD168	0	0.10000E+01	465829.4	3769685.1	320.2	3.11	8.97	2.89	YES	
RVSD169	0	0.10000E+01	465829.3	3769704.4	320.6	3.11	8.97	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	URBAN SOURCE	EMISSION RATE SCALAR VARY BY
RVSD170	0	0.10000E+01	465829.2	3769723.6	320.8	3.11	8.97	2.89	YES	
RVSD171	0	0.10000E+01	465829.1	3769742.9	320.8	3.11	8.97	2.89	YES	
RVSD172	0	0.10000E+01	465829.0	3769762.2	320.7	3.11	8.97	2.89	YES	
RVSD173	0	0.10000E+01	465828.9	3769781.5	324.0	3.11	8.97	2.89	YES	
RVSD174	0	0.10000E+01	465828.8	3769800.8	330.0	3.11	8.97	2.89	YES	
RVSD175	0	0.10000E+01	465828.7	3769820.1	328.5	3.11	8.97	2.89	YES	
OS2_01	0	0.10000E+01	465269.5	3765505.2	285.5	3.11	8.41	2.89	YES	
OS2_02	0	0.10000E+01	465253.5	3765513.7	283.5	3.11	8.41	2.89	YES	
OS2_03	0	0.10000E+01	465237.5	3765522.2	283.4	3.11	8.41	2.89	YES	
OS2_04	0	0.10000E+01	465221.6	3765530.7	283.8	3.11	8.41	2.89	YES	
OS2_05	0	0.10000E+01	465205.6	3765539.2	284.1	3.11	8.41	2.89	YES	
OS2_06	0	0.10000E+01	465189.7	3765547.7	284.4	3.11	8.41	2.89	YES	
OS2_07	0	0.10000E+01	465173.7	3765556.2	284.5	3.11	8.41	2.89	YES	
OS2_08	0	0.10000E+01	465157.7	3765563.2	284.6	3.11	8.41	2.89	YES	
OS2_09	0	0.10000E+01	465140.9	3765556.4	284.2	3.11	8.41	2.89	YES	
OS1_01	0	0.10000E+01	465021.5	3765632.8	285.1	3.11	8.95	2.89	YES	
OS1_02	0	0.10000E+01	465033.3	3765648.0	285.5	3.11	8.95	2.89	YES	
OS1_03	0	0.10000E+01	465045.1	3765663.2	285.6	3.11	8.95	2.89	YES	
OS1_04	0	0.10000E+01	465056.9	3765678.4	285.9	3.11	8.95	2.89	YES	
OS1_05	0	0.10000E+01	465068.7	3765693.6	285.9	3.11	8.95	2.89	YES	
OS1_06	0	0.10000E+01	465080.5	3765708.8	286.0	3.11	8.95	2.89	YES	
OS1_07	0	0.10000E+01	465092.3	3765724.0	286.1	3.11	8.95	2.89	YES	
OS1_08	0	0.10000E+01	465104.1	3765739.2	286.1	3.11	8.95	2.89	YES	
OS1_09	0	0.10000E+01	465118.3	3765742.3	286.2	3.11	8.95	2.89	YES	
OS1_10	0	0.10000E+01	465135.1	3765733.0	286.2	3.11	8.95	2.89	YES	
OS1_11	0	0.10000E+01	465151.9	3765723.6	286.4	3.11	8.95	2.89	YES	
OS1_12	0	0.10000E+01	465168.7	3765714.2	289.6	3.11	8.95	2.89	YES	
OS1_13	0	0.10000E+01	465185.5	3765704.8	289.8	3.11	8.95	2.89	YES	
OS1_14	0	0.10000E+01	465202.3	3765695.5	289.6	3.11	8.95	2.89	YES	
OS1_15	0	0.10000E+01	465206.4	3765682.6	289.5	3.11	8.95	2.89	YES	
OS1_16	0	0.10000E+01	465196.8	3765665.9	289.5	3.11	8.95	2.89	YES	
OS1_17	0	0.10000E+01	465187.2	3765649.2	286.7	3.11	8.95	2.89	YES	
OS1_18	0	0.10000E+01	465177.7	3765632.5	285.8	3.11	8.95	2.89	YES	
OS1_19	0	0.10000E+01	465168.1	3765615.8	285.4	3.11	8.95	2.89	YES	
OS1_20	0	0.10000E+01	465158.6	3765599.1	285.0	3.11	8.95	2.89	YES	
OS1_21	0	0.10000E+01	465149.0	3765582.4	284.6	3.11	8.95	2.89	YES	
OS1_22	0	0.10000E+01	465139.5	3765565.8	284.5	3.11	8.95	2.89	YES	
BRWN_01	0	0.10000E+01	465126.0	3765539.2	284.0	3.11	5.91	2.89	YES	
BRWN_02	0	0.10000E+01	465119.2	3765528.5	283.8	3.11	5.91	2.89	YES	
BRWN_03	0	0.10000E+01	465112.4	3765517.8	283.5	3.11	5.91	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** VOLUME SOURCE DATA ***

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BRWN_04	0	0.10000E+01	465105.6	3765507.0	283.2	3.11	5.91	2.89	YES	
BRWN_05	0	0.10000E+01	465098.8	3765496.3	283.0	3.11	5.91	2.89	YES	
BRWN_06	0	0.10000E+01	465092.0	3765485.6	282.8	3.11	5.91	2.89	YES	
BRWN_07	0	0.10000E+01	465085.2	3765474.9	282.6	3.11	5.91	2.89	YES	
BRWN_08	0	0.10000E+01	465078.4	3765464.1	282.4	3.11	5.91	2.89	YES	
BRWN_09	0	0.10000E+01	465071.6	3765453.4	282.2	3.11	5.91	2.89	YES	
BRWN_10	0	0.10000E+01	465064.8	3765442.7	282.0	3.11	5.91	2.89	YES	
BRWN_11	0	0.10000E+01	465058.0	3765431.9	281.8	3.11	5.91	2.89	YES	
BRWN_12	0	0.10000E+01	465051.2	3765421.2	281.6	3.11	5.91	2.89	YES	
BRWN_13	0	0.10000E+01	465044.4	3765410.5	281.4	3.11	5.91	2.89	YES	
BRWN_14	0	0.10000E+01	465037.6	3765399.7	281.2	3.11	5.91	2.89	YES	
BRWN_15	0	0.10000E+01	465030.8	3765389.0	280.9	3.11	5.91	2.89	YES	
BRWN_16	0	0.10000E+01	465024.0	3765378.3	280.8	3.11	5.91	2.89	YES	
BRWN_17	0	0.10000E+01	465017.2	3765367.5	280.5	3.11	5.91	2.89	YES	
BRWN_18	0	0.10000E+01	465010.4	3765356.8	280.3	3.11	5.91	2.89	YES	
BRWN_19	0	0.10000E+01	465003.6	3765346.1	280.1	3.11	5.91	2.89	YES	
BRWN_20	0	0.10000E+01	464996.8	3765335.3	279.9	3.11	5.91	2.89	YES	
BRWN_21	0	0.10000E+01	464990.0	3765324.6	279.7	3.11	5.91	2.89	YES	
BRWN_22	0	0.10000E+01	464983.2	3765313.9	279.6	3.11	5.91	2.89	YES	
BRWN_23	0	0.10000E+01	464990.5	3765306.1	279.4	3.11	5.91	2.89	YES	
BRWN_24	0	0.10000E+01	465001.0	3765298.9	279.2	3.11	5.91	2.89	YES	
BRWN_25	0	0.10000E+01	465011.5	3765291.7	279.0	3.11	5.91	2.89	YES	
BRWN_26	0	0.10000E+01	465022.0	3765284.6	278.7	3.11	5.91	2.89	YES	
BRWN_27	0	0.10000E+01	465032.5	3765277.4	278.6	3.11	5.91	2.89	YES	
BRWN_28	0	0.10000E+01	465043.0	3765270.3	278.3	3.11	5.91	2.89	YES	
BRWN_29	0	0.10000E+01	465053.5	3765263.1	278.1	3.11	5.91	2.89	YES	
BRWN_30	0	0.10000E+01	465064.0	3765255.9	277.9	3.11	5.91	2.89	YES	
BRWN_31	0	0.10000E+01	465074.5	3765248.8	277.7	3.11	5.91	2.89	YES	
BRWN_32	0	0.10000E+01	465085.0	3765241.6	277.5	3.11	5.91	2.89	YES	
BRWN_33	0	0.10000E+01	465095.5	3765234.4	277.3	3.11	5.91	2.89	YES	
BRWN_34	0	0.10000E+01	465106.0	3765227.3	277.2	3.11	5.91	2.89	YES	
BRWN_35	0	0.10000E+01	465116.5	3765220.1	277.0	3.11	5.91	2.89	YES	
BRWN_36	0	0.10000E+01	465127.0	3765213.0	277.0	3.11	5.91	2.89	YES	
BRWN_37	0	0.10000E+01	465137.5	3765205.8	277.2	3.11	5.91	2.89	YES	
BRWN_38	0	0.10000E+01	465148.0	3765198.6	277.3	3.11	5.91	2.89	YES	
BRWN_39	0	0.10000E+01	465158.5	3765191.5	277.6	3.11	5.91	2.89	YES	

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: UCART1   ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

462761.4, 462961.4, 463161.4, 463361.4, 463561.4, 463761.4, 463961.4, 464161.4, 464361.4, 464561.4,
464761.4, 464961.4, 465161.4, 465361.4, 465561.4, 465761.4, 465961.4, 466161.4, 466361.4, 466561.4,
466761.4,

*** Y-COORDINATES OF GRID ***
(METERS)

3762278.8, 3762478.8, 3762678.8, 3762878.8, 3763078.8, 3763278.8, 3763478.8, 3763678.8, 3763878.8, 3764078.8,
3764278.8, 3764478.8, 3764678.8, 3764878.8, 3765078.8, 3765278.8, 3765478.8, 3765678.8, 3765878.8, 3766078.8,
3766278.8, 3766478.8, 3766678.8, 3766878.8, 3767078.8, 3767278.8, 3767478.8, 3767678.8, 3767878.8, 3768078.8,
3768278.8, 3768478.8, 3768678.8, 3768878.8, 3769078.8, 3769278.8, 3769478.8, 3769678.8, 3769878.8, 3770078.8,
3770278.8,

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

(464999.3,	3765575.9,	284.0,	365.1,	0.0);	(465077.6,	3765525.9,	283.7,	365.1,	0.0);
(465150.9,	3765487.6,	282.9,	365.1,	0.0);	(465257.5,	3765419.4,	281.9,	365.1,	0.0);
(465037.5,	3765934.7,	285.5,	285.5,	0.0);	(465091.3,	3765945.8,	285.3,	285.3,	0.0);
(465151.8,	3765942.5,	285.6,	285.6,	0.0);	(465175.6,	3765936.4,	285.7,	285.7,	0.0);
(465149.0,	3765915.3,	285.4,	285.4,	0.0);	(465211.1,	3765939.1,	285.5,	285.5,	0.0);
(465251.6,	3765943.6,	285.9,	285.9,	0.0);	(465340.9,	3765932.5,	287.8,	287.8,	0.0);
(465292.1,	3765933.6,	286.8,	286.8,	0.0);	(465103.0,	3765882.6,	285.6,	285.6,	0.0);
(465035.3,	3765902.0,	285.7,	285.7,	0.0);					

*** MODELOPTs: RegDFAULT CONC ELEV URBAN ADJ_U*

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

Surface file: KRAL_v9.SFC Met Version: 16216
Profile file: KRAL_v9.PFL
Surface format: FREE
Profile format: FREE
Surface station no.: 3171 Upper air station no.: 3190
Name: RIVERSIDE_AIRPORT Name: MIRAMAR_AIR_STATION
Year: 2012 Year: 2012

First 24 hours of scalar data

YR	MO	DY	JDY	HR	H0	U*	W*	DT/DZ	ZICNV	ZIMCH	M-O LEN	Z0	BOWEN	ALBEDO	REF WS	WD	HT	REF TA	HT
12	01	01	1	01	-25.6	0.266	-9.000	-9.000	-999.	330.	77.9	0.15	2.40	1.00	2.93	55.	10.1	288.1	2.0
12	01	01	1	02	-26.8	0.277	-9.000	-9.000	-999.	351.	84.7	0.15	2.40	1.00	3.05	55.	10.1	287.0	2.0
12	01	01	1	03	-21.5	0.221	-9.000	-9.000	-999.	250.	53.5	0.15	2.40	1.00	2.45	74.	10.1	284.2	2.0
12	01	01	1	04	-22.0	0.227	-9.000	-9.000	-999.	260.	56.8	0.15	2.40	1.00	2.52	77.	10.1	285.9	2.0
12	01	01	1	05	-20.0	0.206	-9.000	-9.000	-999.	225.	46.8	0.15	2.40	1.00	2.30	80.	10.1	285.4	2.0
12	01	01	1	06	-14.4	0.171	-9.000	-9.000	-999.	170.	32.1	0.15	2.40	1.00	1.93	79.	10.1	287.0	2.0
12	01	01	1	07	-14.9	0.174	-9.000	-9.000	-999.	174.	33.2	0.15	2.40	1.00	1.96	77.	10.1	284.2	2.0
12	01	01	1	08	-11.9	0.169	-9.000	-9.000	-999.	167.	36.1	0.15	2.40	0.53	1.89	77.	10.1	288.1	2.0
12	01	01	1	09	40.4	0.234	0.359	0.006	40.	272.	-28.1	0.15	2.40	0.31	2.10	81.	10.1	289.2	2.0
12	01	01	1	10	112.6	0.246	0.742	0.005	129.	293.	-11.8	0.15	2.40	0.24	1.99	101.	10.1	296.4	2.0
12	01	01	1	11	161.0	0.402	1.188	0.005	369.	611.	-35.6	0.15	2.40	0.21	3.68	78.	10.1	298.8	2.0
12	01	01	1	12	184.7	0.337	1.516	0.005	668.	473.	-18.4	0.15	2.40	0.20	2.89	68.	10.1	300.4	2.0
12	01	01	1	13	183.9	0.310	1.809	0.005	1139.	414.	-14.2	0.15	2.40	0.20	2.57	64.	10.1	302.5	2.0
12	01	01	1	14	156.6	0.374	1.852	0.005	1434.	549.	-29.5	0.15	2.40	0.22	3.37	63.	10.1	303.1	2.0
12	01	01	1	15	104.3	0.382	1.658	0.005	1546.	567.	-47.2	0.15	2.40	0.25	3.59	62.	10.1	302.5	2.0
12	01	01	1	16	31.8	0.374	1.123	0.005	1573.	550.	-145.8	0.15	2.40	0.34	3.76	69.	10.1	300.9	2.0
12	01	01	1	17	-23.3	0.276	-9.000	-9.000	-999.	354.	84.0	0.15	2.40	0.62	3.03	59.	10.1	297.5	2.0
12	01	01	1	18	-21.5	0.229	-9.000	-9.000	-999.	264.	57.8	0.15	2.40	1.00	2.54	54.	10.1	295.4	2.0
12	01	01	1	19	-19.3	0.204	-9.000	-9.000	-999.	221.	45.6	0.15	2.40	1.00	2.27	79.	10.1	292.0	2.0
12	01	01	1	20	-20.7	0.218	-9.000	-9.000	-999.	244.	52.2	0.15	2.40	1.00	2.42	79.	10.1	292.5	2.0
12	01	01	1	21	-19.7	0.206	-9.000	-9.000	-999.	225.	46.9	0.15	2.40	1.00	2.30	95.	10.1	290.9	2.0
12	01	01	1	22	-17.6	0.190	-9.000	-9.000	-999.	199.	39.8	0.15	2.40	1.00	2.13	78.	10.1	290.4	2.0
12	01	01	1	23	-20.3	0.211	-9.000	-9.000	-999.	233.	49.0	0.15	2.40	1.00	2.35	52.	10.1	289.2	2.0
12	01	01	1	24	-16.4	0.183	-9.000	-9.000	-999.	189.	37.0	0.15	2.40	1.00	2.06	75.	10.1	288.8	2.0

First hour of profile data

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

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

*** 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   986 Warning Message(s)
A Total of   1638 Informational Message(s)

A Total of   43848 Hours Were Processed

A Total of   1039 Calm Hours Identified

A Total of   599 Missing Hours Identified (1.37 Percent)

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

   ********   WARNING MESSAGES   ********
ME W186   2373   MEOPEN: THRESH_1MIN 1-min ASOS wind speed threshold used   0.50
ME W187   2373   MEOPEN: ADJ_U* Option for Stable Low Winds used in AERMET
OU W565   2454   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2455   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2456   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2457   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2458   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2459   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2460   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2461   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2462   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2463   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2464   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE
OU W565   2465   OUPLOT: Possible Conflict With Dynamically Allocated FUNIT   PLOTFILE

 OU W565   3421   PERPLT: Possible Conflict With Dynamically
 OU W565   3422   PERPLT: Possible Conflict With Dynamically
 OU W565   3423   PERPLT: Possible Conflict With Dynamically
 OU W565   3424   PERPLT: Possible Conflict With Dynamically
 OU W565   3425   PERPLT: Possible Conflict With Dynamically
 OU W565   3426   PERPLT: Possible Conflict With Dynamically
 OU W565   3427   PERPLT: Possible Conflict With Dynamically
 OU W565   3428   PERPLT: Possible Conflict With Dynamically
 OU W565   3429   PERPLT: Possible Conflict With Dynamically
 OU W565   3430   PERPLT: Possible Conflict With Dynamically
 OU W565   3431   PERPLT: Possible Conflict With Dynamically
 OU W565   3432   PERPLT: Possible Conflict With Dynamically
 OU W565   3433   PERPLT: Possible Conflict With Dynamically
 OU W565   3434   PERPLT: Possible Conflict With Dynamically
 OU W565   3435   PERPLT: Possible Conflict With Dynamically
 OU W565   3436   PERPLT: Possible Conflict With Dynamically
 OU W565   3437   PERPLT: Possible Conflict With Dynamically

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

HARP Project Summary Report 3/12/2020 10:06:12 AM

PROJECT INFORMATION
HARP Version: 19121
Project Name: HARP2
Project Output Directory: P:\CRN1801\HRA\Modeling\HARP2
HARP Database: NA

POLLUTANT HEALTH INFORMATION
Health Database: C:\HARP2\Tables\HEALTH17320.mdb
Health Table Version: HEALTH19252
Official: True

PolID	PolAbbrev	InhCancer	OralCancer	AcuteREL	InhChronicREL	OralChronicREL	InhChronic8HRREL
9901	DieselExhPM	1.1			5		
88101	PM25						
106990	1,3-Butadiene	0.6		660	2		9
71432	Benzene	0.1		27	3		3
100414	Ethyl Benzene	0.0087			2000		
78933	MEK			13000			
91203	Naphthalene	0.12			9		
115071	Propylene				3000		
100425	Styrene			21000	900		
108883	Toluene			37000	300		
1330207	Xylenes			22000	700		

HARP2 - HRACalc (dated 19044) 3/13/2020 11:30:21 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 30

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 14
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Warm

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS
Tier2 not used.

****

Calculating cancer risk
HRA ran successfully

HARP2 - HRACalc (dated 19044) 3/13/2020 1:44:48 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: NCChronic8HR
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER
Exposure duration are only adjusted for cancer assessments

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
NOTE: Exposure duration (i.e., start age, end age, ED, & FAH) are only adjusted for cancer assessments.

****
TIER 2 SETTINGS
Tier2 not used.

****

Calculating chronic 8hr risk
Chronic 8-hr risk breakdown by pollutant and receptor saved to:
P:\CRN1801\HRA\Modeling\HARP2\hra\8 Hr - NCChronic8HrRisk.csv
Chronic 8-hr risk total by receptor saved to: P:\CRN1801\HRA\Modeling\HARP2\hra\8 Hr - NCChronic8HrRiskSumByRec.csv
HRA ran successfully

HARP2 - HRACalc (dated 19044) 3/13/2020 11:26:56 AM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
Pathway receptors loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Worker
Scenario: All
Calculation Method: Derived

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: 16
Total Exposure Duration: 25

Exposure Duration Bin Distribution
3rd Trimester Bin: 0
0<2 Years Bin: 0
2<9 Years Bin: 0
2<16 Years Bin: 0
16<30 Years Bin: 0
16 to 70 Years Bin: 25

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: True
Dermal: True
Mother's milk: True
Water: False
Fish: False
Homegrown crops: True
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: RMP

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: OFF
16 years to 70 years: OFF

****
SOIL & DERMAL PATHWAY SETTINGS

Deposition rate (m/s): 0.02
Soil mixing depth (m): 0.01
Dermal climate: Warm

****
HOMEGROWN CROP PATHWAY SETTINGS

Household type: HouseholdsthatGarden
Fraction leafy: 0.137
Fraction exposed: 0.137
Fraction protected: 0.137
Fraction root: 0.137

****
TIER 2 SETTINGS
Tier2 not used.

****

Calculating cancer risk
HRA ran successfully